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Ministry of Energy, Mines and
Petroleum Resources
Hon. Anne Edwards, Minister

MINERAL RESOURCES DIVISION
Geological Survey Branch

TILL GEOCHEMISTRY OF THE FAWNIE CREEK MAP AREA (93F/03)

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ABSTRACT

Results of regional till geochemical sampling in the Fawnie Creek map area, conducted at 171 sites in 1993, are used to highlight eight new exploration targets with multi-element geochemical anomalies. Basal tills are selected as the sampling medium over other surficial sediment types as they typically contain dispersal trains that are both relatively large and comparatively easy to trace to source. Basal tills are discriminated from other glacial and nonglacial deposits mainly on the basis of sedimentologic criteria. The utility of this approach is demonstrated by the detection, in the till geochemical data, of all existing mineral occurrences in the map region, including several sites not identified in the literature before the sampling program was conducted.

In addition to identifying exploration targets in new areas, the results suggest that mineralization in the vicinity of several known occurrences, including the Wolf prospect and the Tommy Lakes, Malaput, Fawn and Buck occurrences, may be more significant than previously recognized. In the Wolf area, the highest gold concentration in the regional till samples is southwest (up-ice) of the known mineralized zones, suggesting that there is potential for discovery of a new auriferous zone southwest of the main part of the property. This area also shows moderately anomalous arsenic, molybdenum, lead and zinc. Similarly, at the Tommy Lakes site, anomalous gold in till north of the known showings suggests that the bedrock mineralization may extend farther to the north than indicated by bedrock exposures in the area. Gold concentrations in till at the Malaput showing, that are several times higher than in bedrock, also suggest that a more significant mineralized zone is yet to be found there.

Most till geochemical anomalies in the area are spatially associated with the Late Cretaceous Capoose batholith. One of the most pronounced multi-element anomalies in till occurs along the western margin of the batholith. Anomalous gold values, including the highest gold concentration encountered in the regional sampling program, occur in this area along a zone that is about a kilometre wide and several kilometres long, trending easterly, parallel to the local ice-flow direction. Till samples at several sites in this area also contain anomalous silver, arsenic and antimony.

Another new area of interest lies between the southern margin of the Capoose batholith and a small associated intrusion in the south-central part of the map sheet. Anomalous silver, arsenic, antimony, molybdenum, lead and zinc concentrations occur here and tills in the vicinity of the small southern intrusion also contain anomalous barium, iron and aluminum. Rocks around the intrusion are oxidized and contain finely disseminated and fracture-controlled pyrite. The former ice-flow direction is almost due east near the anomalies, indicating that mineralized source rocks are located farther to the west.

A third newly identified multi-element geochemical anomaly occurs northeast of Johnny Lake. Tills in this area contain anomalous silver, lead, zinc, copper and molybdenum. Rocks in the area contain disseminated and fracture-controlled sulphides. The Paw mineral showing occurs south of the main part of the anomalous region and, as the local ice-flow is northeasterly, it is unlikely to be the only source of the high metal concentrations in the tills. The area is considered to have potential for porphyry-style mineralization.

An area of potential stratabound sulphide mineralization on the Buck property is reflected in the till geochemical data by a fourth multi-element anomaly. Significantly, the highest arsenic, antimony, lead and zinc concentrations encountered in the survey occur at one site south of the main zone of interest on the Buck property, suggesting that bedrock mineralization may be present up-ice.

Other new exploration targets include: high gold concentrations in till and mineralized float in the Trophy Lake area south of Moose Lake; moderately high gold, silver, arsenic and antimony and high copper concentrations in till overlying altered rocks on the north side of the Capoose batholith; high copper and moderate to high gold concentrations in the north-central part of the map area in the west Van Tine Creek - Entiako Spur region and; moderately anomalous molybdenum, arsenic, gold and zinc in the northeast corner of the map area near an area of gossanous bedrock with disseminated sulphides.

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INTRODUCTION

This paper describes the results of a till geochemical sampling program conducted in the Fawnie Creek (93F/3) map area (Figure 1) by the British Columbia Geological Survey Branch. The program demonstrates the utility of till geochemical sampling in regions where mineral exploration has been hampered by thick drift cover. Surficial geology mapping was conducted in conjunction with till geochemical sampling in order to understand the glacial history of the area and provide a basis for design of the sampling program. This work is part of a larger program in the Interior Plateau that includes bedrock mapping (Diakow and Webster, 1994; Diakow *et al.*, 1994), surficial geology mapping (Levson and Giles, 1994a), lake sediment geochemical sampling (Cook and Jackaman, 1994a) and mineral deposit studies (Schroeter and Lane, 1994). Coincident with publication of this report is a release of lake sediment geochemical data for the Fawnie Creek area (93F/2 and 3) as well as for the region north of the Nechako Reservoir (parts of 93 F/6, 11, 12, 13 and 14; Cook and Jackaman, 1994b). A summary of these programs as well as related studies by the Geological Survey of Canada in the Interior Plateau region was provided by Matysek and van der Heyden (1994).

The primary objective of the till geochemical survey in the Fawnie area was to identify areas where glaciers eroded mineralized bedrock and redeposited the mineral debris as till in down-ice dispersal trains. As glacial dispersal trains may be hundreds to thousands of times larger in area than their original bedrock source, they provide a cost effective target for mineral exploration programs in drift covered terrains (Shilts, 1976; DiLabio, 1990). In addition, tills are 'first-derivative' products of bedrock and, having been transported to their present location mainly by the simple linear flow of glaciers during one or more glacial episodes, they are more readily traced to source than higher order derivatives such as glaciofluvial or glaciolacustrine sediments (Shilts, 1993). In the simplest case of unidirectional ice flow, mineralized material at a point source is eroded, transported and redeposited to produce a ribbon-shaped dispersal train parallel to ice flow. Although these processes were first documented in Canada in shield areas (Shilts, 1973a, b; 1976), some examples have also been described from the interior of British Columbia (*e.g.* Fox *et al.*, 1987; Kerr *et al.*, 1992, 1993; Levson and Giles, 1994b; see also references in Kerr and Levson, 1994). Variations in the ice-flow direction, caused by topographic irregularities or changing dynamics at the base of the ice, may produce a fan-shaped dispersal train. In more complex areas, where there have been numerous flow directions during glaciation, or multiple glaciations, the dispersal train may be diffuse or irregularly shaped, making it difficult to trace to its source. Consequently, geochemical exploration programs in drift covered regions must rely on an understanding of glacial processes and the glacial history of the area.

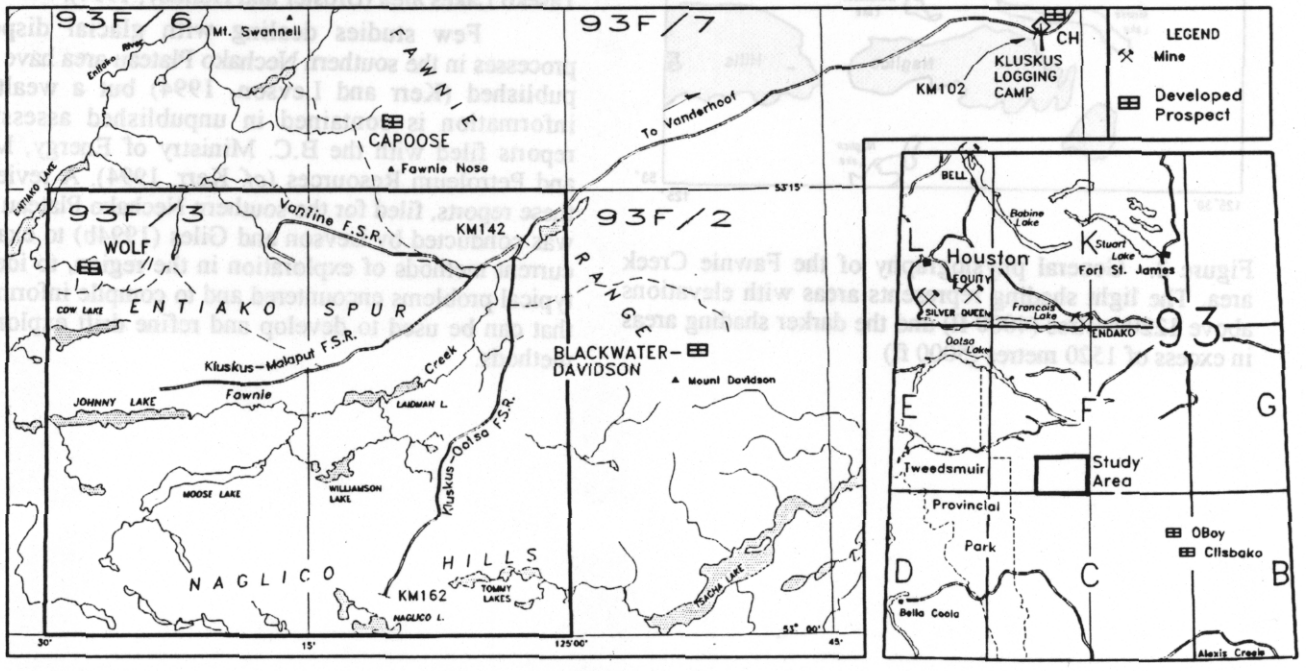

Figure 1. Location map of the southern Nechako Plateau region, the Fawnie Creek (93F/3) map sheet and locations discussed in the text. Locations of major mines and some mineral prospects in the region are also shown.

DESCRIPTION OF SURVEY AREA

The Fawnie Creek map area lies within the southern Nechako Plateau, in the west-central part of the Interior Plateau (Holland, 1976). The Fawnie Range dominates the northeast corner of the area, reaching elevations of over 1775 metres (5800 feet; Figure 2). Entiako Spur extends across the northern half of the region, with elevations dropping westward from 1750 metres (5700 feet) to below 1200 metres (3900 feet). Fawnie Creek valley occupies the centre of the map area and drains from Top Lake at an elevation of around 1070 metres (3500 feet) southwest through Laidman and Johnny lakes. Naglico Hills, reaching elevations of 1550 metres (5100 feet) in the east and 1370 metres (4500 feet) in the west, are bounded to the north and south by the Fawnie Creek and Blackwater River valleys. All large valleys in the area are broad with gently inclined sides reflecting glacial modification, except Van Tine Creek (Figure 2) which is perpendicular to ice flow and has a sharp V-shaped valley.

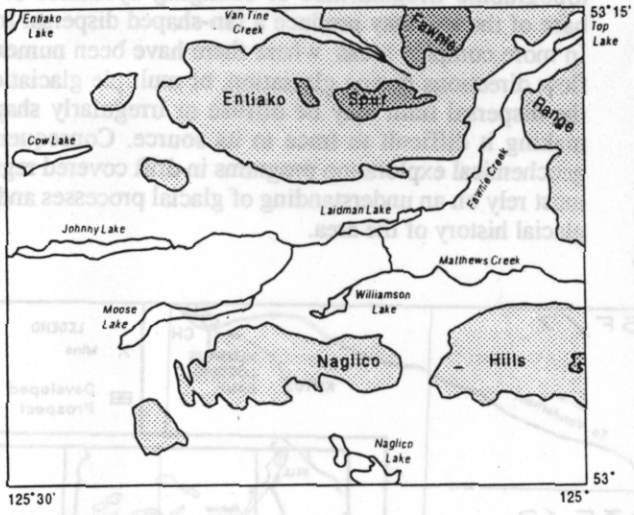

Figure 2. General physiography of the Fawnie Creek area. The light shading represents areas with elevations above 1220 metres (4000 ft) and the darker shading areas in excess of 1520 metres (5000 ft)

The survey area is approximately 150 kilometres from Vanderhoof and is accessed by the Kluskus-Ootsa Forest Service road. Logging road access in the north half and southeast quarter of the map area is good but much of the west and southwest is accessible only by trails. Moose and Laidman lakes have private airstrips and these lakes, as well as many others in the area, are accessible by float plane.

PREVIOUS QUATERNARY AND RELATED STUDIES

Surficial geology mapping and till sampling in the Fawnie Creek area (Giles and Levson, 1994a, b; Levson and Giles, 1994a) and reconnaissance stratigraphic studies elsewhere in the southern Nechako Plateau (93F/3, 6, 7, and 10; Levson and Giles, 1994b) were conducted in the 1993 field season. Regional mapping of Quaternary deposits in the Interior Plateau was previously conducted by Tipper (1971) and Howes (1977). Four 1:50 000 NTS sheets southeast of the present survey area were mapped by Kerr and Giles (1993a, b) and Proudfoot and Allison (1993a, b). Drift exploration studies associated with these mapping programs were discussed by Giles and Kerr (1993) and Proudfoot (1993). Detailed (1:20 000 scale) terrain mapping was conducted by Ryder (1993) near the Wolf and Capoose mineral prospects. A geochemical study, near the Wolf property (MINFILE 93F 045) in the northwest corner of the mapsheet, was undertaken by Delaney and Fletcher (1994). Regional drift-prospecting programs have recently been conducted elsewhere in the Interior Plateau in the Manson River - Fort Fraser area (Plouffe and Ballantyne, 1993) and in the southeast Taseko Lakes area (Broster and Huntley, 1994).

Few studies dealing with glacial dispersal processes in the southern Nechako Plateau area have been published (Kerr and Levson, 1994) but a wealth of information is contained in unpublished assessment reports filed with the B.C. Ministry of Energy, Mines and Petroleum Resources (*cf.* Kerr, 1994). A review of these reports, filed for the southern Nechako Plateau area, was conducted by Levson and Giles (1994b) to examine current methods of exploration in the region, to identify typical problems encountered and to compile information that can be used to develop and refine drift exploration methods.

FIELD AND LABORATORY PROCEDURES

FIELD METHODS

Surficial geology mapping was completed by interpretation of air photographs, field checking existing terrain map data (Howes, 1976; Ryder, 1993) and stratigraphic and sedimentologic studies of Quaternary exposures in the map area. Ice-flow history for the Fawnie Creek map area was largely deciphered from the study of crag-and-tail features, flutings, drumlins, striae (Plates 1 to 3) and till fabric data.

Till samples were collected for geochemical analysis in order to locate glacially dispersed metallic minerals in the region. Sample sites were selected to provide complete coverage of the map area, with the greatest density of samples along transects perpendicular to established ice-flow direction. Along transects parallel to ice flow, where samples repeatedly represent the same terrain directly up-ice and therefore duplicate each other, wide spaced sampling was used. An intermediate sample spacing was used on transects oblique to flow. Sample sites consisted of natural and man-made exposures (roadcuts, borrow pits, soil pits and trenches) and were not marked. Locations of samples sites were plotted on a 1:50 000 topographic base map (in pocket) with the aid of air photographs. A sample location map is provided as an overlay (in pocket) and in Appendix D together with UTM coordinates for each sample site.

A total of 229 till samples were collected in the study area at an average density of approximately one sample per 4 square kilometres. Higher density sampling was conducted in areas of perceived higher mineral potential and around known mineral prospects, to provide a clearer understanding of glacial dispersal processes. High density sampling in the Wolf area, including a number of depth-profile samples taken as part of detailed process studies, were not included in the regional map data set (described in this paper) to avoid skewing the data towards this area of known mineral potential. The only samples from the Wolf area included in the regional data set are from a number of sites located northeast of the main mineralized area (Appendix D). To give as wide a geographic spread as possible, one site closest to the centre of each UTM grid zone in the area was selected. The final regional data set contains 171 sample sites, giving an average sample density of one sample per 5.4 square kilometres.

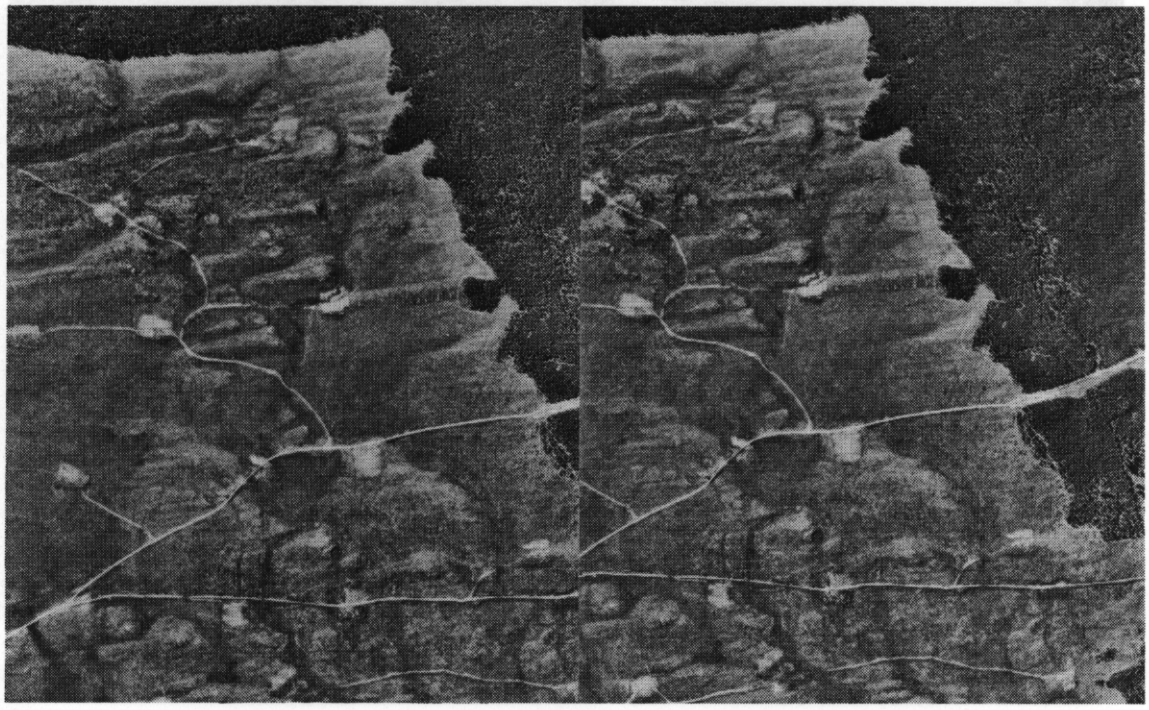

Plate 1. Stereo pair of air photographs of crag-and-tail features formed by glacial action on the north flank of the Naglico Hills near Williamson Lake. Note the consistent orientation of the linear tails, indicating an easterly ice flow. Air photographs BCB 92048-68 and 69.

Plate 2. Crag-and-tail feature. A crag or knob of bedrock is exposed at the right (west) and a tail of sediment, preserved in the lee of the bedrock high, extends to the left.

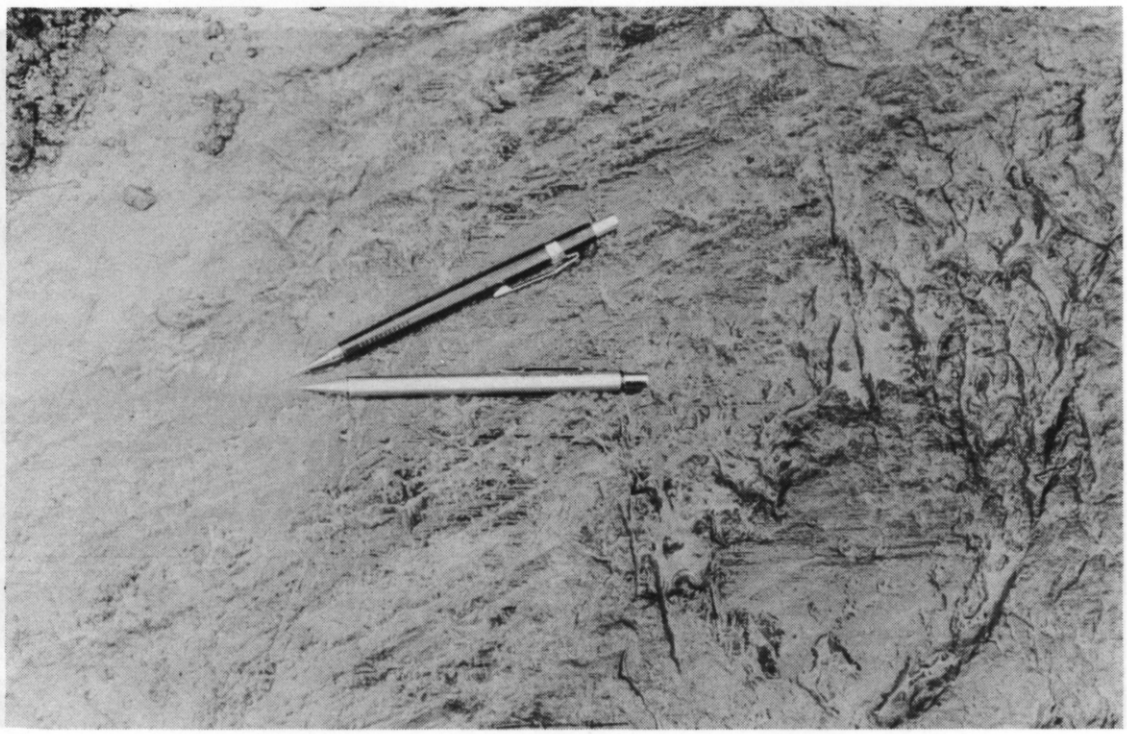

Plate 3. Example of crosscutting striae from the northeast part of the map area, used to reconstruct glacial ice-flow history. The main striae set trends at 045° (parallel to the dark pencil) and corresponds to the regional ice-flow direction. The younger crosscutting striae (parallel to the silver pencil; most apparent at the bottom of the photo and in the lower right) trend at 074° to 078° and reflect local, late stage, topographic control in this area (northeast part of the map sheet).

To reflect mechanical dispersal processes, samples were collected from within the C mineral horizon, which is comparatively unaffected by the pedogenic processes operative in the A and B soil horizons (Agriculture Canada Expert Committee on Soil Survey, 1987; Gleeson *et al.*, 1989). The utility of C-horizon sampling of basal tills for outlining areas of mineralization has long been known (*e.g.* Shilts, 1973a, b) but it has been little used by exploration companies in British Columbia, with some exceptions; A or B-horizon sampling has generally been favoured (Kerr, 1994). Although C-horizon samples can be effectively used to identify glacial dispersal trains, important data can also be obtained by sampling the upper soil horizons because, in terms of elemental concentrations, local pedological and hydromorphic processes often favour one soil horizon over another (Bradshaw *et al.*, 1974; Gravel and Sibbick, 1991; Sibbick and Fletcher, 1993). However, it is important to remember that the heterogeneity of elemental concentrations in various soil horizons is dependent on the overburden composition and underlying bedrock lithology as well as geochemical processes acting within the environment (Boyle and Troup, 1975).

Sedimentologic data were collected at all sample sites in order to distinguish till from glacigenic debris flow, colluvium, glaciofluvial or glaciolacustrine sediments. These sediments have different processes of transportation and deposition which must be recognized in order to understand associated mineral anomaly patterns. For example, local variations will be reflected in some sediments while regional trends may be observed in others. Analysis of these sediments will be useful only where their origin is understood. Sedimentologic data collected at each sample site included descriptions of sediment type, primary and secondary structures, matrix texture, presence of fissility, compactness, total percentage and modal size of clasts, rounding of clasts, presence of striated clasts, and sediment genesis and thickness. Further information was noted on soil horizons, local slope, bedrock striae, bedrock lithology, clast provenance and abundance of mineralized erratics. Sedimentologic data for each of the sampled deposits are provided in Appendix A together with summary descriptions of the sample site and other relevant data.

LABORATORY AND ANALYTICAL METHODS

Till samples were air dried, split and sieved at the British Columbia Geological Survey sample preparation laboratory in Victoria. One split from each sample was reserved for grain size and other follow-up analyses. The -230 mesh (-62.5 µm) fraction from each sample was analyzed by instrumental neutron activation analysis (INAA) for 35 elements at Activation Laboratories Ltd. in Ancaster, Ontario and by inductively coupled plasma analysis (ICP) after aqua regia digestion for 30 elements, at Acme Analytical Laboratories Ltd. in Vancouver, British Columbia. Whole-rock analysis by ICP at Acme Analytical Laboratories Ltd. in Vancouver, was also performed on the -230 mesh fractions by fusing 0.2-gram samples with 1.2 grams of lithium borate and dissolving in 100 millilitres of 5% nitric acid.

The analytical results for all 171 samples included in the regional data set are provided in Appendix A. Data for 26 of the 35 elements analyzed by INAA and 23 of the 30 elements analyzed by ICP are included in Appendix A. Elements not included are mercury, molybdenum, nickel, selenium, tin, silver, strontium and zinc, analyzed by INAA, and antimony, aresenic, gold, lanthanum, thorium, uranium and tungsten, analyzed by ICP, as background levels of these elements in tills in the region are generally below the analytical detection limits by these methods (Table 1). Summary statistics for each element, including number of samples above the detection limit, mean, median, mode, range and standard deviation are provided in Appendix C. Distribution maps for each element are provided in Appendix D.

Table 1. Detection limits by analytical method.

	Method			Method			Method			Method	
	INA	ICP		INA	ICP		INA	ICP		INA	ICP
Sb	0.1	na	Cr	5	1	Mn	na	1	Sr	na	1
Al	na	0.01%	Co	1	1	Mo	na	1	Ta	0.5	na
As	0.5	na	Cu	na	1	Nd	5	na	Tb	0.5	na
Ba	50	2	Eu	0.2	na	Ni	na	1	Th	0.2	na
Bi	na	2	Fe	0.01%	0.01%	P	na	0.001%	Ti	na	0.01%
B	na	2	Au	2	na	K	na	0.01%	U	0.5	na
Br	0.5	na	Hf	1	na	Rb	5	na	V	na	2
Cd	na	0.2	La	0.5	na	Sm	0.1	na	W	1	na
Ca	0.01	0.01%	Pb	na	2	Sc	0.1	na	Yb	0.2	na
Ce	3	na	Lu	0.05	na	Ag	na	0.1	Zn	na	1
Cs	1	na	Mg	na	0.01%	Na	0.01%	0.01%			

na = not analysed

QUALITY CONTROL

In order to discriminate geochemical trends, related to geological factors, from those that result from spurious sampling or analytical errors, a number of quality control measures were included in both the field and laboratory analysis components of the program. These include the use of field duplicates, analytical or blind duplicates and control standards, one of each being randomly inserted into each set of 17 routine field samples to make a block of 20 samples that is submitted for analysis. Field duplicates were taken from randomly selected field locations and are subjected to the identical laboratory preparation procedures as their replicate pairs. Analytical duplicates consist of sample splits taken after laboratory preparation procedures but prior to analysis. Control reference standards include three in-house (Analytical Sciences Unit) geochemical reference materials comprising the -180 micron size fraction of a variety of bulk samples. A geochemical reference standard of the Canada Centre for Mineral and Energy Technology was also used (Lynch, 1990). In total, the regional till geochemical data set (excluding samples taken during detailed case studies) included 25 field duplicate pairs and 23 analytical duplicate pairs.

Scatter plots of analytical results from duplicate field and analytical pairs are presented for gold, arsenic and antimony (INAA data) and silver, copper, molybdenum, nickel, lead and zinc (ICP data) in Appendix B. The results show good reproducibility ($r > 0.9$) for both field and analytical duplicates for most elements. The main exceptions are gold and silver where reproducibility is poor, especially in the field duplicates (Appendix B). In the case of gold, these results are attributed to the nugget effect whereas poor reproducibility in silver is probably due to generally low (near background) silver concentrations in tills in the region, even near the Wolf gold-silver prospect (Appendix D). To further evaluate reproducibility in gold analysis, all samples with gold concentrations more than 15 ppb were re-analyzed by INAA. Of the 19 samples resubmitted, 11 returned greater than 15 ppb gold and five were below the detection limit (< 2 ppb). Only five of the samples yielded higher results than the first run, two were identical and the remainder were lower. These data illustrate well the reproducibility problems that are encountered with gold concentrations in sediments. To avoid bias, the gold concentrations reported for the regional samples were those from the first analysis in every case. Gold concentrations from the re-analyses are reported as Au2 in Appendix A.

SAMPLING MEDIUM

Basal till was selected as the preferred sampling medium for this program rather than other types of surficial materials for several reasons:

- Basal tills are deposited in areas directly down-ice from their source and therefore mineralized material dispersed within the tills can be more readily traced to its origin than can anomalies in other sediment types. Processes of dispersal in ablation tills, glaciofluvial sands and gravels, and glaciolacustrine sediments are more complex and they are typically more distally derived than basal tills.
- Due to the potential for the development of large dispersal trains, mineral anomalies in basal tills may be readily detected in regional surveys.
- The dominance of one main regional ice-flow direction throughout much of the last glacial period in the survey area (see below) has resulted in a simple linear, down-ice transport of material. This makes tracing of basal till anomalies to source relatively easy compared to regions with a more complex ice-flow history.

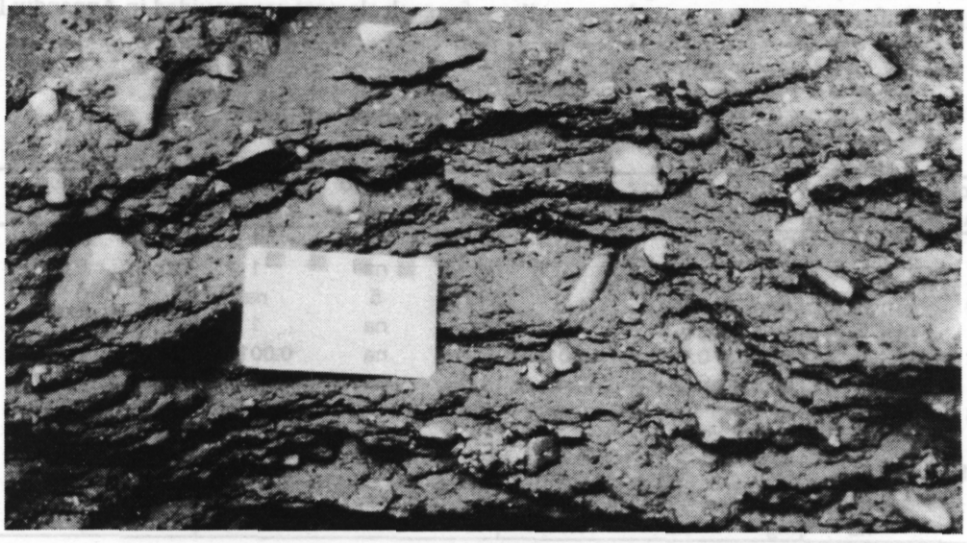

Plate 4. Subhorizontal partings in compact, massive, matrix-supported, silty diamicton interpreted as lodgement till. Clasts are commonly striated and include numerous erratics. Scale in centimetres.

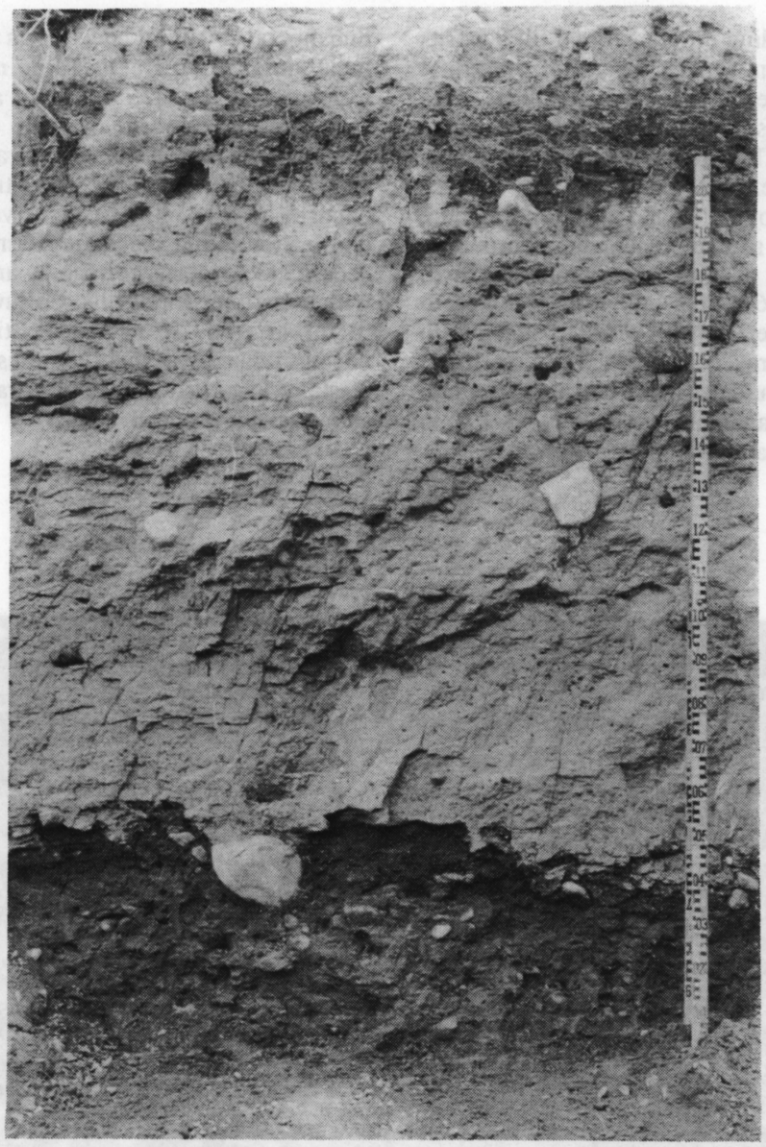

Plate 5. Massive, compact, matrix-supported diamicton interpreted as basal meltout till overlying gravelly sand (proglacial outwash). Diamicton at top of section (above rod) is loose and sandy and probably has been resedimented. Measuring rod is 2 metres long.

Sampled deposits in the area, interpreted as basal tills, typically consist of compact, fissile, matrix-supported, sandy-silt diamicton (defined as poorly sorted deposits consisting of mud, sand and gravel). They are typically overconsolidated and often exhibit moderate to strong subhorizontal fissility (Plate 4). Vertical jointing and blocky structure are also common, especially in dry exposures (Plate 5). Oxidation of the till, characterized by reddish brown staining, is common and may occur pervasively or along vertical joint planes and horizontal partings. Subhorizontal slickensided surfaces are sometimes present, especially in clay-rich parts of the till. Clasts are mainly medium to large pebbles but they range in size from small pebbles to large boulders. Total gravel content generally is between 10 and 30% but locally may be up to 50%. Subangular to subrounded clasts are most common and typically up to about 20% are glacially abraded. Striated clasts are commonly bullet shaped, faceted or lodged; the a-axes of elongate clasts are often aligned parallel to ice-flow direction. Lower contacts of basal till units are usually sharp and planar. All of these characteristics are consistent with a basal melt-out or lodgement till origin (Levson and Rutter, 1988). Injections of till into bedrock fractures locally indicate high pressure conditions at the base of the ice during deposition. The presence of sheared, folded and faulted bedrock slabs within these deposits indicates the local development of deformation tills.

During the sampling program, basal till deposits were distinguished from other facies of morainal sediments such as glacigenic debris-flow deposits. This distinction is critical as basal tills are first order derivative products whereas debris-flow deposits have undergone a second depositional phase, related either to the paleo-ice surface or the present topography, and are therefore more difficult to trace to their source. Glacigenic debris-flow deposits typically consist of loose, massive to stratified, sandy diamicton (Plate 6). They are usually loose to weakly compact and either massive or interbedded with stratified silts, sands or gravels. Clasts vary in size from small pebbles to large boulders, but are usually medium to large pebbles. These diamictons typically contain 20 to 50% gravel, but locally may have up to 70% clasts. Subangular to subrounded clasts are most common, but local angular fragments dominate in some shallow exposures over bedrock. Lenses and beds of sorted silt, sand and gravel occur in many exposures and may be continuous for up to 5 metres, although they are most frequently 10 to 100 centimetres wide. Debris-flow deposits may exhibit weak to very strong preferential oxidization along the more permeable sand and gravel beds. These deposits commonly are in gradational contact with underlying basal tills. Colluvial diamictons are also differentiated from basal tills by their loose unconsolidated character, the presence of coarse, angular clasts of local bedrock, crude stratification and lenses of sorted sand and gravel.

Plate 6. Loose, massive, matrix-supported diamicton interpreted as resedimented till, overlain by colluviated gravelly sands. Rod is labelled in decimetre units.

GEOLOGY OF THE SURVEY AREA

QUATERNARY GEOLOGY

LATE WISCONSINAN GLACIAL DEPOSITS AND OLDER SEDIMENTS

Morainal sediments of the last glaciation are the most widespread Quaternary deposits in the map area and include compact, matrix-supported, silty diamictons interpreted as lodgement and melt-out tills. Also common are loose, massive to stratified, sandy diamictons of inferred debris-flow origin. These diamictons are often interbedded with stratified silt, sand or gravel. Basal tills usually unconformably overlie bedrock or rarely, glaciofluvial deposits (Section 93-7, Figure 3). They form a cover of variable thickness across much of the area and may occur as hummocky, kettled, fluted or relatively flat topography. Basal tills seldom occur at the surface, usually being overlain by glacigenic debris-flow deposits (*e.g.* Section 93-1, Figure 3), glaciofluvial deposits (*e.g.* Sections 93-9 and 93-15, Figure 3) and, on steep slopes, by resedimented diamictons of colluvial origin . Till thickness varies from a few to several metres in low-lying areas to less than a metre along bedrock ridges and steep slopes. Thin till and glacial debris-flow deposits, exposed in numerous exploration trenches on the Wolf property at the west end of the Entiako Spur, are typical of most upland areas. Till thicknesses on bedrock ridges are much less than in the lee of bedrock highs. Thick exposures of till (up to 10 m) also occur locally in narrow valleys oriented perpendicular to the regional ice-flow direction (*e.g.* Section 93-9) such as Van Tine Creek and in main valleys. In Fawnie Creek and Matthews Creek valleys, morainal sediments are largely buried by glaciofluvial, fluvial and organic sediments.

Morainal sediments in the Nechako Plateau region were assigned by Tipper (1971) to the Fraser glaciation which is dated in several parts of British Columbia as Late Wisconsinan (Ryder and Clague, 1989). A Late Wisconsinan age for the last glaciation in the region is also indicated by radiocarbon dates on wood and mammoth bones recovered from lacustrine deposits under till at the Bell Copper mine on Babine Lake (Figure 1). Single fragments of spruce (*Picea* sp.) and fir (*Abies* sp.), yielding dates of 42 900±1860 years B.P. (GSC-1657) and 43 800±1830 years B.P. (GSC-1687), and a date of 34 000±690 years B.P. (GSC-1754) on mammoth bone collagen from the interglacial sediments (Harington *et al.*, 1974), indicate that the overlying till was deposited during the Late Wisconsinan glaciation. Palynological data from interglacial lake sediments are indicative of a shrub tundra vegetation. Quaternary sediments underlying till are rarely exposed in the survey area. They were observed at one site on the south side of Entiako Spur within a bedrock channel cut oblique to ice flow (Section 93-7, Figure 3). Horizontally stratified sands and crudely imbricated gravels, interpreted as proglacial, glaciofluvial deposits, are unconformably overlain by till at this site. The stratigraphic record of pre-Late Wisconsinan events elsewhere in the region was largely removed during the last glaciation.

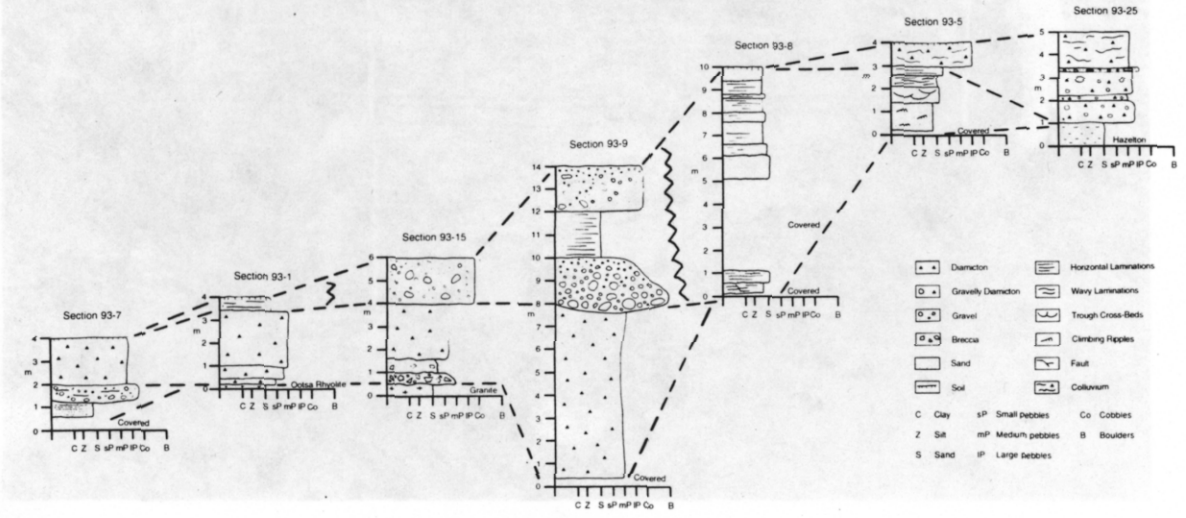

Figure 3. Representative stratigraphic columns of Quaternary deposits and interpretive correlation of main units in the study area (from Giles and Levson, 1994a)

LATE WISCONSINAN DEGLACIAL DEPOSITS

Deposits formed during deglaciation of the area include both glaciofluvial and glaciolacustrine sediments. Exposures of glaciolacustrine sediments occur near Top Lake (*e.g.* Section 93-8, Figure 3), in two valleys on the south side of the Entiako Spur (*e.g.* Section 93-5, Figure 3) and on the east side of the Wolf prospect. They can be divided into two facies based on grain size and structure: horizontally bedded and trough crosslaminated fine to coarse sands, and rhythmically bedded fine sands, silts and clays. A shallow-water fan-delta origin is proposed for the sand-dominated facies and the finer grained sediments are interpreted to be deeper water glaciolacustrine deposits. Dropstones, load structures, faults, deformed beds and fluid escape structures are common in both facies. Beds commonly fine upwards from glaciofluvial gravels below to fine sands, silts and clays above. High-angle intraformational faulting is locally common, with displacements up to 10 centimetres.

Glaciofluvial sediments are common in the map area and occur as eskers, kames, terraces, fans and outwash plains in valley bottoms and along valley flanks. They consist mainly of poorly to well sorted, stratified, pebble and cobble gravels and sands in deposits up to 10 metres thick. Thick sequences of glaciofluvial sands and gravels occur in large valleys like Fawnie, Matthews and Van Tine Creek valleys (*e.g.* Section 93-9, Figure 3). Clasts are rounded to well rounded and vary in size from small pebbles to cobbles with rare boulders. In upland areas around Entiako Spur, the Naglico Hills and the Fawnie Range, glaciofluvial sands and gravels occur as a veneer or thin blanket, up to 2 metres thick, on top of till (*e.g.* Section 93-15, Figure 3). Many of these deposits are interbedded with gravelly diamictons suggesting a proximal outwash origin.

Hummocky topography at the confluence of Van Tine and Fawnie valleys, consisting of ridges and knobs of sand and gravel with large kettles, indicates the presence of ice blocks within gravelly sediments during deposition of a glaciofluvial outwash fan (Plate 7). On the southeast margin of Entiako Spur, large kame deposits and an extensive series of meltwater channels developed along the margins of ice stagnating in that area. Moderately sorted, crudely bedded gravel and sand terraces high on the eastern margin of Fawnie valley are deposits of high-level ice-marginal channels formed during ice retreat or stagnation.

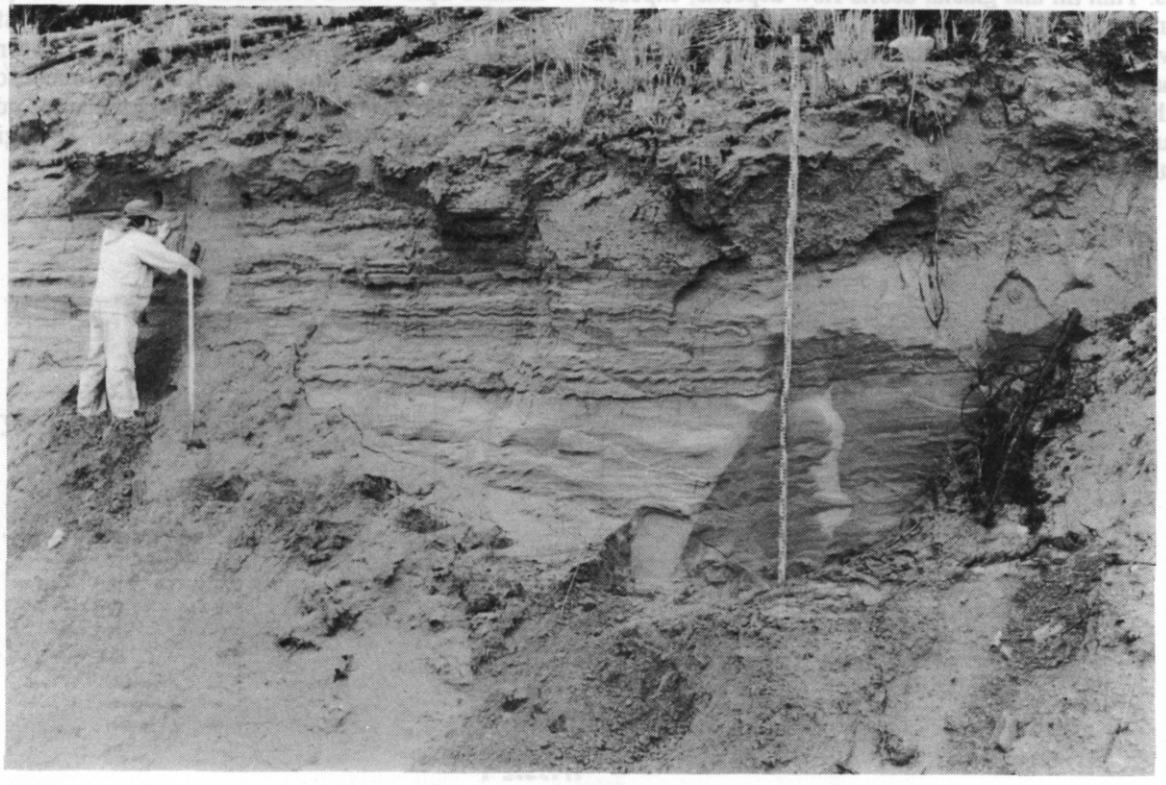

Plate 7. A thick section of well-sorted, well-bedded, rippled fine to coarse sand in a coarsening upward sequence interpreted as glaciofluvial fan-delta deposits. Measuring rod is 3 metres long.

HOLOCENE FLUVIAL, COLLUVIAL AND ORGANIC DEPOSITS

Holocene fluvial sediments in the map area are dominated by floodplain silts, fine sands and organics and channel gravels in meandering streams. In upland areas, small gravelly creeks have reworked glacial, glaciofluvial and colluvial sediments and locally are incised into bedrock. The flat, open terrain of Fawnie and Matthews Creek valleys is characterized by marshes and shallow lakes filled with organic sediment. In the southwest part of the map area the Fawnie valley broadens to over 15 kilometres wide. The organic deposits consist of decayed marsh vegetation with minor sand, silt and clay. Organic deposits also occur in low areas in the floors of some valleys, as a thin veneer of decaying vegetation over cobble and boulder gravel.

A thin veneer of weathered and broken bedrock clasts in a loose sandy matrix occurs on steep slopes throughout the area (Plate 8). These deposits grade downhill into a thicker cover of colluvial diamicton derived from both local bedrock and till (*e.g.* Section 93-25, Figure 3). Colluvial veneers commonly overlie thin tills on steep slopes.

Several postglacial alluvial fans occur in the area; the largest and most active is at the west end of Top Lake. This fan has prograded across the valley at the southwest end of Top Lake and has constrained the outlet stream to the southeast side of the valley. Coarse cobble to boulder gravels are actively transported in the main fan channel. Flooding during 1993 caused a major shift in the channel and evidence for many such events is indicated by numerous channel scars on the surfaces of this and other fans in the area.

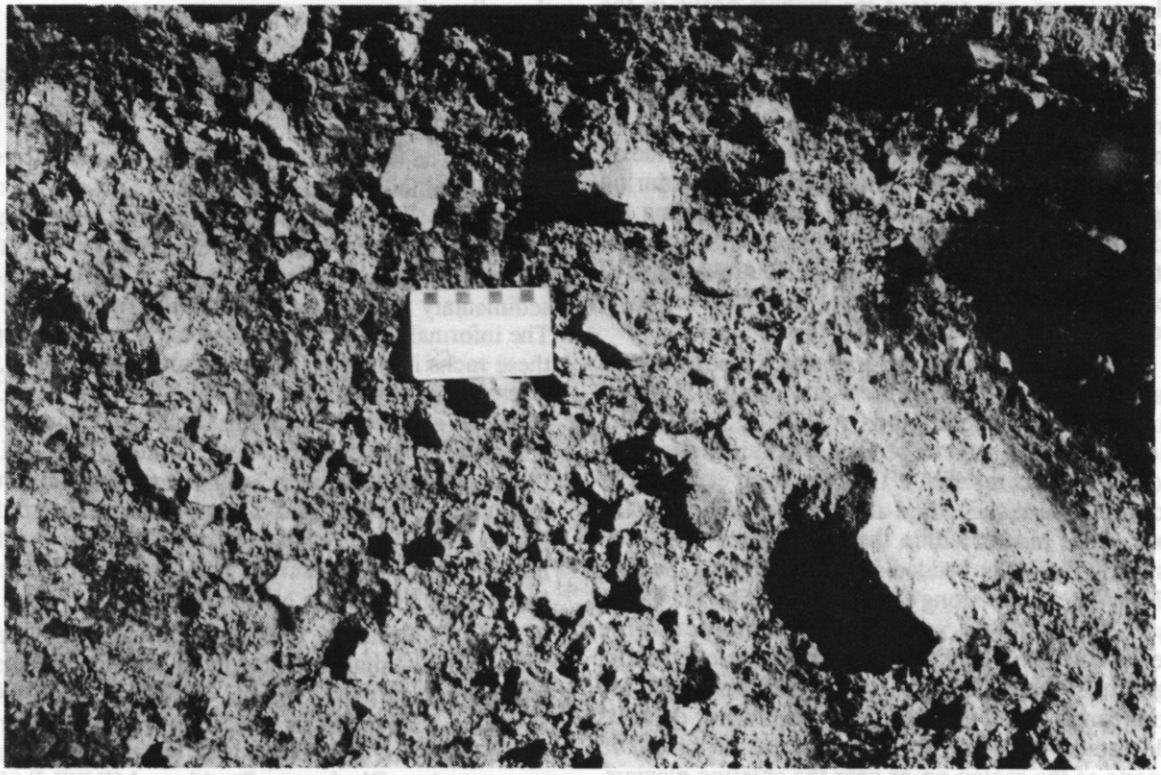

Plate 8. A typical exposure of unsorted, angular colluvial sediments that occur over bedrock on many steep slopes in the region. Scale is in centimetres.

SUMMARY OF QUATERNARY EVENTS AND ICE-FLOW HISTORY

A basic understanding of ice-flow direction, glacial dispersal patterns, and transportation distances is required for successful drift exploration programs. Interpretation of data with respect to glaciation may provide new avenues to explore for bedrock sources of mineralized float or geochemically anomalous soil samples.

Prior to glaciation, regional drainage in the map area was probably similar to the present, westwards from Top Lake and Mount Davidson through the Fawnie valley into the Entiako River system. During the last or Late Wisconsinan Fraser glaciation, ice moved into the Fawnie Creek area from the Coast Mountains before flowing

north, northeast and east onto the Interior Plateau (Tipper, 1971). Glaciers advancing from the southwest caused the regional drainage to reverse and flow to the east and north through the Top Lake valley.

Results of ice-flow studies in the area indicate that there was one dominant flow-direction towards the east-northeast, modified by topographic control during both early and late stages of glaciation (Giles and Levson, 1994a). Striation measurements from exposed bedrock across the area typically indicate northeast to east flow, but range from 028° to 103°. The first lobes of ice advancing into the area were probably confined to major valleys. Topographic control of ice-flow direction during early glacial phases is indicated by valley-parallel striae on bedrock surfaces that are buried by thick till sequences. Drumlins, crag and tails, flutings and striations all concur that, when the glaciers were thick enough to be relatively unaffected by topography during full-glacial times, ice flow was east-northeasterly. At the Late Wisconsinan glacial maximum, ice covered the highest peaks in the region suggesting an ice thickness in excess of 1000 metres (3000 feet). As glaciers thinned during later stages of the last glacial period, ice flow was again modified by topography. Crosscutting striae in an easterly (075°) trending valley in the northeast part of the area provide an example of topographically influenced ice flow during waning stages of glaciation. Striae there indicating ice flow towards 045° are crosscut by younger valley-parallel striae trending at 075°. Similarly, in the southwest part of the area, the full-glacial ice direction was determined to be 070° to 080° with later flow at 089° to 103°.

During deglaciation, stagnant ice northeast of the map area, dammed meltwaters and created a glacial lake in the Top Lake region. A glaciofluvial delta complex developed where sediment-laden meltwaters entered the western margin of the lake at an elevation of around 1100 metres. Kettled topography indicates the presence of ice blocks within the deltaic sediments. Ten metres of rhythmically bedded sand and silt (*e.g.* Section 93-8, Figure 3) occur along the margin of Fawnie Creek valley, suggesting sustained glaciolacustrine sedimentation. The Top Lake valley was the only outlet through the Fawnie Range for meltwaters from ice retreating south of the Entiako Spur. Meltwater deposits and glacigenic debris-flow deposits were deposited in many parts of the region on or near the ablating glaciers. Several small eskers formed under downwasting ice in the Van Tine Creek and Fawnie Creek valleys and in low-lying areas southwest of Moose Lake. On the southeast margin of Entiako Spur, kame deposits and extensive meltwater channels developed parallel to the ice margin and indicate prolonged ice stagnation. Moderately sorted, crudely bedded gravel and sand terraces high on the eastern margin of Fawnie valley are deposits of high-level ice-marginal channels cut during ice retreat and ablation. Gravelly outwash plains covered the main valley bottoms as large volumes of sediment and water were removed from the ice margin.

Several small glacial lakes formed locally along the margins of the retreating ice. For example, in the Wolf area, glaciolacustrine sediments occur 75 metres above the base of a north-trending valley indicating local ice damming. In addition, meltwaters flowing south off the Entiako Spur into the Fawnie valley were dammed by stagnant ice, creating short-lived glacial lakes in the side valleys. A sequence of cobble-boulder gravel, fining upwards to stratified fine sand, silt and clay, exposed in one of these valleys, records the change from a glaciofluvial to a glaciolacustrine environment. In another valley, a thick section of well sorted, well bedded, rippled, fine to coarse sand is exposed in a coarsening upward sequence (Section 93-5, Figure 3) which is suggestive of fan-delta progradation.

During postglacial times surficial geology of the area was modified mainly by fluvial activity and the local development of alluvial fans in the valley bottoms, as well as by colluvial reworking of glacial deposits along the valley sides.

BEDROCK GEOLOGY AND MINERAL DEPOSITS

The bedrock geology of the Fawnie Creek map area (see simplified map in Appendix D) was first mapped by Tipper (1954, 1963) at 1:250 000 scale and recently by Diakow *et al.* (1994) at 1:50 000 scale. Most of the area is underlain by volcanic flows, volcaniclastics and sedimentary rocks of the Middle Jurassic Hazelton Group. The informal name Naglico formation has been applied to these rocks in the map area (Diakow and Webster, 1994). These rocks are intruded by the Late Cretaceous Capoose batholith and locally overlain by Eocene rhyolite, dacite and conglomerate of the Ootsa Lake Group. Miocene-Pliocene Chilcotin Group basalt flows occur in low-lying regions in the south and eastern parts of the study area. Diakow and Webster (1994) have inferred the Jurassic rocks exposed in the survey area to be part of a regional east-trending horst, the Nechako uplift.

Exploration targets in or near the map area include epithermal precious metal deposits in Ootsa Lake Group volcanics (*e.g.* Wolf, MINFILE 093F 045) and Hazelton Group rocks (the Gran or Fawn prospect, MINFILE 093F 043), transitional precious and base metal prospects (*e.g.* Blackwater-Davidson, MINFILE 093F 037 and Capoose, MINFILE 093F 039), porphyry prospects (*e.g.* Paw, MINFILE 093F 052 and CHU or CH, MINFILE 093F, 001 and 004), stratabound sulphide occurrences (*e.g.* Buck, MINFILE 093F 050) and magnetite skarn occurrences (*e.g.* Fawn 5, MINFILE 093F 053). Interest in epithermal and related deposits has increased in recent years and has led to the discovery of several prospects in the region, including the Wolf and Gran prospects. The Wolf prospect is a low sulphidation adularia-sericite epithermal gold-silver occurrence (Schroeter and Lane, 1994), currently under exploration by Metall Mining Corporation, and is hosted by felsic

flows, tuffs and subvolcanic porphyries. Mineralization occurs in quartz-carbonate veins, silicified stockworks and hydrothermal breccia zones. Anomalous silver, zinc, arsenic and molybdenum concentrations in sediment of a nearby lake led to the discovery of the prospect (Dawson, 1988). The Gran (Fawn) prospect occurs in Hazelton Group rocks and includes a northwest-trending zone of intense silica, sericite and clay alteration cut by north to northeast-trending quartz-carbonate-pyrite±barite veinlets (Schroeter and Lane, 1994).

Two new epithermal occurrences (Tommy and Malaput) were also discovered within Hazelton Group rocks during the 1993 bedrock mapping program by Diakow and Webster (1994). The Malaput occurrence comprises pervasively silicified Naglico volcanics near the margin of the Capoose batholith. The Tommy occurrence is a system of quartz veins and stockwork veinlets in Naglico rhyolitic flows and ash-flow tuffs near the southern border of the survey area. Assay results of chip samples (fire assay-ICP) returned concentrations of up to 3.7 grams per tonne gold at this locality (Diakow *et al.*, 1994). More complete descriptions of these occurrences, as well as other mineral prospects in the region, have been provided by Diakow and Webster (1994) and Schroeter and Lane (1994).

BACKGROUND INFORMATION FOR INTERPRETATION OF RESULTS

SURFICIAL GEOLOGY CONTROLS

It is critical, for interpretation purposes, that detailed descriptions of the sampled deposits are obtained and that different types of materials are distinguished (Giles and Levson, 1994a, b). The importance of separating overburden geochemical data into populations that correspond to different types of surficial materials (and bedrock lithologies) was demonstrated by a study in the Nechako Plateau region by Boyle and Troup (1975). Regional variations due to surficial geology (or bedrock lithology) can therefore be minimized in favour of processes relating to mineralization. There is a particularly significant difference between till-covered areas and colluvial deposits in more mountainous areas. For example, mean copper, molybdenum, zinc, nickel and lead concentrations in the A and B soil horizons over a large part of the Capoose Lake region (Boyle and Troup, 1975) were all higher in colluvium (17-24 ppm Cu , 0.9-1 ppm Mo, 51-79 ppm Zn, 11-14 ppm Pb and 5-7 ppm Ni) than in till (7-15 ppm Cu, 0.5-0.9 ppm Mo, 31-41 ppm Zn, 5-6 ppm Pb, and 5-6 ppm Ni). In addition, mean C-horizon concentrations in till (12-18 ppm Cu, 0.5-8 ppm Mo, 22-27 ppm Zn, 5 ppm Pb, and 5-6 ppm Ni) were similar or higher than A or B-horizon concentrations. The regional data used in this study were collected from the C-horizon of basal tills in order to minimize variability related to different surficial sediment types or soil horizons.

It is also important to emphasize that glacial sediments can be eroded, transported and deposited by a wide variety of mechanisms, all of which may produce tills of distinctly different character. Tills may form by primary processes involving the direct release of debris from a glacier, or by secondary resedimentation processes in the glacial environment (Dreimanis, 1988). Till characteristics are dependent on their position of deposition (subglacial, supraglacial or ice marginal), place of transport (basal, englacial or supraglacial) and dominant depositional mechanism (lodgement, melt-out, flow or deformation). For the purposes of drift prospecting, distance of transport is especially critical and two main varieties of till are commonly distinguished: basal tills, comprised of debris transported at or near the glacier base, and supraglacial tills, comprised of debris transported on or near the top of the glacier (Dreimanis, 1990). The latter are usually deposited as debris flows and are comprised of relatively far-traveled debris. Basal tills, deposited by lodgement or melt-out processes, are typically more locally derived than supraglacial tills. Supraglacial tills may be distinguished from basal tills by higher total clast contents, more angular and fewer striated clasts, typically weaker and more randomly oriented pebble fabrics, and the common presence of interbedded sand and gravel deposits (Levson and Rutter, 1988). The two till varieties may also be distinguished geomorphologically; supraglacial tills typically occur in areas of hummocky topography and basal tills in fluted or drumlinized regions. However, geomorphic data alone are not always diagnostic as, for example, fluted and drumlinized areas may be blanketed by a thin cover of supraglacial till. Similarly, basally derived, flow tills may be confused with relatively far-traveled, supraglacial, flow tills. Because of this difficulty in distinguishing different till facies, a multiple criteria approach using sedimentologic, stratigraphic and geomorphic data is recommended for the interpretation of glacial deposits (Levson and Rutter, 1988; Dreimanis, 1990). Any sedimentologic or other data suggestive of an origin other than a basal till, at any of the sample sites, is summarized in the comments column in the field observations table in Appendix A.

BEDROCK GEOLOGY CONTROLS

The influence of bedrock geology must also be considered when interpreting regional till geochemical data because background levels of various elements in tills are controlled in part by the background concentrations in their source rocks. To evaluate the effect of bedrock geology on the regional geochemical data set for the Fawnie Creek map area, the lithology of the underlying bedrock has been identified for each sample site where possible (Appendix A). Five bedrock geology groupings are used and summary statistics for each element are categorized by these groups (Appendix C). The five bedrock groups are:

- mafic (basaltic to andesitic) Naglico formation rocks and minor mafic intrusions (Nm),
- siliceous (dacitic to rhyolitic) Naglico formation tuffs and flows (Nsil),
- rhyolitic Ootsa Group rocks (Or),
- Tertiary mafic volcanics, mainly Chilcotin Group basalts (Cv)
- siliceous intrusive rocks, mainly quartz monzonites associated with the Capoose batholith (qm).

Background metal concentrations for gold, silver, arsenic, antimony, lead, zinc and molybdenum are discussed briefly by bedrock category, with the interpretations of the geochemical results for each of these elements. Background concentrations, as defined by median values, are generally similar in tills underlain by various types of Naglico formation rocks and they are most distinctive in tills underlain by Ootsa or Chilcotin Group rocks. Ootsa Group sites have the highest median

gold concentrations and Chilcotin Group sites have the lowest gold, arsenic and antimony concentrations. Sites underlain by these two groups also have low background concentrations of lead, zinc and copper relative to other rock types in the area (Appendix C).

CHARACTERISTICS OF GLACIAL DISPERSAL IN THE NECHAKO PLATEAU REGION

The main characteristics of glacial dispersal trains in the study region and surrounding parts of the Nechako Plateau are discussed in this section. This information was compiled in 1993 from existing industry records, in order to provide geochemical orientation data reflecting glacial dispersal patterns in the region and to aid in the design of a sampling strategy. Limitations of the industry data for these purposes include the use of a variety of different surficial sediment types as sample media, although mainly tills were sampled, and the use of mainly B-horizon samples rather than C-horizon samples as in the current study. The industry samples are referred to here as soil geochemical samples in order to distinguish them from till samples.

Soil geochemical anomalies associated with glacial dispersal of mineralized bedrock in the region generally are up to a few kilometres long and several hundred metres or more wide; isolated anomalies associated with the trains may cover much larger areas. The dispersal trains show a pronounced elongation parallel to ice-flow direction, with mineralized source rocks occurring at or near their up-ice end. They are commonly very narrow in comparison with their length and have clear lateral and vertical contacts with the surrounding till. Progressive dilution of the mineralized material generally occurs in a down-ice direction until the train can no longer be detected.

Glacial dispersal patterns in the Interior Plateau region were discussed by Levson and Giles (1994b) with specific examples from three areas (Figures 4 to 6). The main conclusions from each of these three case studies are summarized here. Erratics trains in the region appear to be much longer (up to several km long) and more readily detected than soil anomalies (typically 1-2 km long). For example, the Arrow Lake mineral showing, was discovered in 1987 by tracing a train of stibnite-bearing quartz feldspar wacke/tuff erratics, 7 kilometres long (Bohme, 1988), whereas the geochemical soil anomalies in the area are typically only 1 kilometre long (Figure 4). This emphasizes the importance of pebble counts and boulder prospecting surveys in drift exploration programs.

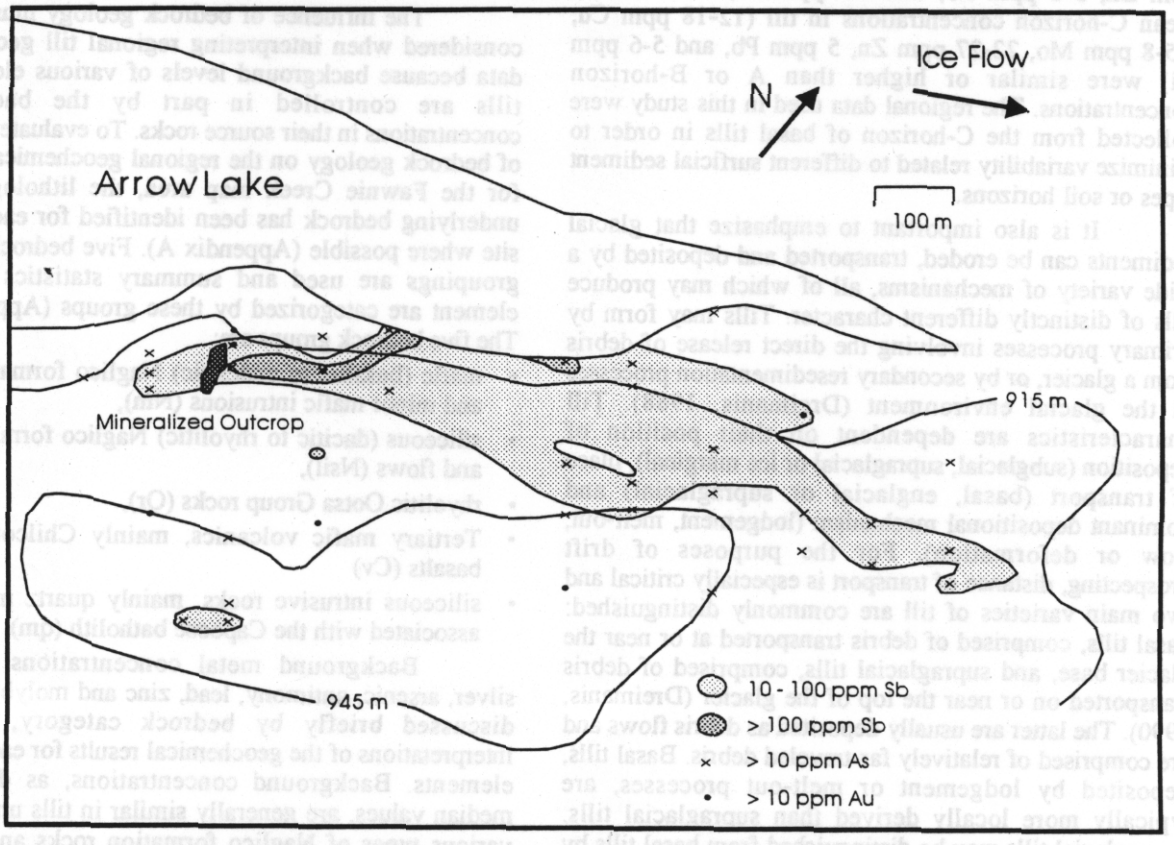

Figure 4. Antimony soil anomaly extending down-ice of the Arrow Lake mineral showing. Anomalous arsenic and gold values are shown as point data. Geochemical data from Bohme (1988). See Plate 1 for aerial photograph of area.

The elongate nature of soil geochemical anomalies resulting from glacial dispersion in the region is well evidenced by the Arrow Lake antimony anomaly which is approximately five times as long as it is wide (1000 m long by 200 m wide, Figure 4). At the Wolf epithermal deposit, anomalous silver concentrations occur as much as 2.3 kilometres directly down-ice from the deposit (Dawson, 1988). Similarly, at the CH property, dispersal of mineralized material is defined by an elongate, multi-element, geochemical soil anomaly as well as by a boulder train that extends for over a kilometre down-ice from the mineralized outcrop (Warner and Cannon, 1990; Edwards and Campbell, 1992). Zinc, silver and lead geochemical anomalies at the property are typically 200 to 300 metres wide and 1 to 1.5 kilometres long (Figure 5). The copper soil anomaly is much broader (800 m) and longer (2 km). These anomalies typically have relatively sharp lateral boundaries and cigar or fan shapes, characteristic of trains formed by mechanical dispersal processes at the base of glaciers. Geochemical data from tills reflect the geochemistry of the up-ice bedrock sources and not that of the immediately underlying bedrock. In areas of thick till, such as at the Wolf property, near-surface geochemical anomalies may be offset, in a down-ice direction, by 500 metres or more from their bedrock source (Figure 6). Drill targets in these areas should be sought up-ice, rather than at the head of the anomaly.

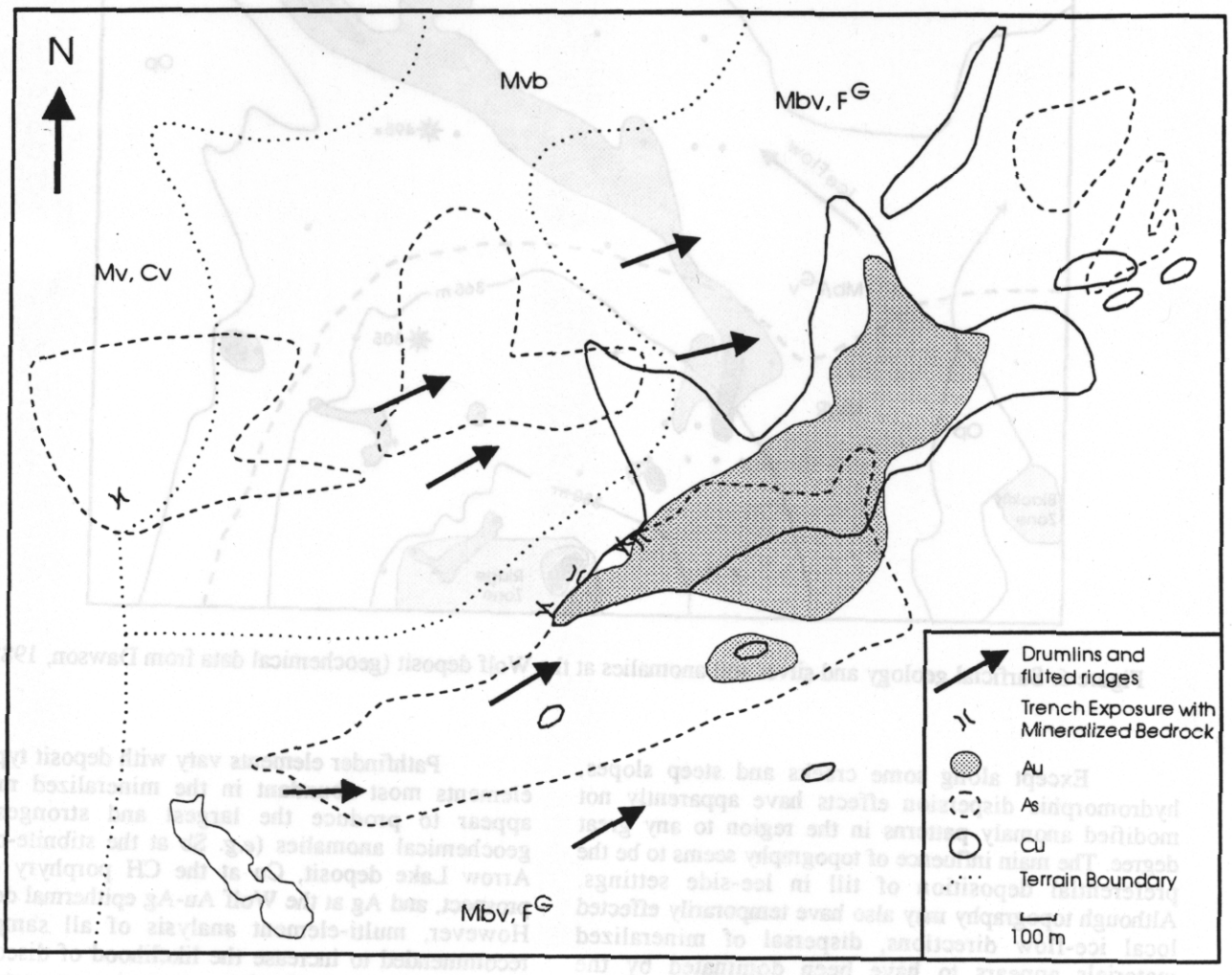

Figure 5. Surficial geology and distribution of gold, copper and arsenic soil anomalies on the CH property near Chutanli Lake (modified from Edwards and Campbell, 1992).

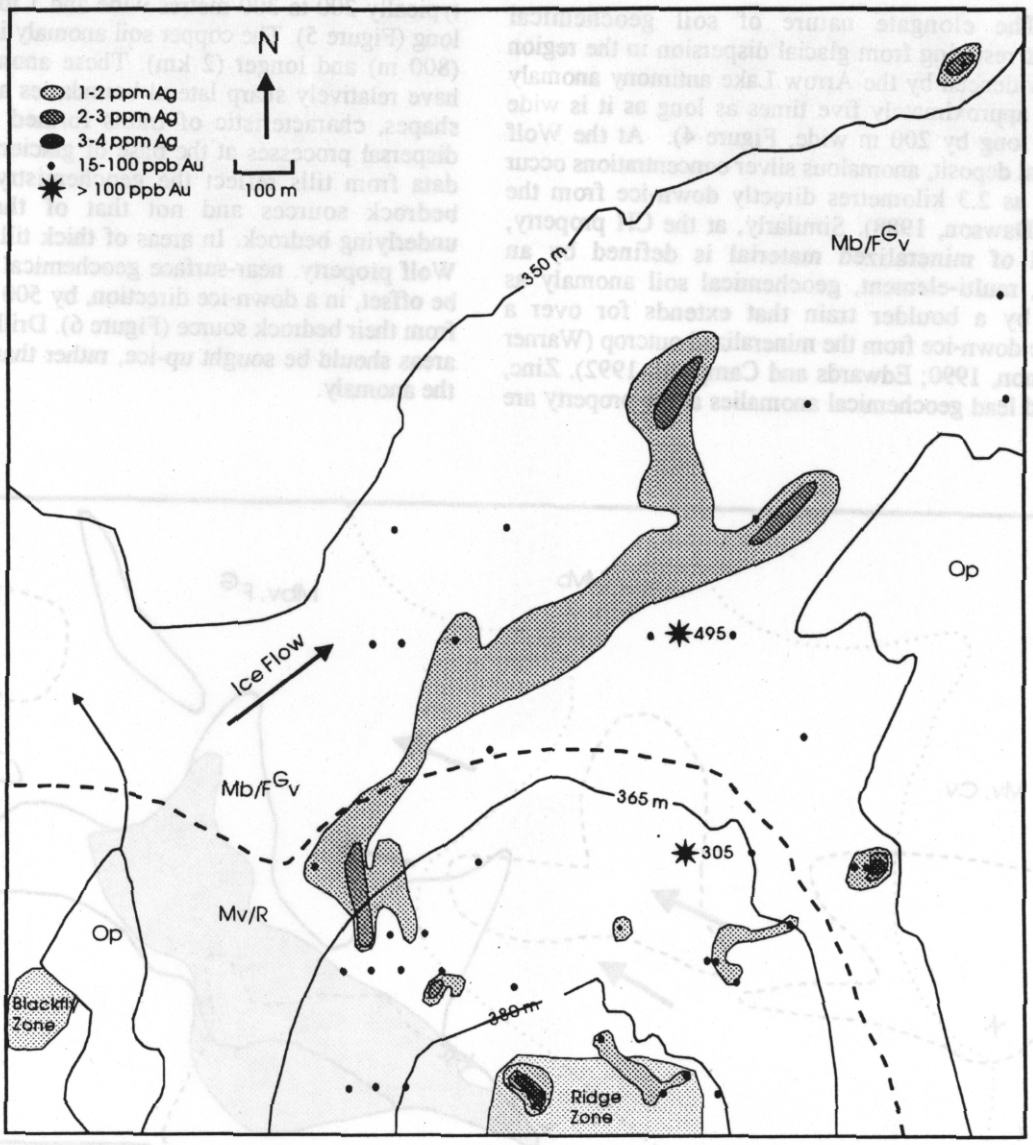

Figure 6. Surficial geology and silver soil anomalies at the Wolf deposit (geochemical data from Dawson, 1988).

Except along some creeks and steep slopes, hydromorphic dispersion effects have apparently not modified anomaly patterns in the region to any great degree. The main influence of topography seems to be the preferential deposition of till in lee-side settings. Although topography may also have temporarily effected local ice-flow directions, dispersal of mineralized materials appears to have been dominated by the northeasterly regional ice-flow; subsequent local variations have not obscured this primary pattern. This is well illustrated by the predominant down-ice dispersal of molybdenum in the Chutanli Lake region, even though the down-ice direction is mainly up-slope from the deposit (Mehrtens, 1975).

Pathfinder elements vary with deposit type, and elements most abundant in the mineralized material appear to produce the largest and strongest soil geochemical anomalies (*e.g.* Sb at the stibnite-bearing Arrow Lake deposit, Cu at the CH porphyry copper prospect, and Ag at the Wolf Au-Ag epithermal deposit). However, multi-element analysis of all samples is recommended to increase the likelihood of discovering unexpected mineralization, even in property-scale investigations, as exemplified by the arsenic data at the CH property.

INTERPRETATION OF RESULTS

Anomalous concentrations of a selection of elements are discussed here in the context of the bedrock geology, known mineral occurrences and the glacial ice-flow history of the area. 'Anomalous' is used here in comparison to other till samples in the region and does not directly imply economic significance. In interpreting the following results, it is important to re-emphasize that concentrations of many elements are typically one or more orders of magnitude lower in tills than in their source rocks. Conversely, low concentrations in tills may reflect significantly high concentrations in bedrock. For this reason, relative, rather than absolute, concentrations are often more meaningful in interpreting till geochemical results.

Quantitative evaluations of till geochemical data for any area, therefore, should only be made by comparison with geochemical concentrations in tills derived from known areas of mineralization where lithogeochemical results have been documented and, ideally, where geologic conditions (*e.g.* bedrock lithology, ice-flow history) are similar. As the latter is often impossible it is usually necessary to make analogies to distant sites where geologic conditions are less similar. This problem is somewhat alleviated in the Fawnie map area, as some comparisons can be made with the Wolf mineral deposit where lithogeochemical results are in the public domain (Cann, 1984; Andrew, 1988) and where regional till samples have also been collected (Appendix D). For this reason, in the following discussion some comparisons are drawn between sites of interest and the Wolf area, as well as with results from other mineral properties in the region. For more in-depth comparative analyses, reference should be made wherever possible to geochemical studies at other mineral deposits or prospects in the region or geologically similar areas elsewhere in the Interior Plateau (*cf.* Levson and Giles, 1994b).

GOLD

The mean and median concentrations of gold in tills in the area are 5.9 and 4.0 ppb, respectively. Background gold concentrations, as defined by the median value, are 4 ppb for tills known or presumed to be underlain by the Naglico formation, 6 ppb for Ootsa Group sites, 1 ppb for Chilcotin Group sites and 3 ppb for tills overlying the Capoose batholith (Appendix C).

In addition to indicating a number of new exploration targets, the distribution of high gold concentrations in the area corresponds well with the locations of known gold showings such as at the Wolf property in the northwest corner of the map sheet and the newly discovered Tommy and Malaput occurrences (Appendix D). Gold concentrations at all of these sites are highest in the tills to the northeast of outcropping mineralized rocks, reflecting down-ice metal dispersal. Gold values above the 95th percentile (20 ppb), obtained on till samples at six sites in the map area, are described below.

MALAPUT OCCURRENCE

At the Malaput showing, gold concentrations in till (up to 40 ppb) at locations approximately 1.3 kilometres directly down-ice of the occurrence (sites 195 and 196) are an order of magnitude higher than bedrock assay results (up to 6 ppb) obtained on chip samples taken across a zone of pervasively silicified rocks at the main showing (*see* Diakow *et al.*, 1994; assays IWE 8-1A,B,C and LDI22-4). As gold concentrations in till samples are generally much lower than in their source rocks, due to the diluting effects of glacial dispersal, the high gold values in the till strongly suggest the presence of a more significant gold occurrence than the one sampled. Outcrop is sporadic at the site but the till cover is generally thin near the showing. Geochemical sampling and hand trenching in the area may lead to discovery of a new auriferous zone, probably to the northeast of the sampled occurrence and southwest of the anomalous till samples.

SOUTHWESTERN WOLF SITE

At the Wolf property, most of the high gold values in till (up to 39 ppb) occur northeast (down-ice) of the Blackfly and Ridge zones, but one till sample (site 043), southwest of known mineralized zones in the area, yielded 40 ppb gold. The sampled material at this site has sedimentologic characteristics typical of a lodgement till (see field observations in Appendix A) and almost certainly has a source area farther to the southwest. The potential for discovery of a new auriferous zone in this area is therefore considered to be good. Moderately anomalous arsenic (33 ppm), molybdenum (7 ppm), lead (15 ppm) and zinc (104 ppm) also occur in the till at this site.

WESTERN CAPOOSE BATHOLITH

The highest gold concentration recovered from regional till samples in the map area (77 ppb) occurs on the Capoose batholith at site 086, 2 kilometres north of the west end of Laidman Lake. Tills at several other sample sites (053, 087, 088, 101 and 102) in this area have anomalous gold concentrations ranging from 9 to 20 ppb. These sites all occur in an easterly trending zone about 1 kilometre wide and several kilometres long; gold values in tills to the north and south of the zone drop off sharply to near background levels (< 5 ppb). The long and narrow shape of this zone, and its well defined boundaries, are suggestive of a well developed, glacial

dispersal train, comparable or even larger than other dispersal trains in the region (Levson and Giles, 1994b) including that developed down-ice of the Wolf property (Figure 6). This interpretation is further supported by the orientation of the anomalous zone which is nearly parallel to the glacial paleoflow direction in the area (Appendix D). Detailed till sampling in this region is required to confirm this interpretation and to locate the bedrock source of the high gold concentrations. The area west of the anomalous zone, along the western margin of the Capoose batholith is a prime target for exploration. The surficial cover in this area is relatively thick and includes both till and, locally, up to several metres of sandy glaciofluvial fan deposits (Plate 7). Geophysical prospecting may be required to locate the source of the gold anomalies.

TROPHY LAKE SITE

In the southwest part of the map sheet, 21 ppb gold was found in till at sample site 257 (Appendix D). The site is south of an unnamed lake, locally known as Trophy Lake, south of Moose Lake. Numerous angular fragments of bedrock occur in this area. Some of these rocks contain up to 3% finely disseminated pyrite and have a fine-grained sugary texture, possibly due to weak hydrothermal alteration. Monolithic breccia is also present and is comprised of off-white, quartz-bearing rhyolitic fragments supported by a grey siliceous matrix. Small cavities in these rocks are lined with drusy quartz. The brecciation may be primary, attributed to degassing of rhyolite flows or, secondary, associated with hydrothermal activity (L.J. Diakow, personal communication, 1994). The high angularity of the rocks suggests a local source and this, combined with anomalous gold in the till sample, suggests that this area has good exploration potential.

TOMMY LAKES AREA

In the Tommy Lakes area in the southwest part of the map sheet (Appendix D), two till samples (sites 223 and 227) yielded gold values above the 95th percentile (both contained 23 ppb Au). Other till samples from the area also contained significant gold concentrations (*e.g.* 12-13 ppb at sites 221 and 222). These samples were taken northeast of the Tommy mineral occurrence described by Diakow and Webster (1994). Quartz veins and stockwork veinlets occur in rhyolitic flows and ash-flow tuffs at three separate sites. Bedrock assays from chip samples show gold concentrations of up to 3740 ppb (Diakow *et al.*, 1994) and the area is considered to have excellent potential for the discovery of other epithermal quartz veins (Diakow and Webster, 1994). The regional distribution of till samples with anomalous gold also supports this conclusion. For example, site 227 is approximately 2 kilometres north of the described occurrence and, as the former ice-flow direction in the area is easterly to northeasterly, it is unlikely that the till at this site was derived from the known occurrence. Source rocks for this till are probably more to the west or southwest, possibly on the north side of the Tommy Lakes valley. Detailed geochemical sampling in the region will help to better define the source of these gold anomalies.

WEST VAN TINE CREEK - ENTIAKO SPUR AREA

The last site with gold concentrations above the 95th percentile (21 ppb) is in the north-central part of the map sheet (site 112). Anomalous gold concentrations throughout this area (sites 104, 113, 114, 118, 171, 173, 175 and 176) are associated with a belt of thermally altered Hazelton rocks (Diakow *et al.*, 1994). Several occurrences of magnetite skarn are known in the area (*e.g.* Fawn-5; MINFILE 093F 053) and chip samples of quartz veinlets in epithermal-style mineralization at the Gran prospect (MINFILE 093F 043) averaged 623 ppb gold (Schroeter and Lane, 1994). This gold occurrence is approximately 10 kilometres east of site 112 and well east of all other till samples containing anomalous gold concentrations. These observations suggest that other areas of gold mineralization may occur in the region, particularly west of site 112. Detailed geochemical sampling will be necessary to follow-up this interpretation.

SILVER

The mean and maximum concentrations of silver in tills in the area are 0.2 and 0.7 ppm, respectively, and 90% of the regional till samples have silver concentrations of 0.3 ppm or less (Appendix C). Background silver concentrations, as defined by median values, are similar for tills over most bedrock types (0.2 ppm) but slightly lower (0.1 ppm) for sites underlain by rocks of the Ootsa and Chilcotin groups (Appendix C).

Strongly anomalous silver concentrations (up to 5.9 ppm) were only encountered during detailed sampling in the Wolf area. It is interesting to note that the highest silver value from the regional till samples in the Wolf area is 0.3 ppm, in spite of the fact that anomalous silver values in soils at the property correlate very well with areas of epithermal silicification, and dispersal trains can be mapped from the silver data (Dawson, 1988; Levson and Giles, 1994b). This suggests that silver, although useful in detailed property investigations, is of little value in regional surveys in this area and exploration for silver mineralization in the region should focus on associated pathfinder elements. However, moderately anomalous silver concentrations (0.4 - 0.7 ppm) are present in the regional samples from the four areas described below.

SOUTHERN CAPOOSE BATHOLITH

Three sample sites (001, 203 and 204), clustered southeast of Moose Lake, contain 0.5 ppm silver

(Appendix D). The sites are near the southern margin of the Capoose batholith and may reflect silver mineralization associated with the intrusion. A till sample from a fourth site (207), in the same general region but a few kilometres farther south, returned the highest silver value (0.7 ppm) in the regional data set. This site is near a small intrusion of porphyritic quartz monzonite, probably related to the Capoose batholith. Approximately 25 metres outward from the margin of the intrusion the country rocks, exposed in a roadcut near the till sample site, have undergone weak to moderate hydrothermal alteration indicated by destruction of the porphyritic texture in the augite-phyric flows and by sulphide mineralization. The altered rocks are rusty (oxidized) and contain finely disseminated and fracture-controlled pyrite.

TOMMY LAKES AREA

In the southeast corner of the map area, silver concentrations ranging from 0.4 to 0.6 ppm occur at three sites (222, 223 and 225) northeast of the Tommy mineral occurrence (Diakow and Webster, 1994). Anomalous silver in conjunction with high gold values in the tills in this area lends support to the interpretation that significant, epithermal precious metal mineralization is present in the area. The till at site 222 also has strongly anomalous antimony concentrations (3.4 ppm) and the highest values of barium (390 ppm) and vanadium (104 ppm) encountered in the regional sampling.

WESTERN CAPOOSE BATHOLITH

Moderately anomalous silver concentrations (0.4 ppm) also occur northwest of Laidman Lake (sites 088, 094 and 098) along the western margin of the Capoose batholith (Appendix D). Anomalous silver in this area is coincident with the up-ice end of a linear zone of high gold values in till (see above) and also coincides with moderately anomalous gold and arsenic in lake sediments (Cook and Jackaman, 1994b).

NORTHEAST JOHNNY LAKE AREA

Moderately to strongly anomalous silver (0.4 to 0.5 ppm) also occurs farther to the west in the hilly area northeast of Johnny Lake (sites 090 to 092). Tills here also contain anomalous lead, zinc, copper and molybdenum concentrations (see also interpretation of lead-zinc data below). A recently discovered mineral occurrence just south of this area (Paw; MINFILE 093F 052) consists of granodiorite with fracture-controlled and disseminated sulphide mineralization with 3 to 4% pyrite and traces of molybdenite and chalcopyrite (Schroeter and Lane, 1994). Anomalous silver (0.6 ppm) also occurs in an isolated till sample (site 104) from a region of thermally altered rocks just north of the Capoose batholith (Appendix D). The till at this site also contains moderately anomalous gold in the 90th percentile (14 ppb).

ARSENIC AND ANTIMONY

Geochemical distribution patterns for arsenic and antimony in the map area are similar (Appendix D) and both elements are discussed together here. Mean arsenic and antimony concentrations in tills are 12.8 and 1.3 ppm, respectively. Median concentrations in tills over Naglico formation mafic and siliceous rocks, Ootsa Group rocks, Capoose intrusives and Chilcotin Group basalts, for arsenic, are 12.0 ppm, 8.9 ppm, 8.3 ppm, 6.5 ppm and 3.3 ppm, respectively, and for antimony, 1.5 ppm, 1.3 ppm, 1.0 ppm, 1.0 ppm and 0.6 ppm, respectively (Appendix C).

Arsenic and antimony concentrations above the 95th percentile for all sites (>33 ppm As and >2.5 ppm Sb) cluster in several areas, most of which are around the periphery of the Capoose batholith. In addition to the areas discussed below, anomalous (> 90th percentile) arsenic and antimony concentrations occur in tills overlying thermally altered rocks just north of the Capoose batholith along the southern margin of the Entiako Spur (sites 104 to 107) and directly down-ice (east to northeast) of the Gran (sites 121, 122, 177) and Malaput (sites 196 and 197) epithermal occurrences.

WESTERN CAPOOSE BATHOLITH

Arsenic concentrations ranging from 25 to 46 ppm and antimony concentrations of 2.2 to 2.8 ppm occur along the western margin of the Capoose batholith (sites 051 to 053, 098 and 099). These sites are at the up-ice end of the linear gold anomaly described above. Altered bedrock, chip-sampled in the area between sites 053 and 098, yielded gold, arsenic and antimony analyses of 101 ppb, 12 730 ppm and 79 ppm, respectively, as well as anomalous silver (6 ppm), copper (186 ppm), lead (321 ppm), zinc (675 ppm) and molybdenum (14 ppm) (Diakow *et al.*, 1994). These data further point to an area of significant mineralization along the west-central margin of the Capoose batholith (see discussion under gold interpretation).

BUCK AREA

Anomalous arsenic (38 - 43 ppm) and antimony (2.3 - 4.3 ppm) occurs in tills at two sites (187 and 229) underlain by Naglico formation sediments of the Hazelton Group in the northeast part of the map area (Appendix D). The till contains 16 ppb gold at site 229 near the Buck mineral prospect (MINFILE 93F 050). Stratabound sulphide mineralization with up to 15% disseminated sphalerite, pyrite and pyrrhotite is reported at the prospect, with one chip sample across 3 metres returning 2% zinc and 306 ppm copper (Caulfield, 1992). The highest arsenic and antimony analyses in the map region (170 ppm As and 4.3 ppm Sb) occur at the second site (187), about 1.8 kilometres further south. Anomalous lead and zinc also occur at both of these sites.

SOUTHERN CAPOOSE BATHOLITH

Strongly anomalous (> 98th percentile) arsenic and antimony concentrations in till occur at sites 204 (100 ppm As and 2.7 ppm Sb) and 205 (53 ppm As and 3.6 Sb), both of which are along the margins of intrusive rocks associated with the Capoose batholith. The till at site 207 also has the highest silver concentration in the area as well as strongly anomalous concentrations of lead (51 ppm), zinc (156 ppm), barium (179 ppm), iron (5.68%) and aluminum (3.31%). The site is near a zone of sulphide mineralization (see silver interpretation for description).

LEAD AND ZINC

Geochemical distribution patterns for lead and zinc in tills are similar (Appendix D) and both elements are discussed together here. Mean lead and zinc concentrations are 9 and 67 ppm, respectively. Median values for all sites are 8 ppm for lead and 65 ppm for zinc. Median concentrations in tills are highest over mafic Naglico formation rocks (10 ppm Pb, 78 ppm Zn), moderate over siliceous Naglico formation and intrusive rocks (8.0 ppm Pb, 56-57 ppm Zn) and lower over the Ootsa (6 ppm Pb, 52 ppm Zn) and Chilcotin (4.0 ppm Pb, 46 ppm Zn) groups (Appendix C). Maximum values are 58 ppm for lead and 168 ppm for zinc, both in Naglico formation rocks.

Anomalous lead-zinc concentrations occur in three areas described below. Anomalous zinc concentrations (104 to 121 ppm) also occur in the Wolf area at sites 037 and 043.

SOUTHERN CAPOOSE BATHOLITH

The greatest density of till sites with lead and zinc concentrations above the 95th percentile occurs in the region between the Capoose batholith and a related porphyritic intrusion near the southern edge of the map sheet (sites 203, 204, 205 and 207). The former ice-flow direction is nearly due east in the vicinity of strongly anomalous concentrations (≥ 98th percentile) of zinc (156 - 158 ppm) and lead (30 - 51 ppm) in tills at sites 204 and 207, indicating that mineralized source rocks for these anomalies are located farther to the west. Anomalous values in till at site 205, which is underlain by the porphyritic intrusive rocks, suggest a source of mineralization along the western margin of this small intrusion. A till sample with lead and zinc values in the 95th percentile (22 ppm Pb and 112 ppm Zn), located several kilometres to the east at site 065, is also near the southern contact of the Capoose batholith (as projected by Diakow *et al.*, 1994), suggesting that lead-zinc mineralization may be widespread along the intrusive contacts.

NORTHEAST JOHNNY LAKE AREA

A second area of anomalous lead and zinc concentrations in tills lies north of the east end of Johnny Lake (sites 090 to 092). Analyses above the 95th percentile (113 ppm Zn and 32 ppm Pb) occur at site 090. Tills across an area 2.5 kilometres long (between sites 089 and 090), also have high silver, copper and molybdenum. The Paw porphyry copper-molybdenum prospect is just west of site 089 (Appendix D, see silver interpretation) in equigranular hornblende granodiorite. Country rocks between sites 091 and 092 are thermally altered (recrystallized) and locally contain disseminated pyrite. The Naglico formation in this area (Diakow *et al.*, 1994) is cut by post-alteration dikes, characterized by bladed plagioclase up to 2.5 centimetres long, believed to be Eocene in age (L.J. Diakow, personal communication, 1994). The alteration appears to be spatially and temporally related to a poorly exposed intrusion that extends southward to the Paw prospect. These geologic data, combined with the geochemical results from this area, suggest that the region has good potential for porphyry-style mineralization.

BUCK AREA

The highest lead and zinc values in the region (58 ppm Pb and 168 ppm Zn) are at site 187 and concentrations above the 95th percentile occur nearby at site 229 (Appendix D). Tills at both sites also have high arsenic and antimony concentrations and overlie sediments of the Naglico formation which hosts the Buck mineral prospect (see above discussion of arsenic and antimony).

COPPER

Anomalous copper concentrations in tills in the Fawnie map area occur almost exclusively in the north half of the map area. Mean and median copper concentrations in the area for all till sites are 26 and 24 ppm, respectively. Median concentrations are highest over mafic Naglico formation rocks (31 ppm), intermediate over intrusive rocks of the Capoose batholith (24 ppm) and siliceous Naglico formation rocks (20 ppm) and lowest over the Chilcotin (14 ppm) and Ootsa (12 ppm) groups (Appendix C).

The highest copper concentration encountered in till (66 ppm) is at site 107 on the north side of the Capoose batholith and several other samples in this area (sites 083 to 086 and 197) yielded high copper values ranging from 44 to 50 ppm. Similar copper values occur in tills west (down-ice) of the Gran mineral prospect (sites 121 and 122) and near the edge of the northern part of the Capoose batholith in the Van Tine Creek valley (sites 115 and 119). Higher copper concentrations, above the 95th percentile for all sites (49 - 64 ppm), occur farther west, near the end of the Van Tine road, at sites 112 and 113. The only other area where strongly anomalous (≥ the 95th percentile) copper concentrations (46-61 ppm) were found in tills was north of the west end of Johnny Lake (sites 089 to 092). This area coincides with anomalous silver,

molybdenum, lead and zinc (see above).

MOLYBDENUM

Mean and median molybdenum values in the area are 1.3 and 1.0 ppm, respectively. Median concentrations are similar (1 ppm) over all bedrock types (Appendix C). The main clustering of anomalous molybdenum concentrations in till samples is down-ice (northeast) of the Wolf epithermal deposit (Appendix D). The highest molybdenum concentration (7 ppm) in the map area, however, is at site 043, southwest of the main mineralized zones at Wolf. Anomalous gold (40 ppb), arsenic (33 ppm), lead (15 ppm) and zinc (104 ppm) also occur in the till at this site. A northeasterly glacial ice-flow direction in the area suggests a source for the anomalies to the southwest of the sample site.

The only other clustering of moderately anomalous molybdenum concentrations (0.3 to 0.4) in the map area is northeast of Johnny Lake (sites 089 to 091). The highest value is from site 89, approximately 1 kilometre east of the Paw mineral prospect. Molybdenum analyses of 0.3 ppm were also obtained on samples from several isolated sites (049, 103, 198 and 204). Site 198 also contains high arsenic (27 ppm) and weakly anomalous concentrations of gold (10 ppb) and zinc (83 ppm). Gossanous dacitic bedrock southwest of site 198 contains disseminated sulphides and some sulphide veinlets and the area warrants further sampling (I.C.L. Webster, personal communication, 1994). The till at site 204 also contains anomalous zinc (158 ppm), lead (30 ppm), arsenic (100 ppm) and antimony (2.7 ppm).

GENERAL RECOMMENDATIONS FOR ANOMALY FOLLOW-UP

As the maps in this report are intended to help focus mineral exploration programs in drift covered areas, a few recommendations regarding anomaly follow-up are provided here. Methods of till geochemical anomaly follow-up include detailed geochemical soil sampling surveys (commonly using B soil horizons), overburden geochemical surveys (that sample C-horizons, usually in till or colluvium), clast provenance surveys (pebble lithology studies, boulder tracing or other clast indicator surveys) and heavy mineral sampling surveys. These methods are widely used and are not discussed here, but the influence of surficial geology on the effectiveness of sampling program is less well known and warrants some discussion.

DRIFT PROSPECTING POTENTIAL

The ease with which a surficial sediment can be traced back to its original bedrock source using common methods of sampling near-surface sediments is referred to as drift prospecting 'potential'. It refers only to the relative usefulness of different surficial sediments for geochemical, lithological and heavy mineral sampling programs, particularly those conducted at property scales (~ 1:5 000), and does not apply to other types of surveys including biogeochemistry, vapour geochemistry, lake and stream sediment geochemistry and geophysical surveys which are not strongly influenced by the nature of the surficial sediments at the sample site.

A drift prospecting potential map of the Fawnie Creek map area (Appendix D) was produced by Giles and Levson (1994b) and its use is summarized here. The construction of this map was based on mechanical dispersal by glacial, colluvial, fluvial and other sedimentary processes and does not directly include the effects of hydromorphic dispersion or weathering. Factors involved in determining drift prospecting potential include sediment genesis, complexity of erosional and depositional history, sediment thickness, transport distance (proximity to source) and the size, shape and type of dispersal pattern (see below). Drift prospecting potential maps are intended primarily to aid in the planning of exploration surveys. Sampling programs can be designed to preferentially select sediment types appropriate to any one level of survey and to avoid deposit types that will provide less information. For example, colluvial deposits are typically composed largely of locally derived materials and therefore they are useful for property-scale surveys; conversely, sampling of glaciofluvial or lacustrine deposits during a property-scale survey generally provides little information about local mineralization. It is important to note that at 1:50 000 scale, many individual map units have approximate boundaries and more detailed mapping can usually identify subunits that have higher (or lower) drift prospecting potential. The use of mapped drift exploration categories to select priority sampling areas saves time and effort and also yields information of greater utility than indiscriminate surveys. This approach thus provides a cost-effective means of conducting an exploration program and also has greater potential for success than sampling programs that do not discriminate between different surficial sediment types.

The drift prospecting potential of each of the main types of surficial materials in the Fawnie Creek area have been categorized into very high, high, moderate, low and very low (Giles and Levson, 1994b). During anomaly follow-up surveys, sampling of surficial materials with high or very high potential will provide results that are more readily interpreted and more likely to lead to the discovery of the source of the anomaly, than will sampling sediments with lower potential. The main characteristics of each of the different drift prospecting categories are summarized here.

VERY HIGH POTENTIAL

Sediments with very high drift prospecting potential for property-scale, anomaly follow-up, surveys include colluvial deposits typically derived from bedrock sources less than 1 kilometre distant and commonly less than 100 metres. They can be traced up-slope along linear to fan-shaped dispersal paths to their original source. These deposits typically consist of unsorted or very poorly sorted diamicton with abundant angular clasts of bedrock. They are differentiated into those consisting of colluvial deposits, less than 1 metre thick with some exposed bedrock, occurring mainly in upland areas and on steep slopes, and colluvium more than 1 metre thick without exposed bedrock. The latter category includes colluvial blankets and rubbly talus deposits that are mostly found at the base of steep rocky slopes in the Fawnie Range and Naglico Hills.

HIGH POTENTIAL

Basal tills deposited by lodgement or melt-out processes (primary tills) are considered to have high drift prospecting potential. These deposits are differentiated into till veneers less than 1 metre thick occurring mainly on steeper slopes and around bedrock highs, and till blankets more than 1 metre thick mantling bedrock on gentle slopes. These deposits can be readily traced to their bedrock sources in an up-glacier direction along linear 'cigar'-shaped or narrow, elongated, fan-shaped

dispersal paths. Thin till deposits tend to be closer to source than till blankets. Detected mineralization in both categories, especially till blankets, may be separated or offset from the bedrock source by an area of 'barren' sediment. Also included in this category, but slightly more difficult to trace to source than lodgement or melt-out tills, are subglacial debris-flow deposits and basal till deposits that have moved down-slope since deposition, primarily under the influence of gravity (not water). Basal tills may occur locally in other map categories, especially at depth. For example, basal tills commonly underlie other surficial deposits such as glaciofluvial sands and gravels and they can be readily sampled in existing, natural or man made exposures (*e.g.* stream or road cuts) or, at more cost, by excavating or drilling.

Dispersal paths in these deposits are typically dominated by a down-ice component modified to varying degrees (depending mainly on local relief) by down-slope movement. Due to the potential for the development of large dispersal trains, mineral anomalies in basal tills may be detected in regional as well as local surveys. Sampling of basal tills rather than other types of surficial materials is particularly useful in this map area because the dominance of one main regional ice-flow direction throughout much of the last glacial period has resulted in a simple linear, down-ice transport of material (Giles and Levson, 1994a; Levson and Giles, 1994b). This makes tracing of basal till anomalies to source relatively easy compared to areas with a more complex ice-flow history.

Morainal deposits typically consist of diamicton with a sandy silt to silty clay matrix. They are unsorted to very poorly sorted, massive or crudely stratified, compact and matrix supported. Clasts are up to boulder size and often striated. Flutings, drumlinoid ridges, crag-and-tail features and striated bedrock substrates are commonly associated with these deposits, providing a ready means for determining glacial paleoflow direction (shown on map with large arrows). Detailed till fabric measurements, on elongated clasts contained within basal till deposits, can be useful for determining glacial flow direction in the absence of other ice-flow indicators or for providing more detailed local information.

MODERATE POTENTIAL

Morainal sediments in areas of hummocky topography and glacial diamictons that show evidence of substantial postdepositional remobilization (secondary morainal deposits) are considered to have moderate drift prospecting potential for property-scale, anomaly follow-up surveys. These deposits are believed to have formed by melt-out of debris from glacial ice, as suggested by the hummocky topography, with subsequent remobilization in debris flows. The ubiquitous presence of striated clasts suggests that at least some of the sediment was derived from basal or englacial debris. These secondary glacial deposits are more difficult to trace to source than primary tills, due to their more complicated sedimentary history. Dispersal paths are similar in primary and secondary glacial deposits, both being dominated by a down-ice movement direction, but secondary dispersal vectors in resedimented glacial deposits are more chaotic and difficult to determine, being related to the position of former ice blocks rather than the present topography. Pebble fabric analyses, however, can help decipher the last direction of debris-flow movement. Distance of transport is largely dependent on the original position of transportation within the glacier, more distally derived deposits generally being derived from higher levels in the ice. Supraglacial deposits are typically the farthest traveled, sometimes exceeding tens or even hundreds of kilometres. Fortunately, they are not common in the map area. Supraglacial deposits have low drift prospecting potential and must be differentiated in the field from other resedimented glacial deposits. They can be recognized by characteristics such as abundant, far-traveled erratics, that are commonly angular with few or no glacial abrasion features, and by sedimentologic studies.

Resedimented glacial deposits typically consist of unsorted to poorly sorted, crudely stratified, matrix-supported, sandy diamicton with clasts up to boulder size. Diamicton beds are commonly mantled, interbedded or laterally gradational with glaciofluvial sands and gravels. The latter sediments generally should be avoided in sampling programs as they have a more complicated transport history and usually a longer transport distance from source. Sampling basal tills, that may occur at depths of a few metres or more in these sediments, is sometimes an effective way of increasing drift prospecting potential (see recommended field methods). In upland areas this unit is associated with small regions of exposed bedrock or colluvium and in low areas it occurs with organic, fluvial and glaciofluvial deposits too small to be mapped separately. Small meltwater channels and areas of kettled topography are locally common.

LOW POTENTIAL

Fluvial and glaciofluvial deposits generally have a large component of distally derived material (typically > 5 km from source). Transport distances, however, are highly variable and dependent on paleostream energy, lithology (resistance to abrasion) and grain size. Processes of entrainment, transportation and redeposition result in discontinuous, irregular, often sinuous dispersal patterns. These deposits are not expected to reflect directly underlying mineralization except in areas where they are less than a few metres thick and erosionally overlie bedrock.

Fluvial deposits typically consist of well stratified and moderately well sorted sand, gravel and some silt. Glaciofluvial deposits are generally more poorly sorted often interbedded with glacial debris-flow deposits. Fluvial deposits include floodplain and alluvial (and colluvial) fan sediments and minor modern delta and terrace deposits. In the map area they are most abundant

in the Fawnie, Matthews and Van Tine Creek valleys. Several well developed alluvial fans occur in the Fawnie Creek valley between Laidman and Top lakes. Floodplain deposits locally have an organic veneer. Glaciofluvial deposits are most common in valley bottoms where they typically are subdued and overlain or associated with fluvial and organic deposits. (As drift prospecting potential relates only to mechanical dispersal processes, organic deposits are ranked with the deposits that they overlie, mainly floodplain sediments in the study area; see also below.) Glaciofluvial fans and deltas occur locally along valley sides and at the lower ends of meltwater channels. Kettled outwash, eskers and kame deposits are other local features common in hummocky terrain in association with morainal deposits.

VERY LOW POTENTIAL

Lacustrine and glaciolacustrine deposits are at least third-derivative sedimentary products of bedrock, invariably having undergone multiple cycles of erosion, transportation and deposition by glaciers, streams and finally in the lacustrine environment. Due to this complex history, the potential for locating the original source of any mineralized material that may be discovered in these sediments is very low. In addition, lacustrine and, in particular, glaciolacustrine sediments are often comprised of sediment transported from a wide region and the potential for dilution of mineralized material by barren sediment is therefore much higher. Glacial lake sediments are generally not recommended as a sampling medium.

Lacustrine and glaciolacustrine deposits are dominated by well sorted, laminated or thinly bedded, fine to medium sands, silts and clays. Ice-rafted stones, normal faults and slump structures are common. They are invariably overlain by organic materials, and also locally by fluvial or glaciofluvial deposits. In the map area they occur mainly in the low areas in the north part of the map sheet, in the valleys of Cow, Top and Entiako lakes and lower Van Tine Creek.

SUMMARY

Morainal sediments deposited during the last glaciation are widespread in the Fawnie Creek map area and form a cover from a few to several metres thick in low-lying areas, to less than 2 metres thick in upland regions. Glaciofluvial sediments are also common, occurring as eskers, kames, terraces, fans and outwash plains in valley bottoms and along valley flanks. They consist mainly of poorly to well sorted, stratified, pebble and cobble gravels and sands in deposits up to 10 metres thick. Glaciolacustrine sediments are rare. There was one dominant ice-flow direction in the region towards the east-northeast, modified by topographic control during both early and late stages of glaciation. A basic understanding of ice-flow direction, glacial dispersal patterns, transportation distances, Quaternary stratigraphy and the origin of different sampling media are considered essential for successful drift exploration programs in this region and may provide the explorationist with new avenues to explore for bedrock sources of mineralized float or geochemically anomalous samples.

Geochemical anomalies associated with glacial dispersal of mineralized bedrock in the area are up to a few kilometres long and several hundred metres or more wide, but isolated anomalies associated with the dispersal trains may cover much larger areas. Erratics trains in the region are up to several kilometres long and more readily detected than till anomalies. They show a pronounced elongation parallel to ice-flow direction, with mineralized source rocks occurring at or near the up-ice end of the trains. Till geochemistry reflects up-ice bedrock sources and not the immediately underlying bedrock. In areas of thick till, near-surface anomalies may be displaced by 500 metres or more down-ice from their bedrock source. Subsurface exploration targets in these areas should be up-ice, rather than at the head, of the anomaly.

The results of the till geochemical survey indicate that basal till sampling programs are an effective tool for locating mineralized zones in drift-covered parts of the Nechako Plateau. Several new exploration targets are highlighted by multi-element geochemical anomalies and all existing mineral occurrences in the map region are also detected by the regional till geochemical data. One of the most pronounced multi-element geochemical anomalies in till occurs in the western part of the Capoose batholith (between sites 088 and 102). Anomalous gold values, including the highest gold concentration encountered in the regional sampling program, occur in this area along a zone that is about a kilometre wide and several kilometres long, trending easterly, parallel to the local ice-flow direction. Till samples at several sites in this area also contain anomalous silver, arsenic and antimony.

Another area of interest lies between the southern margin of the Capoose batholith and a small associated intrusion in the south-central part of the map sheet (sites 001, 203, 204, 205, 207). Anomalous silver, arsenic, antimony, molybdenum, lead and zinc concentrations occur here and tills in the vicinity of the small southern intrusion also contain anomalous barium, iron and aluminum. Rocks around the intrusion are oxidized and contain finely disseminated and fracture-controlled pyrite. The former ice-flow direction is almost due east near the anomalies, indicating that mineralized source rocks are located farther to the west.

A third multi-element geochemical anomaly occurs northeast of Johnny Lake. Tills in this area contain anomalous silver, lead, zinc, copper and molybdenum. Rocks in the area contain disseminated and fracture-controlled sulphides. The Paw mineral showing occurs south of the main part of the anomalous region and, as the local ice-flow is northeasterly, it is unlikely to be the only source of the high metal concentrations in the tills. The area is considered to have potential for porphyry-style mineralization.

An area of potential stratabound sulphide mineralization on the Buck property is reflected in the till geochemical data by a fourth multi-element anomaly. Significantly, the highest arsenic, antimony, lead and zinc concentrations encountered in the survey occur at a site (187) south of the main zone of interest on the Buck property, suggesting that bedrock mineralization may be present up-ice.

Other exploration targets are identified by:

- High gold concentrations in till and mineralized float in the Trophy Lake area south of Moose Lake (near site 257).
- Moderately high gold, silver, arsenic and antimony and high copper concentrations in till overlying altered rocks on the north side of the Capoose batholith (near site 104).
- High copper and moderate to high gold concentrations in the north-central part of the map area in the west Van Tine Creek - Entiako Spur region (sites 112-115).
- Moderately anomalous molybdenum, arsenic, gold and zinc in the northeast corner of the map area (site 198) near an area of gossanous bedrock with disseminated sulphides.

In addition to identifying new exploration targets, the till geochemical data suggest that mineralization in the vicinity of the Wolf, Tommy Lakes and Malaput prospects may be more significant than previously recognized. In the Wolf area, the highest gold

concentration in the regional till samples is southwest (up-ice) of the known mineralized zones, suggesting that there is potential for discovery of a new auriferous zone southwest of the main part of the property. This area also shows moderately anomalous arsenic, molybdenum, lead and zinc. Similarly, at the Tommy Lakes site, anomalous gold in till north of the known showings suggests that the bedrock mineralization may extend farther to the north than indicated by bedrock exposures in the area. Gold concentrations in till at the Malaput showing, that are several times higher than in bedrock, suggest that a more significant mineralized zone is yet to be found.

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Till Geochemistry of the Fawnie Creek Map Area
(93F/03)

Open File 1994-18

Appendix A

Field Observations and Analytical Data

A - 2 ... Reference Guide to Field Observations and Bedrock Geology

A - 3 ... Field Observations

A - 7 ... INA Analytical Data

A - 11 ... ICP Analytical Data

A - 15 ... Whole Rock Analytical Data

Notes :

- Repeat analysis of Au by INA (reported as Au2) have been performed on a separate split for samples reporting Au values exceeding 15 ppb.
- Analytical duplicate results for Au are also reported as Au2.

Reference Guide to Field Observations and Bedrock Geology

MAP	NTS map sheet
ID	Sample number
UTMZ	UTM Zone
UTME	UTM East Coordinate
UTMN	UTM North Coordinate
REP	10 - first duplicate sample, 20 - second duplicate sample
MAP UNIT	Surficial geology map unit (Levson and Giles 1994) Cv - Colluvial veneer Mb - Till blanket Mv - Till veneer M1 - Resedimented glacial debris FG - Glaciofluvial sediments FGd - Raised deltas FGf - Glaciofluvial fans FGu - Glaciofluvial outwash plains R1 - Bedrock with surficial veneer R2 - Bedrock with surficial blanket U - Undifferentiated, includes areas with 3 or more map units, mainly steep narrow gulleys and meltwater channels
MATERIAL	Sampled sediment type Dmm - Massive, matrix-supported diamicton s - sand z - silt c - clay g - gravel ( ) - minor component
DEPTH	Depth to sample from surface, in centimetres
SOIL	Soil horizons, thickness in centimetres LFH/Ah/Ae/B LFH - Leaf litter and humic horizon Ah - Surface organic mineral soil horizon Ae - Eluviated surface mineral soil horizon B - Mineral soil horizon enriched in organics,oxides or clay
FISSILE	Type of fissility present
DENSITY	Consolidation of the sample

MODE	Average clast size m P - Medium pebbles m-l P - Medium to large pebbles l P - Large pebbles
%	Percentage of clasts
SHAPE	Average shape of clasts A - Angular SA - Subangular SR - Subrounded R - Rounded
STRIATED	Presence of striations on clasts
SLOPE	Inclination of the surface at the sample site
FORM	Bedrock units used for geochemical calculations qm - includes all qm and pqm Cv - includes all Cv Or - includes all Or and O1 Nm - includes all Ns1, Nb, Na and ap Nsil - includes all Nd, Nr and Nq unkn - includes all uncertain and very uncertain sample sites
BR	Type of bedrock underlying sample site (Diakow, Webster, Levson and Giles 1994) Cv - Chilcotin basalt flows Or - undivided Ootsa Lake Gp rhyolitic extrusive and intrusive rocks O1 - Ootsa Lake Group rhyolite flows Ns1 - Naglico Fm volcanic sandstone, siltstone and conglomerate Na - Naglico Formation andesitic lapilli and finer tuffs Nb - Naglico Formation basalts and lesser andesitic flows Nd - Naglico Formation dacitic tuffs Nq - Naglico Formation quartz-bearing lapilli and finer tuffs Nr - Naglico Formation rhyolitic lithic tuffs qm - L. Cret Capoose Bath., quartz monzonite and granodiorite pqm - L. Cret Capoose Bath., porphyritic quartz monzonite and ap - Mid-Jurassic augite porphyry plugs, dikes and sills ? - uncertain, ( ) very uncertain
COMMENTS	Relevant sedimentologic, geologic and other data

Field Observations

MAP	ID	UTMZ	UTME	UTMN	REP	MAP_UNIT	MATERIAL	DEPTH	LFH	FISSLE	DENSITY	MODE	%	SHAPE	STRIATED	SLOPE	FORM	BR	COMMENTS
93F03	93-001	10	347853	5882316		Mvb over Rh	Colluv Dmm	100	-/-/-/-			mP	30	SA-SR	yes		Nm	Nb	Abundant crag and tail
93F03	93-002	10	349460	5880692		Mb	szDmm	150	-/-/-/-			m-1P	20	SA-SR	yes		Nm	Nb	Abundant erratics
93F03	93-003	10	351915	5882777		Mv	zsDmm	0	-/-/-/-	platy	compact	m-1P	0	SA-SR	yes		Nm	Nb	Striated bedrock
93F03	93-004	10	355045	5883457		Mb	zsDmm	100	-/-/-/-			m-1P	0	SA-SR	yes		Nsil	Nr?	
93F03	93-005	10	356539	5883613		Mb	(cs)zDmm	150	-/-/-/-			m-1P	0	SA-SR	yes		unkn	(Nr)	
93F03	93-021	10	338506	5898394		Mb	zsDmm	60	-/-/-/-			m-1P	0	SA-SR	yes		Or	Or?	Northeast (down-ice) of Wolf prospect
93F03	93-023	10	337601	5898383		Mb	sDmm	65	-/-/-/-			m-1P	0	SA-SR	yes		Or	Or	Northeast (down-ice) of Wolf prospect
93F03	93-025	10	338695	5899517		Mb	zsDmm	75	5/5/-/10			m-1P	30	SR	yes		Nm	Nb?	Northeast (down-ice) of Wolf prospect
93F03	93-026	10	337817	5899486		Mb	zsDmm	100	5/8/5/35		moderate	m-1P	20	SA-SR	yes		Or	Or?	Northeast (down-ice) of Wolf prospect, abundant oxidized, hematitic Ootsa
93F03	93-030	10	336393	5898659		Mb	szDmm	55	2/5/5/15		compact	m-1P	0	SA-SR	yes		Or	Or	Northeast (down-ice) of Wolf prospect
93F03	93-033	10	336985	5897584		Mb	zsDmm	50	5/10/-/10		compact	m-1P	0	SA-SR	yes		Or	Or	Near Wolf prospect
93F03	93-037	10	336353	5897418		R1	(sz)cDmm	380	-/-/-/-	platy	very	m-1P	0	SA-SR	abundant		Or	Or	Near Wolf prospect, faceted clasts, slickensides in clay till
93F03	93-042	10	335388	5897937		R2	zsDmm	65	2/5/-/10		moderate	m-1P	30	SA-SR	yes		Or	Or	Near Wolf prospect, 5-10% Ootsa clasts
93F03	93-043	10	334301	5896508		R1	sczDmm	150	5/5/-/20	platy	very	m-1P	20	SA-SR	abundant		Or	Or	Southwest (up-ice) of Wolf prospect, 5-10% Ootsa clasts, abundant erratics
93F03	93-046	10	335938	5896571		Mb	zsDmm	95	-/5/-/25	platy	compact	m-1P	10	SA-SR	yes		Or	Or	Near Wolf prospect, minor sandy laminations, abundant erratics
93F03	93-047	10	338113	5896392		Mv	zsDmm	120	2/5/-/45	platy	compact	m-1P	0	SA-SR	yes		Or	Or	East of Wolf prospect, abundant erratics
93F03	93-048	10	341214	5897524		Mb	Dmm	210	5/10/-/25	platy	very	m-1P	20	SA-R	abundant		Nm	Nb	80% erratics
93F03	93-049	10	342406	5895896		M1	szDmm	250	10/10/-/25	platy	very	m-1P	0	SR	abundant		Nm	Nb	80% erratics
93F03	93-050	10	343459	5894819		U over Mb	szDmm	150	2/2/-/10	platy	very	m-1P	0	SR	abundant		Nm	Nb?	80% erratics, oxidized
93F03	93-051	10	344861	5893665		U over Mb	zsDmm	170	5/2/-/40	platy	very	m-1P	0	SR	abundant		Nm	Nb	80% erratics, oxidized
93F03	93-052	10	347004	5892750	10	M1	zsDmm	180	disturbed	platy	very	m-1P	0	SA-SR	abundant		Nm	Nb?	80% erratics, oxidized joints in till
93F03	93-052	10	347004	5892750	20	M1	zsDmm	180	disturbed	platy	very	m-1P	0	SA-SR	abundant		Nm	Nb?	80% erratics, oxidized joints in till
93F03	93-053	10	348478	5891991		M1	zsDmm	150	5/5/-/20	platy	compact	m-1P	25	SA-SR	abundant	7°	qm	qm	80% erratics, 5 m Dmm, cobbles and boulders on surface
93F03	93-058	10	356931	5874311		Mb	zsDmm	105	I5/5/-/5		loose	m-1P	0	SA-SR	yes	5°	unkn	(Nsl)	Fluted surface, some Chilcotin basalt boulders
93F03	93-059	10	356643	5875967		Mb	zsDmm	100	5/5/-/15	blocky	compact	m-1P	0	SA-SR	yes	2°	unkn	(Nsl)	Fluted surface, horizontal fissility, oxidized joints
93F03	93-060	10	356113	5877728		M1	szDmm	65	2/5/-/20	platy	moderate	m-1P	10	SA-SR	yes	flat	unkn	(Nr)	Minor oxidation, some Chilcotin basalt boulders
93F03	93-061	10	355527	5877674		Mb	zsDmm	140	3/5/-/10	horiz	moderate	m-1P	0	SA-SR	yes	flat	unkn	(Nr)	Oxidized fissility, numerous Endako basalt boulders
93F03	93-062	10	356308	5878635		Mb	zsDmm	65	2/-/-/25		loose	m-1P	0	SA-SR	yes	flat	unkn	(Nr)	Wet sample, abundant cobbles
93F03	93-063	10	354565	5881122		Mb	zsDmm	50	5/2/-/-	platy	moderate	m-1P	0	SA-SR	yes	2°	unkn	(Nb)	Wet, mottled sample, some Chilcotin basalt boulders
93F03	93-064	10	356259	5880302		Mb	zsDmm	100	5/2/-/10	platy	compact	m-1P	0	SA-SR	yes	2°	Nsil	Nr?	
93F03	93-065	10	358174	5882192		Mb	szDmm	210	5/2/-/-	platy	compact	m-1P	0	SA-SR	yes	3°	unkn	(Nb)	Oxidized till, numerous striated boulders on surface
93F03	93-066	10	362599	5880094	10	Mb	zsDmm	130	I5/5/-/30	blocky	compact	m-1P	0	SA-SR	yes	flat	Nsil	Nr?	Small flat bench on 20° slope
93F03	93-066	10	362599	5880094	20	Mb	zsDmm	130	15/5/-/30	blocky	compact	m-1P	0	SA-SR	yes	flat	Nsil	Nr?	Small flat bench on 20° slope
93F03	93-067	10	360303	5879982		Mb	zsG	95	-/2/-/20		loose	m-1P	0	SA-SR	yes	flat	unkn	(Nr)	Silty-sandy-gravelly beds, striated and erratic clasts
93F03	93-068	10	358556	5880839		Mb	sgDmm	65	5/5/-/20	platy	loose	m-1P	0	SA-SR	yes	flat	Nsil	Nr	Lodged and faceted clasts common
93F03	93-069	10	357245	5881035		Mb	zsDmm	60	2/2/-/15	horiz	moderate	m-1P	0	SA-SR	yes	2°	Nsil	Nr?	
93F03	93-070	10	363869	5882521		Mb	szDmm	90	stripped/25	horiz	very	1P	0	SA-SR	yes	3°	unkn	(Nb)	
93F03	93-071	10	363606	5881883		Mb	zsDmm	85	5/5/-/25	no	moderate	1P	0	SA-SR	yes	5°	Nm	Nb?	Crag and trail trending 079°, shallow till over Hazelton andesite flow
93F03	93-072	10	363057	5882169		Mb	zsDmm	75	5/5/-/50	horiz	very	1P	0	SA-SR	yes	2°	Nm	Nb?	Oxidized till, reddish color extends to base of sample site
93F03	93-073	10	361951	5882490		Mb	zsDmm	150	5/5/-/25	horiz	very	1P	0	SA-SR	yes	1°	Nm	Nb?	Abundant striated Endako basalts, striated Hazelton to the west
93F03	93-074	10	360096	5882726		M1	zsDmm	65	2/2/-/30	horiz	very	1P	0	SA-SR	yes	flat	unkn	(Nb)	
93F03	93-075	10	357982	5883163		Mb	zsDmm	220	5/5/-/30	horiz	moderate	1P	0	SA-SR	yes	5°	unkn	(Nr)	
93F03	93-076	10	358848	5883938		Mb	zsDmm	75	2/2/-/20	horiz	moderate	1P	0	SA-SR	yes	2°	unkn	(Nr)	Well facted and striated Endako basalt boulders
93F03	93-077	10	358153	5884375		Mb	zsDmm	150	5/2/-/15	horiz	moderate	1P	0	SA-SR	yes	2°	unkn	(qm)	Abundant striated Endako basalt boulders
93F03	93-078	10	357978	5885453		Mb	sczDmm	130	2/5/-/20	horiz	moderate	1P	0	SA-SR	yes	2°	qm	qm?	
93F03	93-079	10	359227	5887185		Mb	sDmm	100	5/-/-/30	weak	loose	1P	0	SA-R	yes	flat	qm	qm?	Abundant granodiorites, sandy till
93F03	93-080	10	362405	5898546		FGd over Mb	zsDmm	650	5/5/-/35	horiz	very	mP	0	SA-SR	yes	25°	Nsil	Nr?	
93F03	93-081	10	360548	5897516		FGd over Mb	zsDmm	1200	5/5/-/35	horiz	very	mP	20	SA-SR	yes	35°	unkn	(Nr)	5 m pebble-boulder gravel over 3 m cobble-boulder gravel over 7 m Dmm
93F03	93-082	10	358835	5896046	10	M1	zsDmm	300	5/5/-/10	horiz	very	mP	0	SA-SR	abundant	5°	Nsil	Nr?	Faceted clasts, some gravelly beds on the surface
93F03	93-082	10	358835	5896046	20	M1	zsDmm	300	5/5/-/10	horiz	very	mP	0	SA-SR	abundant	5°	Nsil	Nr?	Faceted clasts, some gravelly beds on the surface

Field Observations

MAP	ID	UTMZ	UTME	UTMN	REP	MAP_UNIT	MATERIAL	DEPTH	LFH	FISSLE	DENSITY	MODE	%	SHAPE	STRIATED	SLOPE	FORM	BR	COMMENTS
93F03	93-083	10	356920	5894664		FG over Mb	cszDmm	400	5/2/-/40	horiz	very	mP	20	SA-SR	yes	flat	Nm	(Nb)	2 m pebble to cobble sandy gravel over 3 to 4 Dmm, abundant clay
93F03	93-084	10	355746	5893693		FG over Mb	cszDmm	400	-/-/-/40	horiz	moderate	mP	10	SA-SR	yes	2°	qm	qm?	2 m of sandy pebble gravel over 2.5 m Dmm, surface vegetation burned
93F03	93-085	10	353834	5893023		FG over Mb	cszDmm	300	5/20/-/25	horiz	very	mP	15	SA-SR	yes	4°	qm	qm?	4 m Dmm over grussified granite, BR slabs thrust into till
93F03	93-086	10	351819	5891688		FG over Mb	sDmm	450	20/5/-/40	horiz	moderate	mP	20	SA-SR	yes	10°	qm	qm	1.5 m pebble gravel over 3 m Dmm, granodiorite BR exposed at the base
93F03	93-087	10	349433	5891405		Mb	zsDmm	150	15/5/-/50	no	moderate	mP	15	SA-SR	yes	flat	qm	qm	
93F03	93-088	10	347641	5891069		Mb	szDmm	400	-/-/-/30	horiz	very	mP	0	SA-SR	yes	4°	qm	qm	Abundant flat-lying faceted and striated clasts, angular granodiorites
93F03	93-089	10	342849	5890758		Mb	zsDmm	150	2/2/-/10	horiz	very	m-1P	0	SA-SR	yes	flat	unkn	(Nb)	East of Paw showing, rare block tuff erratic (possibly Kasalka)
93F03	93-090	10	341592	5892925		R1	szDmm	130	10/5/-/15	horiz	very	m-1P	0	SA-SR	yes	2°	Nm	Ns1?	Clay in matrix
93F03	93-091	10	341611	5892124		R1	zsDmm	175	2/2/-/10	weak	moderate	m-1P	25	A-SR	yes	5°	Nm	Ns1?	Vertical jointing, oxidized clasts, weak red color to 1 m, shallow BR
93F03	93-092	10	342577	5891530		R1	szDmm	250	2/2/-/15	horiz	very	m-1P	0	SA-SR	yes	5°	Nm	Nb?	1 m colluvium over compact till, shallow BR
93F03	93-093	10	344879	5891823		FGu over Mb	zsDmm	120	5/10/-/15	weak	very	m-1P	0	SA-SR	yes	2°	Nm	Nb?	
93F03	93-094	10	346519	5891676		FGf over Mb	szDmm	220	2/2/-/40	horiz	very	m-1P	0	SA-SR	yes	5°	unkn	(Nb)	Striated clasts, 1 m sandy pebble gravel over till, abundant Hazelton clasts
93F03	93-095	10	349551	5888929		Cv over Mb	zsgDmm	120	5/-/-/25	no	no	1P	0	SA-SR	yes	25°	qm	qm	Abundant granodiorites, 1 m colluvial veneer over gravelly till
93F03	93-096	10	348795	5889661		Mb	zsgDmm	100	5/-/-/20	horiz	moderate	m-1P	0	SA-SR	yes	3°	qm	qm?	50 cm colluvial layer and Dmm on surface
93F03	93-097	10	348543	5890561		Mb	Dmm	0	-/-/-/-			m-1P	0	SA-SR	yes	3°	qm	qm?	
93F03	93-098	10	348888	5893544		R2	szDmm	60	20cmOh	horiz	very	m-1P	0	SA-SR	yes	flat	unkn	(Nb qm)	Abundant granodiorites
93F03	93-099	10	349939	5892457		Mbv	zsDmm	220	2/2/-/25	horiz	mod-loose	m-1P	0	SA-SR	yes	7°	qm	qm	
93F03	93-100	10	352814	5890488		Mb	zsDmm	30	5/10/-/10	weak	very	1P	30	SA-SR	yes	2°	qm	qm	Abundant granitic clasts
93F03	93-101	10	352007	5890869	10	FGu over Mb	zsDmm	90	5/2/-/25	horiz	moderate	1P	0	SA-SR	yes	5°	qm	qm	70 cm fine sands over 25 cm pebble gravel over till, granite boulders
93F03	93-101	10	352007	5890869	20	FGu over Mb	zsDmm	90	5/2/-/25	horiz	moderate	1P	0	SA-SR	yes	5°	qm	qm	70 cm fine sands over 25 cm pebble gravel over till, granite boulders
93F03	93-102	10	354377	5891717		sFG over sMb	sDmm	120	15/2/-/25	no	very	m-1P	0	A-R	yes	5°	qm	qm	Abundant granitic clasts in sandy till, varies to a gravelly-sandy till
93F03	93-103	10	350563	5895994		Mb	zsDmm	150	15/10/-/10	horiz	loose	m-1P	15	SA-SR	abundant	7°	unkn	(Nb)	
93F03	93-104	10	351538	5895508		Mb	zsDmm	150	5/10/-/15	horiz	moderate	m-1P	15	SA-SR	yes	3°	unkn	(Nb)	
93F03	93-105	10	351997	5894920		Mb	zsDmm	260	5/5/-/20	horiz	very	m-1P	15	SA-SR	yes	4°	unkn	(Nb)	
93F03	93-106	10	352725	5894087		Mb	zsDmm	250	15/10/-/15	horiz	very	m-1P	15	SA-SR	yes	2°	unkn	(Nb)	Oxidation along joints in till
93F03	93-107	10	353368	5893777		Mb	sDmm	200	10/2/-/15	horiz	very	m-1P	0	SA-SR	yes	5°	unkn	(qm)	Till is slight reddish color (oxidation)
93F03	93-108	10	357903	5893011		M1	zsDmm	180	10/2/-/10	horiz	very	m-1P	10	SA-SR	yes	flat	qm	qm	
93F03	93-109	10	358721	5894784		Mv over R	zsDmm	40	2/-/-/15	no	moderate	1P	15	SA-SR	yes	10°	Ns1l	Nq?Nr?	Sample on BR (bedded, fg, siliceous, dissem sulph), 10% local angular clasts
93F03	93-110	10	358762	5895210		FG over Mb	zsDmm	210	5/5/-/25	horiz	very	1P	20	SA-SR	yes	15°	Nm	ap	2 m sandy cobble gravel over till, 50 m in the lee (NE) of BR knob
93F03	93-111	10	348532	5897955		Mb	szDmm	100	15/-/-/40	horiz	moderate	m-1P	25	SA-SR	yes	25°	Nm	Ns1?	
93F03	93-112	10	347771	5898846		Mb	zsDmm	25	10/-/-/25	horiz	very	m-1P	0	SA-SR	yes	7°	Nm	Ns1	Up to 1 m sandy gravel on surface
93F03	93-113	10	348438	5900476		M1	zsDmm	130	10/2/-/30	weak	very	m-1P	20	SA-SR	yes	2°	unkn	(Ns1 Nb)	
93F03	93-114	10	350014	5900171		M1	sczDmm	60	20cmOh	horiz	very	m-1P	0	SA-SR	yes	flat	unkn	(Nb Na)	Sample in spruce bog, till is yellowish brown
93F03	93-115	10	350663	5899234		M1	zsDmm	240	15cmOh	horiz	very	m-1P	0	SA-SR	yes	flat	unkn	(Nb Na)	Sample in spruce bog, till is yellowish brown
93F03	93-116	10	351744	5899989	10	FGv over Mb	zsDmm	180	10/-/-/25	horiz	very	m-1P	0	SA-SR	yes	2°	unkn	(Nb Na)	Pebble gravel veneer on till
93F03	93-116	10	351744	5899989	20	FGv over Mb	zsDmm	180	10/-/-/25	horiz	very	m-1P	0	SA-SR	yes	2°	unkn	(Nb Na)	Pebble gravel veneer on till
93F03	93-117	10	352677	5901020		Mb	zsDmm	110	2/2/-/25	horiz	very	m-1P	0	SA-SR	yes	5°	qm	qm?	Gravelly glaciofluvial veneer
93F03	93-118	10	353158	5899606		Cv over Mb	szDmm	80	15/2/-/10	horiz	very	m-1P	0	SA-SR	yes	8°	unkn	(Nb Na)	Colluvial veneer on till
93F03	93-119	10	354484	5898881		R2	szDmm	170	10/-/-/40	horiz	very	m-1P	0	SA-SR	yes	10°	qm	qd?	Till over bedrock
93F03	93-120	10	356276	5897826		Cv over Mv	zsDmm	210	2/-/-/25	weak	moderate	1P	0	SA-SR	yes	5°	Nm	Na?	Abundant angular clasts in surface colluvium
93F03	93-121	10	357764	5897682		FGu over Mb	zsDmm	1200	10/-/-/10	horiz	very	1P	35	SA-SR	yes	25°	Nm	Na?	2 m gravel, over 2 m sands, over 2 m gravel, over 8 m Dmm
93F03	93-122	10	359225	5897320		FG over Mb	zsDmm	400	5/-/-/15	no	moderate	1P	0	SA-SR	yes	25°	Ns1l	Nr?	
93F03	93-128	10	333695	5897184		M1	sDmm	110	5/-/-/10	weak	mod	m-1P	0	SA-SR	yes	20°	Or	Or	West (up-ice) of Wolf showing, colluvial veneer over till
93F03	93-162	10	348756	5886747		Mb	zsDmm	300	5/-/-/10	weak	weak-mod	m-1P	0	SA-SR	yes	3°	qm	pqm?	Numerous boulders on the surface
93F03	93-163	10	347326	5887006		Mvb	zsDmm	90	5/-/-/15	weak	weak-mod	m-1P	0	SA-SR	yes	3°	qm	pqm?	Some angular granitic erratics
93F03	93-164	10	349577	5886247		Mb	zsDmm	55	5/-/2/25	weak	weak-mod	m-1P	0	SA-SR	yes	1°	qm	pqm?	40-50% granitic erratics
93F03	93-165	10	350832	5885713		Mb	zsDmm	40	2/2/-/15	weak	weak-mod	m-1P	0	SA-SR	yes	0°	unkn	(pqm)	30-40% granitic erratics
93F03	93-166	10	352187	5886251		M1	zsDmm	55	5/-/-/10	weak	weak-mod	m-1P	0	SA-SR	yes	2°	qm	qm?	5-15% granitic erratics
93F03	93-167	10	365886	5900244		Cv over Mb	zsDmm	200	5/-/-/15	weak	weak	1P	0	A-SA	yes	10°	unkn	(Nb)	Till is over 3 metres thick
93F03	93-168	10	357964	5898724		Mb	szDmm	75	10/-/-/40	weak	weak	m-1P	0	SA-SR	yes	4°	Nm	Na?Nb?	

Field Observations

MAP	ID	UTMZ	UTME	UTMN	REP	MAP_UNIT	MATERIAL	DEPTH	LFH	FISSLE	DENSITY	MODE	%	SHAPE	STRIATED	SLOPE	FORM	BR	COMMENTS
93F03	93-169	10	358810	5898187		Mb	zsDmm	155	2/-/-/25	crude beds	weak	m-1P	0	SA-SR	yes	15°	unkn	(Na Nb)	
93F03	93-170	10	357818	5898030		Mb	szDmm	130	10/-/-/20	mod	mod	m-1P	0	SA-SR	yes	5°	Nm	Na?Nb?	
93F03	93-171	10	352360	5898672	10	Mb	szDmm	200	10/-/-/25	strong	mod	m-1P	0	SA-SR	yes	7°	unkn	(Nb Nd)	Numerous angular Hazelton volcanic clasts
93F03	93-171	10	352360	5898672	20	Mb	szDmm	200	10/-/-/25	strong	mod	m-1P	0	SA-SR	yes	7°	unkn	(Nb Nd)	Numerous angular Hazelton volcanic clasts
93F03	93-172	10	352239	5899441		Mb	zsDmm	200	disturbed	strong	weak	m-1P	0	SA-SR	yes	10°	unkn	(Nb Nd)	
93F03	93-173	10	346550	5900100		Mb	zsDmm	190	10/-/-/20	mod	mod	m-1P	0	SA-SR	yes	4°	unkn	(Nq)	
93F03	93-174	10	346973	5900683		Mb	szDmm	120	15/-/-/-	strong	very	m-1P	0	SA-SR	yes	16°	unkn	(Ns1 Nb)	
93F03	93-175	10	347812	5900754		Mb	szDmm	240	5/-/-/15	strong	mod	m-1P	0	SA-SR	yes	6°	unkn	(Ns1 Nb)	
93F03	93-176	10	355293	5898373		Mb	zDmm	650	15/-/-/30	strong	very	m-1P	0	SA-SR	yes	30°	unkn	(Na Nb)	North of Fawn 5 showing (Giver zone)
93F03	93-177	10	358448	5897385		Mv	zsDmm	90	2/-/-/35	mod	mod	m-1P	0	SA-SR	yes	12°	Nm	Na?Nb?	
93F03	93-178	10	362014	5886764		Mb	szDmm	45	5/-/-/20	mod	mod	m-1P	0	SA-SR	yes	2°	qm	qm?	
93F03	93-179	10	361200	5887956		Mb	szDmm	70	5/-/-/5	strong	mod	m-1P	0	SA-SR	yes	8°	qm	qm?	
93F03	93-180	10	361037	5889243		Mb	sDmm	120	5/-/-/-	mod	mod	m-1P	0	SA-SR	yes	2°	qm	qm?	
93F03	93-181	10	361533	5891157		Mb	zsDmm	200	5/-/-/20	strong	mod	m-1P	0	SA-SR	yes	0°	qm	qm?	
93F03	93-182	10	362043	5893006		Mb	sczDmm	140	5/-/-/15	strong	mod	m-1P	0	SA-SR	yes	3°	Nm	Nb Nd	
93F03	93-183	10	361447	5892893		Mb	zsDmm	40	2/-/-/10	mod	very	m-1P	0	SA-SR	yes	0°	Nm	Nb?Nd?	
93F03	93-184	10	352226	5894937		Mb	zsDmm	650	disturbed	strong	mod	m-1P	0	SA-SR	yes	5°	Nm	Ns1	Hummocky topography
93F03	93-185	10	366180	5894996		Mb	szDmm	160	10/2/-/5	strong	mod	m-1P	0	SA-SR	yes	17°	Or	O1	
93F03	93-186	10	364034	5894515		Mb	cszDmm	100	disturbed	strong	mod	m-1P	0	SA-SR	yes	10°	Nm	Nb	
93F03	93-187	10	363113	5894777		Mbv	zDmm	110	15/-/-/25	mod	mod	m-1P	0	SA-SR	yes	22°	Nm	Ns1	
93F03	93-188	10	358828	5893500	10	Mv over R	zsDmm	75	5/-/-/20	mod	weak	m-1P	0	SA-SR	yes	2°	Nsil	Ns1	Near Malaput showing
93F03	93-188	10	358828	5893500	20	Mv over R	zsDmm	75	5/-/-/20	mod	weak	m-1P	0	SA-SR	yes	2°	Nsil	Ns1	Near Malaput showing
93F03	93-194	10	358779	5892900		Mb	zsDmm	90	-/-/-/20	no	mod	m-1P	0	SA-SR	yes	5°	Nsil	Nq?Ns?	Near Malaput showing
93F03	93-195	10	359285	5894650		Mvb over R	szDmm	70	5/-/-/25	no	mod	m-1P	0	SA-SR	yes	3°	Nsil	Nq Ns1	Near Malaput showing
93F03	93-196	10	358982	5894682		Mvb over R	zsDmm	50	5/-/-/20	no	mod	m-1P	0	SA-SR	yes	8°	Nsil	Nq Ns1	Near Malaput showing
93F03	93-197	10	359445	5894437		Mv over R	zsDmm	60	10/-/-/25	no	mod	m-1P	0	SA-SR	yes	5°	Nm	ap?	Near Malaput showing
93F03	93-198	10	360377	5800203		Mb	zsDmm	95	15/-/-/10	mod	very	m-1P	0	SA-SR	yes	12°	Nsil	Nr?	
93F03	93-199	10	359116	5899358		Mbv	zsDmm	115	10/-/-/20	mod	very	m-1P	0	SA-SR	yes	6°	Nm	Na?Nb?	
93F03	93-200	10	351591	5900430		Mb	szDmm	180	10/-/-/10	very	very	m-1P	0	SA-SR	yes	4°	Nsil	Nr?	
93F03	93-201	10	362048	5899777		Mb	zsDmm	210	5/-/-/25	very	very	m-1P	0	SA-SR	yes	3°	Nsil	Nr?	Till overlain by one metre of horizontally bedded sand
93F03	93-202	10	346595	5884105	10	Mbv	szDmm	150	5/-/-/20	weak	mod	m-1P	0	SA-SR	yes	15°	qm	pqm	Numerous crag and tails, trending 090°
93F03	93-202	10	346595	5884105	20	Mbv	szDmm	150	5/-/-/20	weak	mod	m-1P	0	SA-SR	yes	15°	qm	pqm	Numerous crag and tails, trending 090°
93F03	93-203	10	349001	5883732		Mbv	szDmm	260	disturbed	weak	mod	m-1P	0	SA-SR	yes	5°	qm	pqm	
93F03	93-204	10	350382	5885228		Mb	ssDmm	290	5/5/-/10	mod	weak	m-1P	0	SA-SR	yes	10°	Nm	Nb?	
93F03	93-205	10	348567	5877486		Mv	zsDmm	110	10/-/-/5	mod	weak	m-1P	0	SA-SR	yes	8°	qm	pqm	
93F03	93-207	10	349507	5878549		Cv over Mv	gzS	45	5/2/-/35	mod	weak	m-1P	0	SA-SR	yes	7°	Nm	Nb	Near volcanics with disseminated pyrite and some pyrite in fractures
93F03	93-208	10	351135	5877964		Mb	zsDmm	130	5/-/-/35	weak	weak	m-1P	0	SA-SR	yes	1°	Nm	Nb?	
93F03	93-209	10	353245	5876713		Mb	zsDmm	115	7/-/-/25	weak	mod	m-1P	0	SA-SR	yes	3°	unkn	(Nb)	Abundant scoriaceous reddish basalt
93F03	93-210	10	354691	5877208		Mb	zsDmm	90	2/-/-/10	weak	mod	m-1P	0	SA-SR	yes	2°	unkn	(Nb)	
93F03	93-211	10	363969	5884821		Mb	cszDmm	110	5/-/-/20	good	mod	1P	0	SA-SR	yes	5°	unkn	(Nb)	
93F03	93-212	10	361141	5885113		Mb	cszDmm	180	5/-/-/20	good	weak	m-1P	0	SA-SR	yes	3°	unkn	(Nb)	
93F03	93-213	10	359227	5885242		Mb	sDmm	170	5/-/-/25	good	weak	m-1P	0	SA-SR	yes	2°	unkn	(qm)	
93F03	93-214	10	360357	5890588		Mb	zsDmm	75	2/-/-/20	good	weak	m-1P	0	SA-SR	yes	6°	qm	qm?	
93F03	93-215	10	356091	5888777		Mb	szDmm	50	2/-/-/5	good	weak	m-1P	0	SA-SR	yes	3°	qm	qm?	50-60% granitic erratics
93F03	93-216	10	354685	5888915		Mb	sDmm	200	10/-/-/20	good	weak	m-1P	0	SA-SR	yes	10°	qm	qm?	
93F03	93-217	10	354439	5887816		Mb	sDmm	80	1/-/-/10	good	weak	m-1P	0	SA-SR	yes	5°	qm	qm?	
93F03	93-218	10	359478	5886498		Mb	zsDmm	45	5/-/-/15	weak	weak	m-1P	0	SA-SR	yes	0°	qm	qm?	
93F03	93-219	10	356835	5886588		Mb	zsDmm	50	7/-/-/15	weak	weak	m-1P	0	SA-SR	yes	1°	qm	qm?	
93F03	93-220	10	368508	5876780		Mb	szDmm	55	2/-/-/10	weak	mod	m-1P	0	SA-SR	yes	15°	Nsil	Nr	Northeast of Tommy showing, located outside of map sheet to east
93F03	93-221	10	366265	5877246		Mv	zsDmm	50	3/-/-/10	no	weak	1P	0	SA-SR	yes	2°	Nsil	Nr?	Northeast of Tommy showing, located outside of map sheet to east

Field Observations

MAP	ID	UTMZ	UTME	UTMN	REP	MAP_UNIT	MATERIAL	DEPTH	LFH	FISSLE	DENSITY	MODE	%	SHAPE	STRIATED	SLOPE	FORM	BR	COMMENTS
93F03	93-222	10	365810	5877478		Cv	zG	70	15/-/-/20	no	weak	lP	0	A	yes	5-10°	Nsil	Nr.	Northeast of Tommy showing, hummocky, colluviated till
93F03	93-223	10	365576	5877929	10	Cv	zG	30	10/-/-/10	no	weak	lP	0	A	yes	4°	Nsil	Nr	Northeast of Tommy showing, 5% erratics, colluviated
93F03	93-223	10	365576	5877929	20	Cv	zG	30	10/-/-/10	no	weak	lP	0	A	yes	4°	Nsil	Nr	Northeast of Tommy showing, 5% erratics, colluviated
93F03	93-224	10	365317	5878106		Mbv	zsDmm	65	2/-/-/10	weak	weak	m-lP	0	SA-SR	yes	5°	Nsil	Nr	Northeast of Tommy showing
93F03	93-225	10	364968	5878212		Mv over R	zsDmm	15	disturbed	no	weak	m-lP	0	SA-SR	yes	2°	Nsil	Nr	Northeast of Tommy showing
93F03	93-226	10	364314	5877108		Mv/Cv over R	szDmm	40	5/-/-/20	weak	weak	lP	0	SA-SR	yes	15°	Nsil	Nr	North of Tommy showing
93F03	93-227	10	364382	5878750		FGv over Mb	szDmm	100	10/-/-/15	good	mod	m-lP	0	SA-SR	yes	5°	Nm	Nb?Na?	North of Tommy showing
93F03	93-229	10	362992	5896549		Mbv	zsDmm	150	disturbed	mod	well	m-lP	0	SA-SR	yes	5-15°	Nm	Nsl	Near Buck showing, ridgecrest
93F03	93-230	10	362587	5896617		Cv over R	sDmm	75	10/-/-/15	weak	well	m-lP	0	SA-SR	yes	15°	Nm	Nsl?	West of Buck showing, colluviated till
93F03	93-232	10	333007	5879667		Mb	zsDmm	50	10/-/-/5	weak	weak	m-lP	0	SA-SR	yes	1°	Cv	Cv?	
93F03	93-233	10	335685	5874964		Mb	csEDmm	80	2/5/-/10	strong	very	m-lP	0	SA-SR	yes	0°	Cv	Cv	Oxidation along joints in till
93F03	93-234	10	335379	5875903		Mb	szDmm	105	10/-/-/30	weak	mod	m-lP	0	SA-SR	yes	4°	Cv	Cv	
93F03	93-235	10	335076	5877127	10	Mb	zsDmm	125	2/-/-/10	weak	mod	m-lP	0	SA-SR	yes	6°	Cv	Cv?	
93F03	93-235	10	335076	5877127	20	Mb	zsDmm	125	2/-/-/10	weak	mod	m-lP	0	SA-SR	yes	6°	Cv	Cv?	
93F03	93-236	10	333840	5879258		Mb	zsDmm	90	2/-/-/10	weak	mod	m-lP	0	SA-SR	yes	2°	Cv	Cv?	
93F03	93-237	10	335366	5879606		Mb	gsDmm	110	1/-/-/25	none	none	m-lP	0	SA-SR	yes	7°	Cv	Cv?	Probably glacigenic debris flow deposits
93F03	93-238	10	336432	5880635		Mb	zsDmm	50	10/-/-/5	weak	mod	m-lP	0	SA-SR	yes	0°	unkn	(Cv)	
93F03	93-239	10	332811	5887250		Mb	sDmm	50	5/-/-/10	none	weak	m-lP	0	SA-SR	yes	2°	unkn	(Cv)	
93F03	93-248	10	333979	5886459		Mb	zsDmm	50	5/5/-/-	weak	weak	m-lP	0	SA-SR	yes	2°	unkn	(Cv)	
93F03	93-249	10	335168	5885964		Mb	zsDmm	70	5/-/-/10	none	weak	m-lP	0	SA-SR	yes	0°	Cv	Cv	Striated bedrock
93F03	93-250	10	336548	5885555		Mvb	sDmm	80	5/-/-/25	none	weak	m-lP	0	SA-SR	yes	4°	Cv	Cv	Thin till over bedrock
93F03	93-251	10	337776	5885026		Mb	szDmm	75	10/-/-/5	none	weak	m-lP	0	SA-SR	yes	2°	Cv	Cv	
93F03	93-252	10	338696	5881573		Mb	zsDmm	60	5/-/-/20	weak	mod	m-lP	0	SA-SR	yes	1°	Cv	Cv?	
93F03	93-253	10	343332	5886539		Mb	zsDmm	45	5/-/-5	good	mod	m-lP	0	SA-SR	yes	3°	unkn	(Nb)	
93F03	93-254	10	341129	5885511		Mb	zsDmm	60	5/-/-/20	weak	weak	m-lP	0	SA-SR	yes	1°	unkn	(Cv)	
93F03	93-255	10	343252	5876837		Mb	sDmm	80	2/2/-/20	none	weak	m-lP	0	SA-SR	yes	2°	Nm	Nb?Ns?	
93F03	93-257	10	343499	5878020		Cv,Mv	sgDmm	60	5/-/-/10	none	none	m-lP	0	SA-SR	yes	5°	Nm	Nb?Ns?	Near the Trophy showing
93F03	93-258	10	342797	5878373	10	Mvb	zsDmm	70	5/2/-/15	none	weak	m-lP	0	SA-SR	yes	5°	Nm	Nb?Ns?	
93F03	93-258	10	342797	5878373	20	Mvb	zsDmm	70	5/2/-/15	none	weak	m-lP	0	SA-SR	yes	5°	Nm	Nb?Ns?	
93F03	93-259	10	342218	5879434		Mb	szDmm	40	10/-/-/10	mod	very	m-lP	0	SA-SR	yes	0°	Nsil	Nd Nb	
93F03	93-260	10	341639	5880619		Mb	zsDmm	100	35/40/-/-	weak	mod	m-lP	0	SA-SR	yes	5°	Nsil	Nd Nb	
93F03	93-261	10	340972	5881834		Mb	sDmm	90	5/-/-/15	none	weak	m-lP	0	SA-SR	yes	0°	Nm	(Nd Nb)	

INA Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Au	Au2	Sb	As	Ba	Br	Ca	Ce	Cs	Cr	Co	Hf	Eu	Fe	La	Lu	Rb	Sm	Sc	Na	Nd	Ta	Tb	Th	W	U	Yb	Wt
							ppb	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g
							2	2	0.1	0.5	50	0.5	1	3	1	5	1	1	0.2	0.01	0.5	0.05	5	0.1	0.1	0.01	5	0.5	0.5	0.2	1	0.5	0.2	
							INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	
93F03	93-001	10	347853	5882316		Nm	1		1.6	13.0	550	3.0	2	36	10	55	15	5	1.3	4.95	18.0	0.37	53	3.0	14	1.77	14	0.5	0.5	3.8	1	2.6	2.1	29.6
93F03	93-002	10	349460	5880692		Nm	1		1.7	19.0	670	0.5	1	52	3	45	12	6	2.1	4.53	30.0	0.51	67	6.4	17	2.12	30	1.7	0.8	4.5	1	0.5	3.5	31.2
93F03	93-003	10	351915	5882777		Nm	6		1.8	17.0	590	0.5	2	55	3	43	11	9	1.7	4.88	32.0	0.52	54	6.0	15	2.00	32	2.1	1.0	5.1	2	2.0	3.7	30.2
93F03	93-004	10	355045	5883457		Nsil	1	9	0.9	6.1	570	2.3	2	47	2	66	9	6	1.5	3.72	23.0	0.40	5	4.3	12	2.25	26	0.9	0.7	5.4	1	3.2	2.6	30.3
93F03	93-005	10	356539	5883613		unkn	1		1.3	11.0	630	1.4	2	51	2	52	13	7	1.7	5.11	29.0	0.46	63	5.6	15	2.11	26	3.4	1.1	5.3	1	2.4	3.4	29.8
93F03	93-021	10	338506	5898394		Or	8		0.8	3.9	640	1.6	2	45	2	42	6	7	1.3	2.47	22.0	0.49	5	4.0	13	2.47	20	2.6	0.7	4.1	1	2.5	3.0	27.4
93F03	93-023	10	337601	5898383		Or	1		0.8	5.1	580	1.8	1	46	2	42	5	8	1.3	2.81	22.0	0.49	5	3.9	13	2.44	16	0.5	0.5	4.6	1	2.6	2.9	25.9
93F03	93-025	10	338695	5899517		Nm	5	1	0.9	3.3	750	0.5	2	38	1	52	7	7	1.2	2.72	21.0	0.47	65	4.1	14	2.63	19	1.8	1.0	4.0	1	2.5	2.9	26.3
93F03	93-026	10	337817	5899486		Or	20	11	1.0	11.0	630	2.5	2	54	2	36	7	7	1.2	3.26	25.0	0.54	100	4.5	12	2.12	23	1.8	0.8	5.2	1	2.6	3.3	22.7
93F03	93-030	10	336393	5898659		Or	16		1.1	13.0	590	0.5	2	68	4	37	6	8	1.4	3.14	31.0	0.63	110	5.8	13	2.19	25	1.4	0.9	6.7	1	3.3	3.8	28.0
93F03	93-033	10	336985	5897584		Or	1		0.8	4.3	850	0.5	1	56	3	37	6	7	1.5	2.68	26.0	0.51	54	5.1	14	2.78	24	0.5	0.5	4.0	1	3.0	3.2	27.8
93F03	93-037	10	336353	5897418		Or	6		1.1	15.0	640	0.5	2	56	3	45	13	5	1.5	4.35	30.0	0.52	58	5.3	15	1.77	26	0.5	1.0	6.1	1	2.9	3.5	30.2
93F03	93-042	10	335388	5897937		Or	8		1.0	7.6	600	0.5	2	49	2	38	7	6	1.2	2.93	27.0	0.47	88	4.4	13	2.28	22	0.5	0.8	5.3	4	2.8	3.2	29.6
93F03	93-043	10	334301	5896508		Or	40	29	1.8	33.0	430	1.6	1	86	5	19	5	7	1.4	2.87	45.0	0.72	150	7.3	11	1.49	38	1.2	1.2	11.0	6	5.3	4.8	28.8
93F03	93-046	10	335938	5896571		Or	3		0.9	9.7	490	1.7	1	53	2	37	9	5	1.5	3.65	31.0	0.51	68	5.1	14	1.92	24	0.5	0.9	5.2	1	2.5	3.4	30.3
93F03	93-047	10	338113	5896392		Or	1		0.8	6.1	620	3.8	2	37	1	40	8	5	1.2	3.30	20.0	0.36	5	3.6	12	2.23	17	1.1	0.5	3.2	1	1.2	2.5	29.7
93F03	93-048	10	341214	5897524		Nm	4		1.0	13.0	530	2.7	1	45	2	65	13	5	1.4	4.23	26.0	0.53	54	4.8	16	1.88	17	0.5	0.8	5.9	1	1.7	3.2	30.4
93F03	93-049	10	342406	5895896		Nm	6		1.3	12.0	590	2.7	2	44	4	46	13	5	1.5	4.16	24.0	0.51	34	4.6	16	2.06	21	0.5	0.5	4.7	1	1.9	3.4	29.9
93F03	93-050	10	343459	5894819		Nm	6		1.0	7.9	610	2.0	1	38	2	43	9	5	1.4	4.06	21.0	0.47	37	4.2	16	2.14	18	0.5	0.8	4.4	1	1.4	2.9	29.8
93F03	93-051	10	344861	5893665		Nm	4		1.5	25.0	510	0.5	2	40	3	42	10	5	1.3	3.93	21.0	0.48	33	4.1	15	1.97	18	0.5	0.9	4.3	1	1.9	3.1	30.1
93F03	93-052	10	347004	5892750	10	Nm	7		1.9	46.0	710	0.5	2	48	3	52	11	5	1.5	4.78	23.0	0.59	68	5.1	17	2.30	21	0.5	0.5	4.4	1	1.2	3.4	26.0
93F03	93-052	10	347004	5892750	20	Nm	8		1.8	44.0	610	0.5	2	40	3	47	10	5	1.4	4.31	22.0	0.46	46	4.4	16	2.14	20	0.5	0.5	4.2	1	0.5	3.1	30.4
93F03	93-053	10	348478	5891991		qm	20	17	2.8	37.0	860	1.8	1	62	6	34	7	7	1.4	3.71	31.0	0.62	67	5.2	14	2.16	26	2.1	0.7	7.3	3	2.4	4.0	25.1
93F03	93-058	10	356931	5874311		unkn	1		0.5	5.5	770	0.5	4	66	2	63	16	8	2.6	6.89	30.0	0.52	5	7.7	18	3.03	38	2.8	0.5	3.9	1	1.6	3.4	29.3
93F03	93-059	10	356643	5875967		unkn	3		0.9	6.7	760	0.5	4	67	1	55	16	7	2.9	6.94	34.0	0.54	48	8.4	19	2.76	39	2.2	1.1	4.4	1	1.2	3.2	25.4
93F03	93-060	10	356113	5877728		unkn	1		1.0	6.1	850	0.5	3	75	1	75	17	8	2.8	7.02	33.0	0.57	5	8.5	19	2.73	39	2.4	1.3	4.5	1	0.5	3.7	28.9
93F03	93-061	10	355527	5877674		unkn	1		1.1	9.3	840	2.5	3	65	1	60	15	7	2.8	6.46	33.0	0.66	31	8.4	18	2.64	42	0.5	1.1	4.4	1	1.6	4.1	26.4
93F03	93-062	10	356308	5878635		unkn	4		1.2	9.2	730	0.5	4	66	1	61	15	8	2.4	5.90	31.0	0.59	5	7.1	18	3.07	33	2.4	0.5	4.4	1	2.7	3.5	28.8
93F03	93-063	10	354565	5881122		unkn	1		1.1	7.1	840	1.8	2	66	2	54	10	8	2.0	4.47	29.0	0.46	60	6.1	16	2.93	23	3.2	0.5	5.0	1	2.3	3.2	25.3
93F03	93-064	10	356259	5880302		Nsil	1		1.4	14.0	690	0.5	3	65	3	55	15	7	2.3	6.49	32.0	0.59	5	7.4	18	2.54	31	2.2	1.1	4.8	1	0.5	4.2	24.7
93F03	93-065	10	358174	5882192		unkn	1		1.9	13.0	780	0.5	1	73	6	47	19	8	2.0	6.14	33.0	0.73	92	7.5	19	2.53	31	0.5	1.3	5.9	1	1.4	4.5	24.6
93F03	93-066	10	362599	5880094	10	Nsil	1		1.4	11.0	740	0.5	3	69	8	53	20	9	2.6	7.28	34.0	0.71	57	8.2	20	2.48	37	2.9	1.3	5.6	1	2.4	4.6	27.1
93F03	93-066	10	362599	5880094	20	Nsil	1		1.6	12.0	800	0.5	3	60	8	56	20	8	2.4	7.15	34.0	0.64	65	8.0	19	2.41	31	1.7	0.5	5.5	1	2.4	4.4	26.5
93F03	93-067	10	360303	5879982		unkn	1		1.5	15.0	820	2.3	2	59	1	65	14	9	2.2	6.16	29.0	0.61	41	7.0	18	2.69	32	1.8	1.3	4.9	1	0.5	4.0	29.7
93F03	93-068	10	358556	5880839		Nsil	5		0.8	4.1	790	0.5	2	46	1	54	9	8	1.9	3.87	24.0	0.44	5	5.3	15	2.89	24	0.5	0.5	4.0	1	1.8	2.7	28.4
93F03	93-069	10	357245	5881035		Nsil	1		0.6	3.7	500	2.1	2	50	1	44	10	7	2.0	4.43	28.0	0.36	47	5.5	13	2.16	24	1.7	0.5	4.6	1	2.0	2.5	30.1
93F03	93-070	10	363869	5882521		unkn	1		1.2	7.4	560	0.5	2	48	3	50	16	7	2.0	5.55	33.0	0.50	57	6.6	16	2.02	32	1.5	1.0	5.2	2	1.4	3.4	30.2
93F03	93-071	10	363606	5881883		Nm	4		1.9	7.6	710	0.5	2	51	3	43	10	6	2.0	4.46	29.0	0.50	60	6.1	14	2.45	28	0.5	1.0	5.0	1	2.2	3.3	29.9
93F03	93-072	10	363057	5882169		Nm	8		1.2	5.5	640	3.6	2	40	2	53	13	6	1.6	4.41	21.0	0.36	35	4.2	13	2.06	17	1.3	0.6	3.9	1	1.9	2.4	30.0
93F03	93-073	10	361951	5882490		Nm	5		1.2	6.8	630	0.5	3	48	2	57	15	6	1.8	5.61	27.0	0.45	37	5.3	17	2.17	26	1.0	1.0	4.4	1	1.7	3.0	30.1
93F03	93-074	10	360096	5882726		unkn	1		0.8	4.8	660	2.1	2	55	1	52	12	6	1.6	4.15	26.0	0.37	49	4.7	12	2.48	21	0.5	0.8	4.1	1	1.7	2.5	31.5
93F03	93-075	10	357982	5883163		unkn	1		0.9	6.2	610	0.5	3	41	1	53	14	6	1.7	5.24	25.0	0.46	35	4.9	15	2.23	22	0.5	0.8	4.2	1	2.1	2.9	30.3
93F03	93-076	10	358848	5883938		unkn	3	4	0.9	5.2	650	1.7	2	43	2	52	12	6	1.6	4.75	25.0	0.47	55	5.1	15	2.21	25	0.5	0.7	4.9	1	2.0	3.1	30.5
93F03	93-077	10	358153	5884375		unkn	1		0.8	4.1	650	2.1	3	45	2	67	12	6	1.8	4.80	25.0	0.42	46	4.9	15	2.40	20	1.5	0.8	4.1	1	1.8	2.8	30.3
93F03	93-078	10	357978	5885453		qm	3		0.8	5.5	520	0.5	2	45	2	43	10	7	1.5	4.31	25.0	0.47	49	4.7	13	2.12	20	1.8	0.5	5.0	1	2.2	2.8	30.0
93F03	93-079	10	359227	5887185		qm	1		0.9	4.5	600	0.5	2	46	1	83	10	7	1.5	4.25	23.0	0.45	34	4.2	14	2.57	19	0.5	0.9	4.0	1	1.7	2.9	30.1
93F03	93-080	10	362405	5888546		Nsil	1		1.1	8.1	620	0.5	2	41	2	41	9	5	1.4	3.92	22.0	0.45	45	4.2	14	2.46	18	1.0	0.7	4.6	1	1.6	3.1	30.0
93F03	93-081	10	360548	5897516		unkn	1		1.8	14.0	570	0.5	1	43	2	41	9	5	1.4	3.79	24.0	0.48	34	4.2	13	2.27	19	0.5	0.5	4.7	1	1.9	3.1	30.7
93F03	93-082	10	358835	5896046	10	Nsil	1		1.3	17.0	630	0.5	2	44	3	46	11	5	1.4	4.13	24.0	0.45	41	4.3	15	2.18	17	1.0	0.5	5.0	1	1.6	3.0	29.9
93F03	93-082	10	358835	5896046	20	Nsil	4		1.2	18.0	670	0.5	2	45	3	50	12	6	1.4	4.15	24.0	0.44	52	4.4	15	2.21	17	0.5	0.6	5.1	1	1.2	3.1	31.4

INA Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Au ppb 2 INA	Au2 ppb 2 INA	Sb ppm 0.1 INA	As ppm 0.5 INA	Ba ppm 50 INA	Br ppm 0.5 INA	Ca % 1 INA	Ce ppm 3 INA	Cs ppm 1 INA	Cr ppm 5 INA	Co ppm 1 INA	Hf ppm 1 INA	Eu ppm 0.2 INA	Fe % 0.01 INA	La ppm 0.5 INA	Lu ppm 0.05 INA	Rb ppm 5 INA	Sm ppm 0.1 INA	Sc ppm 0.1 INA	Na % 0.01 INA	Nd ppm 5 INA	Ta ppm 0.5 INA	Tb ppm 0.5 INA	Th ppm 0.2 INA	W ppm 1 INA	U ppm 0.5 INA	Yb ppm 0.2 INA	Wt g
93F03	93-083	10	356920	5894664		Nm	5		1.6	20.0	580	0.5	2	45	4	51	13	5	1.4	4.13	24.0	0.49	49	4.3	15	2.10	21	0.5	0.6	5.3	1	2.1	3.1	30.7
93F03	93-084	10	355746	5893693		qm	7		1.7	19.0	630	0.5	2	40	3	41	10	5	1.3	3.84	23.0	0.46	53	4.1	14	2.00	17	0.5	0.8	5.5	1	2.4	3.0	30.0
93F03	93-085	10	353834	5893023		qm	6		2.2	21.0	600	0.5	3	43	5	31	11	5	1.2	3.73	24.0	0.52	76	4.1	14	1.83	21	0.5	0.8	5.6	1	2.4	3.4	30.9
93F03	93-086	10	351819	5891688		qm	77	53	1.3	13.0	880	2.3	3	65	4	48	11	8	2.0	5.07	34.0	0.66	49	6.8	19	2.74	26	0.5	0.8	6.3	1	2.7	4.0	27.3
93F03	93-087	10	349433	5891405		qm	9	7	1.1	11.0	690	1.8	2	54	2	46	8	7	1.7	4.08	27.0	0.57	5	5.6	17	2.87	32	0.5	0.7	4.5	1	2.8	3.5	30.3
93F03	93-088	10	347641	5891069		qm	12		1.3	16.0	910	0.5	3	59	3	41	12	6	1.7	4.87	27.0	0.57	97	5.4	18	2.75	23	0.5	0.5	7.1	3	1.7	3.3	25.3
93F03	93-089	10	342849	5890758		unkn	8		1.5	16.0	750	0.5	2	52	1	50	9	6	1.8	5.13	25.0	0.55	5	5.6	19	3.11	23	0.5	0.5	4.0	1	2.2	3.3	26.8
93F03	93-090	10	341592	5892925		Nm	1		1.5	22.0	750	2.2	4	45	4	47	15	5	1.6	6.05	23.0	0.57	45	5.1	22	2.16	20	0.5	0.5	4.3	1	2.5	3.6	25.0
93F03	93-091	10	341611	5892124		Nm	10		1.5	21.0	800	0.5	3	42	5	46	17	4	1.4	5.12	21.0	0.34	96	4.5	19	1.88	19	0.5	0.5	4.0	1	1.7	3.1	23.4
93F03	93-092	10	342577	5891530		Nm	5		1.5	19.0	760	1.9	1	45	4	58	17	5	1.6	4.82	22.0	0.37	61	4.6	18	1.93	18	0.5	0.5	5.1	1	2.4	3.0	24.6
93F03	93-093	10	344879	5891823		Nm	1		1.6	19.0	660	3.0	3	42	3	54	11	5	1.5	4.36	22.0	0.39	74	4.4	16	2.22	17	0.5	0.5	5.0	1	3.0	2.9	26.6
93F03	93-094	10	346519	5891676		unkn	1		1.9	18.0	790	0.5	1	43	2	37	10	5	1.5	3.74	23.0	0.40	5	4.4	15	2.54	17	0.5	0.5	4.0	1	3.6	3.2	24.5
93F03	93-095	10	349551	5888929		qm	1		1.1	6.8	720	0.5	1	67	1	46	13	7	2.1	4.61	29.0	0.31	64	6.1	17	2.66	20	0.5	0.5	6.1	1	3.0	3.3	23.5
93F03	93-096	10	348795	5889661		qm	1		1.1	7.4	720	0.5	1	44	1	50	9	6	1.5	3.80	24.0	0.28	58	5.0	15	2.54	22	0.5	0.5	4.3	2	2.1	2.9	28.1
93F03	93-097	10	348543	5890561		qm	4		0.8	5.3	820	0.5	1	51	1	43	12	7	1.9	4.46	30.0	0.30	5	6.8	15	2.48	33	0.5	0.5	4.7	4	0.5	3.3	23.0
93F03	93-098	10	348888	5893544		unkn	3		2.6	39.0	780	0.5	1	47	2	46	8	7	1.5	3.51	25.0	0.38	53	4.8	14	2.49	17	0.5	0.5	5.3	1	4.0	3.6	25.4
93F03	93-099	10	349939	5892457		qm	1		2.2	27.0	670	0.5	1	52	4	45	13	7	1.6	4.25	27.0	0.43	50	5.3	16	2.28	26	0.5	0.5	7.1	1	3.7	3.8	23.0
93F03	93-100	10	352814	5890488		qm	1		0.9	4.4	800	0.5	1	39	1	44	8	7	1.4	3.11	20.0	0.23	72	3.8	13	2.56	24	3.2	0.5	4.1	1	4.4	2.7	25.5
93F03	93-101	10	352007	5890869	10	qm	11		1.2	12.0	750	1.9	1	52	2	46	10	6	1.5	3.84	28.0	0.36	81	5.2	15	2.36	21	0.5	0.8	6.6	2	3.6	3.2	27.6
93F03	93-101	10	352007	5890869	20	qm	1		1.3	11.0	610	0.5	1	51	3	46	10	6	1.5	3.83	28.0	0.42	47	5.4	15	2.39	27	0.5	0.9	7.3	1	3.9	3.4	26.3
93F03	93-102	10	354377	5891717		qm	12		2.1	9.5	590	0.5	2	53	2	66	9	9	1.4	4.07	28.0	0.51	52	4.9	14	2.36	22	0.5	0.5	7.0	1	3.8	3.5	29.0
93F03	93-103	10	350563	5895994		unkn	6		1.6	12.0	750	3.3	2	46	1	48	10	6	1.2	3.89	25.0	0.41	45	5.0	14	2.31	19	2.1	0.5	5.3	1	3.1	3.4	24.8
93F03	93-104	10	351538	5895508		unkn	14		3.4	42.0	650	0.5	2	47	6	41	9	6	1.3	3.82	25.0	0.47	64	4.7	13	1.85	23	0.5	0.7	7.5	1	2.9	3.5	26.3
93F03	93-105	10	351997	5894920		unkn	1		2.2	17.0	620	0.5	2	38	4	42	13	6	1.4	4.40	22.0	0.53	75	4.9	16	1.98	20	1.6	1.1	5.9	1	2.0	3.5	26.1
93F03	93-106	10	352725	5894087		unkn	1		1.8	16.0	640	0.5	2	49	3	44	13	6	1.3	4.09	25.0	0.37	57	4.8	15	2.18	19	0.5	0.7	5.5	2	2.0	3.1	24.1
93F03	93-107	10	353368	5893777		unkn	8		2.3	16.0	530	0.5	2	58	5	49	13	9	1.6	4.97	30.0	0.37	70	5.9	18	1.86	29	0.5	1.1	11.0	1	4.1	4.0	23.3
93F03	93-108	10	357903	5893011		qm	9	7	1.6	13.0	810	0.5	1	47	3	41	11	6	1.3	3.79	25.0	0.36	80	4.5	14	2.31	19	0.5	0.9	6.9	1	1.9	3.0	26.3
93F03	93-109	10	358721	5894784		Nsil	7		1.8	15.0	620	0.5	2	42	2	50	7	7	1.1	3.24	22.0	0.32	46	3.6	11	2.22	-5	0.5	0.5	5.5	1	2.9	2.7	25.9
93F03	93-110	10	358762	5895210		Nm	8		2.1	22.0	780	0.9	2	48	3	44	9	7	1.5	4.03	27.0	0.53	63	5.0	15	2.40	18	0.5	0.8	5.9	1	3.2	3.4	26.6
93F03	93-111	10	348532	5897955		Nm	1		1.4	10.0	620	2.5	1	55	2	56	11	6	1.7	4.13	28.0	0.53	39	5.6	16	2.47	28	0.5	0.9	5.9	1	2.5	3.5	25.7
93F03	93-112	10	347771	5898846		Nm	21	1	1.7	29.0	720	0.5	3	42	3	32	19	5	1.4	5.22	21.0	0.51	74	4.9	18	2.27	15	0.5	0.5	4.3	1	2.1	3.5	25.9
93F03	93-113	10	348438	5900476		unkn	9		1.7	14.0	590	2.3	3	46	4	41	11	6	1.5	4.36	24.0	0.44	54	5.2	17	2.11	23	0.5	0.8	5.3	1	2.0	3.6	26.7
93F03	93-114	10	350014	5900171		unkn	8		1.4	12.0	680	0.5	2	41	4	44	12	5	1.6	4.60	22.0	0.43	83	5.2	19	2.17	25	0.5	0.5	4.9	1	4.0	3.7	22.2
93F03	93-115	10	350663	5899234		unkn	5		1.4	19.0	730	1.5	3	45	4	36	17	5	1.3	5.17	22.0	0.43	47	5.0	19	2.04	19	1.6	0.8	4.6	1	2.4	3.8	23.8
93F03	93-116	10	351744	5899989	10	unkn	6		1.1	9.9	650	0.5	2	51	3	57	13	6	1.5	4.16	26.0	0.57	5	5.4	16	2.40	22	0.5	1.0	5.3	1	1.8	3.6	24.6
93F03	93-116	10	351744	5899989	20	unkn	4		1.4	11.0	620	0.5	1	54	2	54	13	6	1.4	4.37	27.0	0.46	84	5.5	16	2.44	20	2.2	1.1	6.0	1	2.5	3.6	24.5
93F03	93-117	10	352677	5901020		qm	3		1.1	4.8	580	0.5	3	49	1	76	10	7	1.5	3.97	28.0	0.51	61	5.2	14	2.56	24	2.1	0.5	6.3	1	3.2	3.3	28.5
93F03	93-118	10	353158	5899606		unkn	11		1.1	11.0	650	0.5	1	48	2	60	13	6	1.5	4.36	26.0	0.50	52	5.2	16	2.38	21	1.2	0.5	5.4	1	3.3	3.4	25.2
93F03	93-119	10	354484	5898881		qm	1		1.2	8.2	670	0.5	2	44	3	50	13	5	1.6	4.74	25.0	0.44	70	5.2	17	2.31	24	2.3	0.5	5.6	1	3.0	3.3	25.2
93F03	93-120	10	356276	5897826		Nm	4		1.3	9.6	500	0.5	3	47	2	59	11	6	1.5	4.24	27.0	0.50	48	5.0	15	2.23	24	1.2	0.9	5.0	1	2.7	3.5	31.0
93F03	93-121	10	357764	5897682		Nm	1		2.6	16.0	560	0.5	2	46	3	41	14	5	1.5	4.65	25.0	0.50	43	4.7	15	1.89	20	0.5	0.8	4.9	1	2.0	3.1	30.8
93F03	93-122	10	359225	5897320		Nsil	5		2.5	26.0	670	1.0	2	41	5	44	14	5	1.4	4.61	22.0	0.47	57	4.3	15	1.76	20	1.1	0.8	4.7	1	2.1	3.2	30.3
93F03	93-128	10	333695	5897184		Or	7		1.1	10.0	430	2.2	1	77	4	33	5	7	1.2	2.64	37.0	0.57	100	5.3	11	2.06	27	0.5	0.9	7.3	1	2.8	4.1	32.0
93F03	93-162	10	348756	5886747		qm	5		0.9	3.7	560	1.9	3	37	1	50	10	6	1.4	3.91	22.0	0.42	43	4.5	14	2.64	18	0.5	0.8	4.1	2	1.7	2.9	30.1
93F03	93-163	10	347326	5887006		qm	1		0.7	3.4	930	0.5	1	60	3	48	11	7	1.6	4.68	28.0	0.40	46	4.9	14	2.50	22	0.5	0.6	6.8	1	3.1	2.6	30.3
93F03	93-164	10	349577	5886247		qm	4		0.9	3.5	540	0.5	2	43	1	50	9	6	1.4	4.21	22.0	0.38	48	4.3	16	2.61	14	0.5	0.7	4.4	1	1.9	2.7	30.7
93F03	93-165	10	350832	5885713		unkn	7		1.1	3.9	720	0.5	2	60	2	60	12	7	1.8	4.97	26.0	0.37	54	5.3	16	2.56	26	1.5	0.6	4.5	1	1.6	2.9	30.0
93F03	93-166	10	352187	5886251		qm	5		0.9	5.1	790	0.5	2	54	1	61	15	7	1.9	5.17	25.0	0.35	49	4.6	16	2.60	19	1.8	0.5	5.0	1	2.4	2.8	30.3
93F03	93-167	10	365886	5900244		unkn	19	4	1.6	11.0	770	0.5	3	53	4	71	13	9	1.8	5.18	29.0	0.43	69	5.5	19	2.65	23	0.5	0.5	6.5	1	3.3	3.8	30.0
93F03	93-168	10	357964	5898724		Nm	1		0.8	4.3	680	5.3	3	50	2	43	14	5	1.6	4.99	23.0	0.34	45	4.8	18	1.90	18	0.5	0.7	4.5	1	0.5	3.1	27.5

INA Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Au ppb 2 INA	Au2 ppb 2 INA	Sb ppm 0.1 INA	As ppm 0.5 INA	Ba ppm 50 INA	Br ppm 0.5 INA	Ca % 1 INA	Ce ppm 3 INA	Cs ppm 1 INA	Cr ppm 5 INA	Co ppm 1 INA	Hf ppm 1 INA	Eu ppm 0.2 INA	Fe % 0.01 INA	La ppm 0.5 INA	Lu ppm 0.05 INA	Rb ppm 5 INA	Sm ppm 0.1 INA	Sc ppm 0.1 INA	Na % 0.01 INA	Nd ppm 5 INA	Ta ppm 0.5 INA	Tb ppm 0.5 INA	Th ppm 0.2 INA	W ppm 1 INA	U ppm 0.5 INA	Yb ppm 0.2 INA	Wt g
93F03	93-169	10	358810	5898187		unkn	7		1.3	8.4	750	0.5	3	49	3	60	14	6	1.7	5.36	27.0	0.33	70	5.2	17	2.42	22	0.5	0.5	6.4	1	3.4	3.4	30.7
93F03	93-170	10	357818	5898030		Nm	1		1.3	6.8	660	2.2	1	49	2	53	13	6	1.4	4.74	24.0	0.45	41	4.4	15	2.21	19	0.5	0.5	6.6	1	3.0	2.9	31.1
93F03	93-171	10	352360	5898672	10	unkn	14		1.5	11.0	740	0.5	2	52	2	56	10	7	1.6	4.44	27.0	0.42	40	5.4	15	2.39	20	0.5	0.9	5.8	1	2.5	3.7	31.4
93F03	93-171	10	352360	5898672	20	unkn	9		1.4	13.0	690	0.5	1	56	3	56	11	7	1.6	4.69	29.0	0.45	37	5.6	16	2.52	24	2.5	0.9	6.1	1	3.1	3.9	30.5
93F03	93-172	10	352239	5899441		unkn	9		1.2	8.8	600	2.6	2	52	1	59	10	7	1.5	3.89	26.0	0.38	38	4.9	15	2.60	26	0.5	0.5	6.0	1	3.5	3.5	30.6
93F03	93-173	10	346550	5900100		unkn	9		1.3	11.0	780	0.5	2	53	2	64	11	7	1.8	4.25	28.0	0.47	73	6.1	17	2.60	25	0.5	1.1	5.6	1	2.9	4.1	30.8
93F03	93-174	10	346973	5900683		unkn	1		1.2	9.5	620	2.5	2	56	3	52	10	6	1.5	4.02	27.0	0.44	50	5.4	16	2.38	27	0.5	1.2	6.4	1	2.5	3.5	30.3
93F03	93-175	10	347812	5900754		unkn	9		1.4	14.0	520	0.5	2	55	3	49	12	6	1.6	4.26	29.0	0.47	47	5.4	16	2.37	25	0.5	0.7	5.6	1	3.1	3.8	29.3
93F03	93-176	10	355293	5898373		unkn	9	9	1.2	9.7	610	0.5	1	50	3	63	13	5	1.5	4.40	26.0	0.39	41	4.9	16	2.26	27	0.5	0.7	5.1	1	1.8	3.3	30.4
93F03	93-177	10	358448	5897385		Nm	1		2.4	23.0	640	2.2	3	55	5	55	14	7	1.6	4.97	29.0	0.39	58	5.2	17	1.83	22	0.5	1.0	6.1	1	2.7	3.3	30.1
93F03	93-178	10	362014	5886764		qm	1		1.0	3.8	730	2.3	2	40	1	43	8	6	1.5	3.19	24.0	0.24	51	4.1	12	2.76	20	1.7	0.5	5.0	1	1.9	2.6	30.7
93F03	93-179	10	361200	5887956		qm	1		0.8	4.3	730	0.5	4	47	2	64	13	6	1.7	4.56	26.0	0.46	68	5.0	15	2.57	25	0.5	0.5	5.0	1	2.2	3.1	30.6
93F03	93-180	10	361037	5889243		qm	12		0.9	4.4	710	0.5	2	47	2	66	10	7	1.5	4.27	24.0	0.35	46	4.6	14	2.68	18	1.9	0.5	4.6	1	2.5	3.3	30.4
93F03	93-181	10	361533	5891157		qm	5		1.0	5.3	750	0.5	2	45	2	62	11	7	1.6	4.38	25.0	0.34	44	4.7	15	2.52	21	0.5	0.5	5.0	1	2.5	3.1	30.8
93F03	93-182	10	362043	5893006		Nm	1		1.2	11.0	740	0.5	2	50	3	60	14	6	1.5	4.43	28.0	0.35	58	5.0	16	2.38	23	0.5	0.5	6.7	1	2.4	3.4	30.2
93F03	93-183	10	361447	5892893		Nm	1		1.1	5.8	710	2.2	2	49	2	50	10	6	1.3	4.00	23.0	0.24	5	3.7	15	2.49	16	0.5	0.8	4.9	1	0.5	2.9	30.0
93F03	93-184	10	362226	5894937		Nm	2		1.7	8.6	720	0.5	2	46	3	47	12	7	1.6	4.31	25.0	0.31	65	4.6	14	2.42	23	0.5	0.8	5.3	1	1.7	3.0	30.6
93F03	93-185	10	366180	5894996		Or	1		1.1	8.3	790	3.0	1	53	4	55	10	7	1.5	3.81	29.0	0.49	47	5.1	14	2.14	25	0.5	0.9	7.0	1	4.5	3.3	30.8
93F03	93-186	10	364034	5894515		Nm	1		1.8	10.0	800	0.5	1	47	8	43	11	5	1.2	3.50	28.0	0.28	85	4.2	12	1.84	19	1.5	0.8	8.5	1	3.7	2.4	30.0
93F03	93-187	10	363113	5894777		Nm	1		4.3	170.0	660	3.5	1	45	9	58	12	5	1.8	4.24	27.0	0.34	57	4.7	14	1.99	21	0.5	0.9	6.5	1	3.3	2.8	29.4
93F03	93-188	10	358828	5893500	10	Nsil	8		1.6	10.0	670	1.5	1	44	4	49	9	6	1.2	3.70	24.0	0.34	46	3.8	13	2.38	20	0.5	0.5	5.5	1	2.5	2.9	30.5
93F03	93-188	10	358828	5893500	20	Nsil	5		1.5	11.0	580	1.4	1	47	4	47	8	6	1.2	3.65	24.0	0.42	36	3.7	13	2.36	20	0.5	0.7	5.6	4	2.5	2.6	30.6
93F03	93-194	10	358779	5892900		Nsil	1		1.1	5.9	660	1.6	2	39	2	35	6	7	1.1	2.81	21.0	0.33	55	3.3	11	2.49	15	0.5	0.5	5.0	1	2.1	2.6	30.2
93F03	93-195	10	359285	5894650		Nsil	40	17	1.3	15.0	610	0.5	2	36	3	47	10	7	1.0	3.59	20.0	0.33	44	3.1	12	2.14	16	0.5	0.7	5.0	1	2.0	2.7	29.9
93F03	93-196	10	358982	5894682		Nsil	31	1	2.6	40.0	470	1.8	1	42	8	81	13	6	1.0	3.97	18.0	0.27	61	3.0	16	1.93	15	0.5	0.6	4.6	1	1.4	2.4	29.9
93F03	93-197	10	359445	5894437		Nm	6		1.6	31.0	550	0.5	1	39	5	79	14	5	1.1	4.47	20.0	0.28	5	3.4	17	2.00	17	0.5	0.7	4.1	1	1.9	2.6	30.5
93F03	93-198	10	350377	5900203		Nsil	10		1.4	27.0	640	1.8	2	46	5	59	14	5	1.6	5.05	25.0	0.39	68	5.0	18	1.77	24	0.5	0.7	4.7	4	1.6	3.1	30.5
93F03	93-199	10	359116	5899358		Nm	3		0.8	10.0	590	4.1	3	53	3	47	14	5	1.5	4.80	22.0	0.34	33	4.5	18	1.59	24	0.5	0.9	4.3	1	1.2	2.8	30.1
93F03	93-200	10	361591	5900430		Nsil	1		1.2	12.0	540	5.4	2	49	3	63	12	7	1.6	4.63	26.0	0.32	44	4.6	15	2.12	25	0.5	0.5	5.7	1	2.8	3.2	29.3
93F03	93-201	10	362048	5899777		Nsil	18	1	1.5	9.3	710	4.0	1	53	1	54	10	7	1.4	3.90	24.0	0.35	39	4.3	13	2.30	19	0.5	0.9	5.4	1	2.3	3.0	30.2
93F03	93-202	10	346595	5884105	10	qm	1		0.8	6.4	610	0.5	3	47	2	48	15	6	1.8	5.47	25.0	0.33	39	5.5	17	2.39	29	0.5	1.0	4.7	1	2.7	3.2	28.3
93F03	93-202	10	346595	5884105	20	qm	1		0.7	6.0	560	0.5	2	43	1	47	13	6	1.8	5.24	24.0	0.31	42	5.3	16	2.33	25	1.3	0.9	0.0	1	2.6	3.2	28.8
93F03	93-203	10	349001	5883732		qm	6		1.5	16.0	800	0.5	3	53	2	46	13	6	1.8	4.69	28.0	0.35	55	5.7	16	2.50	30	0.5	0.9	5.7	3	1.6	3.5	29.2
93F03	93-204	10	350382	5883228		Nm	1		2.7	100.0	540	3.8	3	60	5	59	22	6	2.0	5.82	30.0	0.38	71	6.2	18	2.06	26	0.5	1.0	5.0	1	2.4	3.9	27.6
93F03	93-205	10	348567	5877486		qm	1		1.5	19.0	600	0.5	2	49	3	45	16	6	1.9	5.39	28.0	0.30	58	5.9	16	2.06	28	0.5	1.1	5.1	1	2.3	3.1	30.1
93F03	93-207	10	349507	5878549		Nm	7	10	3.6	53.0	570	3.3	1	74	9	34	18	6	2.2	6.49	29.0	0.40	57	6.6	19	1.52	28	0.5	0.9	5.7	4	1.7	3.8	26.6
93F03	93-208	10	351135	5877964		Nm	4		1.4	19.0	700	0.5	2	53	2	43	11	6	2.2	4.66	30.0	0.34	31	6.6	16	2.50	28	1.7	0.9	4.5	1	1.5	3.3	30.2
93F03	93-209	10	353245	5876713		unkn	6		1.0	11.0	600	2.0	2	85	1	43	17	14	2.0	6.08	36.0	0.27	39	6.7	14	2.13	36	3.1	1.0	7.9	1	1.3	3.1	30.6
93F03	93-210	10	354691	5877208		unkn	1		1.0	11.0	610	2.2	3	55	1	51	17	6	2.4	5.83	29.0	0.25	30	6.5	16	2.45	30	0.5	1.2	4.1	1	2.1	3.4	31.3
93F03	93-211	10	363969	5884821		unkn	1		0.9	7.8	680	0.5	2	49	2	49	15	5	1.9	4.87	27.0	0.27	62	5.7	15	2.38	25	1.7	0.9	4.2	1	1.9	3.0	30.6
93F03	93-212	10	361141	5885113		unkn	6		1.1	9.3	660	0.5	3	49	1	56	16	7	2.0	5.59	29.0	0.26	49	6.0	16	2.42	25	2.0	0.8	4.8	1	1.3	3.4	30.3
93F03	93-213	10	359227	5885242		unkn	5		1.1	8.1	650	0.5	3	46	2	62	11	8	1.6	4.66	26.0	0.41	54	5.1	16	2.52	25	0.5	0.9	5.3	1	2.4	3.6	31.0
93F03	93-214	10	360357	5890588		qm	1		1.0	6.6	700	0.5	2	42	1	52	9	6	1.5	3.89	24.0	0.33	50	4.6	15	2.65	19	0.7	0.8	4.1	1	2.2	2.9	29.9
93F03	93-215	10	356091	5888777		qm	4		0.9	6.5	600	0.5	3	44	2	49	10	6	1.1	3.84	21.0	0.24	48	3.2	14	2.57	18	1.1	0.5	4.8	1	1.9	2.5	30.4
93F03	93-216	10	354685	5888915		qm	1		1.0	6.9	520	0.5	2	45	2	50	10	6	1.5	4.15	23.0	0.36	25	4.6	15	2.70	22	1.2	0.8	4.6	1	2.5	3.3	29.9
93F03	93-217	10	354439	5887816		qm	1		1.0	6.1	540	0.5	3	46	1	63	9	7	1.5	4.11	25.0	0.31	71	4.7	14	2.54	23	0.5	0.5	4.5	1	2.2	3.0	30.5
93F03	93-218	10	355478	5886496		qm	1		1.0	6.5	720	0.5	2	45	2	89	13	8	1.6	4.84	25.0	0.31	24	4.8	16	2.47	23	1.9	0.7	4.6	1	2.6	3.1	29.9
93F03	93-219	10	356835	5886588		qm	1		0.7	5.5	670	0.5	3	54	1	140	17	7	1.9	6.17	29.0	0.18	37	5.2	17	2.30	25	1.9	0.9	4.5	1	3.0	2.7	30.1
93F03	93-220	10	366508	5876780		Nsil	4		1.3	8.9	730	0.5	2	34	3	52	12	7	1.4	4.99	18.0	0.17	51	3.1	12	2.50	15	0.5	0.6	4.2	1	1.8	2.3	30.0
93F03	93-221	10	366265	5877246		Nsil	13		1.1	7.2	600	0.5	4	47	3	55	11	6	1.6	5.32	20.0	0.38	31	4.3	14	2.30	21	0.5	0.5	3.9	1	1.1	2.2	28.8

INA Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Au ppb 2 INA	Au2 ppb 2 INA	Sb ppm 0.1 INA	As ppm 0.5 INA	Ba ppm 50 INA	Br ppm 0.5 INA	Ca % 1 INA	Ce ppm 3 INA	Cs ppm 1 INA	Cr ppm 5 INA	Co ppm 1 INA	Hf ppm 1 INA	Eu ppm 0.2 INA	Fe % 0.01 INA	La ppm 0.5 INA	Lu ppm 0.05 INA	Rb ppm 5 INA	Sm ppm 0.1 INA	Sc ppm 0.1 INA	Na % 0.01 INA	Nd ppm 5 INA	Ta ppm 0.5 INA	Tb ppm 0.5 INA	Th ppm 0.2 INA	W ppm 1 INA	U ppm 0.5 INA	Yb ppm 0.2 INA	Wt g
93F03	93-222	10	365810	5877478		Nsil	12		3.4	9.2	960	0.5	1	39	24	34	12	5	1.3	6.23	18.0	0.37	45	3.4	13	1.80	12	0.5	0.5	4.0	1	3.9	2.2	30.1
93F03	93-223	10	365576	5877929	10	Nsil	23	7	1.3	5.6	590	0.5	3	33	13	59	11	6	1.4	4.27	17.0	0.40	110	3.6	17	2.19	22	0.5	0.5	3.1	1	1.7	2.3	28.3
93F03	93-223	10	365576	5877929	20	Nsil	6		1.5	8.1	600	1.6	2	36	13	58	12	6	1.4	4.38	18.0	0.23	69	3.4	18	2.25	15	1.0	0.5	3.9	1	1.6	2.5	27.3
93F03	93-224	10	365317	5878106		Nsil	1		1.3	8.1	680	0.5	2	60	1	56	12	6	1.9	4.91	26.0	0.45	33	5.7	15	2.43	24	2.4	0.5	3.2	1	2.2	2.6	29.9
93F03	93-225	10	364968	5878212		Nsil	1		1.1	4.8	790	0.5	1	47	3	49	9	7	1.5	4.41	20.0	0.34	47	4.2	12	2.42	13	0.5	0.5	4.1	1	1.5	2.4	29.9
93F03	93-226	10	364314	5877108		Nsil	1	1	1.0	4.6	950	0.5	3	51	3	49	10	7	1.7	4.54	22.0	0.44	40	4.8	14	2.41	19	2.1	0.7	4.1	1	2.8	2.2	30.8
93F03	93-227	10	364382	5878750		Nm	23	23	1.4	8.3	650	0.5	3	53	3	49	11	6	1.7	4.79	25.0	0.51	25	5.7	16	2.11	26	2.2	0.9	4.4	1	2.3	2.9	29.9
93F03	93-229	10	362992	5896549		Nm	16	16	2.3	38.0	750	4.2	3	56	4	63	10	6	1.6	4.34	24.0	0.54	62	5.5	15	2.18	15	2.1	0.5	6.1	1	2.0	3.4	30.5
93F03	93-230	10	362587	5896617		Nm	1		1.3	11.0	810	1.7	1	53	3	41	7	5	1.3	3.36	18.0	0.36	20	3.4	13	2.60	5	0.5	0.5	3.6	10	2.4	2.2	30.0
93F03	93-232	10	333007	5879667		Cv	1		0.5	2.3	810	2.6	4	41	2	45	8	6	1.8	3.67	20.0	0.35	53	4.2	14	2.96	16	2.9	0.5	3.5	1	1.8	2.2	31.4
93F03	93-233	10	335685	5874964		Cv	7		0.4	3.5	670	0.5	3	58	2	52	12	8	2.3	5.30	28.0	0.45	65	6.5	16	2.46	24	0.5	0.5	4.8	3	1.7	2.8	30.1
93F03	93-234	10	335379	5875903		Cv	1		0.8	3.8	860	2.6	3	70	1	54	11	7	2.5	5.47	32.0	0.47	30	7.6	17	2.67	31	0.5	1.1	4.5	1	2.3	3.1	30.2
93F03	93-235	10	335076	5877127	10	Cv	1		0.6	4.3	730	2.7	4	59	1	62	14	7	2.4	5.47	27.0	0.51	69	7.2	18	2.71	28	1.7	0.5	4.2	1	1.1	3.4	30.1
93F03	93-235	10	335076	5877127	20	Cv	1		0.6	3.6	850	2.1	4	57	2	58	13	7	2.3	5.64	27.0	0.00	42	7.0	18	2.69	35	1.7	1.1	3.5	1	2.0	3.3	30.4
93F03	93-236	10	333840	5879258		Cv	1		0.6	2.5	830	2.0	4	61	2	65	11	6	1.9	4.48	22.0	0.41	62	5.1	15	2.59	24	0.5	0.5	3.1	1	1.8	2.5	30.1
93F03	93-237	10	335366	5879606		Cv	18	24	0.5	3.3	840	0.5	3	50	2	55	13	7	1.7	5.00	20.0	0.44	46	4.4	14	2.47	18	0.5	0.5	4.1	1	3.2	2.4	30.0
93F03	93-238	10	336432	5880635		unkn	4		0.6	2.8	820	0.5	4	54	1	57	11	7	2.0	4.63	25.0	0.52	38	6.2	17	2.96	24	2.8	0.6	3.4	1	2.4	3.0	31.6
93F03	93-239	10	332811	5887250		unkn	1		0.8	3.9	690	0.5	2	46	1	57	9	8	1.5	4.27	21.0	0.57	30	4.7	16	2.66	20	0.5	0.9	4.2	1	2.2	3.0	30.2
93F03	93-248	10	333979	5886459		unkn	1		0.5	1.9	650	0.5	1	41	1	53	7	6	1.5	3.25	20.0	0.34	51	4.1	15	2.75	17	0.5	0.7	4.6	1	2.5	2.5	30.3
93F03	93-249	10	335168	5885964		Cv	1		0.7	3.4	750	1.5	2	58	1	47	11	7	2.0	5.40	25.0	0.55	63	6.0	18	2.50	29	0.5	0.9	3.8	1	2.0	3.2	30.5
93F03	93-250	10	336548	5885555		Cv	1		0.6	2.1	620	0.5	2	44	2	53	14	8	1.5	5.89	18.0	0.38	40	3.9	16	2.14	22	1.6	0.5	3.2	1	1.9	2.1	29.8
93F03	93-251	10	337776	5885026		Cv	1		0.6	3.3	890	0.5	4	46	1	52	8	7	1.9	4.37	22.0	0.43	40	4.9	16	2.88	19	0.5	0.7	3.9	1	2.5	2.8	29.9
93F03	93-252	10	338696	5884573		Cv	7		0.8	5.6	670	2.1	3	64	1	53	10	7	1.9	4.74	23.0	0.41	48	5.1	17	2.90	27	0.5	0.5	3.9	1	1.5	2.9	30.0
93F03	93-253	10	343332	5886539		unkn	1		0.5	2.4	920	0.5	2	52	1	38	7	8	2.1	3.82	24.0	0.41	50	5.1	12	3.06	17	2.3	0.5	4.8	1	2.4	2.5	30.6
93F03	93-254	10	341129	5885511		unkn	8		0.8	3.6	700	0.5	3	56	1	53	10	7	1.9	4.37	25.0	0.45	34	5.6	18	2.79	20	2.5	0.5	4.0	1	1.2	3.0	30.4
93F03	93-255	10	343252	5876837		Nm	7		1.2	4.9	660	0.5	3	62	1	56	12	7	1.9	5.38	24.0	0.45	45	5.3	17	2.82	24	2.2	0.9	4.2	1	1.7	2.7	30.4
93F03	93-257	10	343499	5878020		Nm	21	24	1.0	4.2	630	0.5	3	48	2	59	11	7	1.7	4.83	24.0	0.51	53	5.2	14	2.70	23	1.4	0.8	5.3	1	2.9	3.0	30.5
93F03	93-258	10	342797	5878373	20	Nm	1		0.7	4.0	700	2.8	3	58	2	62	12	7	1.9	4.88	25.0	0.46	42	5.4	16	2.71	24	2.4	0.7	4.0	1	2.3	2.8	30.1
93F03	93-258	10	342797	5878373	10	Nm	4		0.7	3.9	640	2.1	3	52	3	62	11	6	1.7	4.30	24.0	0.39	32	4.5	15	2.42	23	1.3	0.6	4.3	1	1.7	2.6	30.6
93F03	93-259	10	342218	5879434		Nsil	1		0.7	3.2	590	1.8	1	48	1	39	11	6	1.8	4.12	25.0	0.39	43	4.9	14	2.62	20	0.5	0.8	4.2	1	1.9	2.7	29.9
93F03	93-260	10	341639	5880619		Nsil	4		0.7	4.2	580	0.5	1	42	1	50	9	6	1.7	3.53	23.0	0.42	35	4.5	15	2.72	20	1.2	0.7	3.9	1	3.1	2.9	30.5
93F03	93-261	10	340972	5881834		Nm	1		0.6	4.2	560	2.5	2	50	1	54	11	7	1.8	3.95	24.0	0.38	47	4.5	15	2.52	21	0.5	0.7	3.7	1	2.3	2.5	30.5

ICP Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Al % 0.01 ICP	Ba ppm 2 ICP	Bi ppm 2 ICP	B ppm 2 ICP	Cd ppm 0.2 ICP	Ca % 0.01 ICP	Cr ppm 1 ICP	Co ppm 1 ICP	Cu ppm 1 ICP	Fe % 0.01 ICP	Pb ppm 2 ICP	Mn ppm 1 ICP	Mg % 0.01 ICP	Mo ppm 1 ICP	Ni ppm 1 ICP	P % 0.001 ICP	K % 0.01 ICP	Ag ppm 0.1 ICP	Na % 0.01 ICP	Sr ppm 1 ICP	Ti % 0.01 ICP	V ppm 2 ICP	Zn ppm 1 ICP
93F03	93-001	10	347853	5882316		Nm	2.35	123	2	3	0.20	0.42	21	12	27	4.20	15	360	0.37	2	11	0.024	0.16	0.5	0.04	39	0.22	67	78
93F03	93-002	10	349460	5880692		Nm	1.88	102	2	3	0.40	0.65	24	9	36	4.01	18	536	0.52	1	13	0.065	0.10	0.3	0.09	60	0.28	67	93
93F03	93-003	10	351915	5882777		Nm	1.89	127	2	3	0.40	0.72	18	8	31	4.08	18	481	0.55	1	9	0.066	0.12	0.3	0.11	67	0.25	61	96
93F03	93-004	10	355045	5883457		Nsil	1.47	79	2	2	0.20	0.69	22	5	14	3.06	7	313	0.35	1	7	0.078	0.08	0.3	0.09	49	0.28	53	42
93F03	93-005	10	356539	5883613		unkn	2.00	103	2	3	0.20	0.79	23	10	31	4.47	13	614	0.59	1	14	0.083	0.18	0.4	0.11	71	0.28	66	102
93F03	93-021	10	338506	5898394		Or	1.31	39	2	3	0.20	0.38	14	2	7	1.48	7	179	0.27	1	7	0.030	0.03	0.2	0.02	26	0.27	32	39
93F03	93-023	10	337601	5898383		Or	1.72	84	2	3	0.20	0.34	14	3	11	1.76	5	180	0.26	1	5	0.033	0.04	0.1	0.03	30	0.21	33	32
93F03	93-025	10	338695	5899517		Nm	1.58	69	2	3	0.20	0.46	16	4	10	1.69	9	188	0.30	1	8	0.053	0.04	0.2	0.04	32	0.27	35	30
93F03	93-026	10	337817	5899486		Or	1.91	95	2	3	0.20	0.32	20	4	14	2.63	4	298	0.28	3	10	0.047	0.05	0.1	0.03	28	0.18	46	52
93F03	93-030	10	336393	5898659		Or	1.23	37	2	5	0.20	0.33	17	4	12	2.49	10	376	0.33	4	9	0.024	0.07	0.1	0.04	26	0.17	43	53
93F03	93-033	10	336985	5897584		Or	0.96	47	3	2	0.30	0.54	13	4	7	1.72	2	274	0.26	1	6	0.057	0.03	0.1	0.03	40	0.25	38	30
93F03	93-037	10	336353	5897418		Or	2.36	100	2	4	0.30	0.83	29	11	37	4.25	6	896	0.85	3	21	0.069	0.18	0.3	0.06	56	0.18	63	121
93F03	93-042	10	335388	5897937		Or	1.70	62	2	2	0.20	0.38	15	4	12	2.37	6	298	0.28	1	9	0.038	0.04	0.1	0.02	30	0.21	44	62
93F03	93-043	10	334301	5896508		Or	1.35	46	2	2	0.20	0.30	11	4	12	2.86	15	783	0.33	7	8	0.030	0.12	0.1	0.02	30	0.08	32	104
93F03	93-046	10	335938	5896571		Or	1.94	84	2	2	0.20	0.64	17	6	26	3.48	7	591	0.51	2	11	0.054	0.11	0.1	0.04	50	0.19	57	78
93F03	93-047	10	338113	5896392		Or	2.00	116	2	3	0.20	0.54	17	5	12	2.87	2	253	0.26	2	10	0.038	0.03	0.1	0.02	41	0.21	54	44
93F03	93-048	10	341214	5897524		Nm	2.42	105	2	2	0.20	0.87	36	11	37	4.26	5	707	0.77	1	26	0.070	0.12	0.1	0.04	51	0.24	69	85
93F03	93-049	10	342406	5895896		Nm	1.99	65	4	4	0.50	0.78	20	10	36	3.94	5	924	0.67	3	18	0.062	0.09	0.1	0.04	51	0.21	64	89
93F03	93-050	10	343459	5894819		Nm	2.20	100	2	2	0.60	0.82	21	7	33	3.81	4	570	0.64	1	15	0.061	0.10	0.1	0.03	56	0.22	67	72
93F03	93-051	10	344861	5893665		Nm	1.91	111	2	4	0.20	0.74	18	9	34	3.75	8	821	0.59	1	15	0.059	0.13	0.1	0.05	58	0.19	60	85
93F03	93-052	10	347004	5892750	10	Nm	1.84	99	4	3	0.30	0.82	18	9	39	4.12	11	797	0.65	2	13	0.067	0.13	0.1	0.05	62	0.20	64	93
93F03	93-052	10	347004	5892750	20	Nm	1.81	98	2	2	0.50	0.81	19	9	37	3.99	13	838	0.64	2	13	0.066	0.14	0.2	0.05	61	0.20	64	95
93F03	93-053	10	348478	5891991		qm	1.52	100	2	2	0.20	0.54	13	5	29	3.03	12	655	0.42	2	9	0.049	0.15	0.1	0.03	34	0.13	45	74
93F03	93-058	10	356931	5874311		unkn	0.88	81	2	2	0.20	0.86	24	9	20	4.23	2	471	0.47	1	17	0.134	0.04	0.1	0.09	106	0.45	73	75
93F03	93-059	10	356643	5875967		unkn	1.96	103	2	3	0.20	0.79	23	9	26	4.68	11	460	0.62	1	16	0.121	0.07	0.1	0.06	91	0.41	66	71
93F03	93-060	10	356113	5877728		unkn	2.37	132	2	3	0.20	0.51	32	9	24	4.48	4	408	0.38	1	24	0.069	0.04	0.1	0.03	79	0.42	63	58
93F03	93-061	10	355527	5877674		unkn	1.91	150	2	3	0.20	0.81	27	9	26	4.38	5	491	0.60	1	22	0.116	0.07	0.1	0.05	147	0.37	61	74
93F03	93-062	10	356308	5878635		unkn	1.14	116	2	5	0.20	0.78	23	8	19	3.58	7	560	0.35	1	11	0.097	0.05	0.2	0.07	93	0.34	61	69
93F03	93-063	10	354865	5881122		unkn	1.90	94	2	5	0.20	0.54	17	4	16	2.58	12	262	0.28	1	10	0.077	0.05	0.1	0.03	40	0.32	41	49
93F03	93-064	10	356259	5880302		Nsil	1.94	152	2	4	0.60	0.83	19	9	30	4.46	8	600	0.67	1	17	0.087	0.14	0.1	0.07	100	0.28	62	91
93F03	93-065	10	358174	5882192		unkn	1.88	114	2	3	0.40	0.77	19	12	36	4.41	22	1088	0.72	1	15	0.081	0.22	0.1	0.07	61	0.26	61	112
93F03	93-066	10	362599	5880094	10	Nsil	1.54	119	3	2	0.50	0.81	23	13	35	5.06	12	840	0.67	1	19	0.108	0.13	0.1	0.07	85	0.38	66	96
93F03	93-066	10	362599	5880094	20	Nsil	1.60	123	2	4	0.20	0.82	24	13	35	5.07	10	857	0.67	1	20	0.108	0.13	0.1	0.07	87	0.38	66	97
93F03	93-067	10	360303	5879982		unkn	1.26	114	3	2	0.20	0.57	22	7	21	4.11	4	535	0.39	1	11	0.078	0.06	0.2	0.04	72	0.33	65	70
93F03	93-068	10	358556	5880839		Nsil	1.71	90	2	3	0.20	0.48	18	4	12	2.09	12	179	0.25	1	9	0.076	0.04	0.1	0.03	36	0.38	35	34
93F03	93-069	10	357245	5881035		Nsil	2.04	99	2	2	0.40	0.70	20	6	20	3.75	11	398	0.48	1	13	0.103	0.08	0.1	0.04	64	0.37	49	71
93F03	93-070	10	363869	5882521		unkn	2.19	130	2	2	0.60	0.80	23	12	35	4.92	11	733	0.75	1	19	0.980	0.15	0.1	0.06	109	0.35	69	103
93F03	93-071	10	363606	5881883		Nm	1.52	132	8	2	0.20	0.59	21	7	24	3.93	8	553	0.52	1	11	0.096	0.07	0.1	0.04	57	0.34	62	65
93F03	93-072	10	363057	5882169		Nm	2.63	158	2	2	0.20	0.50	22	8	21	3.54	10	332	0.41	1	14	0.092	0.05	0.1	0.03	42	0.36	55	68
93F03	93-073	10	361951	5882490		Nm	1.84	105	4	2	0.20	0.71	23	9	31	4.57	7	708	0.62	1	14	0.095	0.16	0.2	0.05	77	0.35	69	102
93F03	93-074	10	360096	5882726		unkn	1.47	84	2	2	0.20	0.57	20	6	15	3.19	7	389	0.32	1	10	0.085	0.05	0.1	0.04	47	0.35	56	51
93F03	93-075	10	357982	5883163		unkn	1.51	82	2	3	0.30	0.81	22	9	29	4.58	9	571	0.64	1	15	0.980	0.12	0.1	0.08	82	0.37	74	77
93F03	93-076	10	358848	5883938		unkn	1.86	107	2	2	0.20	0.72	20	8	29	4.08	8	506	0.63	1	15	0.080	0.11	0.1	0.06	60	0.28	60	73
93F03	93-077	10	358153	5884375		unkn	1.48	101	2	2	0.20	0.73	24	8	24	3.95	12	438	0.46	1	17	0.091	0.06	0.1	0.06	66	0.33	65	60
93F03	93-078	10	357978	5885453		qm	1.82	109	2	3	0.60	0.75	23	9	30	3.82	8	547	0.50	1	15	0.076	0.10	0.2	0.05	62	0.26	60	71
93F03	93-079	10	359227	5887185		qm	1.31	73	2	3	0.40	0.57	29	6	20	3.29	6	384	0.30	1	12	0.063	0.04	0.3	0.04	49	0.31	67	44
93F03	93-080	10	362405	5898546		Nsil	1.57	91	2	4	0.20	0.81	20	7	27	3.30	6	578	0.47	1	11	0.067	0.09	0.3	0.05	62	0.24	64	57
93F03	93-081	10	360548	5897516		unkn	1.28	75	2	3	0.30	0.72	18	8	25	3.11	5	624	0.44	1	9	0.065	0.06	0.1	0.06	61	0.19	56	60
93F03	93-082	10	358835	5896046	10	Nsil	1.76	97	2	3	0.30	0.70	26	10	41	3.83	8	786	0.57	1	15	0.068	0.09	0.2	0.04	56	0.20	62	77
93F03	93-082	10	358835	5896046	20	Nsil	1.69	94	2	2	0.40	0.69	25	10	40	3.72	7	775	0.55	2	13	0.066	0.09	0.1	0.04	54	0.20	61	72

ICP Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Al	Ba	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mn	Mg	Mo	Ni	P	K	Ag	Na	Sr	Ti	V	Zn
							%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	%	ppm	%	ppm	%	ppm	ppm
							0.01	2	2	2	0.2	0.01	1	1	1	0.01	2	1	0.01	1	1	0.001	0.01	0.1	0.01	1	0.01	2	1
							ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
93F03	93-083	10	356920	5894664		Nm	1.73	101	2	3	0.70	0.76	25	12	50	3.78	9	987	0.61	1	16	0.066	0.11	0.1	0.04	56	0.19	59	88
93F03	93-084	10	355746	5893693		qm	1.95	109	2	2	0.30	0.74	23	10	44	3.69	8	781	0.62	2	13	0.064	0.14	0.2	0.04	51	0.20	62	82
93F03	93-085	10	353834	5893023		qm	1.77	110	2	3	0.60	1.18	21	10	43	3.74	14	933	0.72	1	12	0.058	0.21	0.3	0.04	51	0.16	49	89
93F03	93-086	10	351819	5891688		qm	1.77	138	2	2	0.30	0.62	27	8	44	3.63	10	738	0.47	2	12	0.081	0.11	0.1	0.03	43	0.24	63	54
93F03	93-087	10	349433	5891405		qm	1.14	66	2	3	0.20	0.67	20	6	25	2.85	6	522	0.33	1	8	0.069	0.05	0.3	0.04	49	0.23	63	41
93F03	93-088	10	347641	5891069		qm	1.89	108	2	4	0.30	1.12	19	11	33	3.56	11	831	0.75	1	12	0.072	0.17	0.4	0.06	62	0.22	65	74
93F03	93-089	10	342849	5890758		unkn	1.23	59	2	5	0.30	0.91	19	6	56	3.26	4	414	0.41	4	8	0.079	0.05	0.4	0.06	67	0.25	67	56
93F03	93-090	10	341592	5892925		Nm	2.71	93	2	2	0.20	1.09	22	13	61	4.74	32	787	0.89	3	22	0.064	0.10	0.5	0.06	92	0.18	72	113
93F03	93-091	10	341611	5892124		Nm	2.83	83	2	3	0.20	1.61	22	17	61	4.77	10	951	0.99	3	22	0.067	0.11	0.4	0.06	102	0.19	76	100
93F03	93-092	10	342577	5891530		Nm	2.62	89	2	2	0.20	1.08	19	18	46	4.24	9	1156	0.85	2	22	0.064	0.08	0.1	0.03	78	0.16	70	102
93F03	93-093	10	344879	5891823		Nm	1.78	72	2	4	0.20	0.90	13	10	27	2.82	12	674	0.57	1	14	0.052	0.06	0.1	0.02	52	0.17	57	75
93F03	93-094	10	346519	5891676		unkn	1.48	89	2	4	0.40	0.89	18	8	31	3.14	10	756	0.57	1	11	0.072	0.09	0.4	0.05	58	0.21	59	68
93F03	93-095	10	349551	5888929		qm	1.73	151	2	2	0.20	0.72	24	8	44	3.81	11	709	0.46	1	12	0.053	0.10	0.3	0.06	70	0.30	59	65
93F03	93-096	10	348795	5889661		qm	1.60	89	2	3	0.20	0.64	22	5	24	3.11	5	518	0.35	1	10	0.071	0.06	0.2	0.04	54	0.26	63	44
93F03	93-097	10	348543	5890561		qm	1.85	115	2	3	0.20	0.85	21	7	29	3.69	5	542	0.50	1	13	0.074	0.07	0.2	0.06	91	0.31	60	58
93F03	93-098	10	348888	5893544		unkn	1.25	77	2	2	0.50	0.54	20	4	24	2.53	10	467	0.34	2	8	0.063	0.07	0.4	0.03	38	0.21	48	69
93F03	93-099	10	349939	5892457		qm	1.81	103	2	4	0.40	0.67	20	10	41	3.42	15	941	0.57	2	13	0.059	0.13	0.3	0.04	50	0.18	57	80
93F03	93-100	10	352814	5890488		qm	1.59	66	2	3	0.30	0.49	15	4	10	1.92	10	299	0.32	1	7	0.038	0.04	0.3	0.02	44	0.27	45	80
93F03	93-101	10	352007	5890869	10	qm	1.60	97	2	2	0.20	0.63	23	7	30	3.24	7	634	0.39	1	11	0.071	0.08	0.1	0.03	46	0.23	65	48
93F03	93-101	10	352007	5890869	20	qm	1.56	96	2	2	0.30	0.61	22	7	30	3.23	6	619	0.39	2	10	0.069	0.08	0.1	0.03	45	0.23	64	47
93F03	93-102	10	354377	5891717		qm	1.26	74	2	2	0.20	0.45	23	6	24	2.90	9	450	0.30	1	10	0.058	0.05	0.2	0.02	38	0.23	62	41
93F03	93-103	10	350563	5895994		unkn	1.56	97	2	3	0.20	0.79	20	7	34	3.08	5	610	0.48	3	11	0.067	0.07	0.2	0.04	48	0.24	58	54
93F03	93-104	10	351538	5895508		unkn	1.93	151	2	5	0.30	0.64	17	10	33	3.48	19	1016	0.57	1	12	0.059	0.17	0.6	0.03	50	0.17	53	96
93F03	93-105	10	351997	5894920		unkn	2.08	102	2	2	0.30	0.55	22	10	38	3.86	6	771	0.57	2	12	0.075	0.23	0.1	0.03	50	0.26	61	64
93F03	93-106	10	352725	5894087		unkn	2.01	113	2	4	0.30	0.72	25	11	42	3.73	8	972	0.66	1	15	0.063	0.15	0.2	0.05	56	0.20	63	78
93F03	93-107	10	353368	5893777		unkn	2.36	105	2	2	0.50	0.64	24	10	66	4.24	7	834	0.64	1	13	0.080	0.14	0.2	0.02	49	0.24	63	75
93F03	93-108	10	357903	5893011		qm	1.74	124	2	2	0.40	0.80	20	9	31	3.37	10	748	0.59	1	12	0.065	0.14	0.3	0.06	54	0.21	61	70
93F03	93-109	10	358721	5894784		Nsil	1.73	93	2	2	0.40	0.33	22	5	22	2.73	4	307	0.31	1	9	0.030	0.06	0.1	0.02	32	0.20	53	38
93F03	93-110	10	358762	5895210		Nm	1.65	84	2	2	0.50	0.59	21	7	35	3.26	11	629	0.46	1	12	0.063	0.11	0.2	0.03	40	0.20	58	73
93F03	93-111	10	348532	5897955		Nm	1.65	74	2	2	0.30	0.74	26	8	25	3.39	6	719	0.51	1	12	0.061	0.08	0.2	0.03	43	0.22	61	63
93F03	93-112	10	347771	5898846		Nm	2.61	168	2	2	0.20	0.99	18	17	49	4.51	9	1048	0.75	1	13	0.057	0.26	0.3	0.11	75	0.23	77	89
93F03	93-113	10	348438	5900476		unkn	2.13	83	2	2	0.20	0.74	23	9	64	3.92	5	666	0.61	1	10	0.054	0.13	0.2	0.04	57	0.21	65	65
93F03	93-114	10	350014	5900171		unkn	2.64	146	2	2	0.30	0.68	26	8	38	3.82	10	387	0.71	1	12	0.048	0.22	0.2	0.05	55	0.26	68	76
93F03	93-115	10	350663	5899234		unkn	2.83	144	2	2	0.20	0.71	22	13	46	4.53	7	936	0.76	1	14	0.055	0.22	0.3	0.04	53	0.24	80	87
93F03	93-116	10	351744	5899989	10	unkn	1.77	89	2	2	0.30	0.80	27	10	32	3.65	5	909	0.64	1	15	0.066	0.11	0.1	0.05	58	0.23	63	69
93F03	93-116	10	351744	5899989	20	unkn	1.77	88	2	2	0.40	0.78	28	10	34	3.69	4	881	0.64	1	15	0.066	0.12	0.3	0.05	57	0.22	62	71
93F03	93-117	10	352677	5901020		qm	1.09	56	2	2	0.30	0.55	32	6	21	3.06	6	453	0.33	1	12	0.067	0.05	0.3	0.03	51	0.27	61	44
93F03	93-118	10	353158	5899606		unkn	1.72	89	2	2	0.40	0.65	28	10	29	3.64	7	772	0.57	1	14	0.066	0.09	0.3	0.03	54	0.26	63	72
93F03	93-119	10	354484	5898881		qm	2.09	112	2	2	0.20	0.78	28	10	43	4.20	8	804	0.70	1	15	0.069	0.17	0.1	0.06	70	0.23	67	75
93F03	93-120	10	356276	5897826		Nm	1.65	75	2	2	0.40	0.62	26	8	31	3.53	4	613	0.47	1	12	0.068	0.09	0.2	0.03	45	0.24	63	63
93F03	93-121	10	357764	5897682		Nm	1.55	82	2	2	0.50	0.66	19	12	46	4.23	15	1154	0.57	1	10	0.077	0.12	0.2	0.06	66	0.16	57	88
93F03	93-122	10	359225	5897320		Nsil	2.33	100	2	2	0.20	0.66	22	13	50	4.30	12	894	0.80	1	12	0.072	0.16	0.1	0.04	63	0.19	64	84
93F03	93-128	10	333695	5897184		Or	0.86	27	2	2	0.30	0.25	17	3	10	2.17	12	563	0.30	1	7	0.019	0.08	0.1	0.02	20	0.13	35	54
93F03	93-162	10	348756	5886747		qm	1.30	82	2	2	0.50	0.60	22	6	19	3.00	5	502	0.39	1	11	0.061	0.05	0.1	0.04	57	0.27	55	45
93F03	93-163	10	347326	5887006		qm	2.20	268	2	2	0.30	0.44	34	7	20	3.87	2	525	0.39	1	14	0.071	0.08	0.1	0.02	42	0.38	61	56
93F03	93-164	10	349577	5886247		qm	1.84	75	2	2	0.20	0.41	25	6	24	3.27	5	332	0.34	1	11	0.027	0.04	0.2	0.02	44	0.30	59	41
93F03	93-165	10	350882	5885713		unkn	2.18	109	2	6	0.20	0.43	23	9	18	3.51	10	302	0.34	1	14	0.047	0.06	0.2	0.04	52	0.33	64	54
93F03	93-166	10	352187	5886251		qm	1.94	81	2	3	0.20	0.42	26	11	19	3.67	8	334	0.35	1	14	0.048	0.06	0.2	0.03	47	0.37	70	56
93F03	93-167	10	365886	5900244		unkn	1.79	78	2	4	0.20	0.61	25	9	31	3.70	8	558	0.57	1	14	0.065	0.09	0.1	0.04	62	0.22	80	48
93F03	93-168	10	357964	5898724		Nm	3.64	153	2	4	0.20	0.61	17	12	25	3.74	5	491	0.99	1	10	0.066	0.18	0.3	0.07	102	0.23	73	50

ICP Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Al % 0.01 ICP	Ba ppm 2 ICP	Bi ppm 2 ICP	B ppm 2 ICP	Cd ppm 0.2 ICP	Ca % 0.01 ICP	Cr ppm 1 ICP	Co ppm 1 ICP	Cu ppm 1 ICP	Fe % 0.01 ICP	Pb ppm 2 ICP	Mn ppm 1 ICP	Mg % 0.01 ICP	Mo ppm 1 ICP	Ni ppm 1 ICP	P % 0.001 ICP	K % 0.01 ICP	Ag ppm 0.1 ICP	Na % 0.01 ICP	Sr ppm 1 ICP	Ti % 0.01 ICP	V ppm 2 ICP	Zn ppm 1 ICP
93F03	93-169	10	358810	5898187		unkn	2.17	119	2	3	0.20	0.67	23	10	25	3.90	11	532	0.67	1	12	0.066	0.15	0.2	0.09	86	0.26	79	64
93F03	93-170	10	357818	5898030		Nm	2.21	92	2	4	0.20	0.57	21	11	23	3.74	11	547	0.71	1	12	0.052	0.16	0.1	0.05	63	0.24	73	58
93F03	93-171	10	352360	5898672	10	unkn	1.48	84	2	3	0.30	0.57	21	8	24	3.50	7	590	0.39	2	11	0.062	0.10	0.1	0.05	51	0.20	63	59
93F03	93-171	10	352360	5898672	20	unkn	1.47	83	2	4	0.20	0.56	20	7	23	3.46	6	582	0.39	2	9	0.061	0.10	0.1	0.05	51	0.20	62	57
93F03	93-172	10	352239	5899441		unkn	1.53	77	2	3	0.20	0.48	19	7	13	2.70	10	399	0.39	1	9	0.052	0.06	0.1	0.04	41	0.24	59	43
93F03	93-173	10	346550	5900100		unkn	1.32	94	2	2	0.20	0.57	23	8	21	3.30	9	611	0.40	1	10	0.063	0.08	0.1	0.04	46	0.24	64	53
93F03	93-174	10	346973	5900683		unkn	1.95	90	2	2	0.30	0.63	22	7	23	3.24	6	474	0.57	1	10	0.053	0.11	0.1	0.05	53	0.23	68	59
93F03	93-175	10	347812	5900754		unkn	1.62	90	2	2	0.40	0.75	22	10	26	3.63	12	819	0.60	2	10	0.064	0.12	0.2	0.06	55	0.20	63	82
93F03	93-176	10	355293	5898373		unkn	1.87	106	2	2	0.50	0.83	26	11	29	3.77	3	692	0.68	1	14	0.067	0.14	0.2	0.05	64	0.25	69	73
93F03	93-177	10	358448	5897385		Nm	2.65	113	2	2	0.20	0.50	20	12	36	4.42	11	759	0.79	1	12	0.056	0.12	0.2	0.04	60	0.19	74	79
93F03	93-178	10	362014	5886764		qm	1.30	71	2	3	0.20	0.45	16	5	8	2.18	5	239	0.27	1	6	0.047	0.05	0.1	0.04	38	0.31	41	37
93F03	93-179	10	361200	5887956		qm	1.54	94	2	2	0.30	0.84	24	10	24	3.76	7	587	0.49	1	16	0.081	0.11	0.1	0.10	78	0.28	68	65
93F03	93-180	10	361037	5889243		qm	1.39	77	2	3	0.20	0.57	25	7	18	3.39	9	390	0.32	1	12	0.063	0.07	0.1	0.06	54	0.28	69	47
93F03	93-181	10	361533	5891157		qm	1.39	100	2	3	0.20	0.78	23	9	22	3.69	10	555	0.46	1	10	0.077	0.10	0.1	0.07	63	0.25	70	61
93F03	93-182	10	362043	5893006		Nm	1.79	173	2	3	0.20	0.83	22	11	30	3.76	6	808	0.57	1	14	0.069	0.11	0.1	0.07	66	0.22	64	76
93F03	93-183	10	361447	5892893		Nm	2.62	144	2	2	0.20	0.40	22	8	20	3.28	5	311	0.39	1	10	0.051	0.07	0.1	0.02	43	0.25	62	44
93F03	93-184	10	362226	5894937		Nm	1.25	118	2	3	0.30	0.69	20	9	21	3.62	9	585	0.45	1	9	0.079	0.08	0.2	0.05	56	0.28	63	73
93F03	93-185	10	366180	5894996		Or	1.73	185	2	3	0.20	0.65	22	8	19	3.19	6	501	0.43	1	12	0.061	0.09	0.2	0.04	46	0.20	57	49
93F03	93-186	10	364034	5894515		Nm	1.80	181	2	3	0.30	0.57	20	10	25	3.33	17	750	0.41	1	15	0.058	0.15	0.1	0.04	40	0.16	53	95
93F03	93-187	10	363113	5894777		Nm	1.62	137	2	3	0.30	0.51	25	10	41	4.00	58	705	0.49	1	21	0.049	0.11	0.2	0.04	38	0.12	55	168
93F03	93-188	10	358828	5893500	10	Nsil	1.65	89	2	3	0.20	0.43	23	6	20	3.18	17	385	0.39	1	9	0.034	0.06	0.2	0.03	34	0.24	59	50
93F03	93-188	10	358828	5893500	20	Nsil	1.66	92	2	3	0.20	0.43	23	6	21	3.23	22	381	0.39	1	9	0.034	0.07	0.3	0.03	34	0.25	60	51
93F03	93-194	10	358779	5892900		Nsil	1.54	95	4	3	0.20	0.37	13	3	13	2.08	4	216	0.25	1	6	0.040	0.05	0.2	0.03	27	0.20	42	29
93F03	93-195	10	359285	5894650		Nsil	2.33	119	3	3	0.20	0.34	21	6	24	3.07	4	269	0.36	1	12	0.028	0.04	0.3	0.02	32	0.22	59	40
93F03	93-196	10	358982	5894682		Nsil	2.38	88	2	4	0.20	0.39	42	9	40	3.52	4	351	0.88	1	23	0.026	0.10	0.3	0.03	41	0.17	66	49
93F03	93-197	10	359445	5894437		Nm	2.79	72	3	2	0.30	0.49	47	11	45	3.91	3	381	1.17	2	35	0.056	0.10	0.3	0.02	38	0.20	77	81
93F03	93-198	10	360377	5900203		Nsil	3.13	99	4	3	0.50	0.77	27	10	29	4.00	7	724	0.81	3	16	0.071	0.23	0.3	0.11	101	0.22	76	83
93F03	93-199	10	359116	5899358		Nm	3.64	149	3	3	0.20	0.51	21	10	30	3.90	2	504	0.80	1	15	0.066	0.26	0.4	0.06	81	0.24	80	52
93F03	93-200	10	361591	5900430		Nsil	2.26	100	2	3	0.20	0.46	22	7	21	3.68	8	457	0.47	1	10	0.065	0.12	0.3	0.04	46	0.20	66	52
93F03	93-201	10	362048	5899777		Nsil	1.72	119	4	3	0.20	0.46	19	7	22	3.08	2	438	0.39	1	9	0.063	0.07	0.3	0.04	37	0.19	57	39
93F03	93-202	10	346595	5884105	10	qm	2.06	118	4	4	0.20	0.91	21	9	34	4.54	9	640	0.68	1	14	0.087	0.14	0.3	0.11	93	0.35	71	87
93F03	93-202	10	346595	5884105	20	qm	2.08	119	3	2	0.20	0.90	20	9	34	4.52	8	638	0.68	1	14	0.086	0.15	0.2	0.11	93	0.35	71	87
93F03	93-203	10	349001	5883732		qm	1.55	122	3	3	0.30	0.83	19	8	30	3.90	11	706	0.56	1	10	0.092	0.09	0.5	0.10	80	0.28	66	136
93F03	93-204	10	350382	5883228		Nm	1.89	113	5	2	0.20	0.90	23	16	35	4.78	30	1259	0.62	3	24	0.093	0.15	0.5	0.09	75	0.24	75	158
93F03	93-205	10	348567	5877486		qm	1.98	160	4	3	0.20	0.77	21	10	36	4.63	20	686	0.66	1	20	0.094	0.13	0.3	0.08	85	0.31	64	106
93F03	93-207	10	349507	5878549		Nm	3.31	179	2	3	0.20	0.45	16	14	42	5.68	51	607	0.69	2	11	0.056	0.12	0.7	0.03	32	0.14	66	156
93F03	93-208	10	351135	5877964		Nm	1.37	121	5	3	0.20	0.80	21	6	24	3.73	10	410	0.43	1	12	0.980	0.06	0.2	0.09	70	0.31	56	68
93F03	93-209	10	353245	5876713		unkn	2.93	137	2	2	0.20	0.86	22	12	28	5.03	3	508	0.65	1	25	0.077	0.13	0.2	0.07	149	0.34	58	97
93F03	93-210	10	354691	5877208		unkn	1.70	121	2	2	0.20	0.87	24	10	24	4.52	6	532	0.62	1	18	0.112	0.06	0.2	0.11	114	0.37	66	71
93F03	93-211	10	363969	5884821		unkn	1.89	123	2	4	0.20	0.95	24	10	27	4.25	6	638	0.79	1	19	0.123	0.13	0.3	0.10	135	0.36	68	85
93F03	93-212	10	361141	5885113		unkn	1.63	105	2	3	0.20	0.85	26	10	27	4.48	10	627	0.66	1	18	0.109	0.12	0.3	0.11	96	0.37	73	88
93F03	93-213	10	359227	5885242		unkn	1.22	104	4	3	0.20	0.69	25	6	20	3.62	6	442	0.54	1	13	0.083	0.09	0.3	0.11	60	0.31	69	59
93F03	93-214	10	360357	5890588		qm	1.80	92	2	3	0.20	0.44	20	5	18	3.15	2	330	0.36	1	9	0.047	0.05	0.3	0.03	44	0.27	60	41
93F03	93-215	10	356091	5888777		qm	1.54	80	3	3	0.20	0.43	23	6	16	3.23	4	309	0.36	1	10	0.027	0.05	0.2	0.03	40	0.28	65	42
93F03	93-216	10	354685	5888915		qm	1.49	88	4	4	0.20	0.66	22	6	22	3.37	4	458	0.42	1	9	0.066	0.06	0.3	0.05	58	0.25	64	54
93F03	93-217	10	354439	5887816		qm	1.82	102	3	3	0.20	0.44	24	5	17	3.33	6	305	0.28	1	12	0.047	0.04	0.2	0.03	49	0.27	68	38
93F03	93-218	10	355478	5886496		qm	2.44	117	2	4	0.20	0.35	26	7	23	3.48	9	280	0.30	1	15	0.044	0.05	0.2	0.03	44	0.27	66	38
93F03	93-219	10	356835	5886588		qm	2.85	106	2	4	0.20	0.36	48	12	30	4.97	9	427	0.45	1	31	0.037	0.04	0.2	0.04	56	0.41	78	67
93F03	93-220	10	366508	5876780		Nsil	1.64	118	3	4	0.20	0.28	25	7	12	3.56	4	305	0.28	1	12	0.043	0.07	0.2	0.03	27	0.36	69	61
93F03	93-221	10	366265	5877246		Nsil	1.94	120	2	4	0.20	0.32	26	7	15	3.76	8	341	0.25	1	11	0.058	0.06	0.2	0.03	32	0.40	70	63

ICP Analytical Data

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	Al % 0.01 ICP	Ba ppm 2 ICP	Bi ppm 2 ICP	B ppm 2 ICP	Cd ppm 0.2 ICP	Ca % 0.01 ICP	Cr ppm 1 ICP	Co ppm 1 ICP	Cu ppm 1 ICP	Fe % 0.01 ICP	Pb ppm 2 ICP	Mn ppm 1 ICP	Mg % 0.01 ICP	Mo ppm 1 ICP	Ni ppm 1 ICP	P % 0.001 ICP	K % 0.01 ICP	Ag ppm 0.1 ICP	Na % 0.01 ICP	Sr ppm 1 ICP	Ti % 0.01 ICP	V ppm 2 ICP	Zn ppm 1 ICP
93F03	93-222	10	365810	5877478		Nsil	1.04	390	2	2	0.40	0.23	18	11	23	5.42	9	477	0.18	2	9	0.052	0.11	0.5	0.02	18	0.22	104	93
93F03	93-223	10	365576	5877929	10	Nsil	1.97	112	2	5	0.40	0.34	24	7	14	3.32	7	539	0.51	1	9	0.150	0.11	0.6	0.02	23	0.21	61	97
93F03	93-223	10	365576	5877929	20	Nsil	1.97	110	4	6	0.20	0.35	24	7	16	3.30	6	524	0.50	1	10	0.151	0.11	0.4	0.02	23	0.21	62	100
93F03	93-224	10	365317	5878106		Nsil	1.65	135	2	3	0.40	0.42	27	8	14	3.93	7	339	0.26	1	14	0.057	0.05	0.3	0.04	49	0.40	73	55
93F03	93-225	10	364968	5878212		Nsil	1.82	118	2	3	0.30	0.43	24	7	11	3.35	10	314	0.28	1	13	0.050	0.06	0.4	0.04	37	0.36	62	55
93F03	93-226	10	364314	5877108		Nsil	1.69	117	2	2	0.20	0.51	27	7	11	3.80	9	332	0.30	1	13	0.075	0.06	0.1	0.04	39	0.41	67	58
93F03	93-227	10	364382	5878750		Nm	1.79	132	2	2	0.60	0.75	26	9	28	4.12	12	598	0.55	1	16	0.083	0.12	0.2	0.07	60	0.30	63	81
93F03	93-229	10	362992	5896549		Nm	1.95	123	2	3	0.70	0.68	29	8	36	3.77	19	600	0.60	1	25	0.065	0.14	0.2	0.07	57	0.20	62	115
93F03	93-230	10	362587	5896617		Nm	1.78	104	2	2	0.30	0.43	17	5	19	2.71	10	316	0.42	2	12	0.024	0.09	0.3	0.03	45	0.26	52	45
93F03	93-232	10	333007	5879667		Cv	1.45	75	2	2	0.20	0.40	13	4	6	2.09	4	164	0.24	1	6	0.036	0.04	0.1	0.05	37	0.40	34	39
93F03	93-233	10	335685	5874964		Cv	2.26	99	2	2	0.60	0.66	24	7	23	3.99	8	342	0.50	1	16	0.092	0.09	0.2	0.06	58	0.33	54	62
93F03	93-234	10	335379	5875903		Cv	1.71	94	2	2	0.60	0.61	25	6	16	3.97	5	361	0.32	1	11	0.092	0.05	0.2	0.07	62	0.38	65	62
93F03	93-235	10	335076	5877127	10	Cv	1.51	80	2	3	0.40	0.67	26	8	22	4.04	3	419	0.45	1	16	0.068	0.08	0.2	0.08	62	0.36	71	60
93F03	93-235	10	335076	5877127	20	Cv	1.49	79	2	3	0.40	0.66	24	8	20	3.94	2	410	0.43	1	13	0.067	0.08	0.2	0.09	62	0.36	69	58
93F03	93-236	10	333840	5879258		Cv	1.41	71	2	3	0.20	0.53	21	7	11	3.15	2	353	0.37	1	15	0.067	0.05	0.3	0.05	44	0.35	55	46
93F03	93-237	10	335366	5879606		Cv	2.59	107	2	4	0.30	0.44	21	9	14	3.78	8	293	0.33	1	15	0.103	0.07	0.1	0.04	44	0.35	56	70
93F03	93-238	10	336432	5880635		unkn	1.12	81	2	3	0.40	0.64	19	5	10	2.84	2	307	0.28	1	9	0.082	0.03	0.3	0.08	59	0.36	53	48
93F03	93-239	10	332811	5887250		unkn	1.60	90	2	3	0.20	0.38	22	5	13	3.05	4	288	0.28	1	8	0.028	0.05	0.2	0.02	36	0.26	59	34
93F03	93-248	10	333979	5886459		unkn	1.41	79	2	3	0.30	0.39	16	3	8	1.92	7	166	0.26	1	9	0.028	0.04	0.1	0.04	33	0.32	36	42
93F03	93-249	10	336168	5885964		Cv	2.62	118	2	2	0.50	0.43	21	6	18	3.98	2	318	0.30	1	16	0.049	0.07	0.1	0.05	56	0.41	62	43
93F03	93-250	10	336548	5885555		Cv	3.05	139	2	3	0.20	0.41	19	8	15	4.20	2	287	0.30	1	16	0.074	0.09	0.3	0.03	46	0.46	62	69
93F03	93-251	10	337776	5885026		Cv	1.88	96	2	2	0.20	0.47	16	3	11	2.59	5	174	0.26	1	9	0.048	0.06	0.1	0.05	41	0.37	36	34
93F03	93-252	10	338696	5884573		Cv	1.93	93	3	5	0.20	0.40	18	5	14	3.03	12	267	0.25	1	12	0.040	0.05	0.1	0.04	44	0.40	52	41
93F03	93-253	10	343332	5886539		unkn	1.62	73	2	4	0.20	0.49	16	4	9	2.53	9	233	0.33	1	9	0.066	0.05	0.1	0.05	38	0.39	37	60
93F03	93-254	10	341129	5885511		unkn	2.11	112	2	6	0.20	0.44	18	5	17	2.85	9	218	0.27	1	13	0.038	0.04	0.2	0.04	49	0.38	47	32
93F03	93-255	10	343252	5876837		Nm	1.67	66	2	5	0.20	0.50	20	7	18	3.67	11	353	0.36	1	12	0.053	0.10	0.2	0.04	42	0.38	65	58
93F03	93-257	10	342499	5878020		Nm	1.50	74	2	7	0.70	0.41	21	6	17	3.27	21	392	0.33	1	13	0.022	0.04	0.2	0.04	43	0.37	60	67
93F03	93-258	10	342797	5878373	10	Nm	1.78	96	2	5	0.20	0.56	22	7	16	3.36	9	318	0.34	1	12	0.074	0.04	0.2	0.05	57	0.36	59	52
93F03	93-258	10	342797	5878373	20	Nm	1.78	97	2	5	0.20	0.55	22	7	17	3.32	8	315	0.34	1	14	0.074	0.04	0.3	0.05	58	0.36	59	51
93F03	93-259	10	342218	5879434		Nsil	1.83	80	2	6	0.20	0.62	18	7	14	3.37	11	412	0.39	1	11	0.086	0.06	0.2	0.05	52	0.35	56	68
93F03	93-260	10	341639	5880619		Nsil	1.05	55	2	4	0.20	0.70	16	4	9	2.22	13	273	0.31	1	7	0.076	0.04	0.3	0.06	49	0.32	44	37
93F03	93-261	10	340972	5881834		Nm	1.65	82	2	3	0.30	0.52	18	5	13	2.68	13	309	0.31	1	14	0.058	0.05	0.2	0.07	51	0.35	48	42

Whole Rock Analysis

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	SUM %
93F03	93-001	10	347853	5882316		Nm	56.89	18.21	7.19	1.09	2.39	2.57	1.85	1.29	0.05	0.07	0.004	669	399	167	18	25	14	7.9	99.70
93F03	93-002	10	349460	5880692		Nm	61.37	15.49	6.97	1.26	3.01	3.29	2.02	1.35	0.19	0.10	0.007	679	403	189	35	25	18	4.5	99.76
93F03	93-003	10	351915	5882777		Nm	61.22	15.18	7.41	1.42	3.33	3.06	1.95	1.28	0.20	0.10	0.006	647	383	288	37	32	16	4.7	100.06
93F03	93-004	10	355045	5883457		Nsil	63.57	14.63	5.84	1.12	3.54	3.54	1.89	1.38	0.24	0.08	0.011	671	415	229	25	25	14	3.7	99.74
93F03	93-005	10	356539	5883613		unkn	60.60	15.42	7.60	1.36	3.17	3.15	1.85	1.32	0.24	0.11	0.005	668	405	263	33	30	16	4.7	99.73
93F03	93-021	10	338506	5898394		Or	68.95	13.49	3.38	0.80	2.37	3.41	2.35	1.30	0.06	0.05	0.007	599	319	220	23	19	13	3.6	99.94
93F03	93-023	10	337601	5898383		Or	67.26	14.51	3.80	0.84	2.27	3.32	2.28	1.08	0.07	0.05	0.006	684	305	229	22	18	12	4.2	99.88
93F03	93-025	10	338695	5899517		Nm	68.09	13.99	3.75	0.91	2.65	3.54	1.96	1.27	0.13	0.06	0.009	642	339	217	23	19	13	3.4	99.94
93F03	93-026	10	337817	5899486		Or	68.14	13.80	4.57	0.76	1.87	2.90	2.36	0.93	0.13	0.06	0.015	609	252	215	26	17	12	4.4	100.10
93F03	93-030	10	336393	5898659		Or	69.89	13.48	4.23	0.78	1.58	3.01	2.69	0.87	0.05	0.07	0.005	541	233	231	31	16	13	3.1	99.91
93F03	93-033	10	336985	5897584		Or	69.67	13.21	3.60	0.83	2.68	3.80	2.34	1.10	0.15	0.06	0.005	664	350	215	26	18	13	2.1	99.74
93F03	93-037	10	336353	5897418		Or	60.98	15.59	6.96	2.07	2.49	2.84	2.48	0.85	0.18	0.13	0.006	635	280	182	35	16	17	5.2	99.95
93F03	93-042	10	335388	5897937		Or	67.68	13.67	4.28	0.84	2.07	3.25	2.55	1.01	0.09	0.06	0.007	639	272	208	26	15	13	4.0	99.68
93F03	93-043	10	334301	5896508		Or	68.02	13.83	4.40	0.68	0.89	2.17	4.09	0.58	0.09	0.11	0.002	434	133	260	44	13	12	4.2	99.19
93F03	93-046	10	335938	5896571		Or	63.68	14.78	5.82	1.08	2.21	2.91	2.42	0.88	0.15	0.09	0.003	623	280	194	35	14	15	5.2	99.40
93F03	93-047	10	338113	5896392		Or	65.51	14.43	5.51	0.83	2.55	3.44	2.14	1.01	0.17	0.09	0.004	672	314	217	29	14	14	3.4	99.27
93F03	93-048	10	341214	5897524		Nm	61.25	15.08	6.87	1.88	2.57	2.90	2.07	0.99	0.20	0.11	0.008	639	289	187	33	17	17	5.3	99.40
93F03	93-049	10	342406	5895896		Nm	62.93	14.70	6.39	1.84	2.69	3.10	2.05	0.91	0.18	0.13	0.006	619	310	181	32	14	16	4.3	99.40
93F03	93-050	10	343459	5894819		Nm	62.30	14.97	6.36	1.49	2.76	3.18	1.97	0.88	0.17	0.09	0.005	651	317	168	29	14	17	5.0	99.35
93F03	93-051	10	344861	5893665		Nm	64.08	14.79	6.24	1.38	2.55	3.03	2.04	0.83	0.18	0.12	0.005	686	312	167	30	13	16	4.4	99.83
93F03	93-052	10	347004	5892750	10	Nm	62.95	14.61	6.55	1.76	2.77	3.13	2.05	0.84	0.19	0.13	0.003	668	330	170	29	14	16	4.3	99.37
92F03	93-052	10	347004	5892750	20	Nm	63.47	14.50	6.64	1.73	2.79	3.11	2.09	0.85	0.18	0.12	0.005	666	325	158	29	14	16	4.2	99.87
93F03	93-053	10	348478	5891991		qm	65.56	15.62	4.93	1.02	1.80	2.84	2.89	0.67	0.13	0.10	0.002	785	240	214	28	12	12	4.2	99.96
93F03	93-058	10	356931	5874311		unkn	59.04	14.45	8.73	1.98	5.00	3.87	1.90	2.19	0.42	0.11	0.006	662	544	236	31	29	15	1.9	99.81
93F03	93-059	10	356643	5875967		unkn	58.11	15.23	8.46	1.91	3.71	3.31	1.90	1.85	0.39	0.09	0.006	670	471	217	30	26	15	4.8	99.97
93F03	93-060	10	356113	5877720		unkn	58.58	15.95	8.41	1.12	3.25	3.24	1.80	1.86	0.22	0.08	0.006	671	467	207	29	24	15	5.1	99.84
93F03	93-061	10	355527	5877674		unkn	58.77	15.12	8.02	1.96	3.92	3.26	1.84	1.74	0.39	0.09	0.006	688	542	201	37	23	15	4.6	99.93
93F03	93-062	10	356308	5878635		unkn	62.73	14.51	6.96	1.26	4.24	3.68	1.86	1.68	0.32	0.11	0.007	689	508	203	29	22	14	2.3	99.87
93F03	93-063	10	354565	5881122		unkn	64.13	15.17	5.30	1.00	2.99	3.50	2.01	1.55	0.24	0.07	0.007	689	376	216	28	21	13	3.7	99.87
93F03	93-064	10	356259	5880302		Nsil	59.97	15.04	7.83	2.01	3.39	3.02	2.08	1.35	0.28	0.10	0.005	701	416	208	31	22	15	4.8	100.08
93F03	93-065	10	358174	5882192		unkn	60.75	14.99	7.41	2.06	3.00	2.98	2.39	1.18	0.26	0.16	0.003	674	340	220	34	19	16	4.4	99.78
93F03	93-066	10	362599	5880094	10	Nsil	58.26	15.18	8.95	2.05	3.60	3.01	2.17	1.60	0.36	0.14	0.006	669	429	230	36	23	16	4.4	99.93
92F03	93-066	10	362599	5880094	20	Nsil	58.27	15.13	8.97	2.09	3.60	2.97	2.13	1.59	0.36	0.14	0.005	667	424	233	36	24	16	4.6	100.06
93F03	93-067	10	360303	5879982		unkn	64.09	13.77	7.41	1.21	3.41	3.19	1.90	1.57	0.25	0.10	0.008	653	421	241	30	21	14	2.8	99.91
93F03	93-068	10	358558	5880839		Nsil	64.32	14.87	5.06	1.02	3.24	3.62	2.03	1.88	0.24	0.06	0.006	698	402	213	21	23	12	3.4	99.95
93F03	93-069	10	357245	5881035		Nsil	60.02	15.64	7.11	1.28	3.19	3.35	2.14	1.66	0.36	0.08	0.006	685	396	234	28	26	14	5.0	100.04
93F03	93-070	10	363869	5882521		unkn	58.80	15.24	8.43	2.07	3.12	2.92	2.09	1.45	0.31	0.12	0.008	694	411	207	36	22	16	5.2	99.96
93F03	93-071	10	363606	5881883		Nm	64.04	14.46	6.73	1.27	2.66	3.56	2.19	1.42	0.28	0.10	0.003	737	365	192	33	21	14	2.9	99.82
93F03	93-072	10	363057	5882169		Nm	58.66	15.26	6.75	1.27	2.93	3.09	1.95	1.65	0.30	0.08	0.007	726	347	189	23	21	13	7.8	99.94
93F03	93-073	10	361951	5882490		Nm	60.16	14.92	8.24	1.82	3.33	3.09	2.15	1.53	0.32	0.13	0.005	705	414	191	30	22	16	4.1	100.00
93F03	93-074	10	360096	5882726		unkn	68.58	14.53	6.17	1.10	3.36	3.62	1.99	1.57	0.30	0.08	0.006	678	402	212	24	21	12	3.4	99.90
93F03	93-075	10	357982	5883163		unkn	59.82	14.84	8.02	2.08	3.76	3.40	1.88	1.74	0.33	0.11	0.007	705	435	283	29	26	15	3.4	99.58
93F03	93-076	10	358848	5883938		unkn	60.02	15.28	7.10	1.75	3.12	3.29	2.12	1.38	0.30	0.10	0.008	714	372	260	30	22	15	4.9	99.58
93F03	93-077	10	358153	5884375		unkn	61.42	15.09	7.10	1.44	3.81	3.60	1.84	1.60	0.31	0.09	0.007	726	428	265	30	24	15	3.2	99.73
93F03	93-078	10	357978	5885453		qm	62.08	15.16	6.65	1.25	2.99	3.28	2.08	1.18	0.25	0.09	0.007	696	365	230	29	23	13	4.5	99.72
93F03	93-079	10	359227	5887185		qm	64.73	14.23	6.11	1.01	3.42	3.63	2.06	1.40	0.19	0.08	0.013	670	409	258	25	19	13	2.5	99.58
93F03	93-080	10	362405	5898546		Nsil	65.48	14.21	5.61	1.19	3.02	3.46	2.16	0.92	0.21	0.09	0.008	694	361	170	26	16	14	3.3	99.85
93F03	93-081	10	360548	5897516		unkn	66.68	13.78	5.51	1.23	3.12	3.23	2.17	0.91	0.21	0.10	0.008	683	361	182	26	15	13	2.7	99.84
93F03	93-082	10	358835	5896046	10	Nsil	63.76	14.86	6.23	1.35	2.73	3.18	2.05	0.94	0.23	0.12	0.009	698	338	190	28	17	15	4.3	99.89
92F03	93-082	10	358835	5896046	20	Nsil	63.68	14.75	6.23	1.35	2.73	3.15	2.05	0.95	0.23	0.12	0.013	696	339	182	27	17	15	4.4	99.84

Whole Rock Analysis

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	SUM %
93F03	93-083	10	356920	5894664		Nm	63.07	15.05	6.28	1.45	2.83	3.06	2.10	0.96	0.23	0.16	0.024	697	328	178	28	18	15	4.4	99.80
93F03	93-084	10	355746	5893693		qm	63.66	15.08	5.88	1.40	2.49	3.01	2.25	0.85	0.20	0.11	0.008	728	302	176	27	16	14	4.6	99.73
93F03	93-085	10	353834	5893023		qm	62.57	15.23	5.67	1.49	2.87	2.66	2.60	0.76	0.18	0.13	0.006	721	253	183	29	15	14	5.4	99.75
93F03	93-086	10	351819	5891688		qm	63.33	14.83	6.25	1.25	2.77	3.28	2.18	1.07	0.26	0.12	0.048	762	341	219	29	18	15	4.3	99.90
93F03	93-087	10	349433	5891405		qm	66.89	13.71	5.23	1.02	3.24	3.63	2.00	1.01	0.22	0.09	0.008	672	383	217	28	17	15	2.4	99.64
93F03	93-088	10	347641	5891069		qm	62.74	14.87	5.80	2.09	3.27	3.25	2.30	0.85	0.24	0.12	0.008	723	343	169	25	16	14	4.2	99.93
93F03	93-089	10	342849	5890758		unkn	65.19	13.78	5.93	1.25	3.77	3.64	1.96	1.07	0.24	0.08	0.010	653	406	167	26	17	15	2.5	99.61
93F03	93-090	10	341592	5892925		Nm	59.41	15.43	7.22	2.16	2.85	2.52	2.03	0.80	0.22	0.11	0.007	684	326	126	26	16	17	6.6	99.54
93F03	93-091	10	341611	5892124		Nm	58.93	15.44	7.12	2.24	3.59	2.48	2.07	0.78	0.22	0.13	0.009	662	339	128	24	15	17	6.5	99.69
93F03	93-092	10	342577	5891530		Nm	60.64	15.42	6.85	2.05	2.49	2.58	2.12	0.78	0.21	0.15	0.010	704	306	131	26	17	16	6.4	99.88
93F03	93-093	10	344879	5891823		Nm	62.66	14.77	6.18	1.52	2.84	3.07	1.94	0.89	0.20	0.10	0.005	688	331	152	25	15	15	5.2	99.56
93F03	93-094	10	346519	5891676		unkn	66.01	14.29	5.16	1.36	2.96	3.47	2.19	0.87	0.22	0.11	0.009	724	347	150	26	15	14	3.0	99.84
93F03	93-095	10	349551	5888929		qm	62.28	14.99	6.58	1.21	2.97	3.58	2.09	1.16	0.17	0.11	0.008	759	382	224	30	20	15	4.4	99.76
93F03	93-096	10	348795	5889661		qm	65.75	14.18	5.38	0.98	2.87	3.59	1.91	1.06	0.20	0.08	0.008	695	367	185	26	15	14	3.4	99.60
93F03	93-097	10	348543	5890561		qm	62.12	14.99	6.47	1.23	3.13	3.47	1.89	1.23	0.25	0.08	0.011	723	406	217	34	21	14	4.8	99.88
93F03	93-098	10	348868	5893544		unkn	69.05	13.23	4.42	0.90	2.41	3.28	2.05	0.95	0.19	0.08	0.010	695	306	198	27	14	12	3.1	99.86
93F03	93-099	10	349939	5892457		qm	63.80	15.09	5.76	1.34	2.36	3.03	2.27	0.80	0.18	0.13	0.008	739	299	175	29	15	14	4.8	99.76
93F03	93-100	10	352814	5890488		qm	65.37	14.26	4.19	1.10	2.67	3.55	1.96	1.25	0.15	0.07	0.009	672	354	197	20	19	12	5.1	99.87
93F03	93-101	10	352007	5890869	10	qm	65.18	14.31	5.63	1.09	2.79	3.33	1.99	0.97	0.23	0.10	0.011	695	350	203	29	16	15	3.7	99.53
92F03	93-101	10	352007	5890869	20	qm	65.69	14.37	5.56	1.09	2.81	3.36	2.00	0.97	0.23	0.10	0.007	699	353	211	30	16	15	3.5	99.88
93F03	93-102	10	354377	5891717		qm	67.56	13.52	5.47	0.98	2.66	3.22	2.02	1.12	0.20	0.08	0.009	675	327	295	28	16	13	3.1	100.14
93F03	93-103	10	350563	5895994		unkn	65.08	13.88	5.42	1.25	2.97	3.20	2.03	1.02	0.21	0.09	0.008	683	328	200	29	15	14	4.4	99.75
93F03	93-104	10	351538	5895508		unkn	63.69	15.52	5.62	1.28	1.99	2.65	2.35	0.76	0.18	0.13	0.006	766	253	191	30	14	14	5.4	99.77
93F03	93-105	10	351997	5894920		unkn	63.91	14.50	6.37	1.45	2.54	2.72	2.13	1.07	0.26	0.12	0.006	676	277	176	30	15	15	4.5	99.76
93F03	93-106	10	352725	5894087		unkn	63.95	14.84	5.89	1.45	2.49	3.00	2.08	0.84	0.20	0.14	0.006	711	307	164	27	16	15	4.8	99.87
93F03	93-107	10	353368	5893777		unkn	60.81	15.05	7.28	2.10	2.68	2.59	2.28	1.07	0.26	0.14	0.005	639	271	308	32	22	17	5.3	99.76
93F03	93-108	10	357903	5893011		qm	64.73	14.74	5.59	1.42	2.80	3.35	2.43	0.85	0.23	0.11	0.008	742	319	191	27	19	14	3.4	99.86
93F03	93-109	10	358721	5894784		Nsil	68.08	13.86	4.64	0.89	2.00	3.17	2.34	0.86	0.10	0.06	0.004	728	276	240	21	17	11	3.5	99.70
93F03	93-110	10	358762	5895210		Nm	66.07	14.43	5.57	1.17	2.41	3.21	2.36	0.85	0.20	0.09	0.005	715	299	222	29	17	14	3.3	99.86
93F03	93-111	10	348532	5897955		Nm	64.85	14.14	5.76	1.23	2.75	3.35	2.03	0.95	0.20	0.11	0.004	636	309	202	31	20	14	3.9	99.65
93F03	93-112	10	347771	5898846		Nm	60.53	15.02	7.33	2.20	3.23	3.10	1.97	0.86	0.17	0.16	0.004	694	289	154	31	20	17	4.9	99.66
93F03	93-113	10	348438	5900476		unkn	63.59	14.62	6.20	1.47	2.60	2.89	2.12	0.93	0.15	0.10	0.005	583	282	183	32	19	16	4.9	99.74
93F03	93-114	10	350014	5900171		unkn	61.38	15.20	6.22	2.11	2.47	2.80	1.95	0.99	0.16	0.07	0.004	656	265	156	29	20	17	6.1	99.63
93F03	93-115	10	350663	5899234		unkn	59.79	15.53	7.36	2.18	2.63	2.76	1.89	0.92	0.18	0.15	0.005	637	260	156	32	20	18	6.0	99.56
93F03	93-116	10	351744	5899989	10	unkn	63.91	14.33	6.05	1.49	2.80	3.28	2.38	0.94	0.20	0.13	0.008	645	315	181	30	19	15	3.8	99.50
92F03	93-116	10	351744	5899989	20	unkn	64.44	14.23	6.01	1.48	2.83	3.32	2.43	0.95	0.21	0.13	0.005	638	318	186	31	20	15	3.6	99.81
93F03	93-117	10	352677	5901020		qm	66.84	13.31	5.69	1.05	2.89	3.57	2.22	1.16	0.20	0.08	0.010	636	361	223	29	21	13	2.3	99.51
93F03	93-118	10	353158	5899606		unkn	64.73	14.40	6.29	1.41	2.69	3.30	2.14	1.07	0.23	0.12	0.008	670	336	186	28	21	15	4.0	100.58
93F03	93-119	10	354484	5898881		qm	62.08	14.69	6.58	2.04	2.83	3.17	2.18	0.95	0.24	0.12	0.005	663	328	170	29	20	15	4.5	99.57
93F03	93-120	10	356276	5897826		Nm	65.45	13.92	6.14	1.22	2.74	3.22	2.17	1.08	0.21	0.10	0.007	644	321	213	31	21	14	3.4	99.84
93F03	93-121	10	357764	5897682		Nm	63.40	14.73	7.26	1.48	3.25	2.85	2.02	0.95	0.24	0.19	0.006	657	372	178	29	20	15	3.1	99.66
93F03	93-122	10	359225	5897320		Nsil	61.31	15.38	7.23	2.17	2.94	2.63	2.19	0.87	0.22	0.15	0.014	666	328	166	28	20	16	4.3	99.59
93F03	93-128	10	333695	5897184		Or	70.80	12.68	3.79	0.68	1.24	2.97	3.48	0.83	0.05	0.08	0.003	525	172	262	33	19	10	2.8	99.56
93F03	93-162	10	348756	5886747		qm	64.82	14.31	5.66	1.11	3.46	3.59	2.09	1.07	0.18	0.08	0.008	589	385	191	25	18	13	3.3	99.86
93F03	93-163	10	347326	5887006		qm	61.26	15.23	6.69	1.02	2.49	3.39	2.37	1.35	0.20	0.07	0.010	804	331	227	23	23	13	5.4	99.69
93F03	93-164	10	349577	5886247		qm	64.91	14.67	5.91	0.91	2.46	3.47	2.00	1.11	0.09	0.06	0.009	593	324	181	22	17	14	4.1	99.87
93F03	93-165	10	350832	5885713		unkn	62.71	15.40	6.69	0.92	2.49	3.31	2.06	1.40	0.14	0.07	0.009	650	344	182	23	20	13	4.5	99.88
93F03	93-166	10	352187	5886251		qm	62.58	15.10	6.88	0.93	2.57	3.29	2.11	1.60	0.16	0.07	0.011	626	353	187	21	22	13	4.3	99.78
93F03	93-167	10	365886	5900244		unkn	63.32	14.85	6.74	1.39	3.15	3.27	2.19	0.99	0.21	0.10	0.009	578	357	256	26	17	16	3.5	99.90
93F03	93-168	10	357964	5898724		Nm	57.52	16.98	7.03	2.13	3.37	2.56	1.83	0.82	0.21	0.10	0.009	600	402	132	25	15	16	7.6	99.93

Whole Rock Analysis

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	SUM %
93F03	93-169	10	358810	5898187		unkn	62.03	15.31	7.04	1.50	3.21	3.07	1.91	1.00	0.20	0.10	0.008	602	371	157	27	19	14	4.0	99.55
93F03	93-170	10	357818	5898030		Nm	62.68	15.25	6.61	1.63	2.80	2.97	2.14	0.92	0.15	0.10	0.009	595	329	172	25	19	13	4.3	99.73
93F03	93-171	10	352360	5898672	10	unkn	65.61	13.90	6.20	1.14	2.98	3.25	2.26	0.88	0.18	0.10	0.010	581	310	208	31	16	13	3.1	99.78
92F03	93-171	10	352360	5898672	20	unkn	65.34	13.86	6.17	1.16	2.99	3.18	2.03	0.89	0.18	0.10	0.008	577	309	194	30	15	13	3.3	99.38
93F03	93-172	10	352239	5899441		unkn	65.90	13.47	4.95	1.10	2.81	3.32	2.00	1.01	0.14	0.08	0.010	569	301	193	27	16	13	4.6	99.56
93F03	93-173	10	346550	5900100		unkn	67.19	13.41	5.51	0.98	2.57	3.37	2.27	0.99	0.18	0.09	0.010	593	305	178	32	16	14	2.9	99.64
93F03	93-174	10	346973	5900683		unkn	65.20	14.25	5.41	1.23	2.38	3.18	2.41	0.87	0.14	0.08	0.008	579	282	174	30	15	14	4.7	100.02
93F03	93-175	10	347812	5900754		unkn	65.23	14.14	5.80	1.27	2.63	3.20	2.52	0.86	0.19	0.11	0.007	578	285	173	32	15	14	3.8	99.92
93F03	93-176	10	355293	5898373		unkn	63.24	14.38	6.34	1.81	2.97	3.15	2.35	0.99	0.18	0.11	0.008	605	314	173	29	17	14	4.2	99.90
93F03	93-177	10	358448	5897385		Nm	61.17	15.94	7.49	1.90	2.63	2.61	2.11	0.92	0.16	0.12	0.008	610	311	190	29	19	16	5.0	100.23
93F03	93-178	10	362014	5886764		qm	65.95	14.84	4.40	0.81	2.48	3.83	2.33	1.32	0.13	0.05	0.011	696	346	172	22	20	11	3.3	99.64
93F03	93-179	10	361200	5887956		qm	63.16	14.47	6.46	1.20	3.48	3.57	2.18	1.10	0.24	0.09	0.009	619	383	181	27	19	13	3.6	99.74
93F03	93-180	10	361037	5889243		qm	65.13	14.39	6.03	0.94	3.18	3.70	2.25	1.14	0.16	0.07	0.008	622	372	218	26	18	13	2.7	99.88
93F03	93-181	10	361533	5891157		qm	63.83	14.40	6.39	1.18	3.46	3.58	2.27	1.10	0.21	0.09	0.006	626	371	210	27	19	14	3.0	99.70
93F03	93-182	10	362043	5893006		Nm	63.09	14.91	6.21	1.28	2.93	3.21	2.29	0.91	0.19	0.11	0.014	713	326	176	27	18	14	4.3	99.64
93F03	93-183	10	361447	5892893		Nm	63.89	16.53	5.61	0.98	2.26	3.41	2.34	0.98	0.14	0.06	0.008	672	296	178	22	16	14	4.6	99.99
93F03	93-184	10	362226	5894937		Nm	65.10	14.09	6.25	1.10	3.05	3.43	2.35	1.15	0.22	0.09	0.011	675	350	194	26	18	13	2.6	99.63
93F03	93-185	10	366180	5894996		Or	63.85	16.10	5.70	1.07	2.49	3.13	2.51	0.95	0.19	0.08	0.009	768	297	205	30	18	13	4.6	99.88
93F03	93-186	10	364034	5894515		Nm	63.75	15.95	5.47	0.94	1.83	2.76	3.03	0.76	0.16	0.10	0.008	807	242	167	24	16	12	4.6	99.55
93F03	93-187	10	363113	5894777		Nm	64.12	16.48	6.35	1.09	1.84	2.88	2.63	0.82	0.16	0.10	0.014	794	293	158	26	15	14	4.3	99.98
93F03	93-188	10	358828	5893500	10	Nsil	66.60	14.52	5.30	0.93	2.07	3.43	2.47	0.92	0.08	0.07	0.008	675	276	190	23	17	12	3.4	99.98
92F03	93-188	10	358828	5893500	20	Nsil	66.64	14.51	5.27	0.94	2.07	3.36	2.45	0.91	0.11	0.07	0.006	670	273	194	23	17	12	3.5	100.02
93F03	93-194	10	358779	5892900		Nsil	68.26	13.62	3.61	0.83	2.20	3.19	2.37	0.87	0.14	0.05	0.004	702	288	196	19	15	10	4.0	99.33
93F03	93-195	10	359285	5894650		Nsil	66.25	14.26	4.98	1.01	1.94	2.79	2.21	0.92	0.10	0.06	0.005	702	258	220	19	19	11	5.3	100.01
93F03	93-196	10	358982	5894682		Nsil	63.63	14.32	5.83	2.23	2.28	2.62	2.20	0.80	0.09	0.07	0.013	647	279	195	16	18	15	5.6	99.86
93F03	93-197	10	359445	5894487		Nm	61.64	15.10	6.33	2.30	2.20	2.61	2.25	0.86	0.19	0.07	0.010	630	288	162	20	21	16	5.9	99.63
93F03	93-198	10	360377	5900203		Nsil	61.76	15.11	7.05	2.23	3.36	2.36	1.72	0.92	0.23	0.14	0.007	580	363	165	28	18	17	5.1	100.16
93F03	93-199	10	359116	5899358		Nm	59.62	15.90	7.20	2.27	3.07	2.21	1.60	0.92	0.21	0.12	0.006	643	359	164	25	20	17	6.4	99.71
93F03	93-200	10	361591	5900430		Nsil	62.53	14.59	6.37	1.38	2.79	2.70	1.82	0.97	0.24	0.10	0.007	660	321	210	25	18	14	5.9	99.58
93F03	93-201	10	362048	5899777		Nsil	65.40	14.15	5.25	1.15	2.70	2.96	2.11	0.90	0.22	0.09	0.005	735	326	201	23	16	12	4.6	99.73
93F03	93-202	10	346595	5884105	10	qm	60.85	15.14	7.49	1.58	3.54	3.15	1.82	1.42	0.28	0.11	0.005	662	421	237	28	23	16	4.1	99.69
92F03	93-202	10	346595	5884105	20	qm	59.95	15.07	7.46	1.58	3.47	3.17	2.00	1.41	0.28	0.11	0.006	657	419	208	28	22	16	5.2	99.90
93F03	93-203	10	349001	5883732		qm	62.79	15.05	6.63	1.43	3.48	3.39	2.03	1.32	0.29	0.12	0.005	750	432	211	30	22	15	3.4	100.15
93F03	93-204	10	350382	5883228		Nm	59.21	15.27	8.11	1.48	3.40	2.73	2.41	1.34	0.30	0.19	0.007	690	385	204	31	22	17	5.1	99.75
93F03	93-205	10	348567	5877486		qm	58.17	15.99	8.21	1.53	3.22	2.94	2.19	1.56	0.31	0.11	0.008	733	417	213	29	26	16	5.4	99.85
93F03	93-207	10	349507	5878549		Nm	54.20	17.23	8.93	1.63	1.99	1.97	2.10	1.28	0.20	0.10	0.006	662	248	200	26	24	17	9.7	99.51
93F03	93-208	10	351135	5877964		Nm	61.62	15.22	6.86	1.34	3.84	3.45	2.01	1.58	0.32	0.08	0.004	719	463	209	33	26	15	3.3	99.84
93F03	93-209	10	353245	5876713		unkn	55.94	16.22	8.93	1.84	3.76	2.91	1.44	1.75	0.33	0.10	0.005	631	501	485	31	45	13	6.3	99.77
93F03	93-210	10	354691	5877208		unkn	58.14	15.19	8.33	2.10	4.27	3.30	1.46	1.92	0.40	0.10	0.007	676	520	223	31	28	15	4.4	99.83
93F03	93-211	10	363969	5884821		unkn	59.65	16.37	7.27	2.14	3.78	3.31	2.00	1.54	0.41	0.11	0.007	735	477	196	30	25	15	4.1	99.90
93F03	93-212	10	361141	5885113		unkn	59.92	15.15	7.88	1.72	3.79	3.23	2.13	1.70	0.37	0.11	0.006	711	455	238	30	28	15	3.9	100.12
93F03	93-213	10	359227	5885242		unkn	64.57	14.56	6.45	1.43	3.60	3.29	1.93	1.41	0.28	0.09	0.007	691	390	249	30	22	14	2.3	100.12
93F03	93-214	10	360357	5890588		qm	65.33	14.93	5.39	0.99	2.33	3.47	2.13	1.11	0.17	0.07	0.008	697	339	191	24	20	14	3.7	99.82
93F03	93-215	10	356091	5888777		qm	65.91	14.70	5.45	0.99	2.40	3.52	2.07	1.12	0.10	0.07	0.007	698	347	202	19	20	14	3.3	99.85
93F03	93-216	10	354685	5888915		qm	65.10	14.66	5.69	1.10	2.89	3.59	2.04	1.08	0.21	0.09	0.005	689	375	188	26	19	14	3.4	100.07
93F03	93-217	10	354439	5887816		qm	65.40	14.88	5.74	0.93	2.71	3.43	2.07	1.22	0.16	0.07	0.009	703	373	240	24	20	14	3.2	100.02
93F03	93-218	10	355478	5886496		qm	62.47	15.61	6.63	1.01	2.77	3.29	1.79	1.39	0.14	0.07	0.006	708	375	268	25	17	15	4.6	99.98
93F03	93-219	10	356835	5886588		qm	58.07	16.38	8.84	1.13	2.40	3.14	1.64	1.91	0.13	0.08	0.014	643	348	220	22	27	16	6.0	99.92
93F03	93-220	10	366508	5876780		Nsil	62.66	14.67	7.05	0.94	2.40	3.43	1.89	1.89	0.14	0.07	0.008	722	354	228	18	23	12	4.6	99.95
93F03	93-221	10	366265	5877246		Nsil	61.18	14.90	7.51	1.00	2.73	3.38	1.75	1.97	0.19	0.08	0.005	705	369	230	21	25	14	4.8	99.70

Whole Rock Analysis

MAP	ID	UTMZ	UTME	UTMN	Rep	Form	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	Ba ppm	Sr ppm	Zr ppm	Y ppm	Nb ppm	Sc ppm	LOI %	SUM %
93F03	93-222	10	365810	5877478		Nsil	62.22	14.63	8.76	0.63	1.54	2.52	1.78	1.52	0.22	0.08	0.002	883	570	171	19	23	12	5.6	99.75
93F03	93-223	10	365576	5877929	10	Nsil	59.71	14.95	6.15	1.50	2.52	3.05	2.09	1.58	0.49	0.10	0.005	616	305	183	19	26	17	7.4	99.72
92F03	93-223	10	365576	5877929	20	Nsil	59.77	14.79	6.33	1.94	2.57	3.16	1.68	1.53	0.49	0.10	0.009	628	314	191	20	21	17	7.5	100.05
93F03	93-224	10	365317	5878106		Nsil	63.25	14.64	7.27	0.96	3.07	3.60	1.65	1.83	0.18	0.08	0.009	711	422	230	25	24	15	3.0	99.75
93F03	93-225	10	364968	5878212		Nsil	63.71	14.67	6.30	0.96	2.69	3.44	1.81	1.67	0.17	0.07	0.002	707	372	204	20	21	12	4.1	99.79
93F03	93-226	10	364314	5877108		Nsil	63.49	14.63	6.80	0.95	2.85	3.56	1.91	1.78	0.24	0.07	0.002	752	395	225	22	24	14	3.4	99.89
93F03	93-227	10	364382	5878750		Nm	61.45	14.84	7.08	1.69	3.22	3.23	1.91	1.37	0.28	0.10	0.006	688	401	219	31	19	16	4.3	99.68
93F03	93-229	10	362992	5896549		Nm	64.79	14.66	6.09	1.41	2.51	3.04	1.88	0.92	0.23	0.10	0.004	786	333	169	30	13	16	4.2	100.04
93F03	93-230	10	362587	5896617		Nm	67.08	14.70	4.59	1.07	2.29	3.66	1.73	1.01	0.07	0.06	0.002	745	349	153	19	12	13	3.3	99.76
93F03	93-232	10	333007	5879667		Cv	63.14	15.47	5.01	0.97	3.53	3.91	1.57	2.03	0.13	0.06	0.004	731	487	219	18	21	13	3.7	99.74
93F03	93-233	10	335685	5874964		Cv	59.97	15.31	7.21	1.68	3.23	3.27	1.70	1.65	0.32	0.07	0.003	723	407	231	27	21	15	5.2	99.82
93F03	93-234	10	335379	5875903		Cv	60.73	15.24	7.49	1.11	3.74	3.67	1.67	1.78	0.31	0.08	0.003	755	471	228	31	23	16	3.2	99.25
93F03	93-235	10	335076	5877127	10	Cv	61.04	15.02	7.46	1.70	4.00	3.63	1.54	1.79	0.23	0.09	0.005	675	488	230	30	22	17	3.2	99.92
92F03	93-235	10	335076	5877127	20	Cv	61.10	14.98	7.43	1.71	4.03	3.55	1.65	1.78	0.22	0.09	0.004	669	485	227	30	22	17	3.3	100.05
93F03	93-236	10	333840	5879258		Cv	63.47	15.10	6.26	1.13	3.56	3.59	1.52	1.77	0.23	0.08	0.005	703	472	234	23	19	15	3.1	100.03
93F03	93-237	10	335366	5879606		Cv	59.76	15.92	7.19	1.10	3.15	3.43	1.55	1.77	0.34	0.07	0.005	712	420	248	20	22	14	5.4	99.90
93F03	93-238	10	336432	5880635		unkn	62.46	14.76	6.13	1.15	4.32	3.93	1.54	1.84	0.27	0.08	0.005	680	522	221	27	20	16	2.6	99.30
93F03	93-239	10	332811	5887250		unkn	65.34	14.67	5.46	0.88	2.63	3.49	1.54	1.13	0.08	0.07	0.005	698	362	244	24	15	15	3.5	99.00
93F03	93-248	10	333979	5886459		unkn	65.35	14.94	4.26	0.99	3.11	3.72	1.67	1.46	0.08	0.05	0.004	721	408	205	20	18	14	3.4	99.24
93F03	93-249	10	335168	5885964		Cv	60.61	15.71	7.21	0.94	2.95	3.30	1.77	1.57	0.17	0.07	0.011	683	414	204	27	24	17	5.4	99.91
93F03	93-250	10	336548	5885555		Cv	56.39	16.34	8.06	1.09	3.08	2.84	1.60	1.95	0.24	0.07	0.007	651	380	238	17	27	15	8.0	99.86
93F03	93-251	10	337776	5885026		Cv	62.56	15.45	5.39	0.94	3.25	3.52	1.98	1.72	0.16	0.05	0.007	716	430	210	20	23	14	4.3	99.54
93F03	93-252	10	338696	5884573		Cv	63.12	15.30	5.90	0.88	2.99	3.59	1.94	1.66	0.13	0.06	0.006	732	419	241	21	26	15	3.8	99.59
93F03	93-253	10	343332	5886539		unkn	62.57	15.87	4.99	0.96	2.88	4.02	2.32	1.64	0.21	0.05	0.006	887	423	278	21	30	11	3.9	99.66
93F03	93-254	10	341129	5885511		unkn	62.70	15.16	5.46	0.92	3.08	3.46	1.78	1.59	0.11	0.06	0.005	696	410	235	23	22	16	4.5	99.03
93F03	93-255	10	343252	5876837		Nm	62.17	15.22	6.88	1.05	3.25	3.53	2.14	1.72	0.15	0.08	0.008	689	410	211	23	26	15	3.5	99.90
93F03	93-257	10	343499	5878020		Nm	62.15	14.67	6.32	1.04	2.91	3.48	2.12	1.73	0.08	0.08	0.006	676	402	233	25	27	12	5.0	99.79
93F03	93-258	10	342797	5878373	10	Nm	61.97	15.47	6.36	1.09	3.29	3.37	1.89	1.76	0.21	0.07	0.011	699	431	217	23	25	15	3.9	99.61
92F03	93-258	10	342797	5878373	20	Nm	62.12	15.38	6.32	1.09	3.31	3.37	1.89	1.75	0.21	0.07	0.009	696	429	213	23	26	15	3.9	99.63
93F03	93-259	10	342218	5879434		Nsil	61.92	15.13	6.09	1.05	2.89	3.65	2.04	1.60	0.27	0.08	0.003	724	397	196	25	25	14	4.6	99.53
93F03	93-260	10	341639	5880619		Nsil	63.27	14.44	5.07	1.15	3.97	3.79	1.93	1.77	0.24	0.07	0.007	661	461	234	25	23	15	3.2	99.11
93F03	93-261	10	340972	5881834		Nm	62.23	15.10	5.93	1.14	3.69	3.60	1.89	1.83	0.20	0.08	0.011	667	453	252	22	26	16	3.4	99.31

Till Geochemistry of the Fawnie Creek Map Area
(93F/03)

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Appendix B

Analytical Duplicate Data

B - 2 ... INA Analytical Duplicates

B - 3 ... ICP Analytical Duplicates

B - 4 ... Analytical and Field Duplicate Scatterplots for Au, Sb, As, Cu, Pb, Zn, Ag, Mo and Ni

Notes :

- Analytical duplicate results for Au are also reported in Appendix A as Au2.

Analytical Duplicate Data

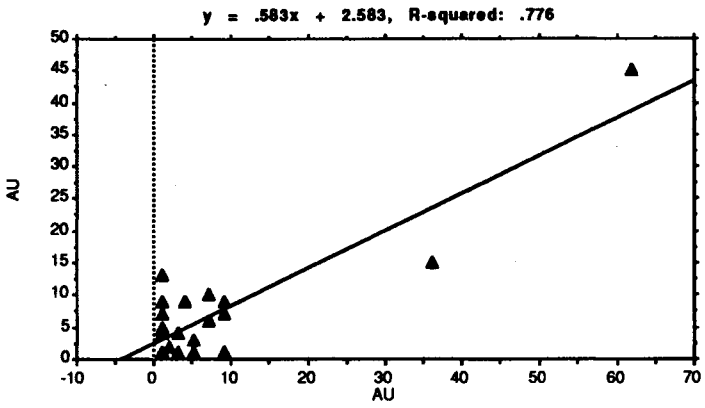
Map	Sample ID	Au ppb INA	Sb ppm INA	As ppm INA	Ba ppm INA	Br ppm INA	Ca % INA	Ce ppm INA	Cs ppm INA	Cr ppm INA	Co ppm INA	Hf ppm INA	Eu ppm INA	Fe % INA	La ppm INA	Lu ppm INA	Rb ppm INA	Sm ppm INA	Sc ppm INA	Na % INA	Nd ppm INA	Ta ppm INA	Tb ppm INA	Th ppm INA	W ppm INA	U ppm INA	Yb ppm INA	Wt g
93F03	93-004	1	0.9	6.1	570	2.3	2	47	2	66	9	6	1.5	3.72	23.0	0.40	5	4.3	12	2.25	26	0.9	0.7	5.4	1	3.2	2.6	30.3
93F03	93-004	9	1.0	5.9	510	2.2	1	43	3	59	8	6	1.5	3.84	23.0	0.37	45	4.4	13	2.28	13	0.5	0.9	4.5	1	3.4	2.8	30.9
93F03	93-025	5	0.9	3.3	750	0.5	2	38	1	52	7	7	1.2	2.72	21.0	0.47	65	4.1	14	2.63	19	1.8	1.0	4.0	1	2.5	2.9	26.3
93F03	93-025	1	0.8	3.5	580	0.5	3	41	1	46	7	6	1.3	2.79	19.0	0.49	44	4.1	13	2.55	21	0.5	0.5	3.9	1	1.7	2.8	25.3
93F03	93-076	3	0.9	5.2	650	1.7	2	43	2	52	12	6	1.6	4.75	25.0	0.47	55	5.1	15	2.21	25	0.5	0.7	4.9	1	2.0	3.1	30.5
93F03	93-076	4	0.9	5.7	580	1.9	3	45	2	49	12	6	1.7	4.88	26.0	0.45	57	5.2	15	2.26	24	0.5	0.7	5.1	1	2.1	3.1	30.1
93F03	93-087	9	1.1	11.0	690	1.8	2	54	2	46	8	7	1.7	4.08	27.0	0.57	5	5.6	17	2.87	32	0.5	0.7	4.5	1	2.8	3.5	30.3
93F03	93-087	7	1.1	9.4	770	0.5	3	57	1	56	9	7	1.7	4.26	27.0	0.55	5	5.5	17	2.90	26	0.5	0.5	4.8	1	3.2	3.5	29.2
93F03	93-108	9	1.6	13.0	810	0.5	1	47	3	41	11	6	1.3	3.79	25.0	0.36	80	4.5	14	2.31	19	0.5	0.9	6.9	1	1.9	3.0	26.3
93F03	93-108	7	1.8	13.0	800	0.5	3	47	4	48	12	7	1.5	4.13	26.0	0.33	52	4.7	15	2.43	15	0.5	0.5	6.9	1	3.4	3.3	24.5
93F03	93-176	9	1.2	9.7	610	0.5	1	50	3	63	13	5	1.5	4.40	26.0	0.39	41	4.9	16	2.26	27	0.5	0.7	5.1	1	1.8	3.3	30.4
93F03	93-176	9	1.1	9.5	670	1.3	3	51	2	60	14	6	1.5	4.46	26.0	0.36	30	5.0	16	2.31	24	1.2	0.7	5.9	1	2.3	3.5	30.2
93F03	93-207	7	3.6	53.0	570	3.3	1	74	9	34	18	6	2.2	6.49	29.0	0.40	57	6.6	19	1.52	28	0.5	0.9	5.7	4	1.7	3.8	26.6
93F03	93-207	10	3.8	51.0	700	3.0	1	69	9	38	17	6	2.1	6.43	28.0	0.41	50	6.3	18	1.49	26	0.5	1.0	5.4	1	2.8	3.8	25.8
93F03	93-226	1	1.0	4.6	950	0.5	3	51	3	49	10	7	1.7	4.54	22.0	0.44	40	4.8	14	2.41	19	2.1	0.7	4.1	1	2.8	2.2	30.8
93F03	93-226	1	1.2	5.9	740	0.5	3	56	1	52	10	7	1.7	4.95	24.0	0.46	32	5.1	15	2.56	16	1.9	0.5	3.8	1	3.0	2.6	30.0

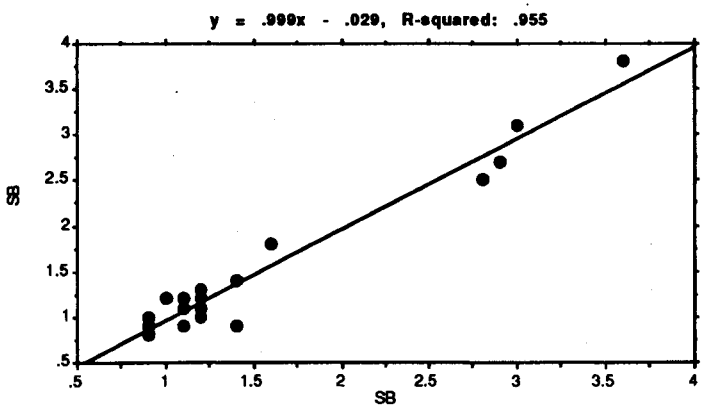
Analytical Duplicate Data

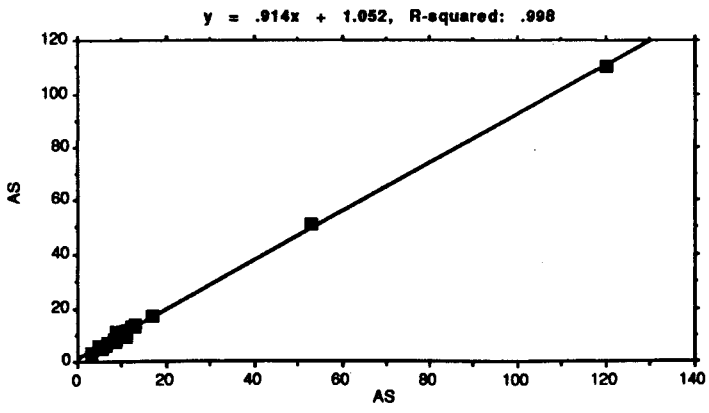
Map	Sample ID	Al % ICP	Ba ppm ICP	Bi ppm ICP	B ppm ICP	Cd ppm ICP	Ca % ICP	Cr ppm ICP	Co ppm ICP	Cu ppm ICP	Fe % ICP	Pb ppm ICP	Mn ppm ICP	Mg % ICP	Mo ppm ICP	Ni ppm ICP	P % ICP	K % ICP	Ag ppm ICP	Na % ICP	Sr ppm ICP	Ti % ICP	V ppm ICP	Zn ppm ICP
93F03	93-004	1.47	79	2	2	0.2	0.69	22	5	14	3.06	7	313	0.35	1	7	0.078	0.08	0.3	0.09	49	0.28	53	42
93F03	93-004	1.48	79	2	3	0.2	0.69	23	5	13	3.10	12	313	0.35	1	9	0.078	0.08	0.3	0.09	49	0.28	53	42
93F03	93-025	1.58	69	2	3	0.2	0.46	16	4	10	1.69	9	188	0.30	1	8	0.053	0.04	0.2	0.04	32	0.27	35	30
93F03	93-025	1.58	69	2	2	0.3	0.43	16	4	10	1.65	7	183	0.28	1	7	0.052	0.04	0.2	0.03	32	0.27	35	30
93F03	93-076	1.86	107	2	2	0.2	0.72	20	8	29	4.08	8	506	0.63	1	15	0.080	0.11	0.1	0.06	60	0.28	60	73
93F03	93-076	1.87	110	4	2	0.4	0.74	20	8	30	4.15	10	515	0.64	1	13	0.082	0.11	0.1	0.05	61	0.28	61	74
93F03	93-087	1.14	66	2	3	0.2	0.67	20	6	25	2.85	6	522	0.33	1	8	0.069	0.05	0.3	0.04	49	0.23	63	41
93F03	93-087	1.17	65	2	2	0.3	0.71	20	6	24	2.82	8	537	0.33	1	8	0.070	0.05	0.2	0.04	48	0.23	64	42
93F03	93-108	1.74	124	2	2	0.4	0.80	20	9	31	3.37	10	748	0.59	1	12	0.065	0.14	0.3	0.06	54	0.21	61	70
93F03	93-108	1.73	124	2	2	0.6	0.79	19	9	31	3.35	10	750	0.59	1	11	0.064	0.14	0.2	0.06	54	0.21	61	70
93F03	93-176	1.87	106	2	2	0.5	0.83	26	11	29	3.77	3	692	0.68	1	14	0.067	0.14	0.2	0.05	64	0.25	69	73
93F03	93-176	1.83	104	2	3	0.2	0.81	25	11	29	3.67	8	679	0.66	1	13	0.065	0.14	0.2	0.06	63	0.24	68	72
93F03	93-207	3.31	179	2	3	0.2	0.45	16	14	42	5.68	51	607	0.69	2	11	0.056	0.12	0.7	0.03	32	0.14	66	156
93F03	93-207	3.29	179	2	2	0.2	0.44	15	14	42	5.61	50	596	0.69	1	11	0.055	0.12	0.7	0.04	32	0.14	65	154
93F03	93-226	1.69	117	2	2	0.2	0.51	27	7	11	3.80	9	332	0.30	1	13	0.075	0.06	0.1	0.04	39	0.41	67	58
93F03	93-226	1.71	119	2	3	0.2	0.50	27	7	11	3.79	13	333	0.30	1	14	0.075	0.07	0.2	0.04	39	0.40	67	60

Scatterplots of Analytical and Field Duplicate Pairs

INA Analytical Duplicate Pairs (n=23)







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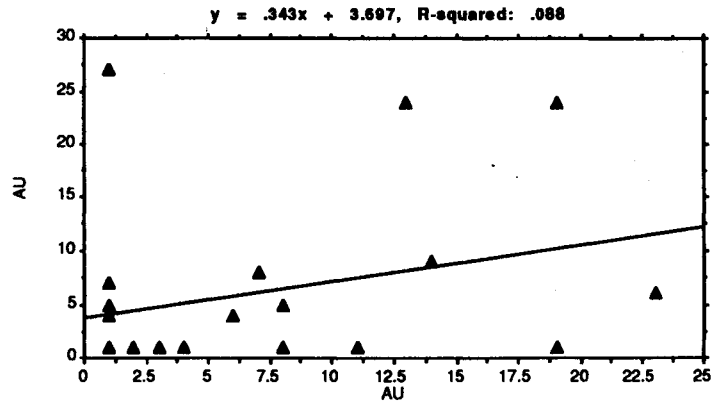

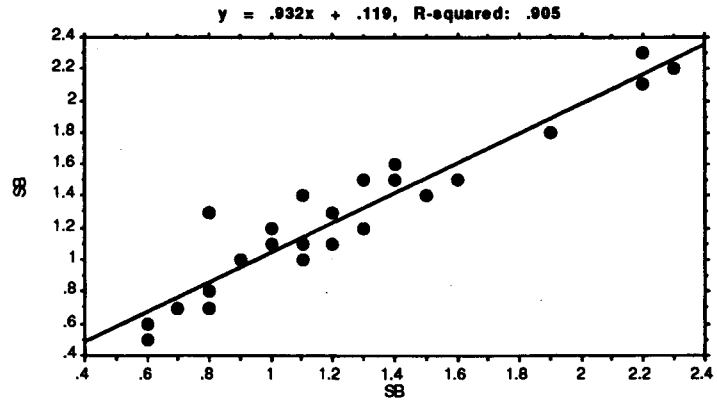

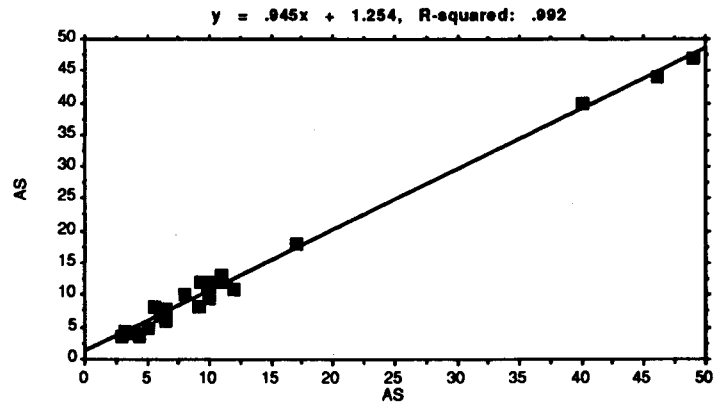

Scatterplots of Analytical and Field Duplicate Pairs

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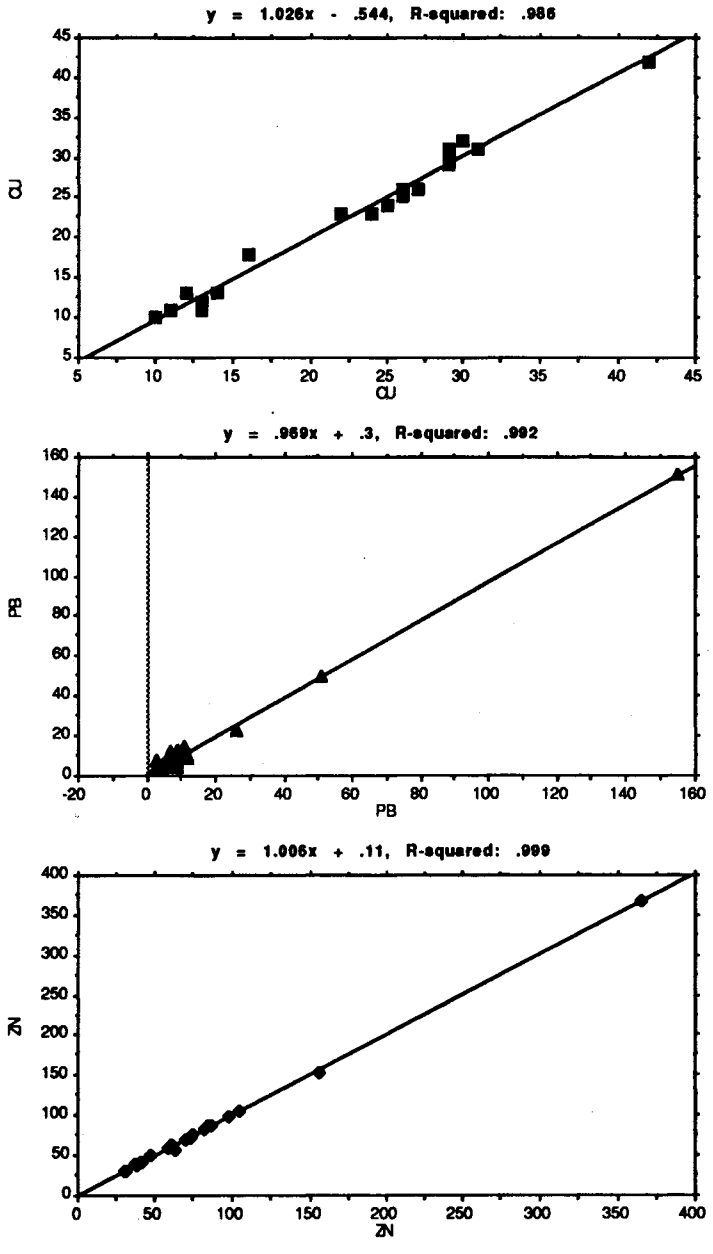

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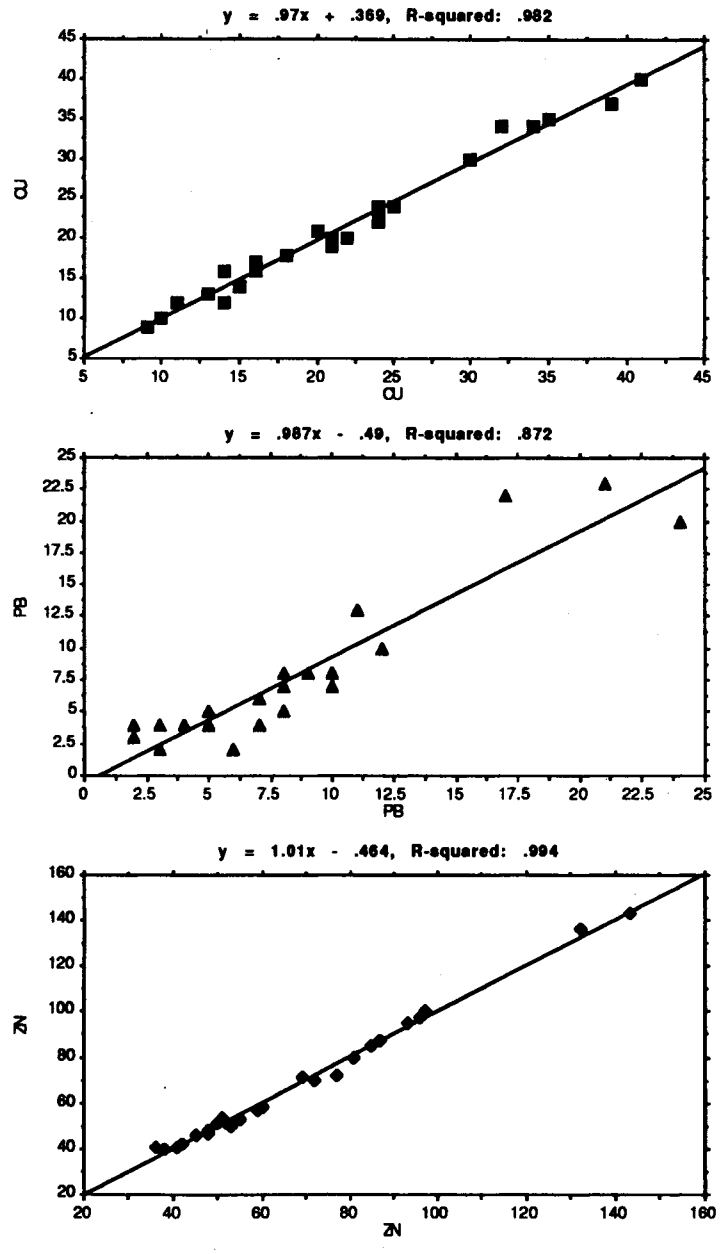

Scatterplots of Analytical and Field Duplicate Pairs

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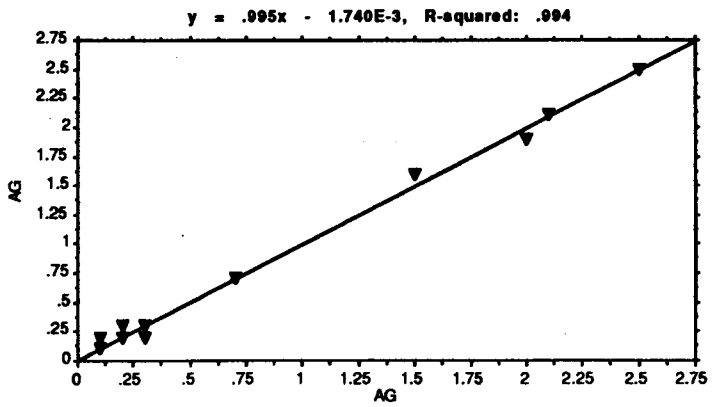

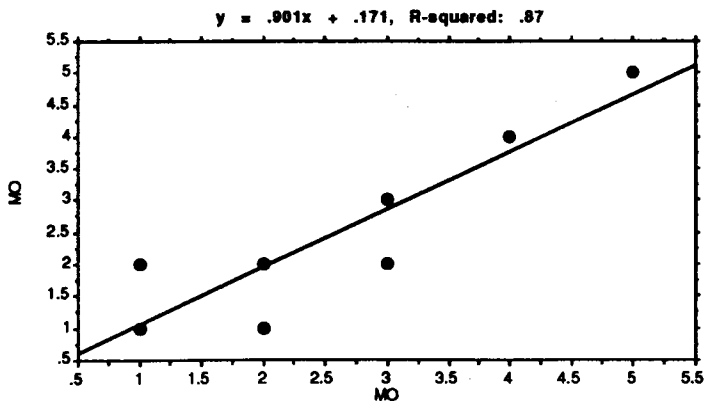

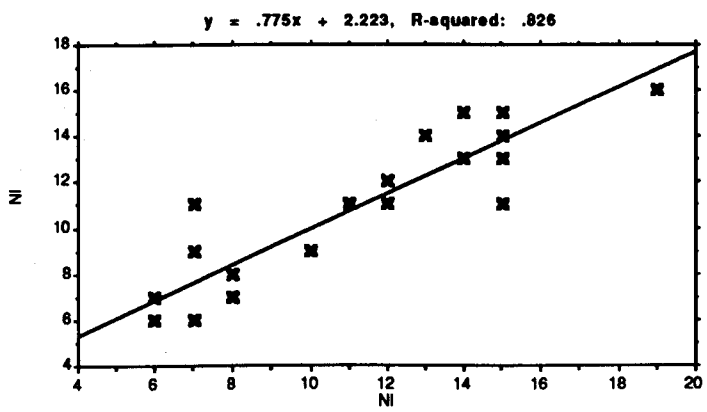

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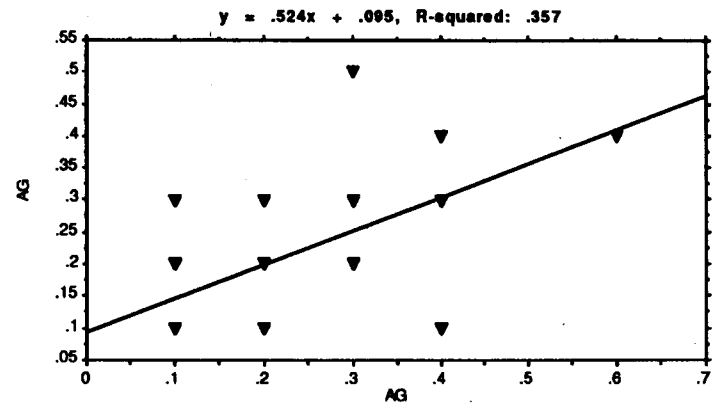

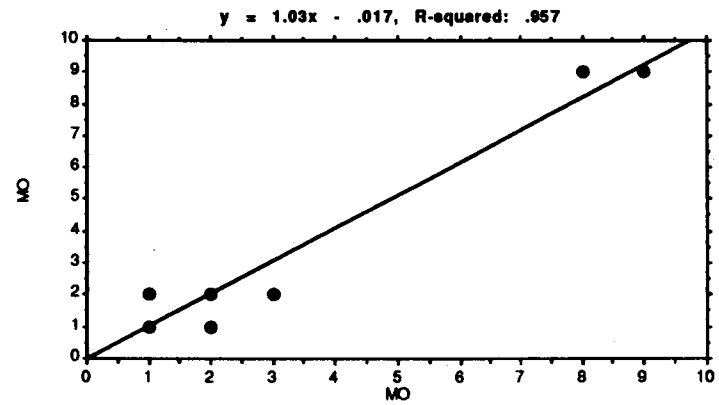

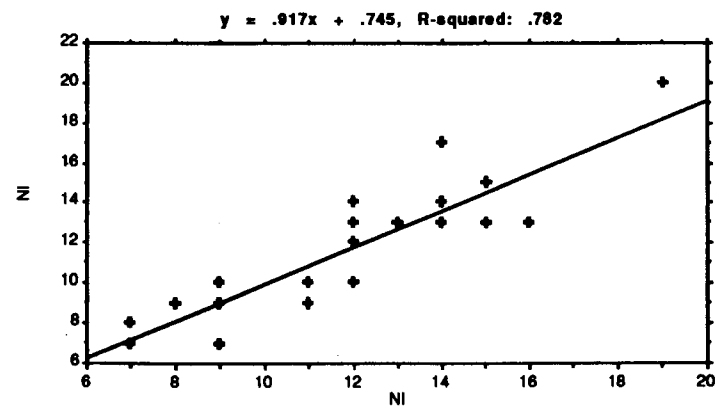

Till Geochemistry of the Fawnie Creek Map Area
(93F/03)

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Appendix C

Summary Statistics

C - 2 ... INA Total Data Set

C - 3 ... ICP Total Data Set

C - 4 ... INA Data Set Subset on Underlying Bedrock Geology

C - 30 ... ICP Data Set Subset on Underlying Bedrock Geology

Notes :

- Calculations ignore analytical results from the second of paired field duplicates and repeat Au analysis.
- Summary statistics based on underlying geology were not calculated for samples sites coded as uncertain (unkn).
- Refer to Reference Guide on page A - 2 for details on bedrock geology codes.

Summary Statistics

Element	Au	Sb	As	Ba	Br	Ca	Ce	Cs	Cr	Co	Hf	Eu	Fe	La	Lu	Rb	Sm	Sc	Na	Nd	Ta	Tb	Th	W	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DL	2	0.1	0.5	50	0.5	1	3	1	5	1	1	0.2	0.01	0.5	0.05	5	0.1	0.1	0.01	5	0.5	0.5	0.2	1	0.5	0.2
Method	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
N	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	170	171	171	171	171	171	171
N > DL	94	171	171	171	66	131	171	125	171	171	171	171	171	171	171	155	171	171	171	168	64	105	171	16	164	171
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	5.9	1.30	12.78	677.7	1.24	2.2	50.4	2.8	51.6	11.5	6.4	1.64	4.50	25.5	0.43	49.6	5.09	15.4	2.36	22.8	1.01	0.72	5.04	1.2	2.28	3.14
Median	4.0	1.20	9.20	660.0	0.50	2.0	49.0	2.0	50.0	11.0	6.0	1.60	4.40	25.0	0.43	49.0	5.00	15.0	2.39	22.0	0.50	0.70	4.80	1.0	2.20	3.10
Mode	1.0	1.10	11.00	750.0	0.50	2.0	45.0	2.0	43.0	11.0	6.0	1.50	3.84	25.0	0.47	5.0	5.20	15.0	2.06	19.0	0.50	0.50	5.00	1.0	2.40	2.90
Range	76	3.9	168.1	530	4.9	3	53	23	121	17	10	1.9	4.81	28	0.56	145	5.5	11	1.62	37	2.9	0.8	7.9	9	4.8	2.7
St Dev	8.61	0.61	16.51	105.88	1.08	0.85	9.30	2.48	12.37	3.04	1.19	0.35	0.90	4.13	0.10	22.81	1.07	2.03	0.32	5.61	0.76	0.22	1.19	0.95	0.81	0.50
Coef Var	1.457	0.471	1.292	0.156	0.875	0.397	0.184	0.886	0.240	0.263	0.185	0.212	0.199	0.162	0.240	0.460	0.210	0.132	0.136	0.246	0.752	0.308	0.236	0.773	0.355	0.158
Log Mean	0.488	0.075	0.960	2.826	-0.048	0.295	1.696	0.350	1.702	1.047	0.802	0.207	0.645	1.401	-0.380	1.616	0.698	1.183	0.368	1.345	-0.097	-0.160	0.692	0.046	0.325	0.491
Geo Mean	3.1	1.19	9.12	669.5	0.90	2.0	49.6	2.2	50.3	11.1	6.3	1.61	4.42	25.2	0.42	41.3	4.99	15.2	2.34	22.1	0.80	0.69	4.92	1.1	2.11	3.10
Log StDv	0.487	0.184	0.325	0.068	0.334	0.188	0.076	0.274	0.096	0.119	0.075	0.087	0.087	0.069	0.110	0.324	0.089	0.058	0.061	0.111	0.280	0.130	0.092	0.156	0.184	0.069
Log CVar	0.999	2.482	0.339	0.024	-7.098	0.636	0.045	0.782	0.056	0.113	0.094	0.423	0.135	0.049	-0.289	0.201	0.127	0.049	0.166	0.083	-2.915	-0.812	0.134	3.394	0.567	0.141
Percntls																										
Minimum	1	0.4	1.9	430	0.5	1	33	1	19	5	4	1.0	2.47	17.0	0.17	5	3.0	11	1.49	5	0.5	0.5	3.1	1	0.5	2.1
10th	1	0.7	3.7	540	0.5	1	40	1	39	8	5	1.3	3.50	21.0	0.31	20	3.9	13	1.90	17	0.5	0.5	3.9	1	1.4	2.5
20th	1	0.8	4.4	590	0.5	1	43	1	43	9	5	1.4	3.84	22.0	0.34	34	4.3	14	2.10	18	0.5	0.5	4.1	1	1.7	2.7
30th	1	1.0	5.6	610	0.5	2	45	2	45	10	6	1.5	4.06	23.0	0.37	41	4.5	14	2.17	20	0.5	0.5	4.4	1	1.9	2.9
40th	1	1.1	7.1	640	0.5	2	47	2	48	11	6	1.5	4.25	24.0	0.39	46	4.7	15	2.28	21	0.5	0.6	4.6	1	2.0	3.0
50th	4	1.2	9.2	660	0.5	2	49	2	50	11	6	1.6	4.40	25.0	0.43	49	5.0	15	2.39	22	0.5	0.7	4.8	1	2.2	3.1
60th	5	1.3	11.0	700	0.5	2	51	3	53	12	7	1.6	4.61	26.0	0.45	53	5.2	16	2.47	24	0.5	0.8	5.0	1	2.4	3.3
70th	7	1.4	13.0	730	1.8	3	53	3	55	13	7	1.8	4.83	27.0	0.48	58	5.3	16	2.53	25	1.2	0.8	5.3	1	2.5	3.4
80th	8	1.6	16.0	770	2.2	3	56	4	59	14	7	1.9	5.13	29.0	0.51	65	5.7	17	2.62	26	1.7	0.9	5.7	1	2.9	3.5
85th	9	1.8	19.0	790	2.3	3	59	4	61	14	7	2.0	5.36	29.0	0.53	68	6.1	18	2.67	28	1.9	1.0	6.1	1	3.0	3.6
90th	13	2.1	22.0	820	2.6	3	64	5	63	15	8	2.0	5.61	30.0	0.57	73	6.6	18	2.75	30	2.2	1.0	6.5	1	3.3	3.8
95th	20	2.5	33.0	850	3.3	4	67	6	66	17	8	2.3	6.16	33.0	0.59	85	7.2	19	2.88	33	2.4	1.1	7.0	3	3.7	4.0
98th	31	3.4	46.0	920	4.1	4	75	9	81	19	9	2.6	6.89	34.0	0.66	100	8.2	19	3.03	38	3.1	1.3	7.9	4	4.1	4.2
99th	40	3.4	53.0	930	4.2	4	77	10	83	19	9	2.8	6.94	36.0	0.71	110	8.4	19	3.06	39	3.2	1.3	8.5	4	4.4	4.5
Maximum	77	4.3	170.0	960	5.4	4	86	24	140	22	14	2.9	7.28	45.0	0.73	150	8.5	22	3.11	42	3.4	1.3	11.0	10	5.3	4.8

Summary Statistics

Element	Al	Ba	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mn	Mg	Mo	Ni	P	K	Ag	Na	Sr	Ti	V	Zn
Units	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	%	ppm	%	ppm	%	ppm	ppm
DL	0.01	2	2	2	0.2	0.01	1	1	1	0.01	2	1	0.01	1	1	0.001	0.01	0.1	0.01	1	0.01	2	1
Method	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP
N	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171	171
N > DL	171	171	24	103	71	171	171	171	171	171	160	171	171	28	171	171	171	105	171	171	171	171	171
Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean	1.85	104.3	2.3	2.9	0.28	0.63	22.0	8.1	26.0	3.57	9.0	535.8	0.49	1.3	13.0	0.07	0.09	0.21	0.05	56.3	0.27	60.7	67.4
Median	1.78	100.0	2.0	3.0	0.20	0.63	22.0	8.0	24.0	3.65	8.0	508.0	0.46	1.0	12.0	0.07	0.09	0.20	0.04	52.0	0.26	62.0	65.0
Mode	1.65	89.0	2.0	2.0	0.20	0.57	22.0	7.0	24.0	3.37	5.0	332.0	0.57	1.0	12.0	0.07	0.05	0.10	0.04	49.0	0.20	63.0	41.0
Range	2.78	363	6	5	0.50	1.38	37	16	60	4.20	56	1095	0.99	6	30	0.131	0.23	0.60	0.09	131	0.38	72	139
St Dev	0.49	37.65	0.74	1.00	0.13	0.20	5.15	2.88	11.99	0.75	6.85	230.95	0.18	0.73	4.62	0.02	0.05	0.12	0.02	22.05	0.08	10.85	24.33
Coef Var	0.267	0.361	0.331	0.342	0.446	0.322	0.234	0.357	0.460	0.210	0.759	0.431	0.375	0.580	0.355	0.340	0.519	0.565	0.471	0.392	0.283	0.179	0.361
Log Mean	0.252	1.996	0.338	0.444	-0.580	-0.226	1.331	0.876	1.368	0.542	0.875	2.687	-0.341	0.064	1.091	-1.212	-1.081	-0.744	-1.356	1.721	-0.586	1.775	1.803
Geo Mean	1.79	99.1	2.2	2.8	0.26	0.59	21.4	7.5	23.3	3.48	7.5	486.8	0.46	1.2	12.3	0.06	0.08	0.18	0.04	52.6	0.26	59.6	63.5
Log StDv	0.112	0.139	0.100	0.136	0.161	0.142	0.095	0.166	0.211	0.101	0.261	0.195	0.161	0.155	0.142	0.162	0.220	0.230	0.196	0.158	0.128	0.086	0.151
Log CVar	0.446	0.070	0.295	0.307	-0.279	-0.630	0.071	0.190	0.155	0.186	0.298	0.073	-0.473	2.425	0.130	-0.133	-0.204	-0.310	-0.144	0.092	-0.219	0.048	0.084
Percntls																							
Minimum	0.86	27	2	2	0.2	0.23	11	2	6	1.48	2	164	0.18	1	5	0.019	0.03	0.1	0.02	18	0.08	32	29
10th	1.28	72	2	2	0.2	0.38	16	4	12	2.58	4	274	0.28	1	9	0.036	0.04	0.1	0.02	33	0.18	44	40
20th	1.48	80	2	2	0.2	0.43	18	6	15	3.05	5	314	0.31	1	9	0.048	0.05	0.1	0.03	40	0.20	54	45
30th	1.59	88	2	2	0.2	0.49	20	6	19	3.26	6	376	0.35	1	10	0.056	0.06	0.1	0.03	44	0.22	58	53
40th	1.70	93	2	2	0.2	0.56	21	7	22	3.39	7	438	0.39	1	11	0.061	0.07	0.2	0.04	49	0.24	60	58
50th	1.78	100	2	3	0.2	0.63	22	8	24	3.65	8	508	0.46	1	12	0.065	0.09	0.2	0.04	52	0.26	62	65
60th	1.88	105	2	3	0.3	0.67	22	9	27	3.76	9	570	0.52	1	13	0.067	0.10	0.2	0.05	56	0.28	64	71
70th	1.95	114	2	3	0.3	0.74	23	10	31	3.92	10	629	0.59	1	14	0.074	0.11	0.3	0.06	61	0.31	66	76
80th	2.18	121	2	4	0.4	0.79	25	10	35	4.20	11	738	0.64	1	15	0.080	0.13	0.3	0.06	67	0.35	68	85
85th	2.33	130	2	4	0.4	0.81	26	11	37	4.25	12	783	0.67	2	16	0.085	0.14	0.3	0.07	75	0.36	69	89
90th	2.61	144	3	4	0.5	0.85	27	12	42	4.48	14	834	0.72	2	19	0.093	0.16	0.3	0.08	85	0.38	73	96
95th	2.79	153	4	5	0.6	0.90	29	12	46	4.68	18	941	0.80	3	22	0.103	0.18	0.4	0.10	100	0.40	76	104
98th	3.13	181	4	6	0.6	1.09	36	16	61	5.03	30	1088	0.89	3	25	0.121	0.23	0.5	0.11	114	0.41	80	136
99th	3.31	185	5	6	0.7	1.12	42	17	61	5.06	32	1154	0.99	4	26	0.123	0.23	0.6	0.11	135	0.42	80	156
Maximum	3.64	390	8	7	0.7	1.61	48	18	66	5.68	58	1259	1.17	7	35	0.150	0.26	0.7	0.11	149	0.46	104	168

Summary Statistics

```
 ppb                                                N     %   Cum%

  1 -|
    -|***********************                       76  44.4  44.4
  1 -|
    -|                                               0   0.0  44.4
  2 -|
    -|***                                            8   4.7  49.1
  3 -|
    -|****                                          13   7.6  56.7
  5 -|
    -|**********                                    32  18.7  75.4
  7 -|
    -|******                                        20  11.7  87.1
 11 -|
    -|***                                            9   5.3  92.4
 18 -|
    -|***                                            9   5.3  97.7
 28 -|
    -|*                                              3   1.8  99.4
 43 -|
    -|                                               0   0.0  99.4
 66 -|                                 Logarithmic
    -|*                                Histogram     1   0.6 100.0
102 -|
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

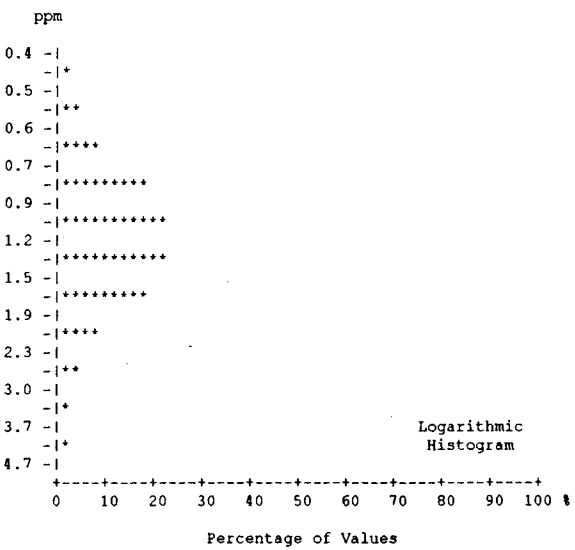
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	94	25	19	13	8	3
Missing	0	0	0	0	0	0
Mean	5.9	5.2	6.6	7.7	9.3	3.9
Median	4.0	4.0	3.0	4.0	6.0	1.0
Mode	1.0	1.0	1.0	1.0	1.0	1.0
Range	76	22	76	39	39	17
St Dev	8.61	5.61	13.07	10.33	11.43	5.55
Coef Var	1.457	1.086	1.989	1.345	1.224	1.422
Log Mean	0.488	0.496	0.475	0.530	0.668	0.295
Geo Mean	3.1	3.1	3.0	3.4	4.7	2.0
Log StDv	0.487	0.444	0.505	0.571	0.567	0.487
Log CVar	0.999	0.896	1.064	1.078	0.850	1.657
Percntls						
Minimum	1	1	1	1	1	1
10th	1	1	1	1	1	1
20th	1	1	1	1	1	1
30th	1	1	1	1	1	1
40th	1	2	1	1	3	1
50th	4	4	3	4	6	1
60th	5	5	4	5	7	1
70th	7	6	6	8	8	1
80th	8	7	9	12	16	7
85th	9	8	11	13	16	7
90th	13	10	12	23	20	7
95th	20	21	12	31	20	18
98th	31	21	20	40	40	18
99th	40	23	77	40	40	18
Maximum	77	23	77	40	40	18

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Gold [Au]
Number of Values - 171
Units - ppb
Detection Limit - 2
Analytical Method - INA

Gold by INA

Summary Statistics



	N	%	Cum%
	1	0.6	0.6
	5	2.9	3.5
	13	7.6	11.1
	31	18.1	29.2
	35	20.5	49.7
	35	20.5	70.2
	29	17.0	87.1
	11	6.4	93.6
	7	4.1	97.7
	3	1.8	99.4
	1	0.6	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	1.30	1.60	1.20	1.38	1.03	0.61
Median	1.20	1.50	1.00	1.30	1.00	0.60
Mode	1.10	1.20	0.90	1.30	0.80	0.60
Range	3.9	3.7	2.1	2.8	1.0	0.4
St Dev	0.61	0.72	0.49	0.64	0.28	0.13
Coef Var	0.471	0.451	0.406	0.462	0.270	0.211
Log Mean	0.075	0.167	0.051	0.102	-0.001	-0.224
Geo Mean	1.19	1.47	1.12	1.27	1.00	0.60
Log StDv	0.184	0.175	0.149	0.176	0.101	0.094
Log CVar	2.482	1.045	2.972	1.721	-100.754	-0.421
Percntls						
Minimum	0.4	0.6	0.7	0.6	0.8	0.4
10th	0.7	0.8	0.8	0.7	0.8	0.4
20th	0.8	1.0	0.9	0.9	0.8	0.5
30th	1.0	1.2	0.9	1.1	0.8	0.5
40th	1.1	1.3	1.0	1.1	0.9	0.6
50th	1.2	1.5	1.0	1.3	1.0	0.6
60th	1.3	1.6	1.1	1.3	1.0	0.6
70th	1.4	1.7	1.2	1.4	1.1	0.6
80th	1.6	1.9	1.5	1.5	1.1	0.7
85th	1.8	2.1	1.6	1.6	1.1	0.8
90th	2.1	2.4	2.1	2.5	1.1	0.8
95th	2.5	2.7	2.2	2.6	1.1	0.8
98th	3.4	3.6	2.2	3.4	1.8	0.8
99th	3.4	4.3	2.8	3.4	1.8	0.8
Maximum	4.3	4.3	2.8	3.4	1.8	0.8

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Antimony [Sb]
Number of Values - 171
Units - ppm
Detection Limit - 0.1
Analytical Method - INA

Antimony by INA

Summary Statistics

```
    ppm                                                N     %   Cum%
  1.4 -|
      -|*                                               2   1.2   1.2
  2.3 -|
      -|****                                           13   7.6   8.8
  3.6 -|
      -|***********                                    36  21.1  29.8
  5.8 -|
      -|**********                                     34  19.9  49.7
  9.1 -|
      -|*************                                  43  25.1  74.9
 14.5 -|
      -|********                                       26  15.2  90.1
 22.9 -|
      -|***                                             8   4.7  94.7
 36.3 -|
      -|**                                              7   4.1  98.8
 57.5 -|
      -|                                                0   0.0  98.8
 91.2 -|
      -|*                                               1   0.6  99.4
144.5 -|                                  Logarithmic
      -|*                                  Histogram    1   0.6 100.0
229.1 -|
       +----+----+----+----+----+----+----+----+----+----+
       0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	12.78	21.21	9.67	11.20	10.58	3.41
Median	9.20	12.00	6.50	8.90	8.30	3.30
Mode	11.00	19.00	4.40	8.10	3.90	3.30
Range	168.1	166.7	33.6	36.8	29.1	3.5
St Dev	16.51	29.12	7.50	8.68	7.85	1.03
Coef Var	1.292	1.373	0.776	0.775	0.742	0.302
Log Mean	0.960	1.134	0.892	0.952	0.946	0.516
Geo Mean	9.12	13.61	7.80	8.96	8.83	3.28
Log StDv	0.325	0.376	0.272	0.285	0.258	0.128
Log CVar	0.339	0.332	0.305	0.300	0.273	0.249
Percntls						
Minimum	1.9	3.3	3.4	3.2	3.9	2.1
10th	3.7	4.2	3.8	4.1	3.9	2.1
20th	4.4	5.8	4.4	4.6	4.3	2.3
30th	5.6	8.3	5.3	5.9	6.1	2.5
40th	7.1	10.0	5.5	7.2	7.6	3.3
50th	9.2	12.0	6.5	8.9	8.3	3.3
60th	11.0	17.0	6.9	9.3	9.7	3.4
70th	13.0	19.0	11.0	12.0	10.0	3.5
80th	16.0	23.0	13.0	15.0	13.0	3.8
85th	19.0	29.0	16.0	15.0	13.0	4.3
90th	22.0	38.0	19.0	26.0	15.0	4.3
95th	33.0	53.0	21.0	27.0	15.0	5.6
98th	46.0	100.0	27.0	40.0	33.0	5.6
99th	53.0	170.0	37.0	40.0	33.0	5.6
Maximum	170.0	170.0	37.0	40.0	33.0	5.6

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Arsenic [As]
Number of Values - 171
Units - ppm
Detection Limit - 0.5
Analytical Method - INA

Arsenic by INA

Summary Statistics

```
   ppm                                                N     %   Cum%
417 -|
     -|*                                               2   1.2   1.2
447 -|
     -|*                                               1   0.6   1.8
479 -|
     -|**                                              4   2.3   4.1
513 -|
     -|***                                            10   5.8   9.9
550 -|
     -|****                                           13   7.6  17.5
589 -|
     -|**********                                     34  19.9  37.4
631 -|
     -|*********                                      30  17.5  55.0
676 -|
     -|*******                                        21  12.3  67.3
724 -|
     -|*******                                        22  12.9  80.1
776 -|
     -|******                                         20  11.7  91.8
832 -|                                  Logarithmic
     -|***                                Histogram     9   5.3  97.1
891 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	677.7	654.3	694.9	660.0	607.5	767.0
Median	660.0	650.0	700.0	640.0	600.0	750.0
Mode	750.0	660.0	600.0	590.0	430.0	670.0
Range	530	310	410	490	420	270
St Dev	105.88	84.42	113.07	120.80	125.34	92.50
Coef Var	0.156	0.129	0.163	0.183	0.206	0.121
Log Mean	2.826	2.812	2.836	2.813	2.775	2.882
Geo Mean	669.5	648.9	686.0	650.1	595.7	761.8
Log StDv	0.068	0.057	0.071	0.076	0.090	0.054
Log CVar	0.024	0.020	0.025	0.027	0.032	0.019
Percntls						
Minimum	430	500	520	470	430	620
10th	540	540	540	530	430	620
20th	590	560	590	570	430	670
30th	610	590	600	590	580	670
40th	640	630	670	610	590	730
50th	660	650	700	640	600	750
60th	700	660	720	670	620	810
70th	730	710	750	690	630	830
80th	770	740	800	730	640	840
85th	790	750	810	740	640	860
90th	820	760	860	790	790	860
95th	850	800	880	950	790	890
98th	920	800	910	960	850	890
99th	930	810	930	960	850	890
Maximum	960	810	930	960	850	890

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Barium [Ba]
Number of Values - 171
Units - ppm
Detection Limit - 50
Analytical Method - INA

Barium by INA

Summary Statistics

```
  ppm                                                N     %   Cum%
0.4 -|
     -|*******************************              105  61.4  61.4
0.6 -|
     -|                                               0   0.0  61.4
0.7 -|
     -|                                               0   0.0  61.4
0.9 -|
     -|*                                               2   1.2  62.6
1.1 -|
     -|*                                               1   0.6  63.2
1.4 -|
     -|***                                            9   5.3  68.4
1.8 -|
     -|*******                                       24  14.0  82.5
2.2 -|
     -|*****                                         16   9.4  91.8
2.8 -|
     -|**                                             6   3.5  95.3
3.5 -|
     -|**                                             6   3.5  98.8
4.5 -|                                Logarithmic
     -|*                                             2   1.2 100.0
                                      Histogram
5.6 -|
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	66	22	6	10	8	6
Missing	0	0	0	0	0	0
Mean	1.24	1.70	0.76	1.23	1.68	1.55
Median	0.50	0.90	0.50	0.50	1.60	1.50
Mode	0.50	0.50	0.50	0.50	0.50	0.50
Range	4.9	4.8	1.8	4.9	3.3	2.2
St Dev	1.08	1.36	0.58	1.23	1.08	0.97
Coef Var	0.875	0.800	0.767	0.997	0.640	0.625
Log Mean	-0.048	0.076	-0.198	-0.054	0.124	0.086
Geo Mean	0.90	1.19	0.63	0.88	1.33	1.22
Log StDv	0.334	0.383	0.230	0.335	0.333	0.341
Log CVar	-7.098	5.036	-1.162	-6.197	2.707	4.009
Percntls						
Minimum	0.5	0.5	0.5	0.5	0.5	0.5
10th	0.5	0.5	0.5	0.5	0.5	0.5
20th	0.5	0.5	0.5	0.5	0.5	0.5
30th	0.5	0.5	0.5	0.5	0.5	0.5
40th	0.5	0.5	0.5	0.5	1.6	0.5
50th	0.5	0.9	0.5	0.5	1.6	1.5
60th	0.5	2.1	0.5	0.5	1.7	2.0
70th	1.8	2.2	0.5	1.6	1.8	2.1
80th	2.2	3.0	0.5	1.8	2.5	2.6
85th	2.3	3.3	1.8	1.8	2.5	2.6
90th	2.6	3.6	1.9	2.3	3.0	2.6
95th	3.3	4.1	1.9	4.0	3.0	2.7
98th	4.1	4.2	2.3	5.4	3.8	2.7
99th	4.2	5.3	2.3	5.4	3.8	2.7
Maximum	5.4	5.3	2.3	5.4	3.8	2.7

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Bromine [Br]
Number of Values - 171
Units - ppm
Detection Limit - 0.5
Analytical Method - INA

Bromine by INA

Summary Statistics

```
 %                                                  N     %   Cum%
1 -|
  -|************                                   40  23.4  23.4
1 -|
  -|                                                0   0.0  23.4
1 -|
  -|                                                0   0.0  23.4
2 -|
  -|                                                0   0.0  23.4
2 -|
  -|                                                0   0.0  23.4
2 -|
  -|***********************                        76  44.4  67.8
2 -|
  -|                                                0   0.0  67.8
3 -|
  -|*************                                  44  25.7  93.6
3 -|
  -|                                                0   0.0  93.6
3 -|
  -|                                                0   0.0  93.6
4 -|                                  Logarithmic
  -|****                                Histogram   11   6.4 100.0
5 -|
   +----+----+----+----+----+----+----+----+----+----+
   0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	131	31	26	18	6	10
Missing	0	0	0	0	0	0
Mean	2.2	2.1	2.1	2.0	1.5	3.2
Median	2.0	2.0	2.0	2.0	1.0	3.0
Mode	2.0	2.0	2.0	2.0	1.0	3.0
Range	3	3	3	3	1	2
St Dev	0.85	0.83	0.82	0.79	0.52	0.79
Coef Var	0.397	0.393	0.392	0.403	0.348	0.247
Log Mean	0.295	0.288	0.283	0.257	0.151	0.492
Geo Mean	2.0	1.9	1.9	1.8	1.4	3.1
Log StDv	0.188	0.192	0.188	0.183	0.157	0.117
Log CVar	0.636	0.667	0.667	0.713	1.048	0.237
Percntls						
Minimum	1	1	1	1	1	2
10th	1	1	1	1	1	2
20th	1	1	1	1	1	2
30th	2	2	2	2	1	3
40th	2	2	2	2	1	3
50th	2	2	2	2	1	3
60th	2	2	2	2	2	3
70th	3	3	3	2	2	4
80th	3	3	3	2	2	4
85th	3	3	3	3	2	4
90th	3	3	3	3	2	4
95th	4	3	3	3	2	4
98th	4	3	3	4	2	4
99th	4	4	4	4	2	4
Maximum	4	4	4	4	2	4

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|                Element - Calcium [Ca]      |
|--------------------------------------------|
|       Number of Values - 171               |
|--------------------------------------------|
|                  Units - %                 |
|--------------------------------------------|
|        Detection Limit - 1.0               |
|--------------------------------------------|
|      Analytical Method - INA               |
----------------------------------------------
```

Calcium by INA

Summary Statistics

```
 ppm                                                N     %   Cum%
32 -|
   -|*                                              2   1.2    1.2
35 -|
   -|**                                             7   4.1    5.3
38 -|
   -|****                                          14   8.2   13.5
42 -|
   -|*********                                     31  18.1   31.6
46 -|
   -|**************                                46  26.9   58.5
50 -|
   -|*********                                     29  17.0   75.4
55 -|
   -|*******                                       21  12.3   87.7
60 -|
   -|***                                           10   5.8   93.6
66 -|
   -|**                                             5   2.9   96.5
72 -|
   -|**                                             4   2.3   98.8
79 -|                                 Logarithmic
   -|*                                Histogram      2   1.2  100.0
87 -|
    +----+----+----+----+----+----+----+----+----+----+
    0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

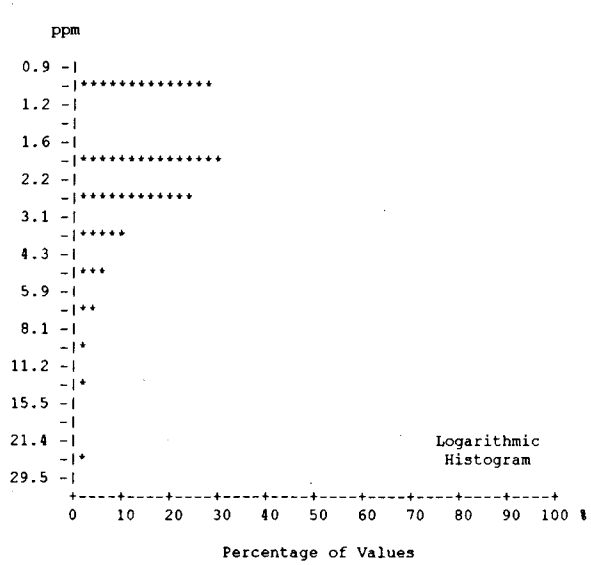
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	50.4	48.5	48.9	46.2	56.7	55.1
Median	49.0	48.0	47.0	46.0	53.0	58.0
Mode	45.0	45.0	45.0	42.0	53.0	58.0
Range	53	38	30	36	49	29
St Dev	9.30	7.16	7.27	8.68	13.92	9.42
Coef Var	0.184	0.148	0.149	0.188	0.246	0.171
Log Mean	1.696	1.681	1.684	1.658	1.742	1.735
Geo Mean	49.6	48.0	48.4	45.5	55.2	54.4
Log StDv	0.076	0.062	0.062	0.078	0.102	0.076
Log CVar	0.045	0.037	0.037	0.047	0.058	0.044
Percntls						
Minimum	33	36	37	33	37	41
10th	40	39	40	36	37	41
20th	43	42	43	39	45	44
30th	45	45	45	42	49	46
40th	47	46	45	42	53	50
50th	49	48	47	46	53	58
60th	51	49	49	47	54	58
70th	53	51	52	48	56	59
80th	56	53	54	50	68	61
85th	59	55	54	51	68	64
90th	64	55	60	60	77	64
95th	67	60	62	65	77	70
98th	75	62	65	69	86	70
99th	77	74	67	69	86	70
Maximum	86	74	67	69	86	70

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Cerium [Ce]
Number of Values - 171
Units - ppm
Detection Limit - 3
Analytical Method - INA

Cerium by INA

Summary Statistics



N	%	Cum%
46	26.9	26.9
0	0.0	26.9
51	29.8	56.7
38	22.2	78.9
16	9.4	88.3
9	5.3	93.6
6	3.5	97.1
3	1.8	98.8
1	0.6	99.4
0	0.0	99.4
1	0.6	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	125	39	22	19	11	5
Missing	0	0	0	0	0	0
Mean	2.8	3.5	2.1	4.2	2.8	1.5
Median	2.0	3.0	2.0	3.0	2.0	1.0
Mode	2.0	3.0	1.0	3.0	2.0	1.0
Range	23	9	5	23	4	1
St Dev	2.48	2.10	1.23	4.97	1.19	0.53
Coef Var	0.886	0.604	0.582	1.183	0.421	0.351
Log Mean	0.350	0.478	0.262	0.453	0.414	0.151
Geo Mean	2.2	3.0	1.8	2.8	2.6	1.4
Log StDv	0.274	0.232	0.235	0.364	0.198	0.159
Log CVar	0.782	0.486	0.900	0.804	0.479	1.058
Percntls						
Minimum	1	1	1	1	1	1
10th	1	2	1	1	1	1
20th	1	2	1	1	2	1
30th	2	2	1	2	2	1
40th	2	3	2	2	2	1
50th	2	3	2	3	2	1
60th	3	3	2	3	3	2
70th	3	3	2	3	3	2
80th	4	4	3	5	4	2
85th	4	5	3	5	4	2
90th	5	5	4	8	4	2
95th	6	9	4	13	4	2
98th	9	9	5	24	5	2
99th	10	10	6	24	5	2
Maximum	24	10	6	24	5	2

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Cesium [Cs]
Number of Values - 171
Units - ppm
Detection Limit - 1.0
Analytical Method - INA

Cesium by INA

Summary Statistics

```
  ppm                                                  N     %   Cum%

 18 -|
    -|*                                                1   0.6   0.6
 22 -|
    -|                                                 0   0.0   0.6
 27 -|
    -|*                                                3   1.8   2.3
 33 -|
    -|****                                            14   8.2  10.5
 41 -|
    -|*********************                           70  40.9  51.5
 50 -|
    -|****************                                57  33.3  84.8
 62 -|
    -|******                                          20  11.7  96.5
 76 -|
    -|**                                                5   2.9  99.4
 93 -|
    -|                                                 0   0.0  99.4
115 -|
    -|*                                                1   0.6 100.0
141 -|                                  Logarithmic
    -|                                   Histogram
174 -|
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

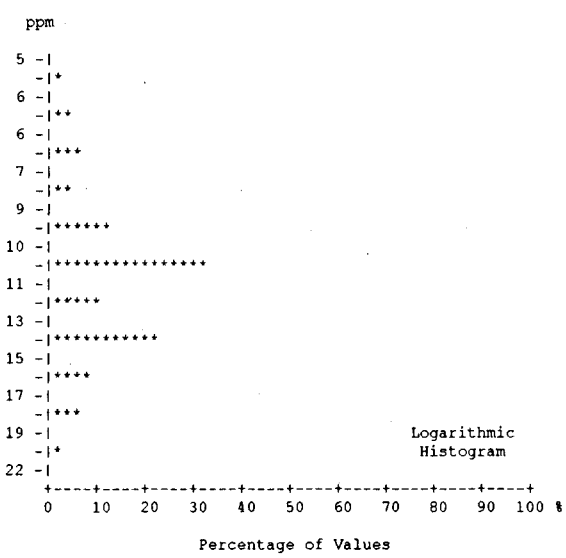
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	51.6	50.9	54.3	51.4	38.4	53.8
Median	50.0	51.0	48.0	50.0	37.0	53.0
Mode	43.0	43.0	50.0	49.0	37.0	52.0
Range	121	47	109	47	36	20
St Dev	12.37	8.92	19.60	10.03	8.34	6.01
Coef Var	0.240	0.175	0.361	0.195	0.217	0.112
Log Mean	1.702	1.700	1.715	1.703	1.573	1.728
Geo Mean	50.3	50.2	51.9	50.5	37.4	53.5
Log StDv	0.096	0.076	0.124	0.083	0.109	0.048
Log CVar	0.056	0.045	0.072	0.049	0.069	0.028
Percntls						
Minimum	19	32	31	34	19	45
10th	39	41	41	39	19	45
20th	43	43	43	44	33	47
30th	45	45	45	47	37	52
40th	48	47	46	49	37	52
50th	50	51	48	50	37	53
60th	53	53	50	53	38	53
70th	55	55	52	55	40	54
80th	59	58	63	56	42	55
85th	61	59	66	59	42	62
90th	63	60	76	63	45	62
95th	66	63	83	66	45	65
98th	81	65	89	81	55	65
99th	83	79	140	81	55	65
Maximum	140	79	140	81	55	65

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Chromium [Cr]
Number of Values - 171
Units - ppm
Detection Limit - 5
Analytical Method - INA

Chromium by INA

Summary Statistics



	N	%	Cum%
	3	1.8	1.8
	4	2.3	4.1
	8	4.7	8.8
	7	4.1	12.9
	18	10.5	23.4
	53	31.0	54.4
	17	9.9	64.3
	35	20.5	84.8
	14	8.2	93.0
	10	5.8	98.8
	2	1.2	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	11.5	12.6	11.0	11.0	7.3	11.2
Median	11.0	12.0	10.0	11.0	6.0	11.0
Mode	11.0	11.0	10.0	9.0	5.0	11.0
Range	17	15	10	14	8	6
St Dev	3.04	3.01	2.37	2.83	2.42	2.15
Coef Var	0.263	0.240	0.215	0.257	0.333	0.192
Log Mean	1.047	1.088	1.033	1.029	0.841	1.042
Geo Mean	11.1	12.2	10.8	10.7	6.9	11.0
Log StDv	0.119	0.102	0.091	0.107	0.131	0.087
Log CVar	0.113	0.094	0.088	0.104	0.156	0.084
Percntls						
Minimum	5	7	7	6	5	8
10th	8	9	8	9	5	8
20th	9	10	9	9	5	8
30th	10	11	10	9	6	10
40th	11	11	10	10	6	11
50th	11	12	10	11	6	11
60th	12	13	11	11	7	11
70th	13	14	12	12	7	12
80th	14	14	13	12	9	13
85th	14	15	13	13	9	14
90th	15	17	15	14	10	14
95th	17	18	15	15	10	14
98th	19	19	16	20	13	14
99th	19	22	17	20	13	14
Maximum	22	22	17	20	13	14

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Cobalt [Co]
Number of Values - 171
Units - ppm
Detection Limit - 1
Analytical Method - INA

Cobalt by INA

Summary Statistics

```
 ppm                                                N     %   Cum%
 4 -|
   -|*                                              1   0.6    0.6
 4 -|
   -|***********                                   35  20.5   21.1
 5 -|
   -|                                               0   0.0   21.1
 6 -|
   -|*****************                             57  33.3   54.4
 6 -|
   -|*****************                             56  32.7   87.1
 7 -|
   -|                                               0   0.0   87.1
 8 -|
   -|*****                                         15   8.8   95.9
 9 -|
   -|**                                             6   3.5   99.4
10 -|
   -|                                               0   0.0   99.4
11 -|
   -|                                               0   0.0   99.4
13 -|                                  Logarithmic
   -|*                                 Histogram     1   0.6  100.0
14 -|
    +----+----+----+----+----+----+----+----+----+----+
    0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	6.4	5.8	6.5	6.4	6.6	7.0
Median	6.0	6.0	7.0	6.0	7.0	7.0
Mode	6.0	5.0	7.0	7.0	7.0	7.0
Range	10	5	4	4	3	2
St Dev	1.19	0.93	0.85	1.00	1.08	0.67
Coef Var	0.185	0.162	0.130	0.156	0.165	0.095
Log Mean	0.802	0.755	0.812	0.801	0.813	0.843
Geo Mean	6.3	5.7	6.5	6.3	6.5	7.0
Log StDv	0.075	0.067	0.056	0.068	0.075	0.042
Log CVar	0.094	0.089	0.069	0.084	0.093	0.049
Percntls						
Minimum	4	4	5	5	5	6
10th	5	5	6	5	5	6
20th	5	5	6	5	5	6
30th	6	5	6	6	6	7
40th	6	5	6	6	7	7
50th	6	6	7	6	7	7
60th	7	6	7	7	7	7
70th	7	6	7	7	7	7
80th	7	6	7	7	7	7
85th	7	7	7	7	7	8
90th	8	7	7	7	8	8
95th	8	7	8	8	8	8
98th	9	7	8	9	8	8
99th	9	9	9	9	8	8
Maximum	14	9	9	9	8	8

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Hafnium [Hf]
Number of Values - 171
Units - ppm
Detection Limit - 1
Analytical Method - INA

Hafnium by INA

Summary Statistics

```
  ppm                                                    N     %   Cum%
0.9 -|
    -|*                                                  2   1.2   1.2
1.0 -|
    -|**                                                 4   2.3   3.5
1.1 -|
    -|***                                                9   5.3   8.8
1.3 -|
    -|**********                                        33  19.3  28.1
1.4 -|
    -|****************                                  57  33.3  61.4
1.6 -|
    -|********                                          26  15.2  76.6
1.8 -|
    -|*******                                           23  13.5  90.1
2.0 -|
    -|**                                                 6   3.5  93.6
2.3 -|
    -|**                                                 6   3.5  97.1
2.6 -|
    -|**                                                 4   2.3  99.4
2.9 -|                                Logarithmic
    -|*                                Histogram         1   0.6 100.0
3.2 -|
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                  Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	1.64	1.59	1.58	1.55	1.35	1.99
Median	1.60	1.50	1.50	1.50	1.30	1.90
Mode	1.50	1.50	1.50	1.40	1.20	1.90
Range	1.9	1.1	1.0	1.6	0.3	1.0
St Dev	0.35	0.26	0.23	0.39	0.13	0.32
Coef Var	0.212	0.165	0.144	0.248	0.097	0.160
Log Mean	0.207	0.195	0.194	0.179	0.128	0.294
Geo Mean	1.61	1.57	1.56	1.51	1.34	1.97
Log StDv	0.087	0.070	0.062	0.104	0.042	0.069
Log CVar	0.423	0.361	0.322	0.584	0.332	0.236
Percntls						
Minimum	1.0	1.1	1.1	1.0	1.2	1.5
10th	1.3	1.3	1.3	1.1	1.2	1.5
20th	1.4	1.4	1.4	1.2	1.2	1.7
30th	1.5	1.4	1.5	1.4	1.2	1.8
40th	1.5	1.5	1.5	1.4	1.3	1.9
50th	1.6	1.5	1.5	1.5	1.3	1.9
60th	1.6	1.6	1.6	1.6	1.4	1.9
70th	1.8	1.7	1.7	1.7	1.4	2.0
80th	1.9	1.8	1.8	1.8	1.5	2.3
85th	2.0	1.8	1.9	1.9	1.5	2.4
90th	2.0	2.0	1.9	2.0	1.5	2.4
95th	2.3	2.1	1.9	2.3	1.5	2.5
98th	2.6	2.2	2.0	2.6	1.5	2.5
99th	2.8	2.2	2.1	2.6	1.5	2.5
Maximum	2.9	2.2	2.1	2.6	1.5	2.5

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Europium [Eu]
Number of Values - 171
Units - ppm
Detection Limit - 0.2
Analytical Method - INA

Europium by INA

Summary Statistics

```
    %                                                N    %   Cum%
2.24 -|
     -|*                                             1  0.6   0.6
2.51 -|
     -|**                                            5  2.9   3.5
2.82 -|
     -|**                                            4  2.3   5.8
3.16 -|
     -|***                                           9  5.3  11.1
3.55 -|
     -|*********                                    28 16.4  27.5
3.98 -|
     -|**************                               47 27.5  55.0
4.47 -|
     -|************                                 38 22.2  77.2
5.01 -|
     -|*******                                      22 12.9  90.1
5.62 -|
     -|***                                          10  5.8  95.9
6.31 -|
     -|**                                            6  3.5  99.4
7.08 -|                                Logarithmic
     -|*                                             1  0.6 100.0
7.94 -|                                Histogram
      +----+----+----+----+----+----+----+----+----+----+
      0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	4.50	4.57	4.33	4.47	3.16	4.98
Median	4.40	4.46	4.25	4.27	2.93	5.00
Mode	3.84	4.13	3.84	2.81	2.47	5.47
Range	4.81	3.77	3.06	4.47	1.88	2.22
St Dev	0.90	0.69	0.64	1.03	0.55	0.67
Coef Var	0.199	0.152	0.147	0.230	0.175	0.134
Log Mean	0.645	0.655	0.632	0.640	0.494	0.693
Geo Mean	4.42	4.52	4.28	4.36	3.12	4.94
Log StDv	0.087	0.067	0.063	0.094	0.073	0.061
Log CVar	0.135	0.103	0.990	0.147	0.147	0.088
Percntls						
Minimum	2.47	2.72	3.11	2.81	2.47	3.67
10th	3.50	3.93	3.73	3.53	2.47	3.67
20th	3.84	4.06	3.84	3.70	2.64	4.37
30th	4.06	4.24	3.91	3.90	2.81	4.48
40th	4.25	4.34	4.08	3.97	2.87	4.74
50th	4.40	4.46	4.25	4.27	2.93	5.00
60th	4.61	4.66	4.31	4.43	3.14	5.30
70th	4.83	4.80	4.61	4.63	3.26	5.40
80th	5.13	4.97	4.74	4.99	3.65	5.47
85th	5.36	5.12	4.87	5.05	3.65	5.47
90th	5.61	5.38	5.17	6.23	3.81	5.47
95th	6.16	5.82	5.39	6.49	3.81	5.89
98th	6.89	6.05	5.47	7.28	4.35	5.89
99th	6.94	6.49	6.17	7.28	4.35	5.89
Maximum	7.28	6.49	6.17	7.28	4.35	5.89

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Iron [Fe]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - INA

Iron by INA

Summary Statistics

```
 ppm                                                N    %   Cum%
16 -|
   -|*                                              1  0.6   0.6
17 -|
   -|**                                             6  3.5   4.1
19 -|
   -|***                                            9  5.3   9.4
21 -|
   -|********                                      25 14.6  24.0
23 -|
   -|*****************                              56 32.7  56.7
25 -|
   -|********                                      25 14.6  71.3
28 -|
   -|**********                                    32 18.7  90.1
30 -|
   -|****                                           11  6.4  96.5
33 -|
   -|**                                             4  2.3  98.8
36 -|
   -|*                                              1  0.6  99.4
40 -|                                 Logarithmic
   -|                                 Histogram     0  0.0  99.4
44 -|
    +----+----+----+----+----+----+----+----+----+----+
    0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	25.5	24.6	25.8	23.1	28.8	23.7
Median	25.0	24.0	25.0	23.0	27.0	22.0
Mode	25.0	24.0	25.0	22.0	22.0	20.0
Range	28	14	14	17	25	14
St Dev	4.13	3.42	2.95	4.10	6.98	4.30
Coef Var	0.162	0.139	0.115	0.177	0.243	0.181
Log Mean	1.401	1.387	1.408	1.358	1.448	1.369
Geo Mean	25.2	24.4	25.6	22.8	28.0	23.4
Log StDv	0.069	0.061	0.049	0.074	0.100	0.077
Log CVar	0.049	0.044	0.035	0.055	0.069	0.056
Percntls						
Minimum	17	18	20	17	20	18
10th	21	21	22	18	20	18
20th	22	21	23	20	22	20
30th	23	23	24	21	25	20
40th	24	24	25	22	26	22
50th	25	24	25	23	27	22
60th	26	25	26	24	29	23
70th	27	27	28	24	30	25
80th	29	28	28	25	31	27
85th	29	29	28	26	31	28
90th	30	29	29	28	37	28
95th	33	30	30	32	37	32
98th	34	30	31	34	45	32
99th	36	32	34	34	45	32
Maximum	45	32	34	34	45	32

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Lanthanum [La]
Number of Values - 171
Units - ppm
Detection Limit - 0.5
Analytical Method - INA

Lanthanum by INA

Summary Statistics

```
    ppm                                                   N     %   Cum%
0.16 -|
     -|*                                                   2   1.2   1.2
0.18 -|
     -|                                                    0   0.0   1.2
0.21 -|
     -|*                                                   1   0.6   1.8
0.24 -|
     -|***                                                 8   4.7   6.4
0.28 -|
     -|***                                                 9   5.3  11.7
0.32 -|
     -|*********                                          29  17.0  28.7
0.36 -|
     -|*********                                          30  17.5  46.2
0.42 -|
     -|************                                       39  22.8  69.0
0.48 -|
     -|**********                                         33  19.3  88.3
0.55 -|
     -|*****                                              15   8.8  97.1
0.63 -|                                   Logarithmic
     -|**                                  Histogram       4   2.3  99.4
0.72 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.43	0.43	0.39	0.40	0.53	0.44
Median	0.43	0.45	0.36	0.39	0.51	0.43
Mode	0.47	0.34	0.31	0.45	0.49	0.41
Range	0.56	0.35	0.48	0.54	0.36	0.20
St Dev	0.10	0.09	0.11	0.10	0.09	0.06
Coef Var	0.240	0.206	0.291	0.260	0.168	0.135
Log Mean	-0.380	-0.376	-0.425	-0.417	-0.285	-0.360
Geo Mean	0.42	0.42	0.38	0.38	0.52	0.44
Log StDv	0.110	0.095	0.129	0.115	0.073	0.058
Log CVar	-0.289	-0.253	-0.302	-0.275	-0.255	-0.161
Percntls						
Minimum	0.17	0.24	0.18	0.17	0.36	0.35
10th	0.31	0.31	0.24	0.32	0.36	0.35
20th	0.34	0.34	0.30	0.33	0.47	0.38
30th	0.37	0.37	0.33	0.34	0.49	0.41
40th	0.39	0.39	0.35	0.36	0.49	0.41
50th	0.43	0.45	0.36	0.39	0.51	0.43
60th	0.45	0.47	0.40	0.40	0.51	0.44
70th	0.48	0.50	0.45	0.44	0.52	0.45
80th	0.51	0.51	0.47	0.45	0.57	0.47
85th	0.53	0.52	0.51	0.45	0.57	0.51
90th	0.57	0.53	0.57	0.47	0.63	0.51
95th	0.59	0.54	0.57	0.59	0.63	0.55
98th	0.66	0.57	0.62	0.71	0.72	0.55
99th	0.71	0.59	0.66	0.71	0.72	0.55
Maximum	0.73	0.59	0.66	0.71	0.72	0.55

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Lutetium [Lu]
Number of Values - 171
Units - ppm
Detection Limit - 0.05
Analytical Method - INA

Lutetium by INA

Summary Statistics

```
  ppm                                                    N     %   Cum%

  4 -|
    -|*****                                             16   9.4   9.4
  5 -|
    -|                                                  0   0.0   9.4
  7 -|
    -|                                                  0   0.0   9.4
 10 -|
    -|                                                  0   0.0   9.4
 15 -|
    -|*                                                 1   0.6   9.9
 21 -|
    -|*                                                 3   1.8  11.7
 30 -|
    -|**********                                       34  19.9  31.6
 42 -|
    -|*********************                            69  40.4  71.9
 59 -|
    -|************                                     38  22.2  94.2
 83 -|
    -|***                                               9   5.3  99.4
117 -|                                  Logarithmic
    -|*                                  Histogram      1   0.6 100.0
166 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	155	40	33	22	9	10
Missing	0	0	0	0	0	0
Mean	49.6	49.6	52.1	44.0	65.8	51.6
Median	49.0	49.0	50.0	45.0	58.0	48.0
Mode	5.0	45.0	49.0	5.0	5.0	40.0
Range	145	91	92	105	145	39
St Dev	22.81	19.00	19.58	21.16	46.24	12.92
Coef Var	0.460	0.383	0.375	0.481	0.702	0.250
Log Mean	1.616	1.645	1.663	1.559	1.605	1.699
Geo Mean	41.3	44.1	46.0	36.2	40.3	50.0
Log StDv	0.324	0.257	0.274	0.342	0.564	0.116
Log CVar	0.201	0.156	0.165	0.220	0.352	0.068
Percntls						
Minimum	5	5	5	5	5	30
10th	20	25	25	5	5	30
20th	34	33	39	33	5	40
30th	41	39	46	40	47	40
40th	46	45	49	43	54	46
50th	49	49	50	45	58	48
60th	53	54	53	46	68	53
70th	58	58	61	47	88	62
80th	65	65	68	55	100	63
85th	68	67	71	57	100	65
90th	73	71	76	61	110	65
95th	85	74	80	68	110	69
98th	100	85	81	110	150	69
99th	110	96	97	110	150	69
Maximum	150	96	97	110	150	69

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Rubidium [Rb]
Number of Values - 171
Units - ppm
Detection Limit - 5
Analytical Method - INA

Rubidium by INA

Summary Statistics

```
   ppm                                                N     %   Cum%
2.8 -|
    -|**                                              4   2.3    2.3
3.2 -|
    -|**                                              5   2.9    5.3
3.5 -|
    -|***                                             8   4.7    9.9
4.0 -|
    -|********                                       27  15.8   25.7
4.5 -|
    -|**************                                 48  28.1   53.8
5.0 -|
    -|*************                                  42  24.6   78.4
5.6 -|
    -|*****                                          16   9.4   87.7
6.3 -|
    -|***                                             10   5.8   93.6
7.1 -|
    -|**                                               7   4.1   97.7
7.9 -|
    -|**                                               4   2.3  100.0
8.9 -|                                  Logarithmic
    -|                                   Histogram
10.0 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	5.09	4.86	4.94	4.51	4.95	5.49
Median	5.00	4.70	4.90	4.30	5.10	5.10
Mode	5.20	4.50	5.20	4.30	5.10	5.10
Range	5.5	3.6	3.6	5.2	3.7	3.7
St Dev	1.07	0.83	0.76	1.24	0.99	1.28
Coef Var	0.210	0.172	0.154	0.275	0.201	0.233
Log Mean	0.698	0.680	0.689	0.640	0.687	0.729
Geo Mean	4.99	4.79	4.89	4.37	4.86	5.36
Log StDv	0.089	0.076	0.067	0.108	0.084	0.990
Log CVar	0.127	0.112	0.097	0.169	0.122	0.136
Percntls						
Minimum	3.0	3.0	3.2	3.0	3.6	3.9
10th	3.9	3.7	4.1	3.1	3.6	3.9
20th	4.3	4.2	4.3	3.4	3.9	4.2
30th	4.5	4.5	4.6	3.8	4.4	4.4
40th	4.7	4.6	4.7	4.2	4.5	4.9
50th	5.0	4.7	4.9	4.3	5.1	5.1
60th	5.2	5.0	5.0	4.3	5.1	5.1
70th	5.3	5.1	5.2	4.8	5.1	6.0
80th	5.7	5.5	5.4	5.0	5.3	6.5
85th	6.1	5.7	5.6	5.3	5.3	7.2
90th	6.6	6.1	5.9	5.7	5.8	7.2
95th	7.2	6.4	6.1	7.4	5.8	7.6
98th	8.2	6.6	6.8	8.2	7.3	7.6
99th	8.4	6.6	6.8	8.2	7.3	7.6
Maximum	8.5	6.6	6.8	8.2	7.3	7.6

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Samarium [Sm]
Number of Values - 171
Units - ppm
Detection Limit - 0.1
Analytical Method - INA

Samarium by INA

Summary Statistics

```
    ppm                                                   N     %   Cum%
10.7 -|
     -|**                                                 4   2.3   2.3
11.5 -|
     -|***                                               10   5.8   8.2
12.3 -|
     -|****                                              14   8.2  16.4
13.2 -|
     -|*********                                         30  17.5  33.9
14.1 -|
     -|***********                                       36  21.1  55.0
15.1 -|
     -|*********                                         31  18.1  73.1
16.2 -|
     -|******                                            18  10.5  83.6
17.4 -|
     -|*****                                             16   9.4  93.0
18.6 -|
     -|***                                                10   5.8  98.8
20.0 -|
     -|*                                                   1   0.6  99.4
21.4 -|                                   Logarithmic
     -|*                                   Histogram       1   0.6 100.0
22.9 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	15.4	15.9	15.1	14.3	12.9	16.1
Median	15.0	16.0	15.0	14.0	13.0	16.0
Mode	15.0	15.0	14.0	15.0	13.0	16.0
Range	11	10	7	9	4	4
St Dev	2.03	1.90	1.53	2.26	1.24	1.45
Coef Var	0.132	0.120	0.101	0.159	0.096	0.090
Log Mean	1.183	1.198	1.177	1.150	1.109	1.205
Geo Mean	15.2	15.8	15.0	14.1	12.9	16.0
Log StDv	0.058	0.051	0.043	0.067	0.042	0.040
Log CVar	0.049	0.043	0.037	0.058	0.038	0.033
Percntls						
Minimum	11	12	12	11	11	14
10th	13	14	14	12	11	14
20th	14	14	14	12	11	14
30th	14	15	14	13	12	15
40th	15	15	14	13	13	16
50th	15	16	15	14	13	16
60th	16	16	15	15	13	16
70th	16	17	16	15	13	17
80th	17	17	16	15	14	17
85th	18	18	17	16	14	18
90th	18	18	17	18	14	18
95th	19	19	17	18	14	18
98th	19	19	18	20	15	18
99th	19	22	19	20	15	18
Maximum	22	22	19	20	15	18

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Scandium [Sc]
Number of Values - 171
Units - ppm
Detection Limit - 0.1
Analytical Method - INA

Scandium by INA

Summary Statistics

```
    %                                                N    %   Cum%
1.45 -|
     -|*                                             2   1.2   1.2
1.55 -|
     -|*                                             1   0.6   1.8
1.66 -|
     -|**                                            4   2.3   4.1
1.78 -|
     -|***                                          10   5.8   9.9
1.91 -|
     -|****                                         11   6.4  16.4
2.04 -|
     -|********                                     26  15.2  31.6
2.19 -|
     -|*******                                      22  12.9  44.4
2.34 -|
     -|************                                 40  23.4  67.8
2.51 -|
     -|*********                                    31  18.1  86.0
2.69 -|
     -|*****                                        15   8.8  94.7
2.88 -|                                Logarithmic
     -|***                                           8   4.7  99.4
3.09 -|                                Histogram
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	2.36	2.17	2.47	2.30	2.16	2.63
Median	2.39	2.14	2.54	2.30	2.14	2.59
Mode	2.06	2.06	2.57	2.30	1.49	2.14
Range	1.62	1.30	1.04	1.13	1.29	0.82
St Dev	0.32	0.29	0.23	0.28	0.34	0.25
Coef Var	0.136	0.136	0.094	0.124	0.156	0.095
Log Mean	0.368	0.333	0.391	0.358	0.329	0.418
Geo Mean	2.34	2.15	2.46	2.28	2.13	2.62
Log StDv	0.061	0.060	0.043	0.055	0.071	0.043
Log CVar	0.166	0.180	0.111	0.155	0.216	0.102
Percntls						
Minimum	1.49	1.52	1.83	1.76	1.49	2.14
10th	1.90	1.83	2.12	1.80	1.49	2.14
20th	2.10	1.89	2.30	2.12	1.77	2.46
30th	2.17	2.00	2.36	2.18	2.06	2.47
40th	2.28	2.06	2.48	2.22	2.12	2.50
50th	2.39	2.14	2.54	2.30	2.14	2.59
60th	2.47	2.21	2.56	2.41	2.19	2.67
70th	2.53	2.30	2.60	2.45	2.23	2.71
80th	2.62	2.45	2.65	2.49	2.44	2.88
85th	2.67	2.49	2.68	2.50	2.44	2.90
90th	2.75	2.52	2.74	2.62	2.47	2.90
95th	2.88	2.63	2.75	2.72	2.47	2.96
98th	3.03	2.70	2.76	2.89	2.78	2.96
99th	3.06	2.82	2.87	2.89	2.78	2.96
Maximum	3.11	2.82	2.87	2.89	2.78	2.96

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Sodium [Na]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - INA

Sodium by INA

Summary Statistics

```
 ppm                                                N     %   Cum%
 4 -|
   -|+                                              1   0.6   0.6
 5 -|
   -|                                               0   0.0   0.6
 6 -|
   -|                                               0   0.0   0.6
 8 -|
   -|                                               0   0.0   0.6
10 -|
   -|                                               0   0.0   0.6
12 -|
   -|**                                             4   2.4   2.9
14 -|
   -|******                                        20  11.8  14.7
18 -|
   -|***************                               51  30.0  44.7
22 -|
   -|******************                            62  36.5  81.2
27 -|
   -|********                                      25  14.7  95.9
33 -|                                 Logarithmic
   -|**                                Histogram    6   3.5  99.4
41 -|
    +----+----+----+----+----+----+----+----+----+----+
    0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	170	42	35	24	12	10
N > DL	169	41	35	24	12	10
Missing	1	0	0	1	0	0
Mean	22.8	21.0	22.7	20.7	23.9	23.8
Median	22.0	21.0	22.0	20.0	24.0	24.0
Mode	19.0	18.0	19.0	20.0	24.0	24.0
Range	37	27	19	25	22	15
St Dev	5.61	5.05	4.28	5.70	5.60	5.03
Coef Var	0.246	0.241	0.189	0.275	0.234	0.211
Log Mean	1.345	1.307	1.348	1.301	1.369	1.367
Geo Mean	22.1	20.3	22.3	20.0	23.4	23.3
Log StDv	0.111	0.130	0.081	0.115	0.097	0.096
Log CVar	0.083	0.100	0.060	0.089	0.071	0.070
Percntls						
Minimum	5	5	14	12	16	16
10th	17	15	18	13	16	16
20th	18	17	19	15	17	18
30th	20	18	20	17	22	19
40th	21	19	21	19	23	22
50th	22	21	22	20	24	24
60th	24	21	23	20	24	24
70th	25	23	24	24	25	27
80th	26	26	26	24	26	28
85th	28	26	26	24	26	29
90th	30	28	29	26	27	29
95th	33	28	30	31	27	31
98th	38	30	32	37	38	31
99th	39	32	33	37	38	31
Maximum	42	32	33	37	38	31

(Summary statistics not calculated for formations with fewer than ten values.)

```
==========================================
|            Element Statistics          |
|========================================|
|             Element - Neodymium [Nd]   |
|----------------------------------------|
|     Number of Values - 170             |
|----------------------------------------|
|               Units - ppm              |
|----------------------------------------|
|      Detection Limit - 5               |
|----------------------------------------|
|    Analytical Method - INA             |
------------------------------------------
```

Neodymium by INA

Summary Statistics

```
   ppm                                                N     %   Cum%
0.5 -|
    -|*********************************              107  62.6  62.6
0.5 -|
    -|                                                 0   0.0  62.6
0.7 -|
    -|*                                                1   0.6  63.2
0.8 -|
    -|*                                                1   0.6  63.7
1.0 -|
    -|**                                               6   3.5  67.3
1.1 -|
    -|**                                               7   4.1  71.3
1.4 -|
    -|***                                              9   5.3  76.6
1.7 -|
    -|****                                            14   8.2  84.8
2.0 -|
    -|****                                            14   8.2  93.0
2.4 -|
    -|**                                               6   3.5  96.5
2.9 -|                                Logarithmic
    -|**                               Histogram       6   3.5 100.0
3.5 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                  Percentage of Values
```

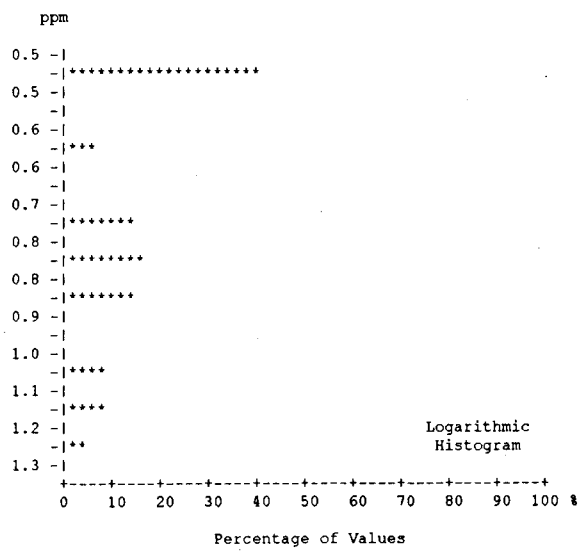
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	64	13	13	10	5	3
Missing	0	0	0	0	0	0
Mean	1.01	0.86	0.99	0.96	0.97	0.97
Median	0.50	0.50	0.50	0.50	0.50	0.50
Mode	0.50	0.50	0.50	0.50	0.50	0.50
Range	2.9	1.7	2.7	2.4	2.1	2.4
St Dev	0.76	0.58	0.74	0.72	0.68	0.83
Coef Var	0.752	0.680	0.750	0.751	0.708	0.856
Log Mean	-0.097	-0.144	-0.102	-0.108	-0.980	-0.121
Geo Mean	0.80	0.72	0.79	0.78	0.80	0.76
Log StDv	0.280	0.245	0.280	0.267	0.267	0.297
Log CVar	-2.915	-1.699	-2.776	-2.471	-2.757	-2.459
Percntls						
Minimum	0.5	0.5	0.5	0.5	0.5	0.5
10th	0.5	0.5	0.5	0.5	0.5	0.5
20th	0.5	0.5	0.5	0.5	0.5	0.5
30th	0.5	0.5	0.5	0.5	0.5	0.5
40th	0.5	0.5	0.5	0.5	0.5	0.5
50th	0.5	0.5	0.5	0.5	0.5	0.5
60th	0.5	0.5	0.5	0.5	0.5	0.5
70th	1.2	0.5	1.2	1.0	1.1	0.5
80th	1.7	1.4	1.8	1.2	1.4	1.6
85th	1.9	1.7	1.9	1.7	1.4	1.7
90th	2.2	1.8	2.1	2.2	1.8	1.7
95th	2.4	2.1	2.1	2.4	1.8	2.9
98th	3.1	2.2	2.3	2.9	2.6	2.9
99th	3.2	2.2	3.2	2.9	2.6	2.9
Maximum	3.4	2.2	3.2	2.9	2.6	2.9

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Tantalum [Ta]
Number of Values - 171
Units - ppm
Detection Limit - 0.5
Analytical Method - INA

Tantalum by INA

Summary Statistics



	N	%	Cum%
	66	38.6	38.6
	0	0.0	38.6
	8	4.7	43.3
	0	0.0	43.3
	21	12.3	55.6
	26	15.2	70.8
	23	13.5	84.2
	0	0.0	84.2
	11	6.4	90.6
	12	7.0	97.7
	4	2.3	100.0

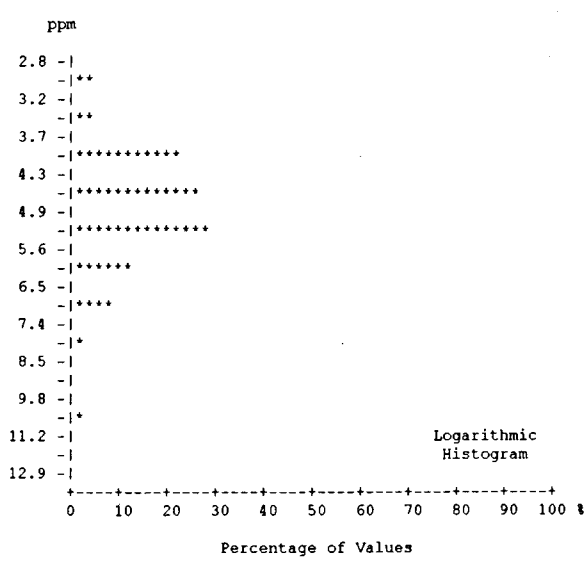
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	105	30	18	13	9	3
Missing	0	0	0	0	0	0
Mean	0.72	0.74	0.66	0.65	0.80	0.62
Median	0.70	0.80	0.60	0.60	0.80	0.50
Mode	0.50	0.50	0.50	0.50	0.90	0.50
Range	0.8	0.5	0.6	0.8	0.7	0.6
St Dev	0.22	0.19	0.18	0.21	0.22	0.21
Coef Var	0.308	0.251	0.274	0.317	0.272	0.347
Log Mean	-0.160	-0.143	-0.194	-0.203	-0.113	-0.227
Geo Mean	0.69	0.72	0.64	0.63	0.77	0.59
Log StDv	0.130	0.115	0.115	0.119	0.127	0.128
Log CVar	-0.812	-0.807	-0.595	-0.587	-1.130	-0.568
Percntls						
Minimum	0.5	0.5	0.5	0.5	0.5	0.5
10th	0.5	0.5	0.5	0.5	0.5	0.5
20th	0.5	0.5	0.5	0.5	0.5	0.5
30th	0.5	0.6	0.5	0.5	0.7	0.5
40th	0.6	0.7	0.5	0.5	0.8	0.5
50th	0.7	0.8	0.6	0.6	0.8	0.5
60th	0.8	0.8	0.7	0.7	0.9	0.5
70th	0.8	0.9	0.8	0.7	0.9	0.5
80th	0.9	0.9	0.8	0.7	0.9	0.7
85th	1.0	0.9	0.9	0.8	0.9	0.9
90th	1.0	1.0	0.9	0.9	1.0	0.9
95th	1.1	1.0	0.9	1.1	1.0	1.1
98th	1.3	1.0	1.0	1.3	1.2	1.1
99th	1.3	1.0	1.1	1.3	1.2	1.1
Maximum	1.3	1.0	1.1	1.3	1.2	1.1

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Terbium [Tb]
Number of Values - 171
Units - ppm
Detection Limit - 0.5
Analytical Method - INA

Terbium by INA

Summary Statistics



	N	%	Cum%
	5	2.9	2.9
	4	2.3	5.3
	35	20.5	25.7
	43	25.1	50.9
	47	27.5	78.4
	18	10.5	88.9
	14	8.2	97.1
	3	1.8	98.8
	0	0.0	98.8
	2	1.2	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	5.04	4.96	5.33	4.59	5.81	3.90
Median	4.80	4.70	5.00	4.60	5.20	3.90
Mode	5.00	4.30	5.00	4.60	5.20	3.90
Range	7.9	4.9	3.3	2.6	7.8	1.7
St Dev	1.19	0.99	1.02	0.72	2.07	0.54
Coef Var	0.236	0.199	0.192	0.156	0.356	0.138
Log Mean	0.692	0.688	0.719	0.657	0.742	0.587
Geo Mean	4.92	4.88	5.24	4.54	5.52	3.87
Log StDv	0.092	0.080	0.081	0.071	0.143	0.061
Log CVar	0.134	0.117	0.112	0.108	0.193	0.103
Percntls						
Minimum	3.1	3.6	4.0	3.1	3.2	3.1
10th	3.9	3.9	4.1	3.9	3.2	3.1
20th	4.1	4.2	4.5	4.0	4.0	3.2
30th	4.4	4.3	4.6	4.1	4.6	3.5
40th	4.6	4.4	4.7	4.2	5.2	3.8
50th	4.8	4.7	5.0	4.6	5.2	3.9
60th	5.0	5.0	5.1	4.7	5.3	3.9
70th	5.3	5.1	5.7	5.0	6.1	4.1
80th	5.7	5.9	6.3	5.4	7.0	4.2
85th	6.1	5.9	6.8	5.4	7.0	4.5
90th	6.5	6.1	7.0	5.5	7.3	4.5
95th	7.0	6.6	7.1	5.6	7.3	4.8
98th	7.9	6.7	7.1	5.7	11.0	4.8
99th	8.5	8.5	7.3	5.7	11.0	4.8
Maximum	11.0	8.5	7.3	5.7	11.0	4.8

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Thorium [Th]
Number of Values - 171
Units - ppm
Detection Limit - 0.2
Analytical Method - INA

Thorium by INA

Summary Statistics

```
 ppm                                                N     %   Cum%
  1 -|
    -|*************************************************      155  90.6  90.6
  1 -|
    -|                                                        0   0.0  90.6
  1 -|
    -|                                                        0   0.0  90.6
  2 -|
    -|**                                                     6   3.5  94.2
  2 -|
    -|                                                        0   0.0  94.2
  3 -|
    -|**                                                     4   2.3  96.5
  4 -|
    -|**                                                     4   2.3  98.8
  4 -|
    -|                                                        0   0.0  98.8
  6 -|
    -|*                                                      1   0.6  99.4
  7 -|
    -|                                                        0   0.0  99.4
  9 -|                                   Logarithmic
    -|*                                   Histogram          1   0.6 100.0
 11 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	16	3	7	1	2	1
Missing	0	0	0	0	0	0
Mean	1.2	1.3	1.3	1.1	1.7	1.2
Median	1.0	1.0	1.0	1.0	1.0	1.0
Mode	1.0	1.0	1.0	1.0	1.0	1.0
Range	9	9	3	3	5	2
St Dev	0.95	1.46	0.76	0.60	1.61	0.63
Coef Var	0.773	1.112	0.570	0.536	0.969	0.527
Log Mean	0.046	0.045	0.084	0.024	0.115	0.048
Geo Mean	1.1	1.1	1.2	1.1	1.3	1.1
Log StDv	0.156	0.183	0.177	0.120	0.271	0.151
Log CVar	3.394	4.057	2.138	5.017	2.359	3.210
Percntls						
Minimum	1	1	1	1	1	1
10th	1	1	1	1	1	1
20th	1	1	1	1	1	1
30th	1	1	1	1	1	1
40th	1	1	1	1	1	1
50th	1	1	1	1	1	1
60th	1	1	1	1	1	1
70th	1	1	1	1	1	1
80th	1	1	1	1	1	1
85th	1	1	2	1	1	1
90th	1	1	3	1	4	1
95th	3	2	3	1	4	3
98th	4	4	3	4	6	3
99th	4	10	4	4	6	3
Maximum	10	10	4	4	6	3

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Tungsten [W]
Number of Values - 171
Units - ppm
Detection Limit - 1
Analytical Method - INA

Tungsten by INA

Summary Statistics

```
   ppm                                                N     %   Cum%
0.4 -|
    -|**                                              7   4.1   4.1
0.5 -|
    -|                                                0   0.0   4.1
0.7 -|
    -|                                                0   0.0   4.1
0.8 -|
    -|                                                0   0.0   4.1
1.0 -|
    -|***                                             9   5.3   9.4
1.3 -|
    -|****                                           14   8.2  17.5
1.7 -|
    -|*************                                  42  24.6  42.1
2.1 -|
    -|****************                               52  30.4  72.5
2.6 -|
    -|**********                                     33  19.3  91.8
3.3 -|
    -|****                                           11   6.4  98.2
4.2 -|                                 Logarithmic
    -|*                                Histogram      2   1.2  99.4
5.2 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

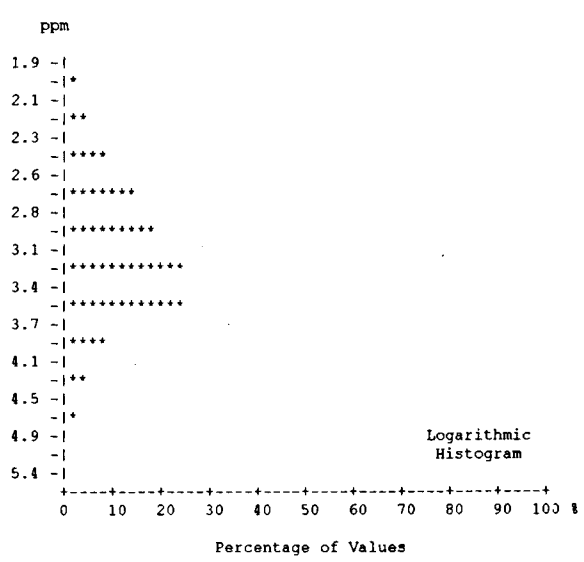
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	164	39	34	24	12	10
Missing	0	0	0	0	0	0
Mean	2.28	2.08	2.48	2.11	3.00	1.98
Median	2.20	2.00	2.40	2.00	2.80	1.80
Mode	2.40	1.70	1.90	1.60	2.50	1.80
Range	4.8	3.2	3.9	3.4	4.1	2.1
St Dev	0.81	0.71	0.74	0.73	1.03	0.58
Coef Var	0.355	0.342	0.298	0.347	0.345	0.292
Log Mean	0.325	0.284	0.371	0.295	0.453	0.280
Geo Mean	2.11	1.92	2.35	1.97	2.84	1.91
Log StDv	0.184	0.198	0.158	0.178	0.156	0.126
Log CVar	0.567	0.700	0.428	0.605	0.345	0.450
Percntls						
Minimum	0.5	0.5	0.5	0.5	1.2	1.1
10th	1.4	1.2	1.7	1.4	1.2	1.1
20th	1.7	1.7	1.9	1.6	2.5	1.5
30th	1.9	1.7	2.2	1.7	2.6	1.7
40th	2.0	1.9	2.2	1.8	2.6	1.8
50th	2.2	2.0	2.4	2.0	2.8	1.8
60th	2.4	2.3	2.5	2.1	2.8	1.9
70th	2.5	2.4	2.7	2.4	2.9	2.0
80th	2.9	2.6	3.0	2.8	3.3	2.3
85th	3.0	2.7	3.1	2.8	3.3	2.5
90th	3.3	3.0	3.6	3.1	4.5	2.5
95th	3.7	3.2	3.7	3.2	4.5	3.2
98th	4.1	3.3	3.8	3.9	5.3	3.2
99th	4.4	3.7	4.4	3.9	5.3	3.2
Maximum	5.3	3.7	4.4	3.9	5.3	3.2

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Uranium [U]
Number of Values - 171
Units - ppm
Detection Limit - 0.5
Analytical Method - INA

Uranium by INA

Summary Statistics



	N	%	Cum%
	2	1.2	1.2
	7	4.1	5.3
	13	7.6	12.9
	22	12.9	25.7
	30	17.5	43.3
	41	24.0	67.3
	38	22.2	89.5
	11	6.4	95.9
	4	2.3	98.2
	3	1.8	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	3.14	3.07	3.13	2.81	3.42	2.74
Median	3.10	3.10	3.10	2.70	3.30	2.80
Mode	2.90	2.90	3.30	2.70	3.20	2.80
Range	2.7	1.8	1.5	2.4	2.3	1.3
St Dev	0.50	0.42	0.37	0.58	0.60	0.43
Coef Var	0.158	0.136	0.118	0.205	0.175	0.158
Log Mean	0.491	0.484	0.493	0.442	0.528	0.433
Geo Mean	3.10	3.04	3.11	2.76	3.37	2.71
Log StDv	0.069	0.062	0.051	0.080	0.073	0.070
Log CVar	0.141	0.128	0.103	0.181	0.139	0.162
Percntls						
Minimum	2.1	2.1	2.5	2.2	2.5	2.1
10th	2.5	2.4	2.7	2.2	2.5	2.1
20th	2.7	2.7	2.8	2.3	2.9	2.2
30th	2.9	2.9	2.9	2.5	3.2	2.4
40th	3.0	3.0	3.0	2.6	3.2	2.5
50th	3.1	3.1	3.1	2.7	3.3	2.8
60th	3.3	3.1	3.2	2.7	3.3	2.8
70th	3.4	3.3	3.3	3.0	3.4	2.9
80th	3.5	3.4	3.3	3.1	3.8	3.1
85th	3.6	3.5	3.5	3.1	3.8	3.2
90th	3.8	3.5	3.5	3.2	4.1	3.2
95th	4.0	3.7	3.8	4.2	4.1	3.4
98th	4.2	3.8	4.0	4.6	4.8	3.4
99th	4.5	3.9	4.0	4.6	4.8	3.4
Maximum	4.8	3.9	4.0	4.6	4.8	3.4

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Ytterbium [Yb]
Number of Values - 171
Units - ppm
Detection Limit - 0.2
Analytical Method - INA

Ytterbium by INA

Summary Statistics

```
    %                                                    N    %   Cum%
0.78 -|
     -|*                                                 2  1.2   1.2
0.89 -|
     -|*                                                 1  0.6   1.8
1.02 -|
     -|**                                                6  3.5   5.3
1.17 -|
     -|****                                             13  7.6  12.9
1.35 -|
     -|*******                                          23 13.5  26.3
1.55 -|
     -|************                                     38 22.2  48.5
1.78 -|
     -|**************                                   47 27.5  76.0
2.04 -|
     -|*****                                            15  8.8  84.8
2.34 -|
     -|*****                                            15  8.8  93.6
2.69 -|
     -|**                                                7  4.1  97.7
3.09 -|                                  Logarithmic
     -|*                                  Histogram      2  1.2  98.8
3.55 -|
      +----+----+----+----+----+----+----+----+----+----+
      0   10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	1.85	2.08	1.71	1.83	1.59	2.04
Median	1.78	1.84	1.74	1.73	1.70	1.88
Mode	1.65	1.65	1.30	1.54	0.86	1.41
Range	2.78	2.39	1.76	2.09	1.50	1.64
St Dev	0.49	0.58	0.36	0.43	0.45	0.57
Coef Var	0.267	0.280	0.211	0.237	0.283	0.277
Log Mean	0.252	0.304	0.225	0.251	0.183	0.295
Geo Mean	1.79	2.01	1.68	1.78	1.53	1.97
Log StDv	0.112	0.112	0.090	0.102	0.134	0.118
Log CVar	0.446	0.369	0.401	0.410	0.730	0.400
Percntls						
Minimum	0.86	1.25	1.09	1.04	0.86	1.41
10th	1.28	1.52	1.30	1.47	0.86	1.41
20th	1.48	1.65	1.39	1.54	0.96	1.45
30th	1.59	1.73	1.54	1.65	1.31	1.51
40th	1.70	1.79	1.59	1.69	1.35	1.71
50th	1.78	1.84	1.74	1.73	1.70	1.88
60th	1.88	1.91	1.80	1.82	1.72	1.93
70th	1.95	2.21	1.84	1.94	1.73	2.26
80th	2.18	2.62	1.94	2.04	1.94	2.59
85th	2.33	2.65	1.98	2.26	1.94	2.62
90th	2.61	2.79	2.09	2.33	2.00	2.62
95th	2.79	3.31	2.20	2.38	2.00	3.05
98th	3.13	3.64	2.44	3.13	2.36	3.05
99th	3.31	3.64	2.85	3.13	2.36	3.05
Maximum	3.64	3.64	2.85	3.13	2.36	3.05

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Aluminium [Al]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - ICP

Aluminium by ICP

Summary Statistics

```
  ppm                                                N     %   Cum%

 25 -|
    -|*                                              1   0.6    0.6
 33 -|
    -|*                                              2   1.2    1.8
 44 -|
    -|**                                             4   2.3    4.1
 58 -|
    -|******                                        20  11.7   15.8
 76 -|
    -|****************                              56  32.7   48.5
100 -|
    -|******************                            62  36.3   84.8
132 -|
    -|*******                                       21  12.3   97.1
174 -|
    -|*                                              3   1.8   98.8
229 -|
    -|*                                              1   0.6   99.4
302 -|
    -|*                                              1   0.6  100.0
398 -|                                  Logarithmic
    -|                                  Histogram
525 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                  Percentage of Values
```

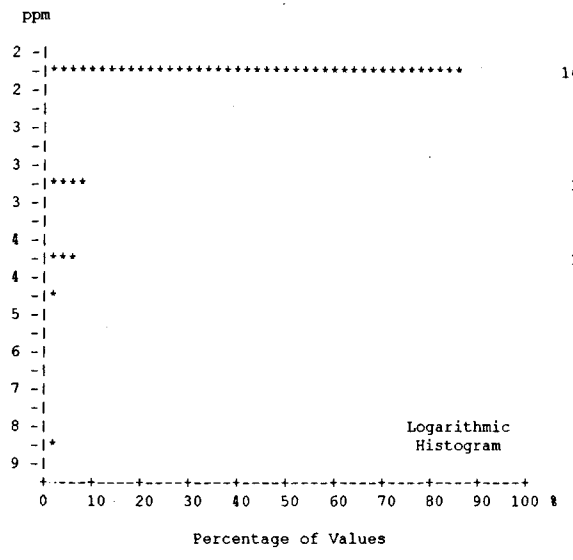
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	104.3	110.5	103.8	115.0	76.8	97.2
Median	100.0	104.0	100.0	100.0	62.0	94.0
Mode	89.0	72.0	66.0	119.0	84.0	71.0
Range	363	116	212	335	158	68
St Dev	37.65	32.58	37.14	60.69	44.48	20.50
Coef Var	0.361	0.295	0.358	0.528	0.579	0.211
Log Mean	1.996	2.025	1.996	2.030	1.823	1.979
Geo Mean	99.1	106.0	99.0	107.1	66.5	95.4
Log StDv	0.139	0.126	0.129	0.147	0.244	0.089
Log CVar	0.070	0.062	0.064	0.072	0.134	0.045
Percntls						
Minimum	27	65	56	55	27	71
10th	72	72	71	80	27	71
20th	80	75	75	89	37	75
30th	88	89	82	93	46	80
40th	93	99	92	97	47	93
50th	100	104	100	100	62	94
60th	105	113	106	112	84	96
70th	114	123	110	118	84	99
80th	121	137	117	119	100	107
85th	130	149	122	119	100	118
90th	144	158	138	135	116	118
95th	153	173	151	152	116	139
98th	181	179	160	390	185	139
99th	185	181	268	390	185	139
Maximum	390	181	268	390	185	139

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Barium [Ba]
Number of Values - 171
Units - ppm
Detection Limit - 2
Analytical Method - ICP

Barium by ICP

Summary Statistics



	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	24	8	6	6	1	1
Missing	0	0	0	0	0	0
Mean	2.3	2.5	2.3	2.4	2.1	2.1
Median	2.0	2.0	2.0	2.0	2.0	2.0
Mode	2.0	2.0	2.0	2.0	2.0	2.0
Range	6	6	2	2	1	1
St Dev	0.74	1.19	0.61	0.70	0.29	0.32
Coef Var	0.331	0.482	0.271	0.297	0.139	0.151
Log Mean	0.338	0.364	0.342	0.358	0.316	0.319
Geo Mean	2.2	2.3	2.2	2.3	2.1	2.1
Log StDv	0.100	0.144	0.095	0.109	0.051	0.056
Log CVar	0.295	0.395	0.278	0.303	0.161	0.175
Percntls						
Minimum	2	2	2	2	2	2
10th	2	2	2	2	2	2
20th	2	2	2	2	2	2
30th	2	2	2	2	2	2
40th	2	2	2	2	2	2
50th	2	2	2	2	2	2
60th	2	2	2	2	2	2
70th	2	2	2	2	2	2
80th	2	2	2	3	2	2
85th	2	3	3	3	2	2
90th	3	4	3	4	2	2
95th	4	5	4	4	2	3
98th	4	5	4	4	3	3
99th	5	8	4	4	3	3
Maximum	8	8	4	4	3	3

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Bismuth [Bi]
Number of Values - 171
Units - ppm
Detection Limit - 2
Analytical Method - ICP

Bismuth by ICP

Summary Statistics

```
ppm                                                N     %   Cum%

2 -|
  -|*******************                            68  39.8  39.8
2 -|
  -|                                                0   0.0  39.8
2 -|
  -|                                                0   0.0  39.8
3 -|
  -|*******************                            66  38.6  78.4
3 -|
  -|                                                0   0.0  78.4
3 -|
  -|                                                0   0.0  78.4
4 -|
  -|*******                                        24  14.0  92.4
4 -|
  -|                                                0   0.0  92.4
5 -|
  -|***                                             9   5.3  97.7
5 -|
  -|*                                               3   1.8  99.4
6 -|                                  Logarithmic
  -|                                   Histogram    0   0.0  99.4
7 -|
   +----+----+----+----+----+----+----+----+----+----+
   0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	103	24	22	18	7	5
Missing	0	0	0	0	0	0
Mean	2.9	2.9	2.8	3.2	2.8	2.8
Median	3.0	3.0	3.0	3.0	3.0	2.0
Mode	2.0	2.0	3.0	3.0	2.0	2.0
Range	5	5	2	4	3	3
St Dev	1.00	1.06	0.72	1.03	0.94	1.03
Coef Var	0.342	0.369	0.257	0.325	0.331	0.369
Log Mean	0.444	0.436	0.433	0.479	0.433	0.424
Geo Mean	2.8	2.7	2.7	3.0	2.7	2.7
Log StDv	0.136	0.140	0.112	0.137	0.134	0.146
Log CVar	0.307	0.321	0.259	0.287	0.309	0.345
Percntls						
Minimum	2	2	2	2	2	2
10th	2	2	2	2	2	2
20th	2	2	2	2	2	2
30th	2	2	2	3	2	2
40th	2	2	3	3	2	2
50th	3	3	3	3	3	2
60th	3	3	3	3	3	3
70th	3	3	3	4	3	3
80th	4	3	3	4	3	3
85th	4	4	4	4	3	4
90th	4	4	4	4	4	4
95th	5	5	4	5	4	5
98th	6	5	4	6	5	5
99th	6	7	4	6	5	5
Maximum	7	7	4	6	5	5

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Boron [B]
Number of Values - 171
Units - ppm
Detection Limit - 2
Analytical Method - ICP

Boron by ICP

Summary Statistics

```
   ppm                                                    N     %   Cum%
0.2 -|
    -|******************************                    100  58.5  58.5
0.2 -|
    -|                                                    0   0.0  58.5
0.2 -|
    -|                                                    0   0.0  58.5
0.3 -|
    -|                                                    0   0.0  58.5
0.3 -|
    -|**********                                         33  19.3  77.8
0.3 -|
    -|                                                    0   0.0  77.8
0.4 -|
    -|*****                                              17   9.9  87.7
0.4 -|
    -|                                                    0   0.0  87.7
0.5 -|
    -|***                                                10   5.8  93.6
0.5 -|
    -|                                                    0   0.0  93.6
0.6 -|                                Logarithmic
    -|***                            Histogram           8   4.7  98.2
0.7 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	71	19	14	10	3	5
Missing	0	0	0	0	0	0
Mean	0.28	0.31	0.27	0.29	0.23	0.34
Median	0.20	0.20	0.20	0.20	0.20	0.20
Mode	0.20	0.20	0.20	0.20	0.20	0.20
Range	0.50	0.50	0.40	0.40	0.10	0.40
St Dev	0.13	0.16	0.11	0.12	0.05	0.17
Coef Var	0.446	0.514	0.415	0.429	0.201	0.504
Log Mean	-0.580	-0.554	-0.594	-0.574	-0.655	-0.516
Geo Mean	0.26	0.28	0.25	0.27	0.22	0.30
Log StDv	0.161	0.188	0.149	0.167	0.080	0.211
Log CVar	-0.279	-0.341	-0.250	-0.291	-0.122	-0.409
Percntls						
Minimum	0.20	0.20	0.20	0.20	0.20	0.20
10th	0.20	0.20	0.20	0.20	0.20	0.20
20th	0.20	0.20	0.20	0.20	0.20	0.20
30th	0.20	0.20	0.20	0.20	0.20	0.20
40th	0.20	0.20	0.20	0.20	0.20	0.20
50th	0.20	0.20	0.20	0.20	0.20	0.20
60th	0.30	0.30	0.20	0.20	0.20	0.30
70th	0.30	0.30	0.30	0.40	0.20	0.40
80th	0.40	0.40	0.30	0.40	0.30	0.50
85th	0.40	0.50	0.40	0.40	0.30	0.60
90th	0.50	0.60	0.40	0.50	0.30	0.60
95th	0.60	0.70	0.50	0.50	0.30	0.60
98th	0.60	0.70	0.60	0.60	0.30	0.60
99th	0.70	0.70	0.60	0.60	0.30	0.60
Maximum	0.70	0.70	0.60	0.60	0.30	0.60

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|                Element - Cadmium [Cd]      |
|--------------------------------------------|
|       Number of Values - 171               |
|--------------------------------------------|
|                  Units - ppm               |
|--------------------------------------------|
|        Detection Limit - 0.2               |
|--------------------------------------------|
|      Analytical Method - ICP               |
----------------------------------------------
```

Cadmium by ICP

Summary Statistics

```
    %                                                    N    %   Cum%
0.19 -|
     -|*                                                 1   0.6   0.6
0.23 -|
     -|*                                                 2   1.2   1.8
0.28 -|
     -|**                                                5   2.9   4.7
0.34 -|
     -|****                                             14   8.2  12.9
0.41 -|
     -|********                                         26  15.2  28.1
0.49 -|
     -|*********                                        28  16.4  44.4
0.59 -|
     -|***********                                      35  20.5  64.9
0.71 -|
     -|*************                                    44  25.7  90.6
0.85 -|
     -|****                                             11   6.4  97.1
1.02 -|
     -|**                                                4   2.3  99.4
1.23 -|                                  Logarithmic
     -|                                   Histogram      0   0.0  99.4
1.48 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.63	0.69	0.64	0.52	0.46	0.50
Median	0.63	0.65	0.63	0.46	0.38	0.44
Mode	0.57	0.50	0.44	0.70	0.38	0.40
Range	1.38	1.21	0.83	0.60	0.58	0.27
St Dev	0.20	0.23	0.20	0.19	0.18	0.11
Coef Var	0.322	0.337	0.314	0.357	0.390	0.215
Log Mean	-0.226	-0.184	-0.213	-0.309	-0.367	-0.308
Geo Mean	0.59	0.65	0.61	0.49	0.43	0.49
Log StDv	0.142	0.132	0.134	0.162	0.162	0.090
Log CVar	-0.630	-0.715	-0.633	-0.523	-0.442	-0.293
Percntls						
Minimum	0.23	0.40	0.35	0.23	0.25	0.40
10th	0.38	0.43	0.42	0.32	0.25	0.40
20th	0.43	0.50	0.44	0.34	0.30	0.40
30th	0.49	0.52	0.49	0.39	0.33	0.41
40th	0.56	0.59	0.57	0.43	0.34	0.43
50th	0.63	0.65	0.63	0.46	0.38	0.44
60th	0.67	0.71	0.67	0.51	0.38	0.47
70th	0.74	0.75	0.75	0.69	0.54	0.53
80th	0.79	0.82	0.78	0.70	0.64	0.61
85th	0.81	0.87	0.83	0.70	0.64	0.66
90th	0.85	0.90	0.85	0.81	0.65	0.66
95th	0.90	1.08	0.91	0.81	0.65	0.67
98th	1.09	1.09	1.12	0.83	0.83	0.67
99th	1.12	1.61	1.18	0.83	0.83	0.67
Maximum	1.61	1.61	1.18	0.83	0.83	0.67

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Calcium [Ca]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - ICP

Calcium by ICP

Summary Statistics

```
 ppm                                                N    %   Cum%
11 -|
   -|*                                               1  0.6   0.6
12 -|
   -|**                                              7  4.1   4.7
14 -|
   -|***                                             9  5.3   9.9
16 -|
   -|******                                         20 11.7  21.6
19 -|
   -|*************                                  44 25.7  47.4
21 -|
   -|****************                               52 30.4  77.8
25 -|
   -|*********                                      28 16.4  94.2
28 -|
   -|**                                              5  2.9  97.1
32 -|
   -|*                                               2  1.2  98.2
37 -|
   -|*                                               1  0.6  98.8
43 -|                                Logarithmic
   -|*                                Histogram      2  1.2 100.0
49 -|
    +----+----+----+----+----+----+----+----+----+----+
    0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	22.0	21.8	23.5	22.6	17.2	20.4
Median	22.0	21.0	23.0	22.0	17.0	21.0
Mode	22.0	21.0	23.0	22.0	17.0	21.0
Range	37	34	35	29	18	13
St Dev	5.15	5.57	6.00	5.44	4.78	4.06
Coef Var	0.234	0.255	0.256	0.241	0.279	0.199
Log Mean	1.331	1.328	1.359	1.343	1.221	1.301
Geo Mean	21.4	21.3	22.9	22.0	16.6	20.0
Log StDv	0.095	0.093	0.100	0.097	0.111	0.092
Log CVar	0.071	0.070	0.074	0.072	0.091	0.071
Percntls						
Minimum	11	13	13	13	11	13
10th	16	17	19	18	11	13
20th	18	18	20	18	13	16
30th	20	20	21	20	14	18
40th	21	20	22	21	15	19
50th	22	21	23	22	17	21
60th	22	21	23	23	17	21
70th	23	22	24	24	17	21
80th	25	24	26	26	20	24
85th	26	25	27	26	20	25
90th	27	26	29	27	22	25
95th	29	29	32	27	22	26
98th	36	36	34	42	29	26
99th	42	47	48	42	29	26
Maximum	48	47	48	42	29	26

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Chromium [Cr]
Number of Values - 171
Units - ppm
Detection Limit - 1
Analytical Method - ICP

Chromium by ICP

Summary Statistics

```
 ppm                                                N    %   Cum%
 2 -|
   -|*                                              1   0.6   0.6
 2 -|
   -|**                                             5   2.9   3.5
 3 -|
   -|                                               0   0.0   3.5
 4 -|
   -|****                                          13   7.6  11.1
 5 -|
   -|**********                                    33  19.3  30.4
 6 -|
   -|********                                      25  14.6  45.0
 8 -|
   -|*************                                 42  24.6  69.6
10 -|
   -|*************                                 43  25.1  94.7
12 -|
   -|**                                             5   2.9  97.7
15 -|
   -|**                                             4   2.3 100.0
19 -|                                  Logarithmic
   -|                                   Histogram
24 -|
    +----+----+----+----+----+----+----+----+----+----+
    0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	8.1	9.8	7.6	7.4	4.8	6.3
Median	8.0	9.0	7.0	7.0	4.0	6.0
Mode	7.0	8.0	6.0	7.0	4.0	6.0
Range	16	14	8	10	9	6
St Dev	2.88	3.27	2.13	2.55	2.48	1.89
Coef Var	0.357	0.333	0.280	0.345	0.513	0.300
Log Mean	0.876	0.968	0.864	0.844	0.641	0.779
Geo Mean	7.5	9.3	7.3	7.0	4.4	6.0
Log StDv	0.166	0.146	0.124	0.154	0.197	0.149
Log CVar	0.190	0.151	0.144	0.182	0.308	0.191
Percntls						
Minimum	2	4	4	3	2	3
10th	4	6	5	4	2	3
20th	6	7	6	5	3	4
30th	6	8	6	6	4	5
40th	7	9	6	7	4	6
50th	8	9	7	7	4	6
60th	9	10	8	7	4	7
70th	10	11	9	8	4	7
80th	10	12	10	9	6	8
85th	11	12	10	10	6	8
90th	12	14	10	11	8	8
95th	12	17	11	13	8	9
98th	16	17	11	13	11	9
99th	17	18	12	13	11	9
Maximum	18	18	12	13	11	9

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|                Element - Cobalt [Co]       |
|--------------------------------------------|
|       Number of Values - 171               |
|--------------------------------------------|
|                  Units - ppm               |
|--------------------------------------------|
|        Detection Limit - 1                 |
|--------------------------------------------|
|      Analytical Method - ICP               |
----------------------------------------------
```

Cobalt by ICP

Summary Statistics

```
 ppm                                                N     %   Cum%
  6 -|
    -|*                                             3   1.8    1.8
  7 -|
    -|**                                            4   2.3    4.1
  9 -|
    -|***                                           9   5.3    9.4
 12 -|
    -|*****                                        17   9.9   19.3
 15 -|
    -|*****                                        15   8.8   28.1
 19 -|
    -|*********                                    28  16.4   44.4
 23 -|
    -|***********                                  36  21.1   65.5
 30 -|
    -|**********                                   33  19.3   84.8
 37 -|
    -|******                                       18  10.5   95.3
 47 -|
    -|**                                            4   2.3   97.7
 59 -|                                Logarithmic
    -|**                                            4   2.3  100.0
 74 -|                                Histogram
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

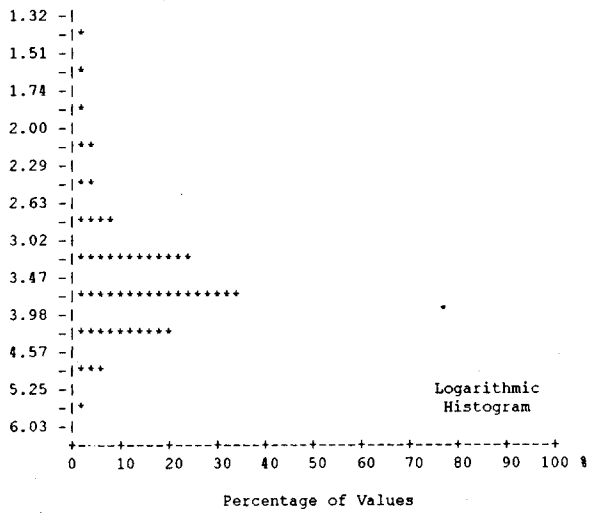
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	26.0	31.8	27.0	21.7	14.9	15.0
Median	24.0	31.0	24.0	20.0	12.0	14.0
Mode	24.0	36.0	24.0	14.0	12.0	11.0
Range	60	51	36	41	30	17
St Dev	11.99	11.80	9.70	10.77	8.67	5.14
Coef Var	0.460	0.371	0.359	0.496	0.581	0.343
Log Mean	1.368	1.471	1.401	1.290	1.121	1.149
Geo Mean	23.3	29.6	25.2	19.5	13.2	14.1
Log StDv	0.211	0.171	0.172	0.203	0.212	0.169
Log CVar	0.155	0.116	0.123	0.158	0.189	0.147
Percntls						
Minimum	6	10	8	9	7	6
10th	12	17	17	11	7	6
20th	15	21	19	12	7	11
30th	19	25	21	14	11	11
40th	22	27	23	14	12	14
50th	24	31	24	20	12	14
60th	27	34	29	22	12	15
70th	31	36	30	24	12	16
80th	35	41	34	29	19	18
85th	37	45	41	30	19	22
90th	42	46	43	40	26	22
95th	46	50	44	41	26	23
98th	61	61	44	50	37	23
99th	61	61	44	50	37	23
Maximum	66	61	44	50	37	23

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Copper [Cu]
Number of Values - 171
Units - ppm
Detection Limit - 1
Analytical Method - ICP

Copper by ICP

Summary Statistics



N	%	Cum%
1	0.6	0.6
2	1.2	1.8
3	1.8	3.5
6	3.5	7.0
7	4.1	11.1
12	7.0	18.1
38	22.2	40.4
57	33.3	73.7
33	19.3	93.0
10	5.8	98.8
2	1.2	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	3.57	3.82	3.48	3.52	2.61	3.48
Median	3.65	3.78	3.42	3.52	2.49	3.78
Mode	3.37	3.74	3.69	2.08	1.48	2.09
Range	4.20	3.99	3.05	3.34	2.77	2.11
St Dev	0.75	0.67	0.60	0.80	0.80	0.72
Coef Var	0.210	0.175	0.171	0.228	0.305	0.208
Log Mean	0.542	0.575	0.535	0.535	0.397	0.532
Geo Mean	3.48	3.76	3.43	3.43	2.50	3.40
Log StDv	0.101	0.085	0.079	0.103	0.134	0.101
Log CVar	0.186	0.148	0.148	0.193	0.338	0.191
Percntls						
Minimum	1.48	1.69	1.92	2.08	1.48	2.09
10th	2.58	2.82	2.90	2.22	1.48	2.09
20th	3.05	3.33	3.06	3.06	1.72	2.59
30th	3.26	3.62	3.24	3.18	2.17	3.03
40th	3.39	3.74	3.33	3.32	2.37	3.15
50th	3.65	3.78	3.42	3.52	2.49	3.78
60th	3.76	3.93	3.63	3.68	2.63	3.97
70th	3.92	4.08	3.69	3.80	2.86	3.98
80th	4.20	4.24	3.81	3.93	3.19	3.99
85th	4.25	4.42	3.87	4.00	3.19	4.04
90th	4.48	4.57	4.20	4.46	3.48	4.04
95th	4.68	4.77	4.54	5.06	3.48	4.20
98th	5.03	4.78	4.63	5.42	4.25	4.20
99th	5.06	5.68	4.97	5.42	4.25	4.20
Maximum	5.68	5.68	4.97	5.42	4.25	4.20

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Iron [Fe]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - ICP

Iron by ICP

Summary Statistics

```
 ppm                                                    N     %   Cum%

 2 -|
   -|****                                              11   6.4   6.4
 3 -|
   -|**                                                 4   2.3   8.8
 4 -|
   -|**********                                        32  18.7  27.5
 5 -|
   -|*********                                         31  18.1  45.6
 8 -|
   -|**************                                    48  28.1  73.7
11 -|
   -|**********                                        32  18.7  92.4
15 -|
   -|***                                                8   4.7  97.1
21 -|
   -|*                                                  2   1.2  98.2
30 -|
   -|*                                                  1   0.6  98.8
43 -|
   -|*                                                  2   1.2 100.0
60 -|                                  Logarithmic
   -|                                  Histogram
85 -|
    +----+----+----+----+----+----+----+----+----+----+
    0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	160	41	33	24	10	7
Missing	0	0	0	0	0	0
Mean	9.0	13.0	8.2	8.2	6.8	5.1
Median	8.0	10.0	8.0	8.0	6.0	4.0
Mode	5.0	9.0	5.0	4.0	6.0	2.0
Range	56	56	18	15	13	10
St Dev	6.85	11.34	3.67	3.54	3.86	3.31
Coef Var	0.759	0.869	0.450	0.434	0.564	0.650
Log Mean	0.875	1.008	0.866	0.866	0.765	0.627
Geo Mean	7.5	10.2	7.3	7.3	5.8	4.2
Log StDv	0.261	0.297	0.215	0.215	0.269	0.281
Log CVar	0.298	0.295	0.248	0.248	0.352	0.448
Percntls						
Minimum	2	2	2	2	2	2
10th	4	4	4	4	2	2
20th	5	5	5	4	2	2
30th	6	8	6	7	5	2
40th	7	9	7	7	6	3
50th	8	10	8	8	6	4
60th	9	11	9	8	6	5
70th	10	12	10	10	7	5
80th	11	17	10	11	10	8
85th	12	18	11	12	10	8
90th	14	21	12	12	12	8
95th	18	32	14	13	12	12
98th	30	51	15	17	15	12
99th	32	58	20	17	15	12
Maximum	58	58	20	17	15	12

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Lead [Pb]
Number of Values - 171
Units - ppm
Detection Limit - 2
Analytical Method - ICP

Lead by ICP

Summary Statistics

```
   ppm                                                N    %   Cum%

 141 -|
     -|*                                               2   1.2   1.2
 174 -|
     -|**                                              5   2.9   4.1
 214 -|
     -|**                                              6   3.5   7.6
 263 -|
     -|*******                                        24  14.0  21.6
 324 -|
     -|*******                                        22  12.9  34.5
 398 -|
     -|******                                         20  11.7  46.2
 490 -|
     -|**********                                     33  19.3  65.5
 603 -|
     -|********                                       25  14.6  80.1
 741 -|
     -|*******                                        21  12.3  92.4
 912 -|
     -|***                                            10   5.8  98.2
1122 -|                                Logarithmic
     -|*                                Histogram      3   1.8 100.0
1380 -|
      +----+----+----+----+----+----+----+----+----+----+
      0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	535.8	635.7	545.5	442.7	432.7	297.8
Median	508.0	600.0	525.0	385.0	298.0	293.0
Mode	332.0	188.0	239.0	179.0	298.0	164.0
Range	1095	1071	702	715	717	255
St Dev	230.95	256.88	192.52	194.82	235.35	80.56
Coef Var	0.431	0.404	0.353	0.440	0.544	0.271
Log Mean	2.687	2.767	2.709	2.609	2.578	2.457
Geo Mean	486.8	584.2	511.7	406.6	378.8	286.5
Log StDv	0.195	0.186	0.161	0.180	0.234	0.133
Log CVar	0.073	0.067	0.059	0.069	0.091	0.054
Percntls						
Minimum	164	188	239	179	179	164
10th	274	316	305	269	179	164
20th	314	360	332	305	180	174
30th	376	491	427	314	274	267
40th	438	553	458	339	298	287
50th	508	600	525	385	298	293
60th	570	674	555	412	376	318
70th	629	719	655	477	501	342
80th	738	808	709	578	591	353
85th	783	924	748	600	591	361
90th	834	987	804	786	783	361
95th	941	1154	831	840	783	419
98th	1088	1156	933	894	896	419
99th	1154	1259	941	894	896	419
Maximum	1259	1259	941	894	896	419

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|              Element - Manganese [Mn]      |
|--------------------------------------------|
|      Number of Values - 171                |
|--------------------------------------------|
|                 Units - ppm                |
|--------------------------------------------|
|       Detection Limit - 1                  |
|--------------------------------------------|
|     Analytical Method - ICP                |
----------------------------------------------
```

Manganese by ICP

Summary Statistics

```
    %                                                N     %   Cum%

0.15 -|
      -|*                                           1   0.6   0.6
0.18 -|
      -|                                            0   0.0   0.6
0.22 -|
      -|****                                       11   6.4   7.0
0.26 -|
      -|*******                                    22  12.9  19.9
0.32 -|
      -|********                                   26  15.2  35.1
0.38 -|
      -|*******                                    23  13.5  48.5
0.46 -|
      -|*******                                    22  12.9  61.4
0.55 -|
      -|***********                                37  21.6  83.0
0.66 -|
      -|******                                     19  11.1  94.2
0.79 -|
      -|**                                          7   4.1  98.2
0.95 -|                                 Logarithmic
      -|*                                Histogram  2   1.2  99.4
1.15 -|
       +----+----+----+----+----+----+----+----+----+----+
       0   10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.49	0.59	0.45	0.44	0.36	0.33
Median	0.46	0.57	0.42	0.39	0.28	0.30
Mode	0.57	0.57	0.30	0.25	0.26	0.30
Range	0.99	0.87	0.48	0.70	0.59	0.26
St Dev	0.18	0.20	0.14	0.20	0.17	0.09
Coef Var	0.375	0.339	0.310	0.451	0.472	0.258
Log Mean	-0.341	-0.254	-0.367	-0.400	-0.470	-0.491
Geo Mean	0.46	0.56	0.43	0.40	0.34	0.32
Log StDv	0.161	0.144	0.129	0.186	0.156	0.106
Log CVar	-0.473	-0.568	-0.352	-0.464	-0.332	-0.215
Percntls						
Minimum	0.18	0.30	0.27	0.18	0.26	0.24
10th	0.28	0.34	0.30	0.25	0.26	0.24
20th	0.31	0.41	0.32	0.26	0.26	0.25
30th	0.35	0.46	0.35	0.30	0.27	0.26
40th	0.39	0.52	0.36	0.31	0.28	0.30
50th	0.46	0.57	0.42	0.39	0.28	0.30
60th	0.52	0.60	0.46	0.39	0.30	0.32
70th	0.59	0.64	0.50	0.48	0.33	0.33
80th	0.64	0.75	0.57	0.57	0.43	0.37
85th	0.67	0.79	0.62	0.67	0.43	0.45
90th	0.72	0.85	0.68	0.80	0.51	0.45
95th	0.80	0.99	0.70	0.81	0.51	0.50
98th	0.89	0.99	0.72	0.88	0.85	0.50
99th	0.99	1.17	0.75	0.88	0.85	0.50
Maximum	1.17	1.17	0.75	0.88	0.85	0.50

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Magnesium [Mg]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - ICP

Magnesium by ICP

Summary Statistics

```
ppm                                                    N     %   Cum%
1 -|
  -|*****************************************        143  83.6  83.6
1 -|
  -|                                                  0   0.0  83.6
1 -|
  -|                                                  0   0.0  83.6
2 -|
  -|                                                  0   0.0  83.6
2 -|
  -|*****                                            17   9.9  93.6
2 -|
  -|                                                  0   0.0  93.6
3 -|
  -|***                                               8   4.7  98.2
3 -|
  -|*                                                 2   1.2  99.4
4 -|
  -|                                                  0   0.0  99.4
5 -|
  -|                                                  0   0.0  99.4
6 -|                                  Logarithmic
  -|*                                  Histogram      1   0.6 100.0
7 -|
   +----+----+----+----+----+----+----+----+----+----+
   0    10   20   30   40   50   60   70   80   90  100 %

                  Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	28	10	4	2	6	0
Missing	0	0	0	0	0	0
Mean	1.3	1.3	1.1	1.1	2.3	1.0
Median	1.0	1.0	1.0	1.0	1.0	1.0
Mode	1.0	1.0	1.0	1.0	1.0	1.0
Range	6	2	1	2	6	0
St Dev	0.73	0.65	0.32	0.44	1.82	0.00
Coef Var	0.580	0.488	0.290	0.393	0.807	0.000
Log Mean	0.064	0.088	0.034	0.031	0.250	0.000
Geo Mean	1.2	1.2	1.1	1.1	1.8	1.0
Log StDv	0.155	0.166	0.097	0.111	0.296	0.000
Log CVar	2.425	1.883	2.858	3.571	1.183	0.000
Percntls						
Minimum	1	1	1	1	1	1
10th	1	1	1	1	1	1
20th	1	1	1	1	1	1
30th	1	1	1	1	1	1
40th	1	1	1	1	1	1
50th	1	1	1	1	1	1
60th	1	1	1	1	2	1
70th	1	1	1	1	2	1
80th	1	2	1	1	3	1
85th	2	2	1	1	3	1
90th	2	2	2	1	4	1
95th	3	3	2	2	4	1
98th	3	3	2	3	7	1
99th	4	3	2	3	7	1
Maximum	7	3	2	3	7	1

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|              Element - Molybdenum [Mo]     |
|--------------------------------------------|
|     Number of Values - 171                 |
|--------------------------------------------|
|                 Units - ppm                |
|--------------------------------------------|
|      Detection Limit - 1                   |
|--------------------------------------------|
|    Analytical Method - ICP                 |
----------------------------------------------
```

Molybdenum by ICP

Summary Statistics

```
 ppm                                                N     %   Cum%

 5 -|
   -|*                                               1   0.6   0.6
 6 -|
   -|***                                             9   5.3   5.8
 7 -|
   -|**                                              6   3.5   9.4
 9 -|
   -|***********                                    36  21.1  30.4
10 -|
   -|*************                                  43  25.1  55.6
12 -|
   -|*********                                      28  16.4  71.9
15 -|
   -|********                                       27  15.8  87.7
18 -|
   -|***                                             9   5.3  93.0
21 -|
   -|***                                             9   5.3  98.2
26 -|
   -|*                                               1   0.6  98.8
31 -|                                  Logarithmic
   -|*                                  Histogram    2   1.2 100.0
37 -|
    +----+----+----+----+----+----+----+----+----+----+
    0    10   20   30   40   50   60   70   80   90  100 %

                 Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	13.0	14.9	12.3	11.8	9.6	13.2
Median	12.0	13.0	12.0	11.0	9.0	15.0
Mode	12.0	12.0	12.0	9.0	7.0	15.0
Range	30	27	25	17	16	10
St Dev	4.62	5.50	4.22	3.94	4.14	3.55
Coef Var	0.355	0.369	0.342	0.333	0.432	0.269
Log Mean	1.091	1.150	1.072	1.052	0.952	1.102
Geo Mean	12.3	14.1	11.8	11.3	8.9	12.7
Log StDv	0.142	0.139	0.126	0.139	0.161	0.143
Log CVar	0.130	0.121	0.117	0.132	0.169	0.130
Percntls						
Minimum	5	8	6	6	5	6
10th	9	10	9	7	5	6
20th	9	11	10	9	6	9
30th	10	12	10	9	7	11
40th	11	12	11	10	8	12
50th	12	13	12	11	9	15
60th	13	14	12	12	9	15
70th	14	15	13	13	10	16
80th	15	18	14	14	11	16
85th	16	22	15	15	11	16
90th	19	22	15	17	12	16
95th	22	25	16	19	12	16
98th	25	26	20	23	21	16
99th	26	35	31	23	21	16
Maximum	35	35	31	23	21	16

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|                Element - Nickel [Ni]       |
|--------------------------------------------|
|       Number of Values - 171               |
|--------------------------------------------|
|                  Units - ppm               |
|--------------------------------------------|
|        Detection Limit - 1                 |
|--------------------------------------------|
|      Analytical Method - ICP               |
----------------------------------------------
```

Nickel by ICP

Summary Statistics

```
     %                                                    N     %   Cum%

0.018 -|
      -|*                                                 1   0.6   0.6
0.022 -|
      -|**                                                5   2.9   3.5
0.027 -|
      -|***                                               9   5.3   8.8
0.033 -|
      -|***                                               9   5.3  14.0
0.041 -|
      -|****                                             14   8.2  22.2
0.050 -|
      -|*********                                        30  17.5  39.8
0.062 -|
      -|*****************                                 56  32.7  72.5
0.076 -|
      -|*********                                        30  17.5  90.1
0.093 -|
      -|****                                             12   7.0  97.1
0.115 -|
      -|**                                                4   2.3  99.4
0.141 -|                                  Logarithmic
      -|*                                 Histogram        1   0.6 100.0
0.174 -|
       +----+----+----+----+----+----+----+----+----+----+
       0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

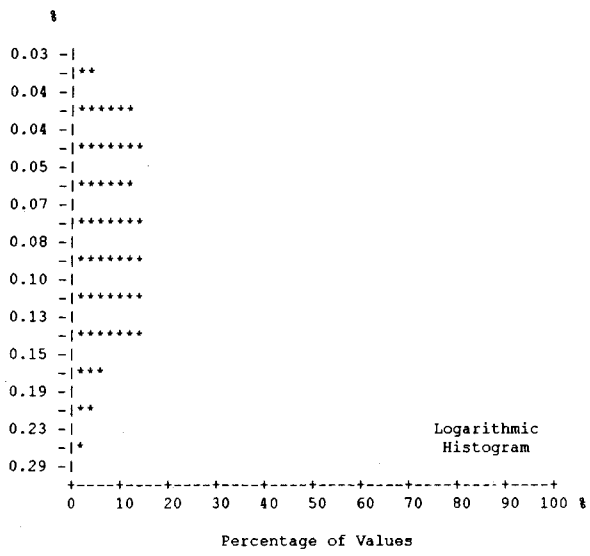
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.07	0.06	0.06	0.07	0.04	0.07
Median	0.07	0.06	0.06	0.07	0.04	0.07
Mode	0.07	0.07	0.05	0.08	0.03	0.09
Range	0.131	0.076	0.067	0.124	0.050	0.067
St Dev	0.02	0.02	0.02	0.03	0.02	0.02
Coef Var	0.340	0.268	0.269	0.420	0.379	0.351
Log Mean	-1.212	-1.215	-1.225	-1.214	-1.410	-1.200
Geo Mean	0.06	0.06	0.06	0.06	0.04	0.06
Log StDv	0.162	0.141	0.132	0.188	0.172	0.160
Log CVar	-0.133	-0.116	-0.108	-0.155	-0.122	-0.133
Percntls						
Minimum	0.019	0.022	0.027	0.026	0.019	0.036
10th	0.036	0.049	0.038	0.030	0.019	0.036
20th	0.048	0.053	0.047	0.040	0.024	0.040
30th	0.056	0.057	0.053	0.052	0.030	0.048
40th	0.061	0.061	0.059	0.058	0.033	0.049
50th	0.065	0.064	0.064	0.067	0.038	0.067
60th	0.067	0.066	0.067	0.071	0.038	0.068
70th	0.074	0.067	0.071	0.076	0.047	0.074
80th	0.080	0.074	0.074	0.078	0.057	0.092
85th	0.085	0.079	0.077	0.086	0.057	0.092
90th	0.093	0.092	0.081	0.103	0.061	0.092
95th	0.103	0.095	0.087	0.108	0.061	0.103
98th	0.121	0.096	0.092	0.150	0.069	0.103
99th	0.123	0.098	0.094	0.150	0.069	0.103
Maximum	0.150	0.098	0.094	0.150	0.069	0.103

(Summary statistics not calculated for formations with fewer than ten values.)

```
==============================================
|              Element Statistics            |
|============================================|
|              Element - Phosphorus [P]      |
|--------------------------------------------|
|      Number of Values - 171                |
|--------------------------------------------|
|                 Units - %                  |
|--------------------------------------------|
|       Detection Limit - 0.001              |
|--------------------------------------------|
|     Analytical Method - ICP                |
----------------------------------------------
```

Phosphorus by ICP

Summary Statistics



N	%	Cum%
4	2.3	2.3
18	10.5	12.9
22	12.9	25.7
18	10.5	36.3
23	13.5	49.7
23	13.5	63.2
24	14.0	77.2
21	12.3	89.5
10	5.8	95.3
6	3.5	98.8
2	1.2	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.09	0.11	0.09	0.09	0.07	0.07
Median	0.09	0.11	0.07	0.07	0.05	0.06
Mode	0.05	0.12	0.05	0.06	0.03	0.05
Range	0.23	0.22	0.17	0.19	0.15	0.05
St Dev	0.05	0.05	0.05	0.04	0.05	0.02
Coef Var	0.519	0.441	0.523	0.513	0.639	0.274
Log Mean	-1.081	-0.997	-1.112	-1.109	-1.216	-1.202
Geo Mean	0.08	0.10	0.08	0.08	0.06	0.06
Log StDv	0.220	0.193	0.219	0.198	0.266	0.121
Log CVar	-0.204	-0.194	-0.197	-0.178	-0.219	-0.101
Percntls						
Minimum	0.03	0.04	0.04	0.04	0.03	0.04
10th	0.04	0.05	0.04	0.04	0.03	0.04
20th	0.05	0.07	0.05	0.05	0.03	0.05
30th	0.06	0.09	0.05	0.06	0.04	0.05
40th	0.07	0.10	0.06	0.06	0.04	0.05
50th	0.09	0.11	0.07	0.07	0.05	0.06
60th	0.10	0.11	0.09	0.08	0.07	0.07
70th	0.11	0.12	0.11	0.10	0.08	0.07
80th	0.13	0.14	0.13	0.11	0.11	0.08
85th	0.14	0.15	0.14	0.12	0.11	0.09
90th	0.16	0.16	0.15	0.14	0.12	0.09
95th	0.18	0.18	0.17	0.16	0.12	0.09
98th	0.23	0.26	0.17	0.23	0.18	0.09
99th	0.23	0.26	0.21	0.23	0.18	0.09
Maximum	0.26	0.26	0.21	0.23	0.18	0.09

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Potassium [K]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - ICP

Potassium by ICP

Summary Statistics

```
  ppm                                                    N     %   Cum%
0.1 -|
    -|*******************                               66  38.6  38.6
0.1 -|
    -|                                                   0   0.0  38.6
0.1 -|
    -|                                                   0   0.0  38.6
0.2 -|
    -|                                                   0   0.0  38.6
0.2 -|
    -|****************                                  53  31.0  69.6
0.2 -|
    -|                                                   0   0.0  69.6
0.3 -|
    -|***********                                       36  21.1  90.6
0.3 -|
    -|                                                   0   0.0  90.6
0.4 -|
    -|***                                                8   4.7  95.3
0.5 -|
    -|**                                                 5   2.9  98.2
0.5 -|                                  Logarithmic
    -|*                                 Histogram        2   1.2  99.4
0.7 -|
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                  Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	105	28	25	18	3	5
Missing	0	0	0	0	0	0
Mean	0.21	0.22	0.22	0.24	0.13	0.17
Median	0.20	0.20	0.20	0.20	0.10	0.10
Mode	0.10	0.20	0.30	0.30	0.10	0.10
Range	0.60	0.60	0.40	0.50	0.20	0.20
St Dev	0.12	0.14	0.10	0.13	0.07	0.08
Coef Var	0.565	0.615	0.452	0.530	0.489	0.484
Log Mean	-0.744	-0.718	-0.705	-0.673	-0.910	-0.814
Geo Mean	0.18	0.19	0.20	0.21	0.12	0.15
Log StDv	0.230	0.241	0.212	0.239	0.168	0.206
Log CVar	-0.310	-0.336	-0.301	-0.356	-0.185	-0.253
Percntls						
Minimum	0.10	0.10	0.10	0.10	0.10	0.10
10th	0.10	0.10	0.10	0.10	0.10	0.10
20th	0.10	0.10	0.10	0.10	0.10	0.10
30th	0.10	0.10	0.20	0.20	0.10	0.10
40th	0.20	0.20	0.20	0.20	0.10	0.10
50th	0.20	0.20	0.20	0.20	0.10	0.10
60th	0.20	0.20	0.20	0.30	0.10	0.20
70th	0.30	0.20	0.30	0.30	0.10	0.20
80th	0.30	0.30	0.30	0.30	0.20	0.20
85th	0.30	0.30	0.30	0.30	0.20	0.30
90th	0.30	0.40	0.30	0.40	0.20	0.30
95th	0.40	0.50	0.30	0.50	0.20	0.30
98th	0.50	0.50	0.40	0.60	0.30	0.30
99th	0.60	0.70	0.50	0.60	0.30	0.30
Maximum	0.70	0.70	0.50	0.60	0.30	0.30

(Summary statistics not calculated for formations with fewer than ten values.)

```
==========================================
|            Element Statistics          |
|========================================|
|              Element - Silver [Ag]     |
|----------------------------------------|
|      Number of Values - 171            |
|----------------------------------------|
|                Units - ppm             |
|----------------------------------------|
|       Detection Limit - 0.1            |
|----------------------------------------|
|     Analytical Method - ICP            |
------------------------------------------
```

Silver by ICP

Summary Statistics

```
    %                                                    N     %   Cum%

0.02 -|
     -|******                                           18  10.5  10.5
0.02 -|
     -|                                                  0   0.0  10.5
0.03 -|
     -|**********                                       33  19.3  29.8
0.03 -|
     -|                                                  0   0.0  29.8
0.04 -|
     -|*************                                    44  25.7  55.6
0.04 -|
     -|*******                                          23  13.5  69.0
0.05 -|
     -|******                                           20  11.7  80.7
0.06 -|
     -|****                                             12   7.0  87.7
0.07 -|
     -|**                                                4   2.3  90.1
0.08 -|
     -|**                                                6   3.5  93.6
0.10 -|                                   Logarithmic
     -|****                                Histogram     11   6.4 100.0
0.11 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.05	0.05	0.05	0.04	0.03	0.05
Median	0.04	0.04	0.04	0.04	0.03	0.05
Mode	0.04	0.04	0.03	0.04	0.02	0.05
Range	0.09	0.09	0.09	0.09	0.04	0.05
St Dev	0.02	0.02	0.02	0.02	0.01	0.01
Coef Var	0.471	0.453	0.497	0.512	0.402	0.284
Log Mean	-1.356	-1.338	-1.378	-1.410	-1.540	-1.300
Geo Mean	0.04	0.05	0.04	0.04	0.03	0.05
Log StDv	0.196	0.190	0.199	0.198	0.162	0.123
Log CVar	-0.144	-0.142	-0.145	-0.140	-0.105	-0.095
Percntls						
Minimum	0.02	0.02	0.02	0.02	0.02	0.03
10th	0.02	0.03	0.02	0.02	0.02	0.03
20th	0.03	0.03	0.03	0.03	0.02	0.04
30th	0.03	0.04	0.03	0.03	0.02	0.04
40th	0.04	0.04	0.04	0.03	0.02	0.05
50th	0.04	0.04	0.04	0.04	0.03	0.05
60th	0.05	0.05	0.04	0.04	0.03	0.05
70th	0.06	0.06	0.06	0.04	0.03	0.05
80th	0.06	0.07	0.06	0.05	0.04	0.06
85th	0.07	0.07	0.06	0.06	0.04	0.07
90th	0.08	0.09	0.08	0.07	0.04	0.07
95th	0.10	0.09	0.10	0.09	0.04	0.08
98th	0.11	0.11	0.10	0.11	0.06	0.08
99th	0.11	0.11	0.11	0.11	0.06	0.08
Maximum	0.11	0.11	0.11	0.11	0.06	0.08

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Sodium [Na]
Number of Values - 171
Units - %
Detection Limit - 0.01
Analytical Method - ICP

Sodium by ICP

Summary Statistics

```
  ppm                                                    N     %   Cum%
 15 -|
    -|*                                                  1   0.6   0.6
 19 -|
    -|*                                                  1   0.6   1.2
 23 -|
    -|**                                                 6   3.5   4.7
 28 -|
    -|****                                              11   6.4  11.1
 35 -|
    -|********                                          25  14.6  25.7
 43 -|
    -|*************                                     43  25.1  50.9
 52 -|
    -|**************                                    46  26.9  77.8
 65 -|
    -|*****                                             16   9.4  87.1
 79 -|
    -|****                                              12   7.0  94.2
 98 -|
    -|**                                                 7   4.1  98.2
120 -|                                  Logarithmic
    -|*                                 Histogram        2   1.2  99.4
148 -|
     +----+----+----+----+----+----+----+----+----+----+
     0   10   20   30   40   50   60   70   80   90  100 %

                  Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	56.3	57.6	55.5	47.6	35.3	49.4
Median	52.0	56.0	51.0	41.0	30.0	44.0
Mode	49.0	43.0	44.0	32.0	30.0	44.0
Range	131	70	59	83	36	25
St Dev	22.05	17.24	15.13	21.92	11.11	9.18
Coef Var	0.392	0.299	0.273	0.460	0.315	0.186
Log Mean	1.721	1.743	1.730	1.638	1.528	1.687
Geo Mean	52.6	55.3	53.7	43.5	33.7	48.6
Log StDv	0.158	0.126	0.110	0.188	0.135	0.080
Log CVar	0.092	0.072	0.064	0.115	0.088	0.047
Percntls						
Minimum	18	32	34	18	20	37
10th	33	38	40	27	20	37
20th	40	42	44	32	26	41
30th	44	45	46	34	28	44
40th	49	51	49	37	30	44
50th	52	56	51	41	30	44
60th	56	58	54	49	30	46
70th	61	62	58	52	40	56
80th	67	70	63	62	46	58
85th	75	75	70	63	46	62
90th	85	78	80	85	50	62
95th	100	92	85	100	50	62
98th	114	102	91	101	56	62
99th	135	102	93	101	56	62
Maximum	149	102	93	101	56	62

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Strontium [Sr]
Number of Values - 171
Units - ppm
Detection Limit - 1
Analytical Method - ICP

Strontium by ICP

Summary Statistics

```
    %                                                    N     %   Cum%
0.07 -|
     -|*                                                 1   0.6   0.6
0.09 -|
     -|                                                  0   0.0   0.6
0.10 -|
     -|*                                                 1   0.6   1.2
0.12 -|
     -|*                                                 3   1.8   2.9
0.15 -|
     -|***                                               8   4.7   7.6
0.18 -|
     -|**********                                       34  19.9  27.5
0.21 -|
     -|***********                                      37  21.6  49.1
0.26 -|
     -|*********                                        30  17.5  66.7
0.31 -|
     -|************                                     39  22.8  89.5
0.37 -|
     -|*****                                            16   9.4  98.8
0.45 -|                                  Logarithmic
     -|*                                  Histogram      2   1.2 100.0
0.54 -|
      +----+----+----+----+----+----+----+----+----+----+
      0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

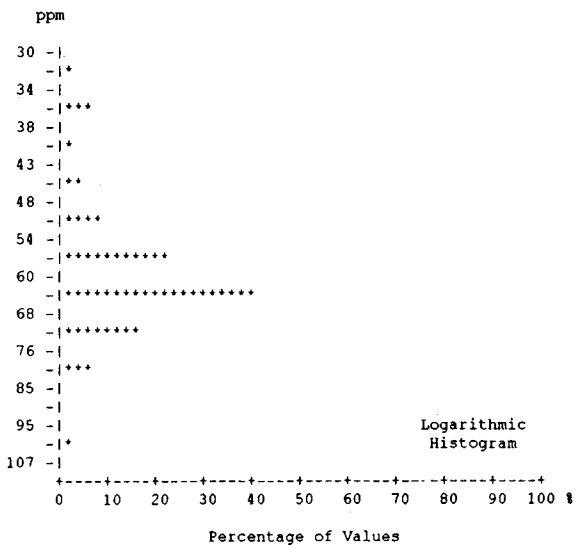
	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	0.27	0.24	0.27	0.28	0.19	0.38
Median	0.26	0.23	0.27	0.24	0.19	0.37
Mode	0.20	0.24	0.27	0.20	0.21	0.35
Range	0.38	0.26	0.28	0.24	0.19	0.13
St Dev	0.08	0.07	0.06	0.08	0.05	0.04
Coef Var	0.283	0.278	0.218	0.297	0.264	0.990
Log Mean	-0.586	-0.635	-0.583	-0.572	-0.739	-0.421
Geo Mean	0.26	0.23	0.26	0.27	0.18	0.38
Log StDv	0.128	0.120	0.101	0.129	0.139	0.042
Log CVar	-0.219	-0.190	-0.172	-0.226	-0.188	-0.100
Percntls						
Minimum	0.08	0.12	0.13	0.17	0.08	0.33
10th	0.18	0.16	0.20	0.19	0.08	0.33
20th	0.20	0.19	0.23	0.20	0.13	0.35
30th	0.22	0.20	0.24	0.21	0.18	0.35
40th	0.24	0.22	0.26	0.22	0.18	0.36
50th	0.26	0.23	0.27	0.24	0.19	0.37
60th	0.28	0.24	0.27	0.28	0.20	0.38
70th	0.31	0.25	0.28	0.36	0.21	0.40
80th	0.35	0.30	0.31	0.37	0.21	0.40
85th	0.36	0.34	0.31	0.38	0.21	0.41
90th	0.38	0.35	0.35	0.40	0.25	0.41
95th	0.40	0.36	0.37	0.40	0.25	0.46
98th	0.41	0.37	0.38	0.41	0.27	0.46
99th	0.42	0.38	0.41	0.41	0.27	0.46
Maximum	0.46	0.38	0.41	0.41	0.27	0.46

(Summary statistics not calculated for formations with fewer than ten values.)

```
=============================================
|              Element Statistics           |
|===========================================|
|              Element - Titanium [Ti]      |
|-------------------------------------------|
|      Number of Values - 171               |
|-------------------------------------------|
|                Units - %                  |
|-------------------------------------------|
|       Detection Limit - 0.01              |
|-------------------------------------------|
|     Analytical Method - ICP               |
---------------------------------------------
```

Titanium by ICP

Summary Statistics



	N	%	Cum%
	3	1.8	1.8
	8	4.7	6.4
	3	1.8	8.2
	7	4.1	12.3
	11	6.4	18.7
	36	21.1	39.8
	67	39.2	78.9
	26	15.2	94.2
	9	5.3	99.4
	0	0.0	99.4
	1	0.6	100.0

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	60.7	63.6	62.0	61.6	44.5	54.7
Median	62.0	63.0	63.0	62.0	43.0	55.0
Mode	63.0	62.0	60.0	62.0	32.0	62.0
Range	72	45	37	69	31	37
St Dev	10.85	8.74	7.67	13.12	10.98	11.86
Coef Var	0.179	0.137	0.124	0.213	0.247	0.217
Log Mean	1.775	1.799	1.789	1.780	1.636	1.727
Geo Mean	59.6	62.9	61.5	60.3	43.3	53.4
Log StDv	0.086	0.065	0.059	0.092	0.107	0.105
Log CVar	0.048	0.036	0.033	0.052	0.065	0.061
Percntls						
Minimum	32	35	41	35	32	34
10th	44	53	49	44	32	34
20th	54	57	59	53	32	36
30th	58	60	60	57	35	52
40th	60	62	61	59	38	54
50th	62	63	63	62	43	55
60th	64	64	64	64	44	56
70th	66	67	66	66	46	62
80th	68	72	67	67	57	62
85th	69	73	68	69	57	65
90th	73	75	70	73	57	65
95th	76	77	70	76	57	71
98th	80	77	71	104	63	71
99th	80	80	78	104	63	71
Maximum	104	80	78	104	63	71

(Summary statistics not calculated for formations with fewer than ten values.)

Element Statistics
Element - Vanadium [V]
Number of Values - 171
Units - ppm
Detection Limit - 2
Analytical Method - ICP

Vanadium by ICP

Summary Statistics

```
  ppm                                                N     %   Cum%
 25 -|
    -|*                                              3   1.8    1.8
 30 -|
    -|**                                             5   2.9    4.7
 36 -|
    -|******                                        20  11.7   16.4
 44 -|
    -|*******                                       22  12.9   29.2
 52 -|
    -|**********                                    33  19.3   48.5
 63 -|
    -|***********                                   36  21.1   69.6
 76 -|
    -|*********                                     28  16.4   86.0
 91 -|
    -|*****                                         16   9.4   95.3
110 -|
    -|**                                             4   2.3   97.7
132 -|
    -|*                                              3   1.8   99.4
158 -|                                  Logarithmic
    -|*                                 Histogram    1   0.6  100.0
191 -|
     +----+----+----+----+----+----+----+----+----+----+
     0    10   20   30   40   50   60   70   80   90  100 %

                    Percentage of Values
```

	All	Nm	qm	Nsil	Or	Cv
N	171	42	35	25	12	10
N > DL	171	42	35	25	12	10
Missing	0	0	0	0	0	0
Mean	67.4	81.6	61.5	60.8	59.8	52.6
Median	65.0	78.0	56.0	57.0	52.0	46.0
Mode	41.0	52.0	41.0	55.0	30.0	62.0
Range	139	138	99	68	91	36
St Dev	24.33	29.51	21.89	20.87	28.02	13.35
Coef Var	0.361	0.362	0.356	0.343	0.468	0.254
Log Mean	1.803	1.886	1.765	1.758	1.739	1.708
Geo Mean	63.5	76.8	58.2	57.3	54.8	51.0
Log StDv	0.151	0.153	0.141	0.153	0.186	0.114
Log CVar	0.084	0.081	0.080	0.087	0.107	0.067
Percntls						
Minimum	29	30	37	29	30	34
10th	40	45	41	37	30	34
20th	45	58	41	39	32	39
30th	53	67	44	49	44	41
40th	58	73	48	52	49	43
50th	65	78	56	57	52	46
60th	71	85	65	61	53	60
70th	76	89	71	71	54	62
80th	85	96	75	83	78	62
85th	89	102	80	84	78	69
90th	96	113	87	93	104	69
95th	104	156	89	96	104	70
98th	136	158	106	97	121	70
99th	156	168	136	97	121	70
Maximum	168	168	136	97	121	70

(Summary statistics not calculated for formations with fewer than ten values.)

```
=============================================
|            Element Statistics             |
|===========================================|
|                Element - Zinc [Zn]        |
|-------------------------------------------|
|       Number of Values - 171              |
|-------------------------------------------|
|                  Units - ppm              |
|-------------------------------------------|
|        Detection Limit - 1                |
|-------------------------------------------|
|      Analytical Method - ICP              |
---------------------------------------------
```

Zinc by ICP

Till Geochemistry of the Fawnie Creek Map Area
(93F/03)

Open File 1994-18

Appendix D

Element Maps

D - 2 ... Sample Locations

D - 3 ... Bedrock Geology

D - 4 ... Surficial Geology

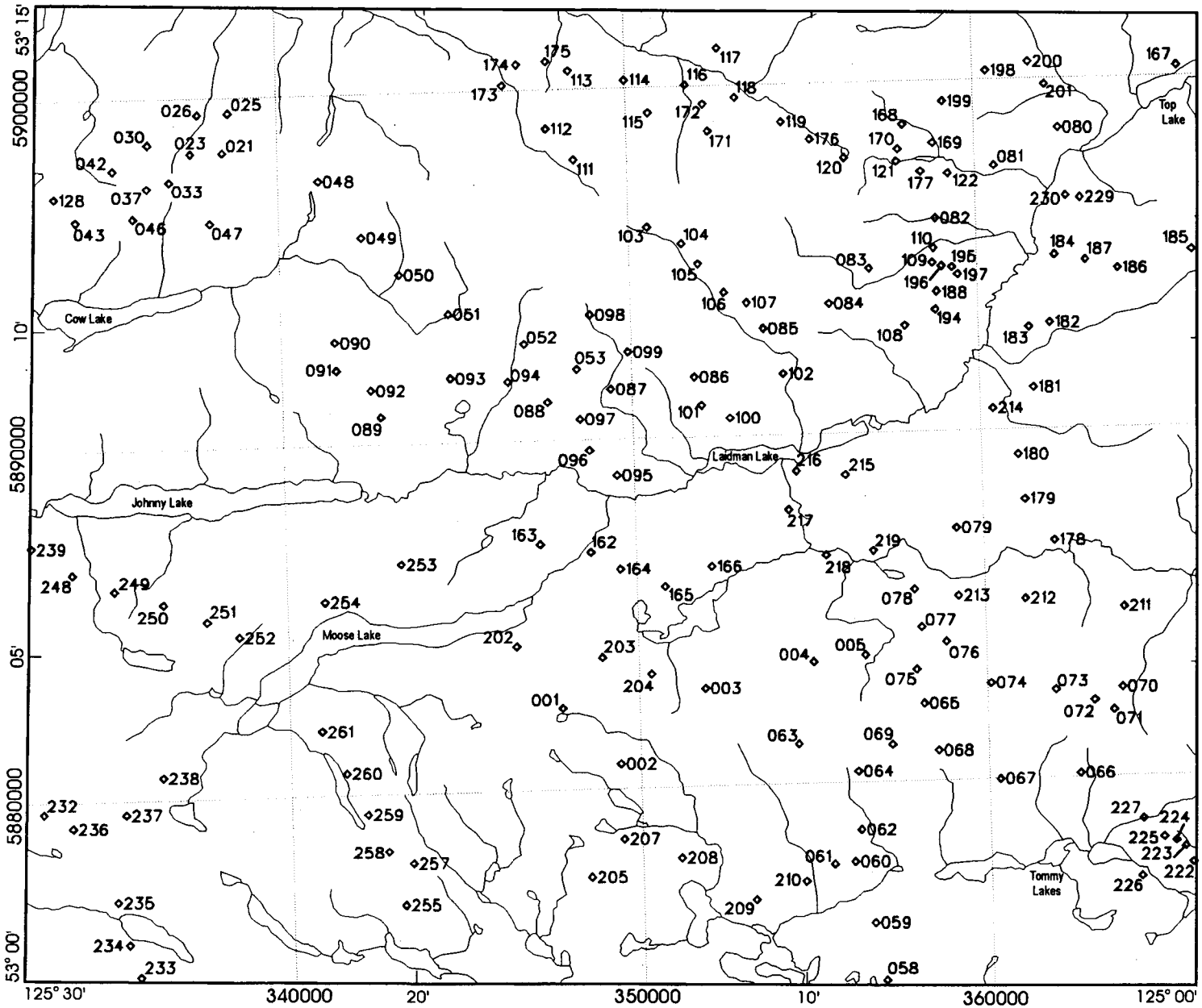
D - 5 ... Ice Flow Directions

D - 6 ... INA Element Maps

D - 32 ... ICP Element Maps

Notes :

- Calculations ignore analytical results from the second of paired field duplicates and repeat Au analysis.



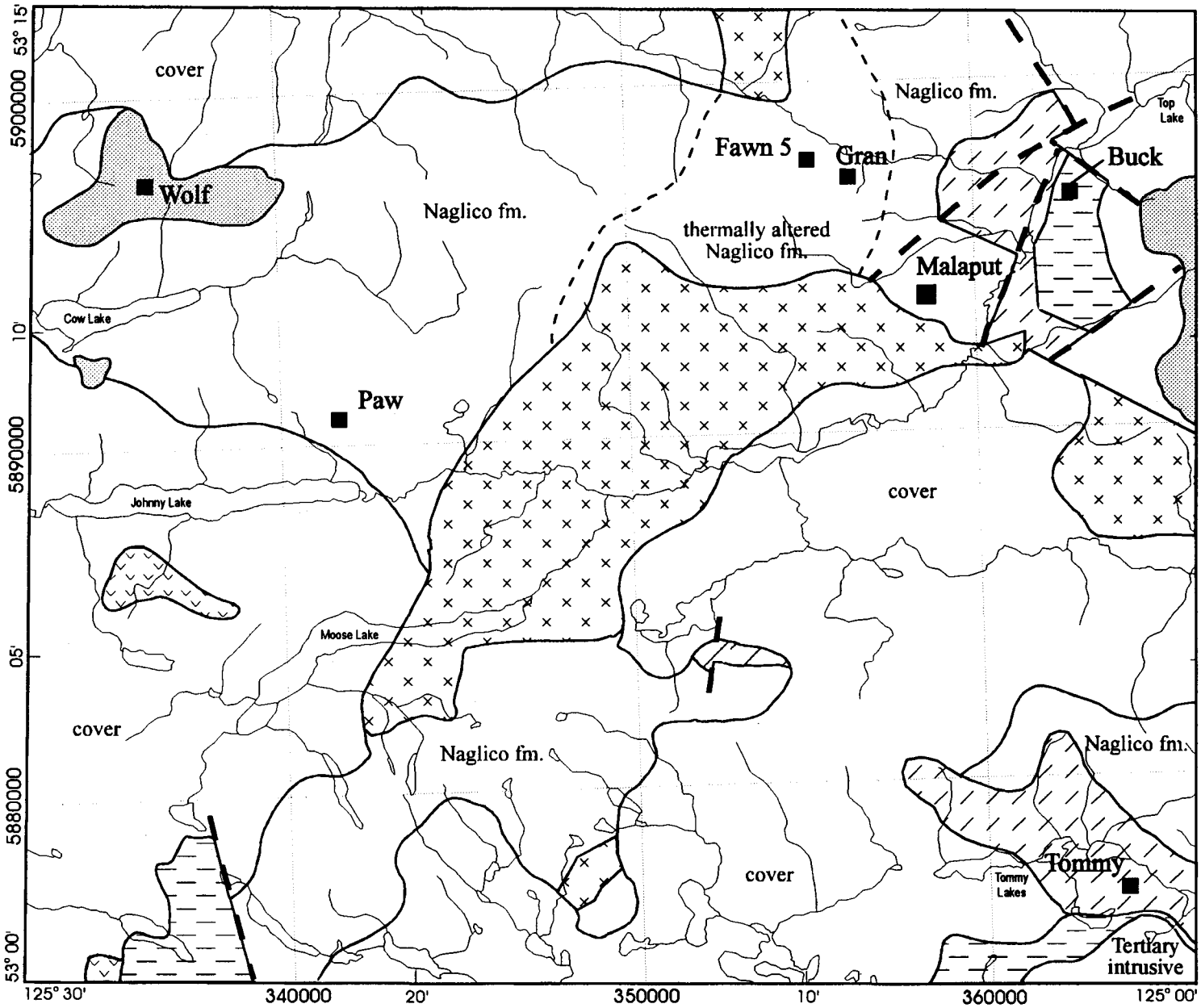
Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

Transverse Mercator Projection
NAD 27 Datum

Sample Locations



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

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0 5 km

Transverse Mercator Projection
NAD 27 Datum

Tertiary flood basalts

Ootsa Group

Capoose batholith (quartz monzonite)

Hazelton Group
Naglico fm.
andesites and basalts

Naglico fm. sediments

Naglico fm. rhyolite

Mineral Occurrence

Bedrock Geology

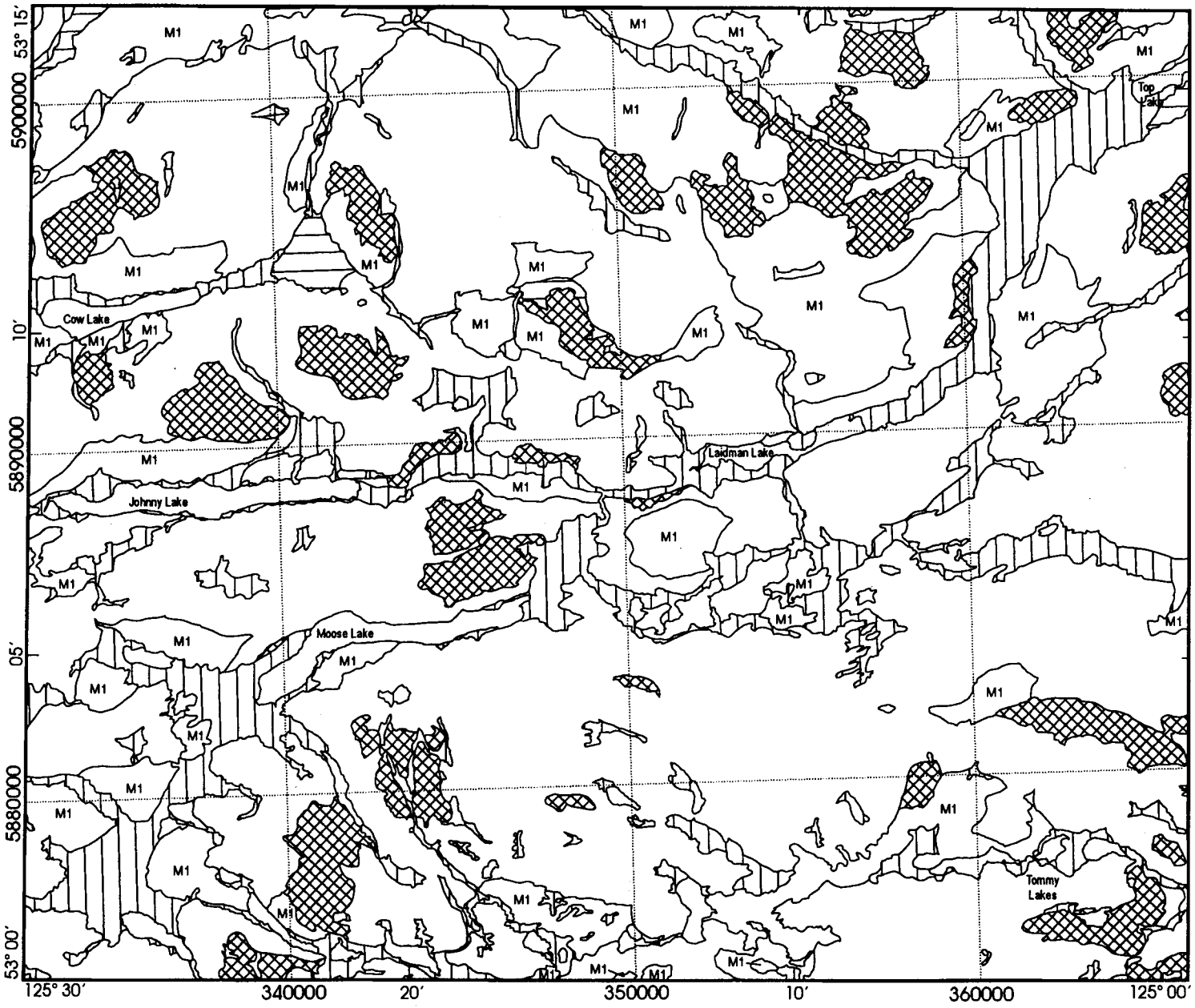
GENERALIZED SURFICIAL GEOLOGY MAP LEGEND

Map Symbol	Dominant surficial materials	Drift prospecting potential	Ability to trace to source	Transport distance (order of magnitude)	Probable dispersal pattern	Applicable survey scale; and type*
	colluvial diamicton and rubbly talus with sporadic bedrock outcrops	very high	very good	< 100 m to 1 km	downslope, linear to fan shaped	1:5 000 (property-scale); S, C
	morainal diamicton: mainly basal till	high	good	< 2 km to 5 km	down-ice, linear dispersal train	1:5 000 to 1:50 000; S, C, T, HM
M1	sandy diamicton ('ablation' till); often mantled by glaciofluvial deposits	moderate	moderate to poor	> 1 km	broad, down-ice, elongated fans	1:10 000 to 1:100 000; S, C, T, HM
	glaciofluvial and fluvial gravels and sands; locally includes organics	low	generally poor	> 5 km	broad, down-flow, fans, discontinuous	1:50 000 to 1:250 000 (mainly regional scale); C, HM
	glaciolacustrine silt, fine sand and clay	very low	generally poor	> 5 km	irregular, discontinuous	1:100 000 to 1:250 000 (regional scale): N

* S- soil geochemistry; T - till geochemistry; C - clast provenance surveys (boulder tracing, clast indicator surveys, pebble lithology studies); HM - heavy mineral sampling; N - not recommended for sampling in most cases.

EXPLANATION

Map units are categorized by the dominant surficial materials and ranked according to the relative ease with which each can be traced back to its bedrock source ('traceability'). For example, the potential for tracing the source of thin colluvial deposits derived from bedrock is very good compared to glaciofluvial or glaciolacustrine deposits that are typically derived from other sediments and thus are at least second or third derivatives of bedrock (Shilts, 1976, 1993). 'Transport distance' provides an order of magnitude estimate of the distance that the majority of the sediment in any one deposit type has travelled from its source. 'Probable dispersal pattern' refers to the shape and orientation of dispersal trains produced by erosion, transportation and redeposition of an original source material. Geochemical anomalies in the fine sand, silt and clay fractions and dispersal trains in the gravel fraction may have similar dispersal patterns but transport distances often vary with grain size. 'Applicable survey scale' provides the approximate scales at which sampling of different surficial materials are considered most useful for drift prospecting purposes.



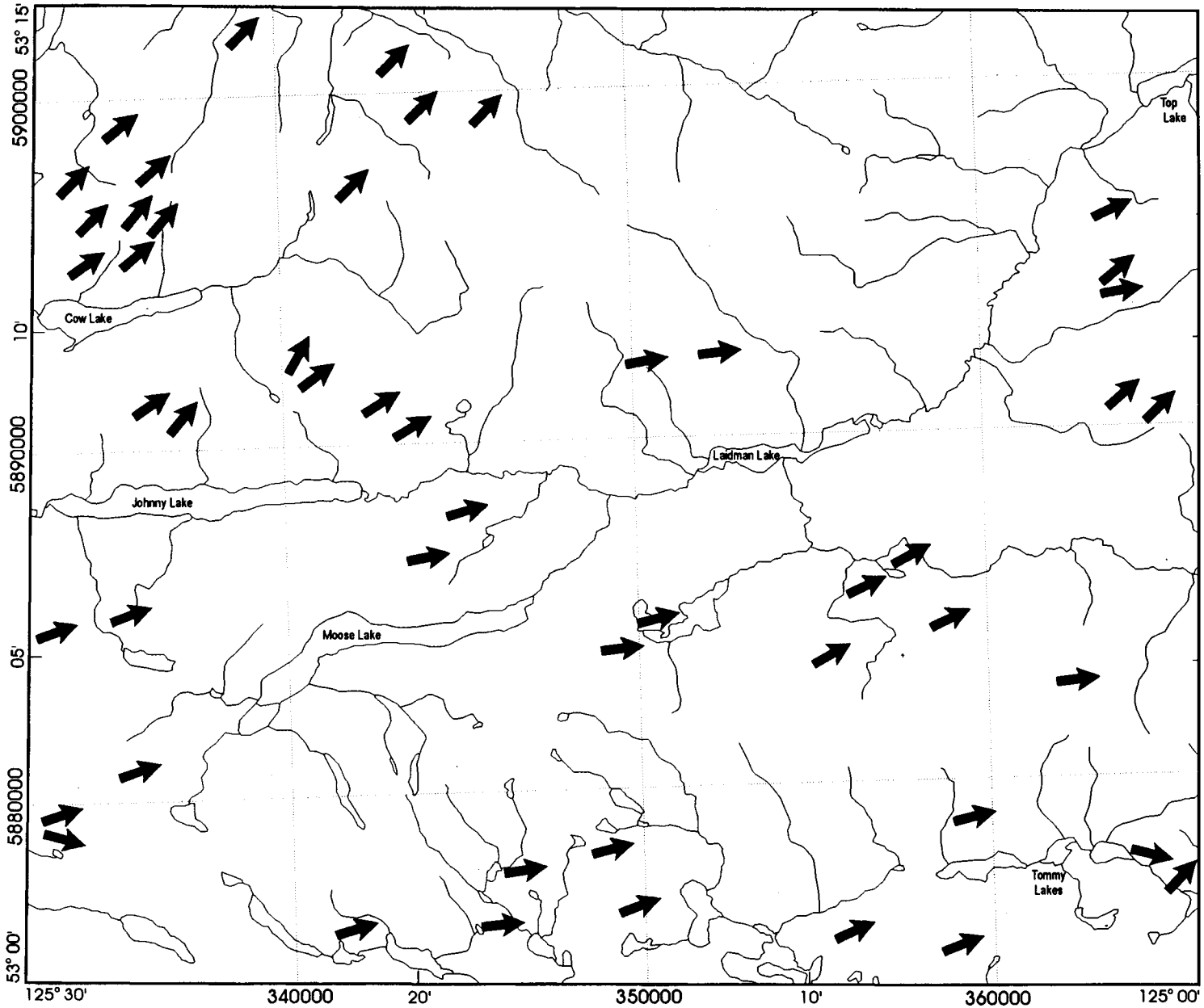
Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

Transverse Mercator Projection
NAD 27 Datum

Generalized Surficial Geology Map



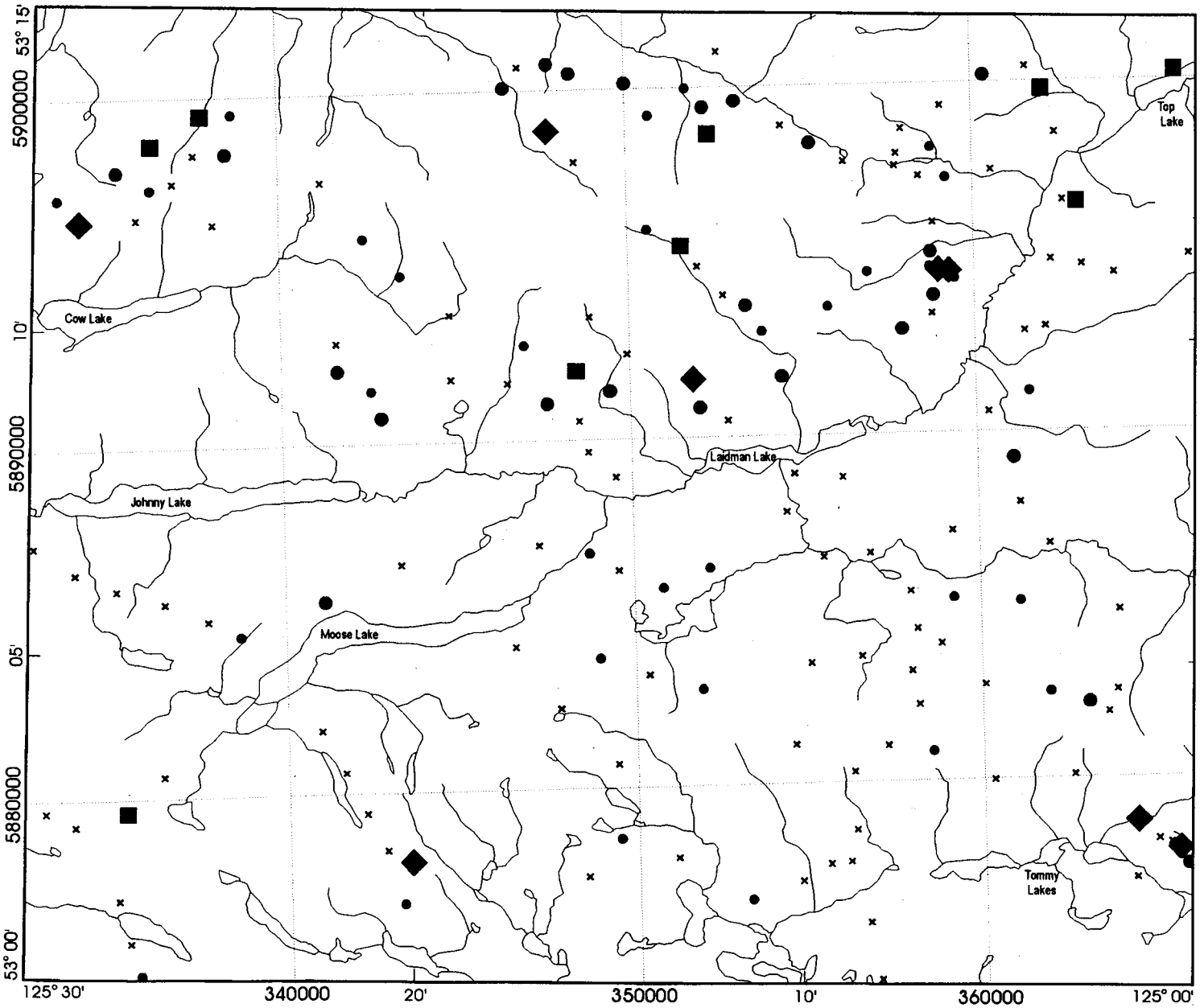
Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

Transverse Mercator Projection
NAD 27 Datum

Ice Flow Directions



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

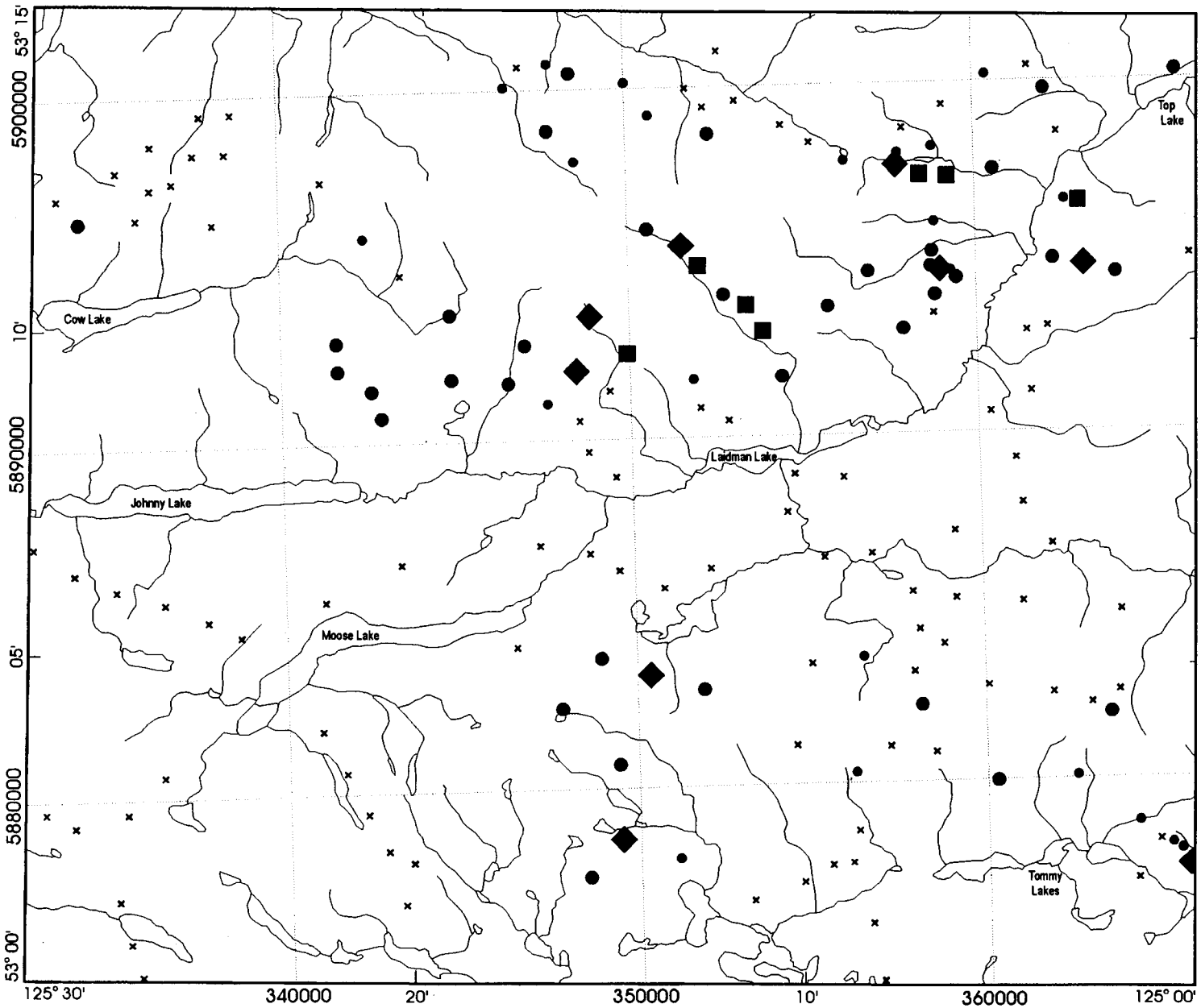
Transverse Mercator Projection
NAD 27 Datum

Au (ppb)

Concentration	Frequency
21 to 77	n = 8 (4.7%)
14 to 20	n = 9 (5.2%)
8 to 13	n = 25(14.6%)
5 to 7	n = 32(18.7%)
2 to 4	n = 97(56.7%)

171 Samples

Gold by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

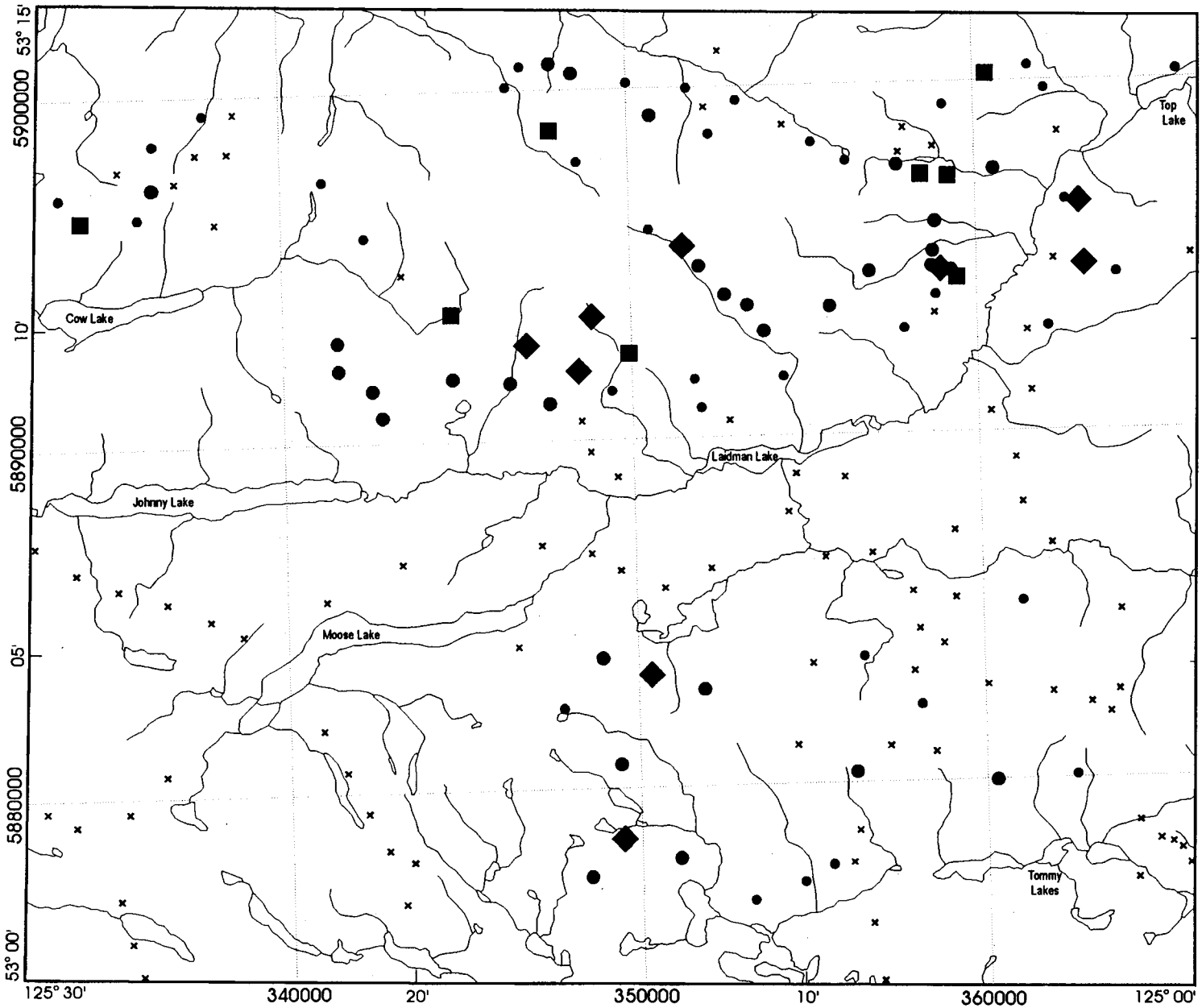
Transverse Mercator Projection
NAD 27 Datum

Sb (ppm)

Concentration	Frequency
2.6 to 4.3	n = 9 (5.2%)
2.2 to 2.5	n = 7 (4.1%)
1.5 to 2.1	n = 35(20.5%)
1.3 to 1.4	n = 23(13.5%)
0.4 to 1.2	n = 97(56.7%)

171 Samples

Antimony by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

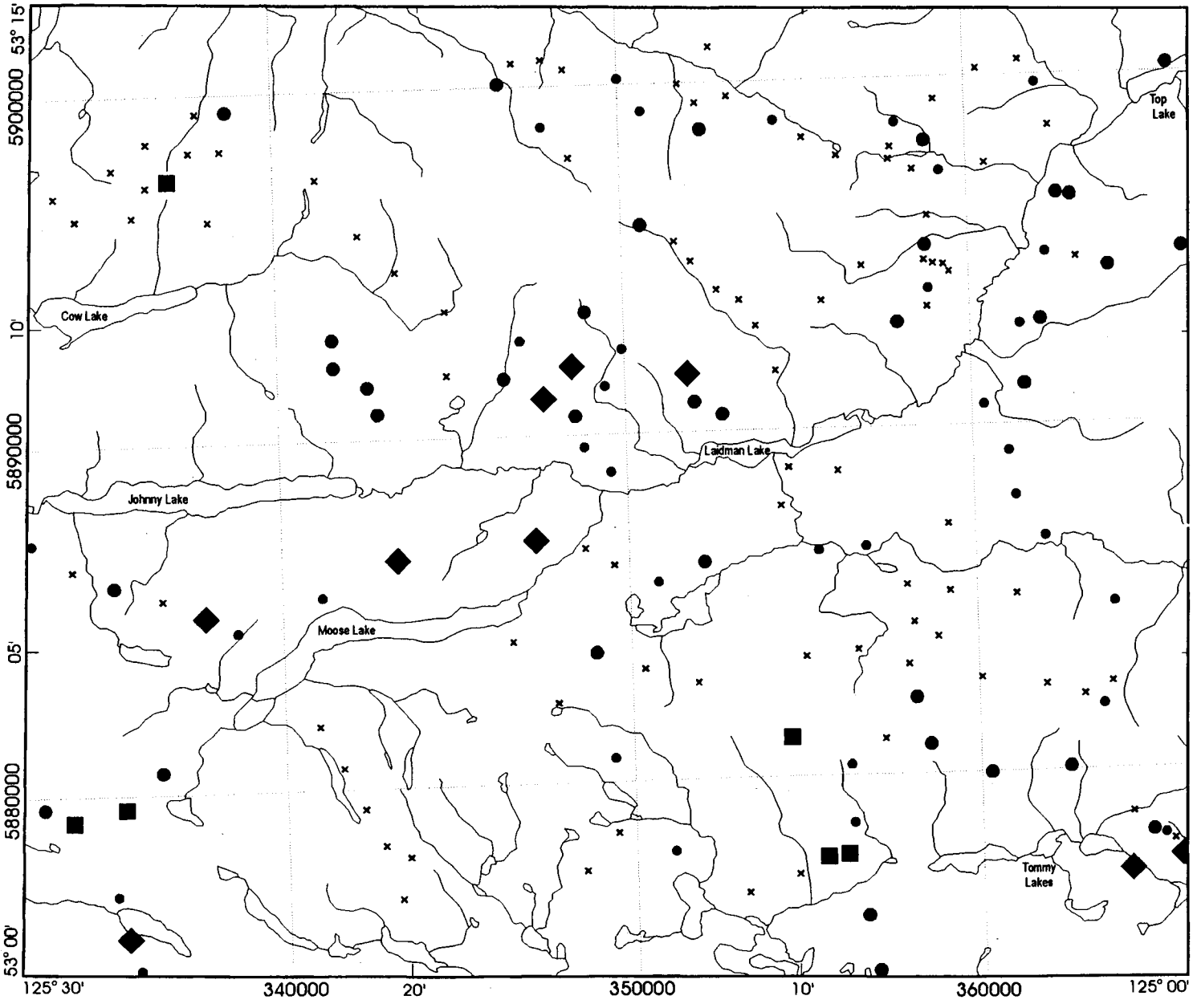
Transverse Mercator Projection
NAD 27 Datum

As (ppm)

Concentration		Frequency
33.1 to 170.0	◆	n = 9 (5.2%)
22.1 to 33.0	■	n = 8 (4.7%)
13.1 to 22.0	●	n = 30(17.5%)
9.3 to 13.0	•	n = 37(21.6%)
1.9 to 9.2	×	n = 87(50.9%)

171 Samples

Arsenic by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

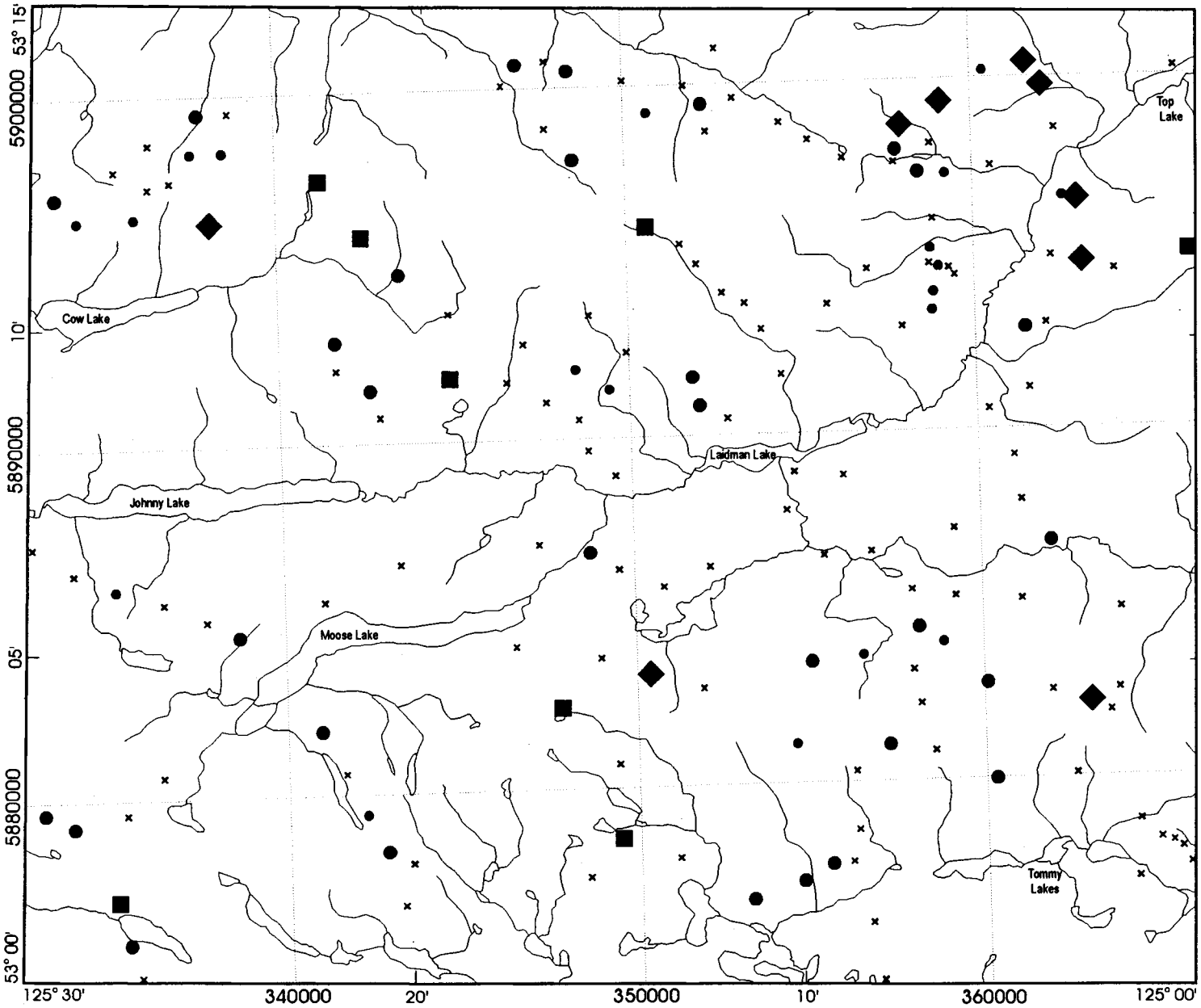
Transverse Mercator Projection
NAD 27 Datum

Ba (ppm)

Concentration		Frequency
851 to 960	◆	n = 9 (5.3%)
821 to 850	■	n = 6 (3.5%)
731 to 820	●	n = 35(20.5%)
661 to 730	•	n = 35(20.5%)
430 to 660	×	n = 86(50.3%)

171 Samples

Barium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

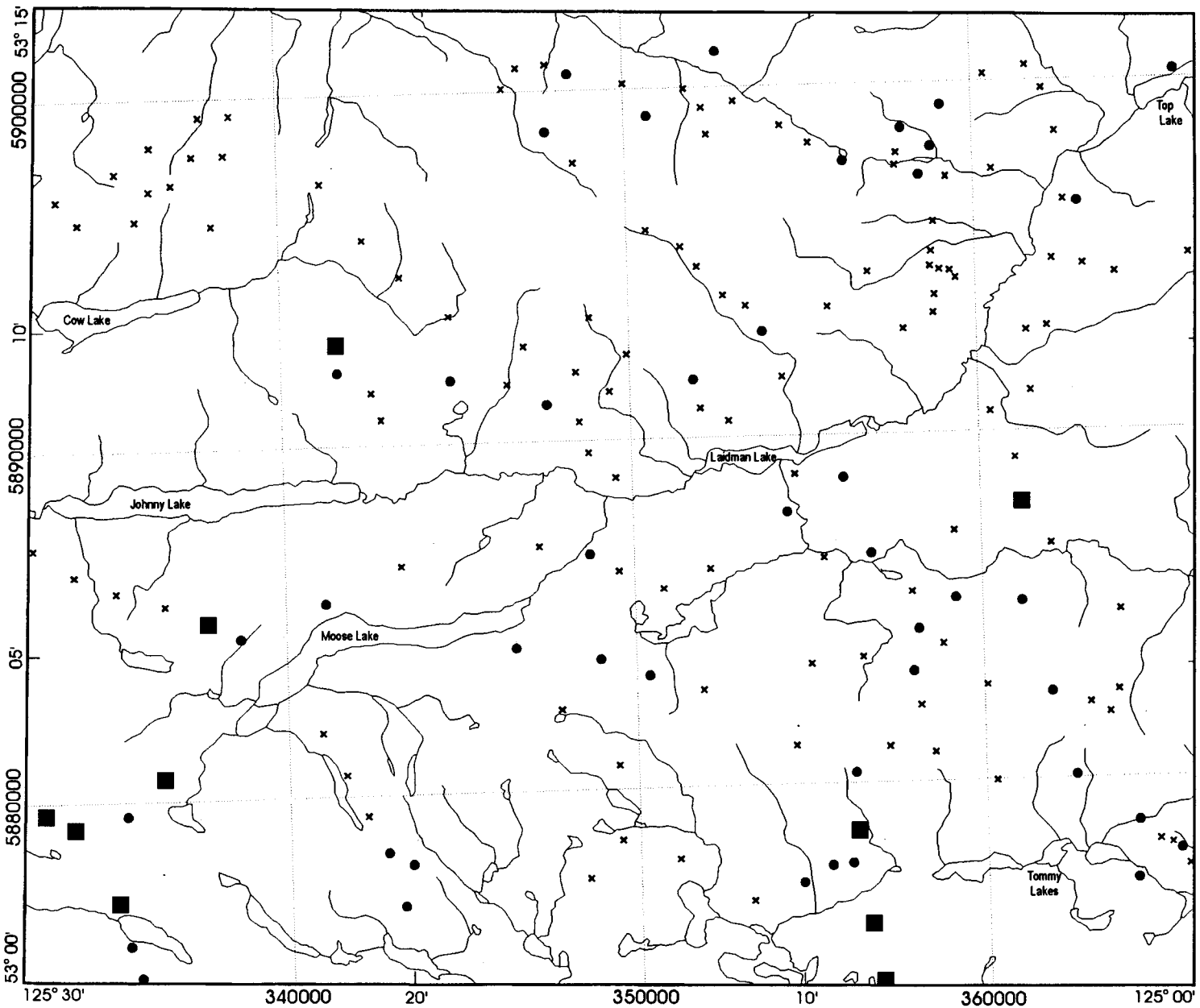
Transverse Mercator Projection
NAD 27 Datum

Br (ppm)

Concentration	Frequency
3.4 to 5.4	n = 9 (5.3%)
2.7 to 3.3	n = 8 (4.7%)
1.9 to 2.6	n = 30 (17.5%)
0.6 to 1.8	n = 19 (11.1%)
0.5 to 0.5	n = 105 (61.4%)

171 Samples

Bromine by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

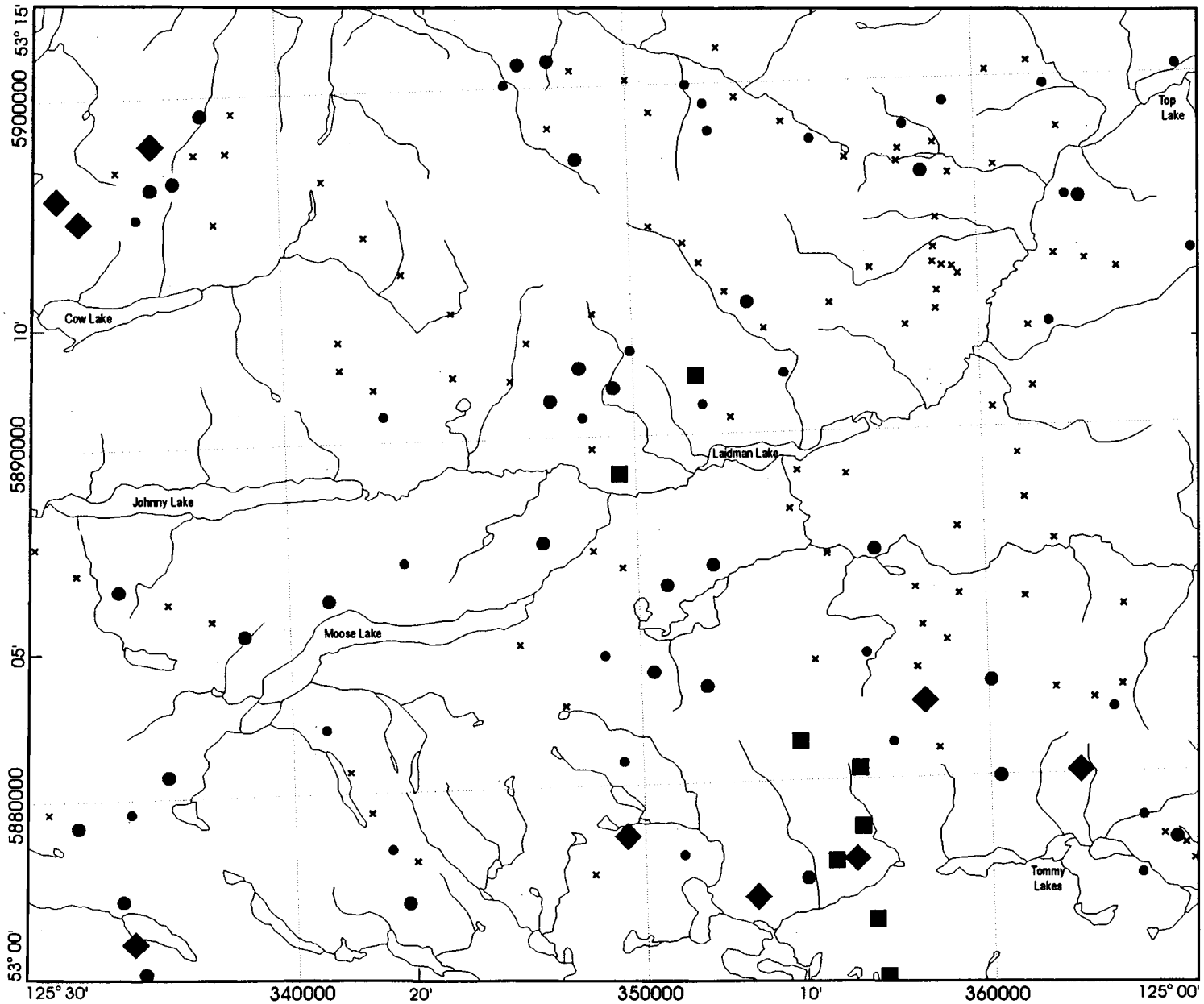
Transverse Mercator Projection
NAD 27 Datum

Ca (%)

Concentration	Frequency
	n = 0 (0.0%)
4 to 4	n = 11 (6.4%)
3 to 3	n = 0 (0.0%)
3 to 3	n = 44(25.7%)
1 to 2	n = 116(67.8%)

171 Samples

Calcium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

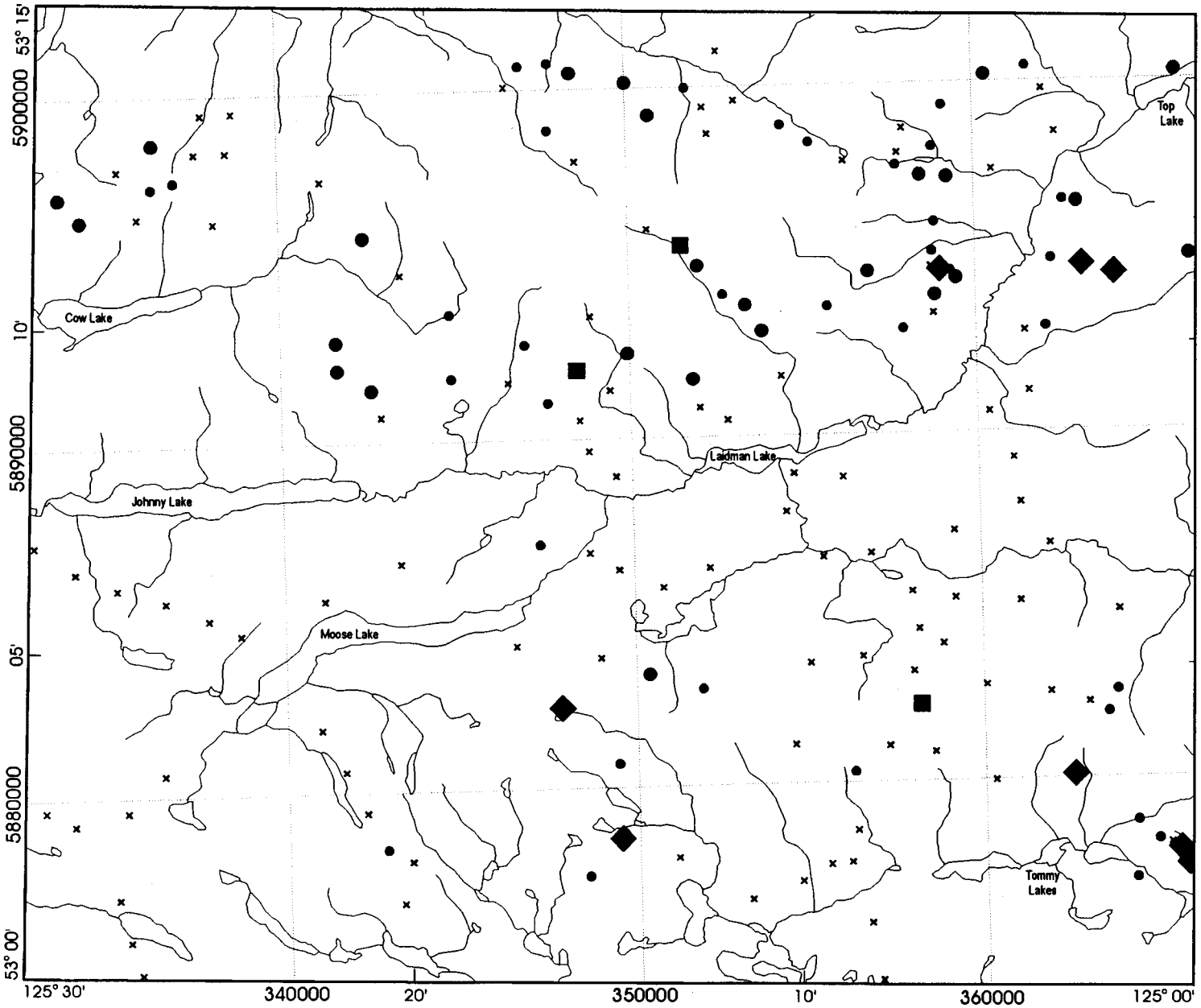
Transverse Mercator Projection
NAD 27 Datum

Ce (ppm)

Concentration	Frequency
68 to 86	n = 9 (5.3%)
65 to 67	n = 8 (4.7%)
54 to 64	n = 30 (17.5%)
50 to 53	n = 30 (17.5%)
33 to 49	n = 94 (55.0%)

171 Samples

Cerium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

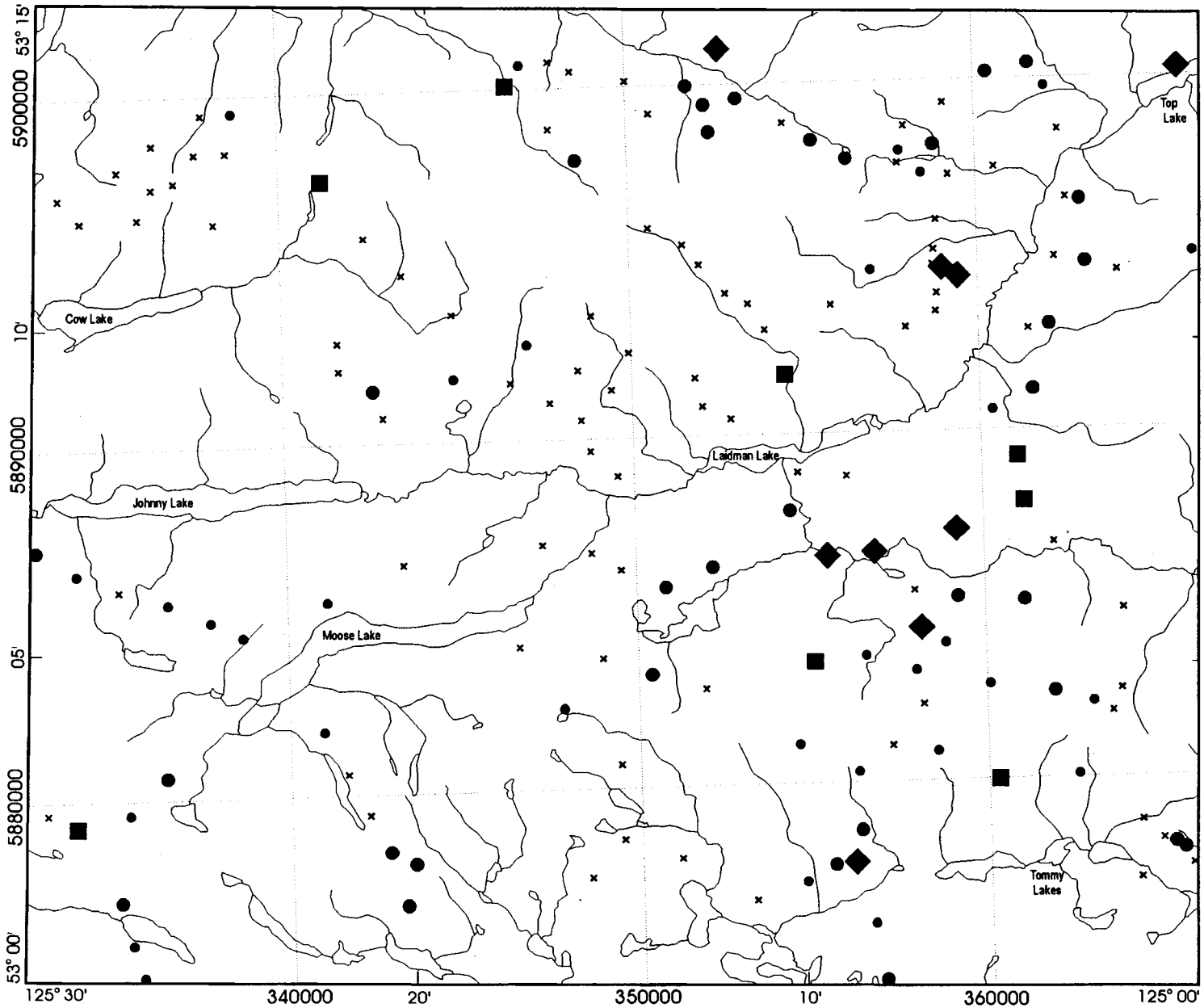
Transverse Mercator Projection
NAD 27 Datum

Cs (ppm)

Concentration	Frequency
7 to 24	n = 8 (4.7%)
6 to 6	n = 3 (1.8%)
4 to 5	n = 25(14.6%)
3 to 3	n = 38(22.2%)
1 to 2	n = 97(56.7%)

171 Samples

Cesium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

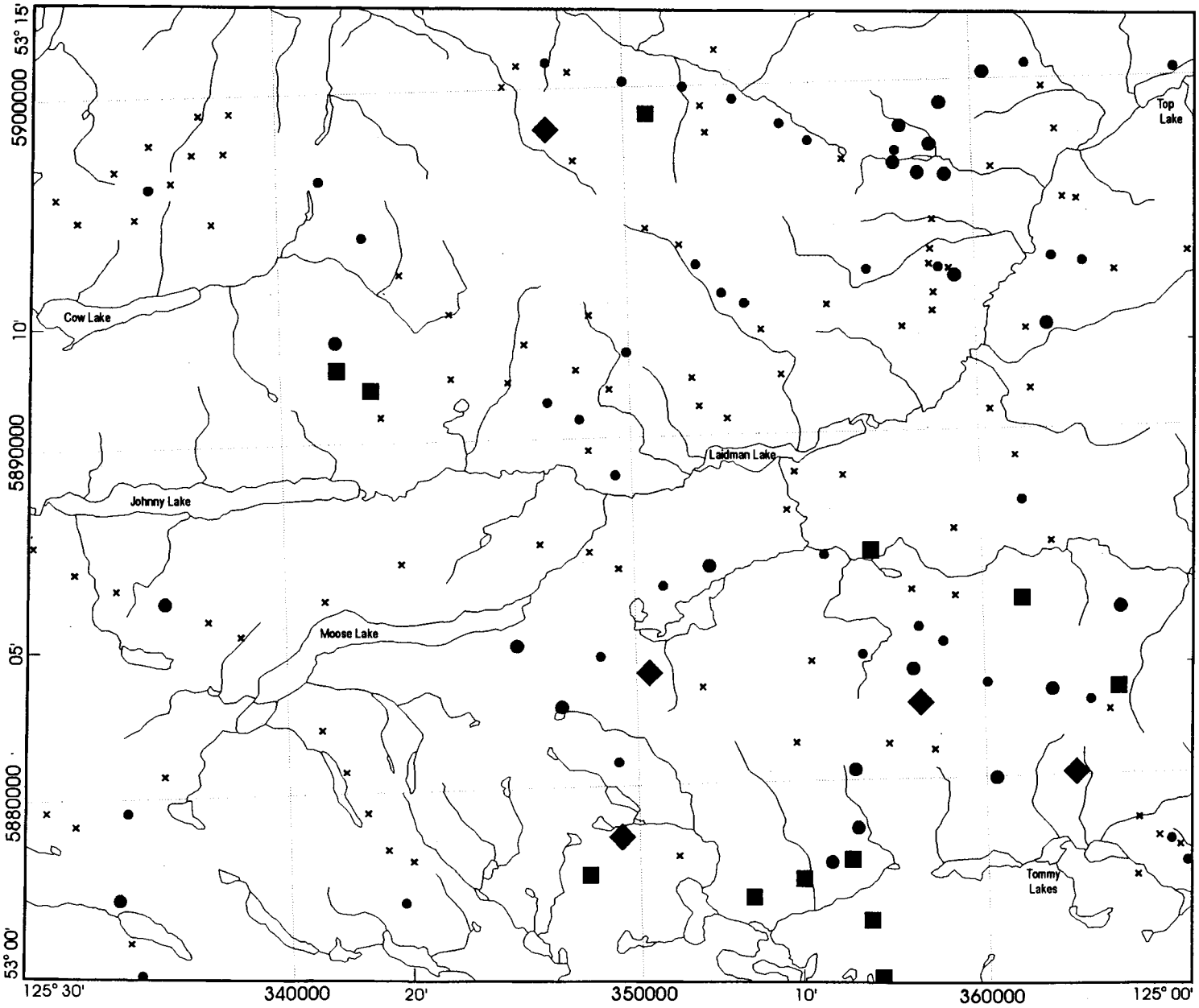
Transverse Mercator Projection
NAD 27 Datum

Cr (ppm)

Concentration		Frequency
67 to 140	◆	n = 9 (5.3%)
64 to 66	■	n = 8 (4.7%)
56 to 63	●	n = 33(19.3%)
51 to 55	•	n = 33(19.3%)
19 to 50	×	n = 88(51.5%)

171 Samples

Chromium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

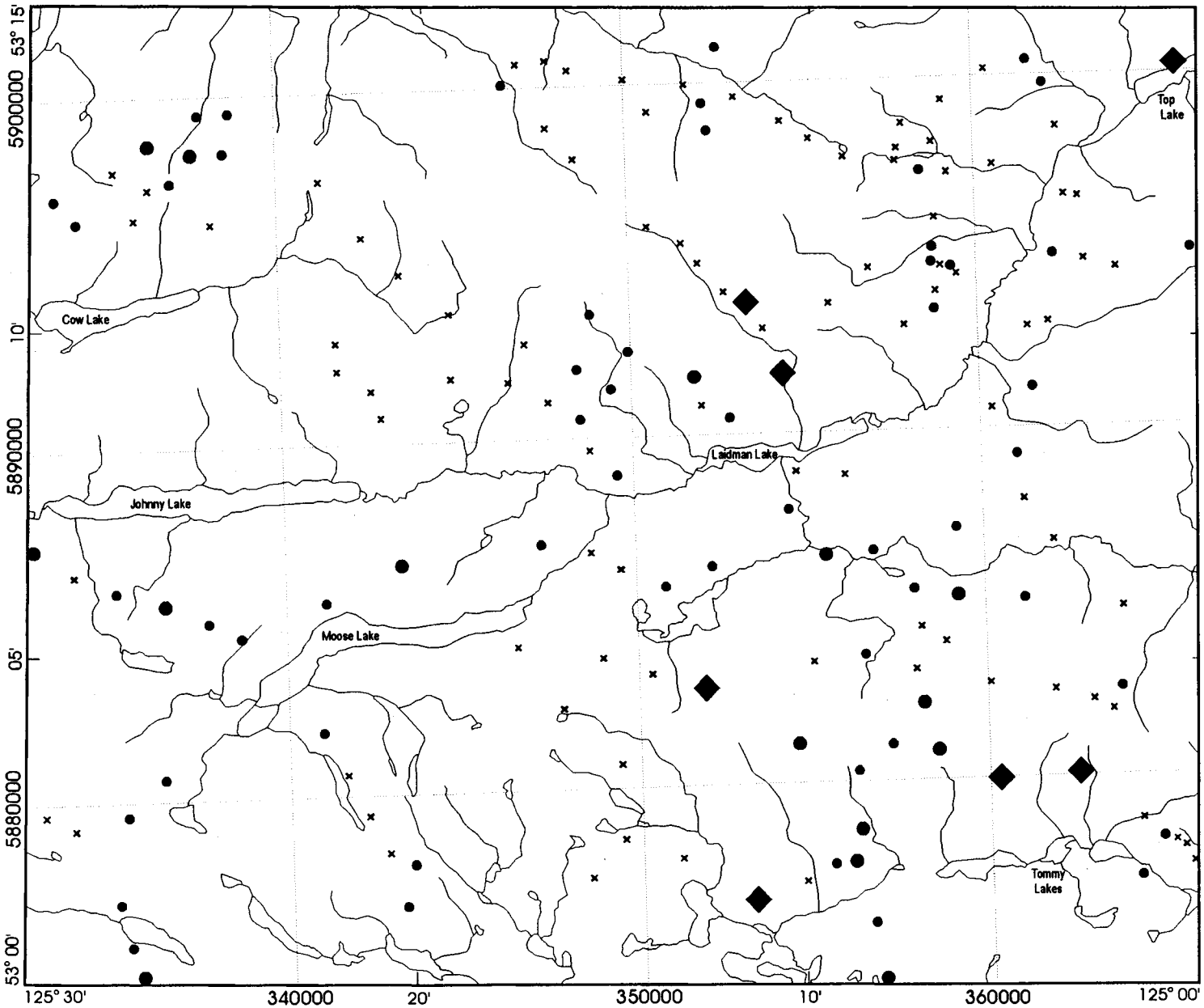
0 5 km

Transverse Mercator Projection
NAD 27 Datum

Concentration	Frequency
18 to 22	n = 5 (2.9%)
16 to 17	n = 12 (7.0%)
14 to 15	n = 22 (12.9%)
12 to 13	n = 39 (22.8%)
5 to 11	n = 93 (54.4%)

171 Samples

Cobalt by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

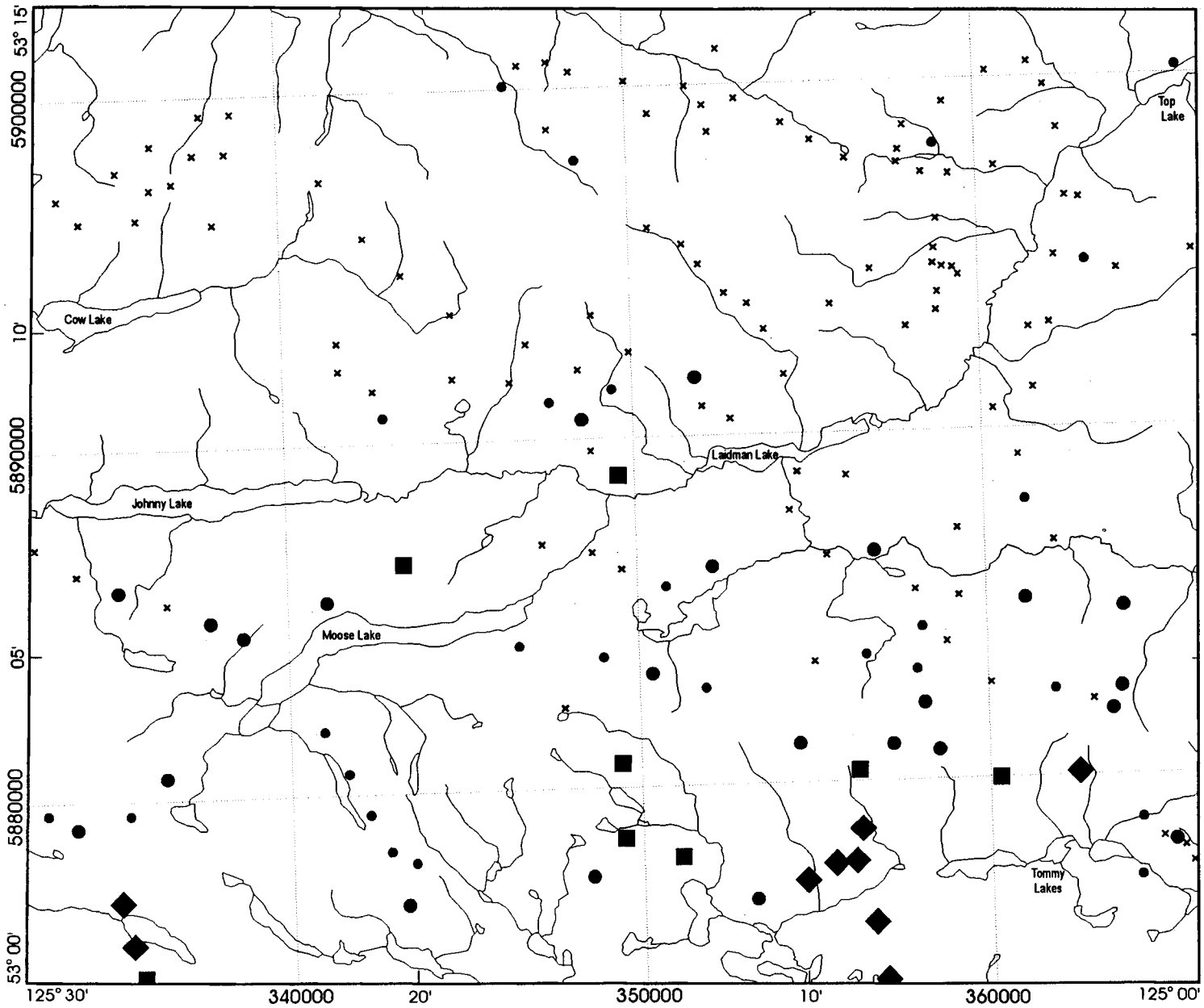
Transverse Mercator Projection
NAD 27 Datum

Hf (ppm)

Concentration	Frequency
9 to 14	n = 7 (4.1%)
8 to 8	n = 0 (0.0%)
8 to 8	n = 15 (8.8%)
7 to 7	n = 56(32.8%)
4 to 6	n = 93(54.4%)

171 Samples

Hafnium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

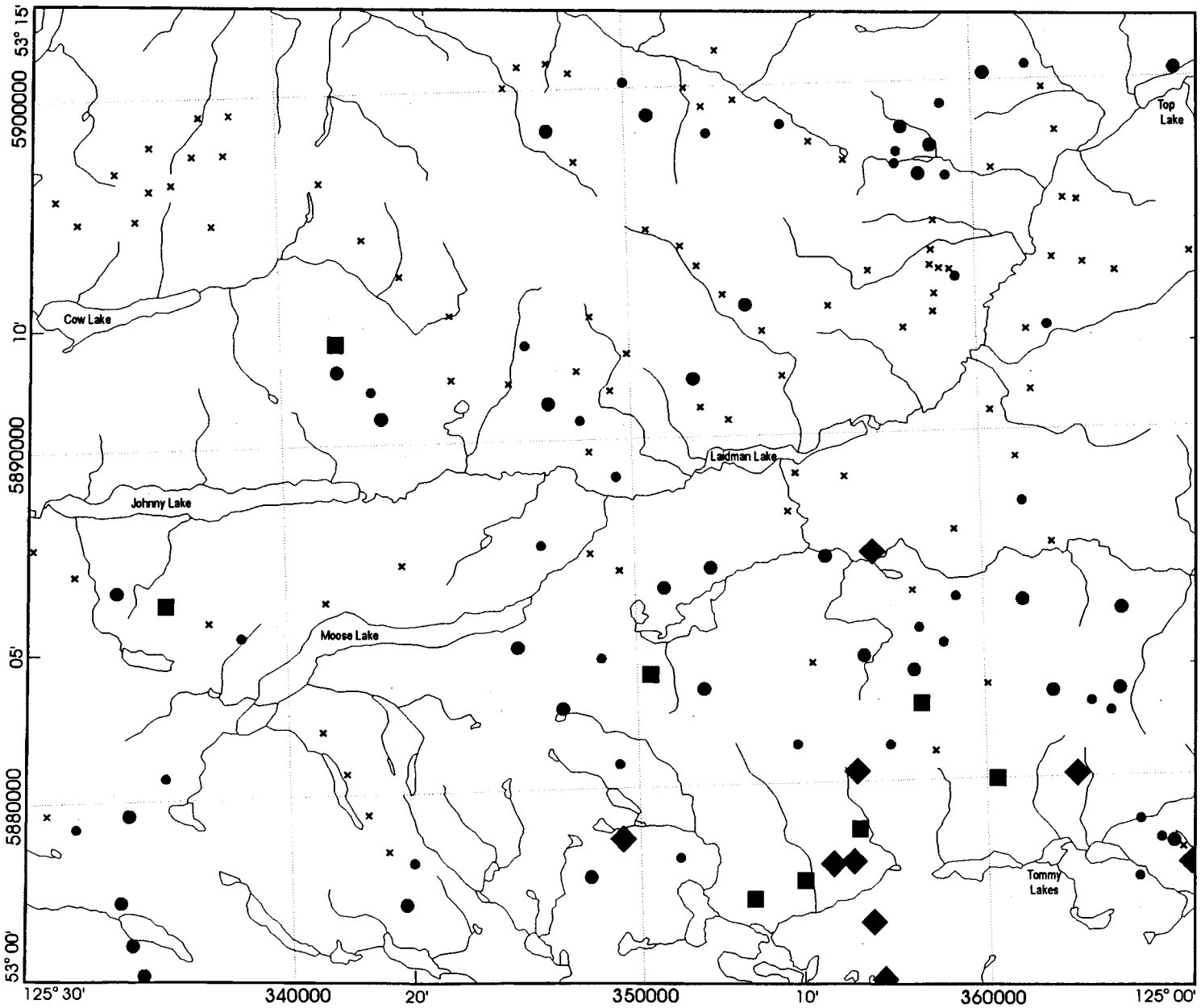
Transverse Mercator Projection
NAD 27 Datum

Eu (ppm)

Concentration	Frequency
2.4 to 2.9	n = 9 (5.3%)
2.1 to 2.3	n = 8 (4.7%)
1.9 to 2.0	n = 23(13.5%)
1.7 to 1.8	n = 26(15.2%)
1.0 to 1.6	n = 105(61.4%)

171 Samples

Europium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

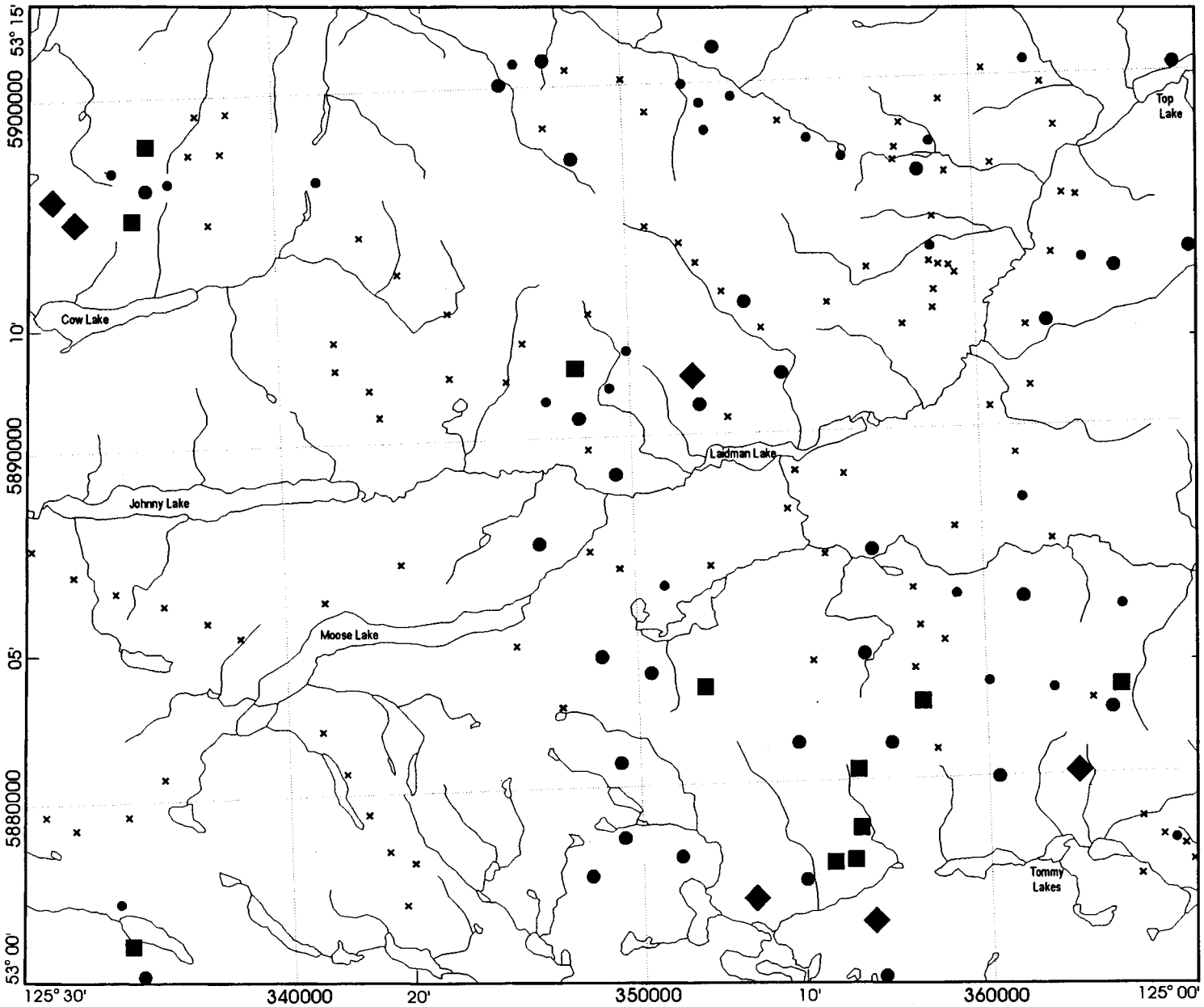
Transverse Mercator Projection
NAD 27 Datum

Fe (%)

Concentration	Frequency
6.17 to 7.28	n = 9 (5.3%)
5.62 to 6.16	n = 8 (4.7%)
4.84 to 5.61	n = 34(19.9%)
4.41 to 4.83	n = 33(19.3%)
2.47 to 4.40	n = 87(50.9%)

171 Samples

Iron by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

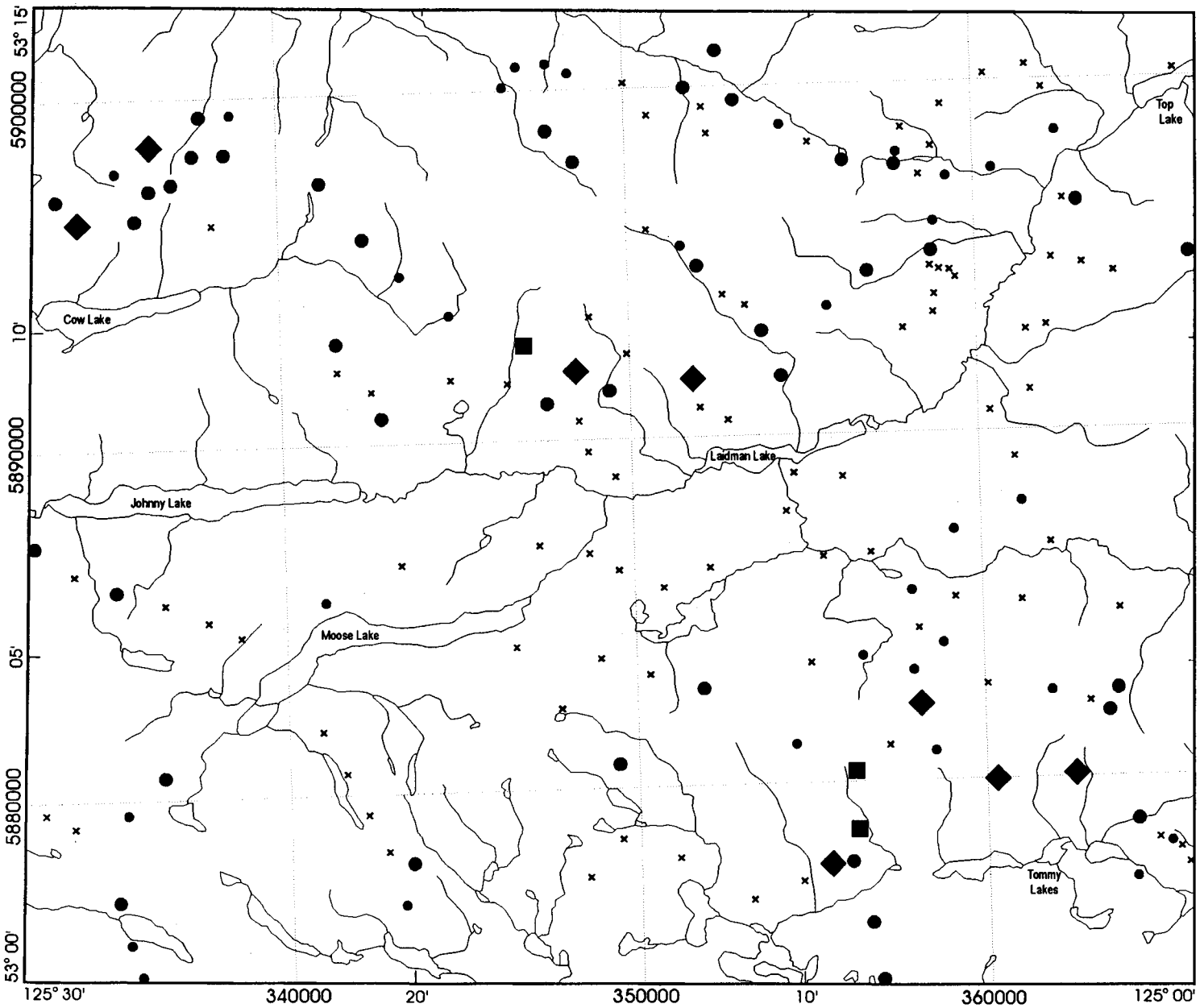
Transverse Mercator Projection
NAD 27 Datum

La (ppm)

Concentration	Frequency
34 to 45	n = 6 (3.5%)
31 to 33	n = 11 (6.4%)
28 to 30	n = 32 (18.7%)
26 to 27	n = 25 (14.6%)
17 to 25	n = 97 (56.7%)

171 Samples

Lanthanum by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

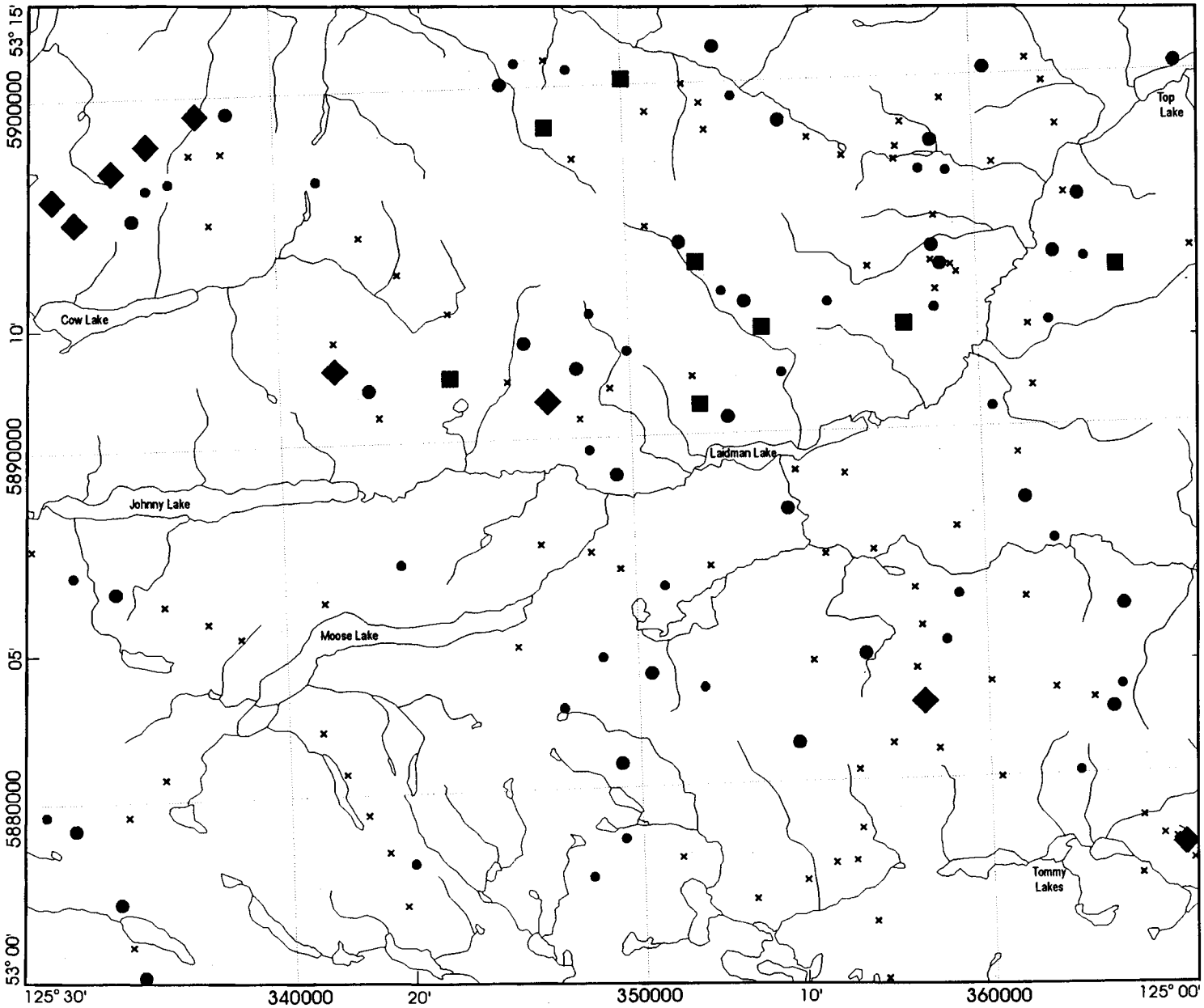
Transverse Mercator Projection
NAD 27 Datum

Lu (ppm)

Concentration		Frequency
0.60 to 0.73	◆	n = 8 (4.7%)
0.58 to 0.59	■	n = 3 (1.8%)
0.49 to 0.57	●	n = 40(23.4%)
0.44 to 0.48	•	n = 32(18.7%)
0.17 to 0.43	×	n = 88(51.5%)

171 Samples

Lutetium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

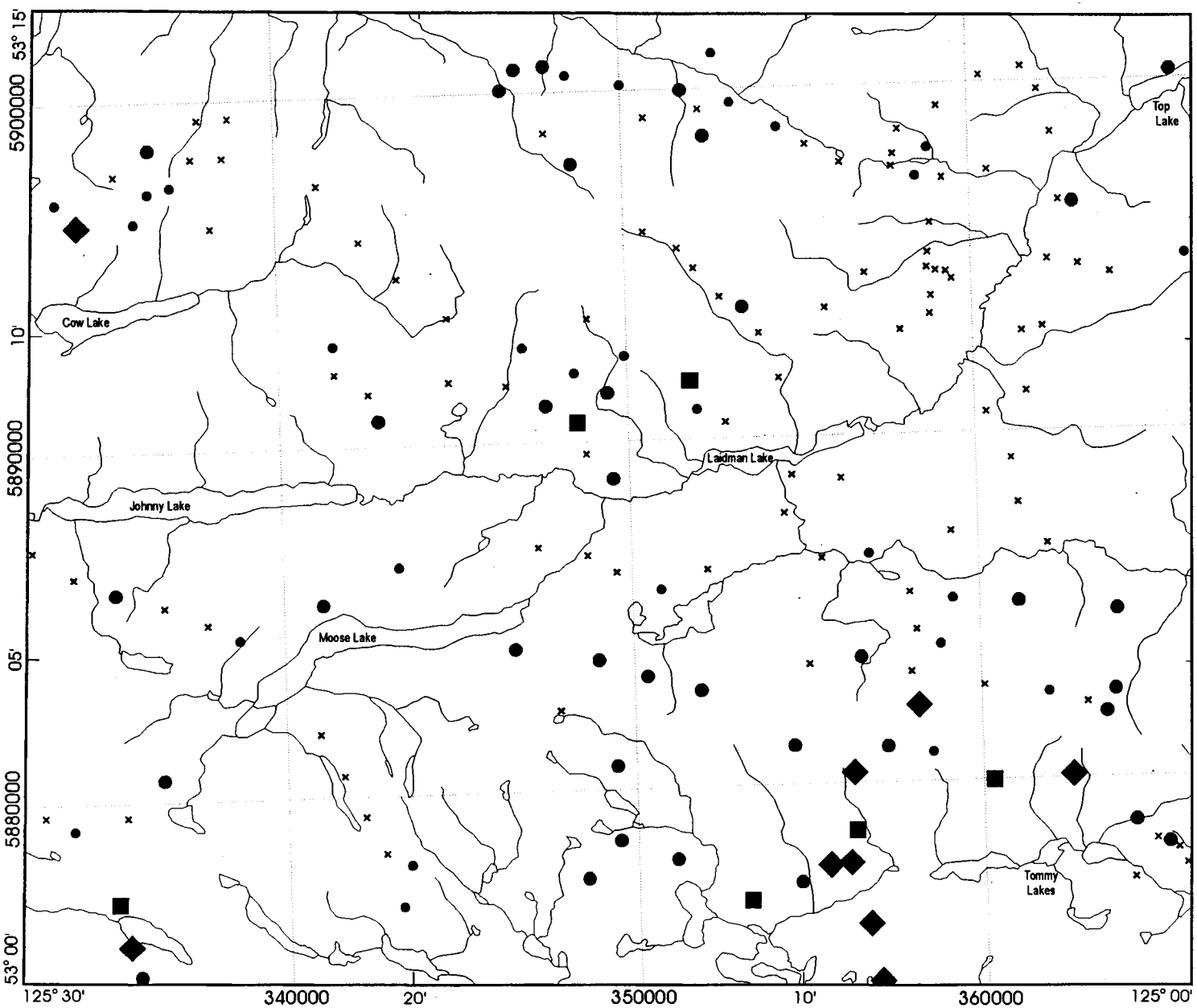
Transverse Mercator Projection
NAD 27 Datum

Rb (ppm)

Concentration	Frequency
86 to 150	n = 9 (5.3%)
74 to 85	n = 8 (4.7%)
59 to 73	n = 31 (18.1%)
50 to 58	n = 34 (19.9%)
5 to 49	n = 89 (52.1%)

171 Samples

Rubidium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

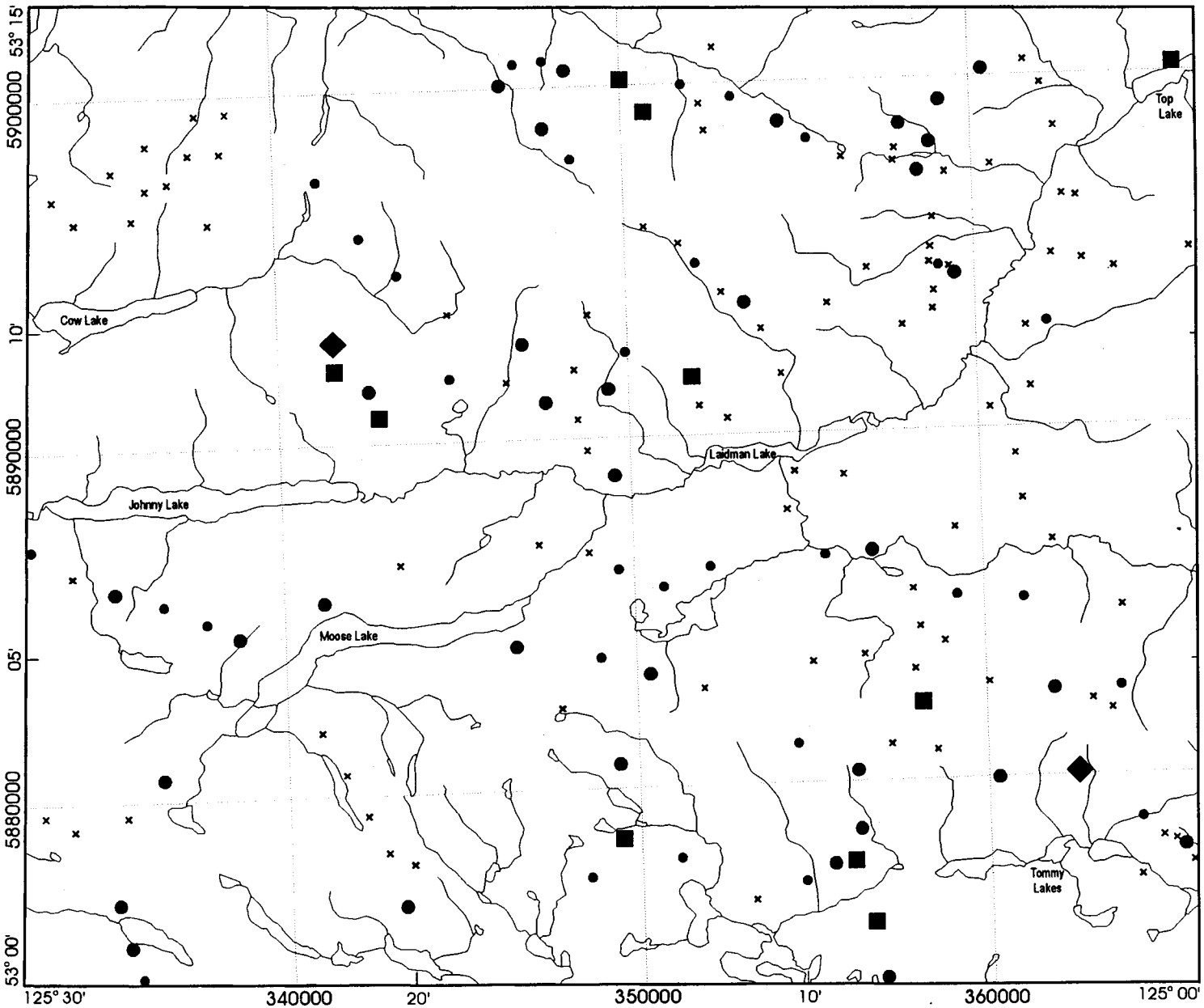
Transverse Mercator Projection
NAD 27 Datum

Sm (ppm)

Concentration	Frequency
7.3 to 8.5	n = 9 (5.3%)
6.7 to 7.2	n = 6 (3.5%)
5.4 to 6.6	n = 36(21.1%)
5.1 to 5.3	n = 28(16.4%)
3.0 to 5.0	n = 92(53.8%)

171 Samples

Samarium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

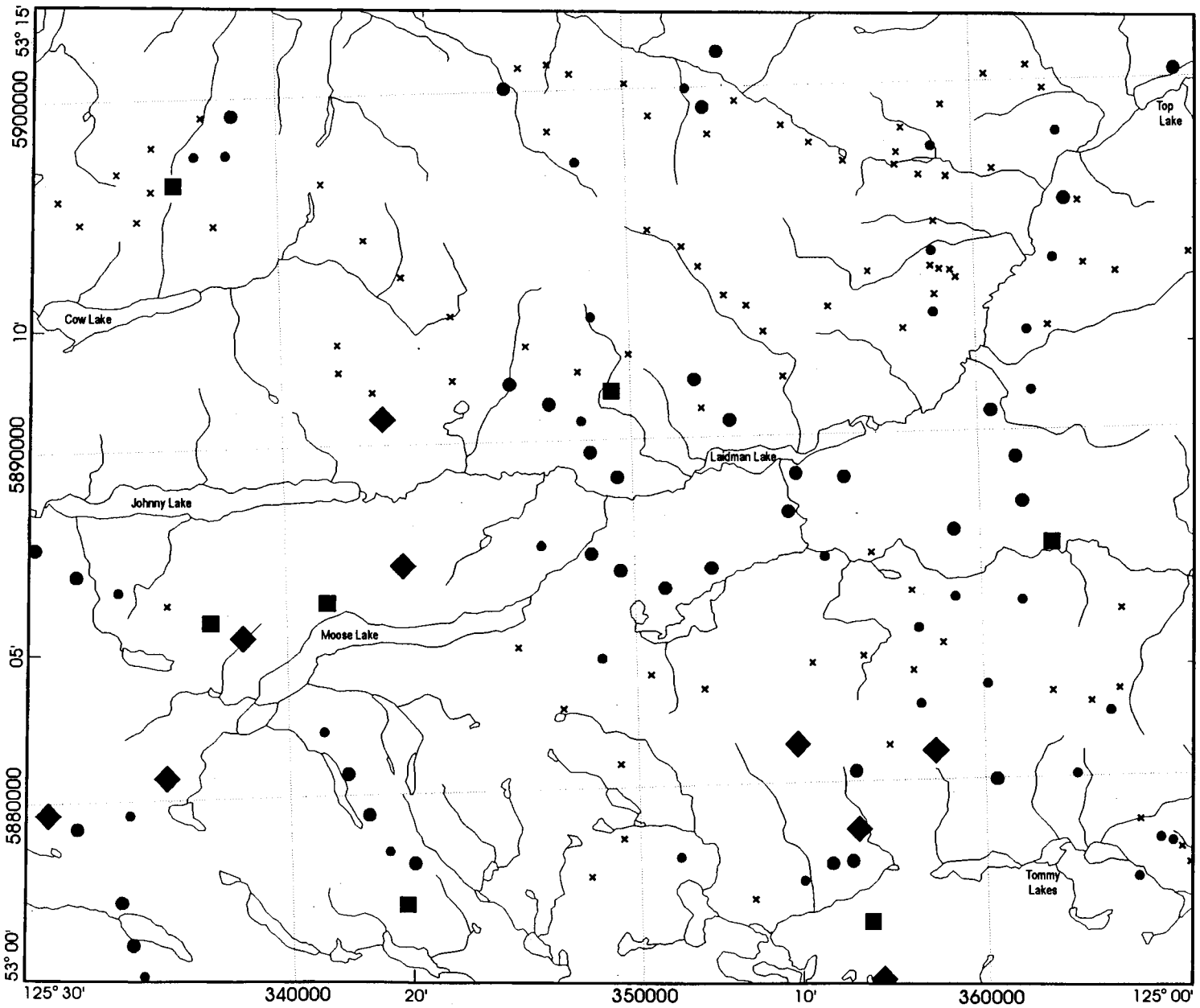
Transverse Mercator Projection
NAD 27 Datum

Sc (ppm)

Concentration	Frequency
20 to 22	n = 2 (1.2%)
19 to 19	n = 10 (5.9%)
17 to 18	n = 34 (19.9%)
16 to 16	n = 31 (18.1%)
11 to 15	n = 94 (55.0%)

171 Samples

Scandium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

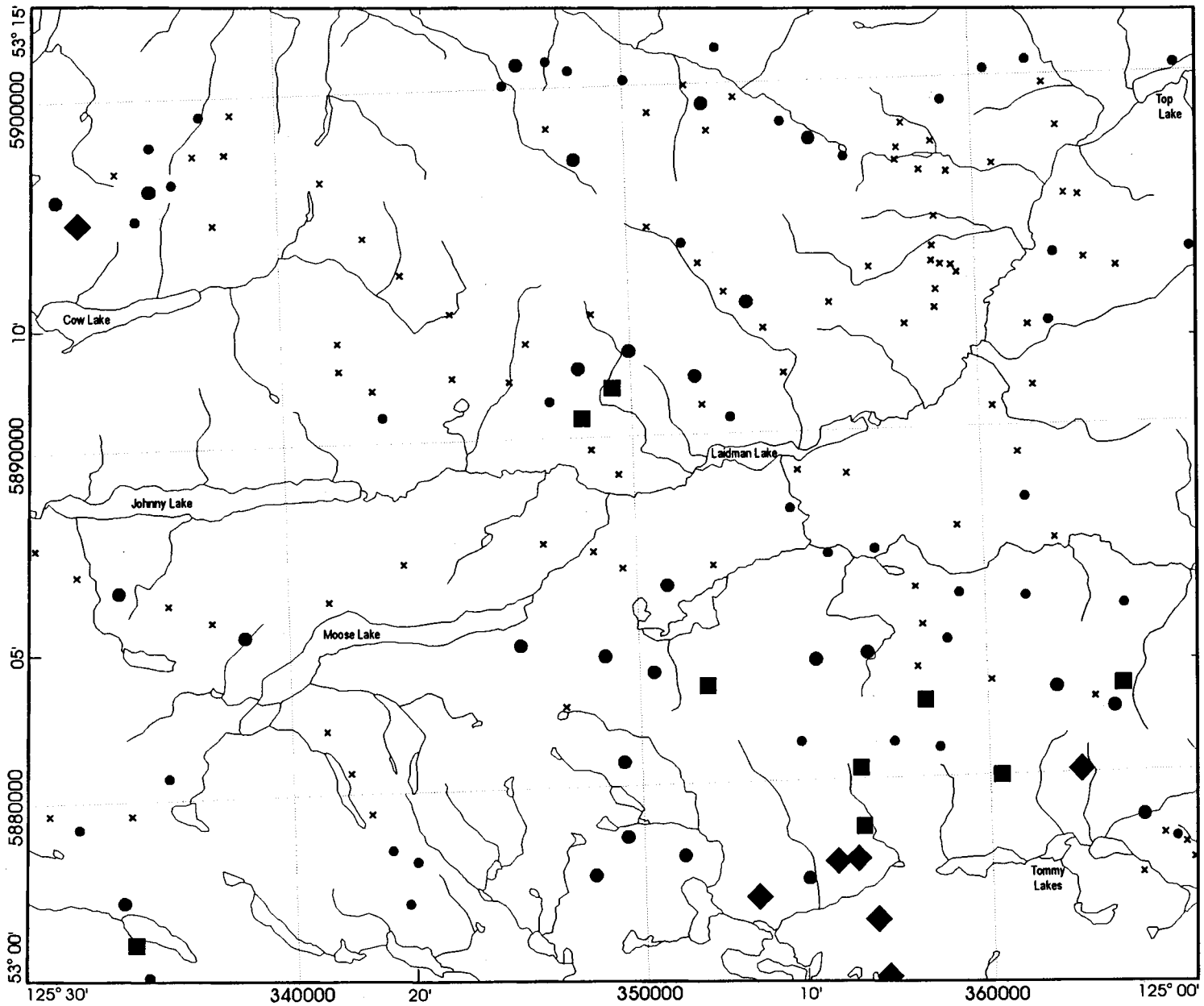
Transverse Mercator Projection
NAD 27 Datum

Na (%)

Concentration	Frequency
2.89 to 3.11 ◆	n = 9 (5.3%)
2.76 to 2.88 ■	n = 7 (4.1%)
2.54 to 2.75 ●	n = 35(20.5%)
2.40 to 2.53 •	n = 34(19.9%)
1.49 to 2.39 ×	n = 86(50.3%)

171 Samples

Sodium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

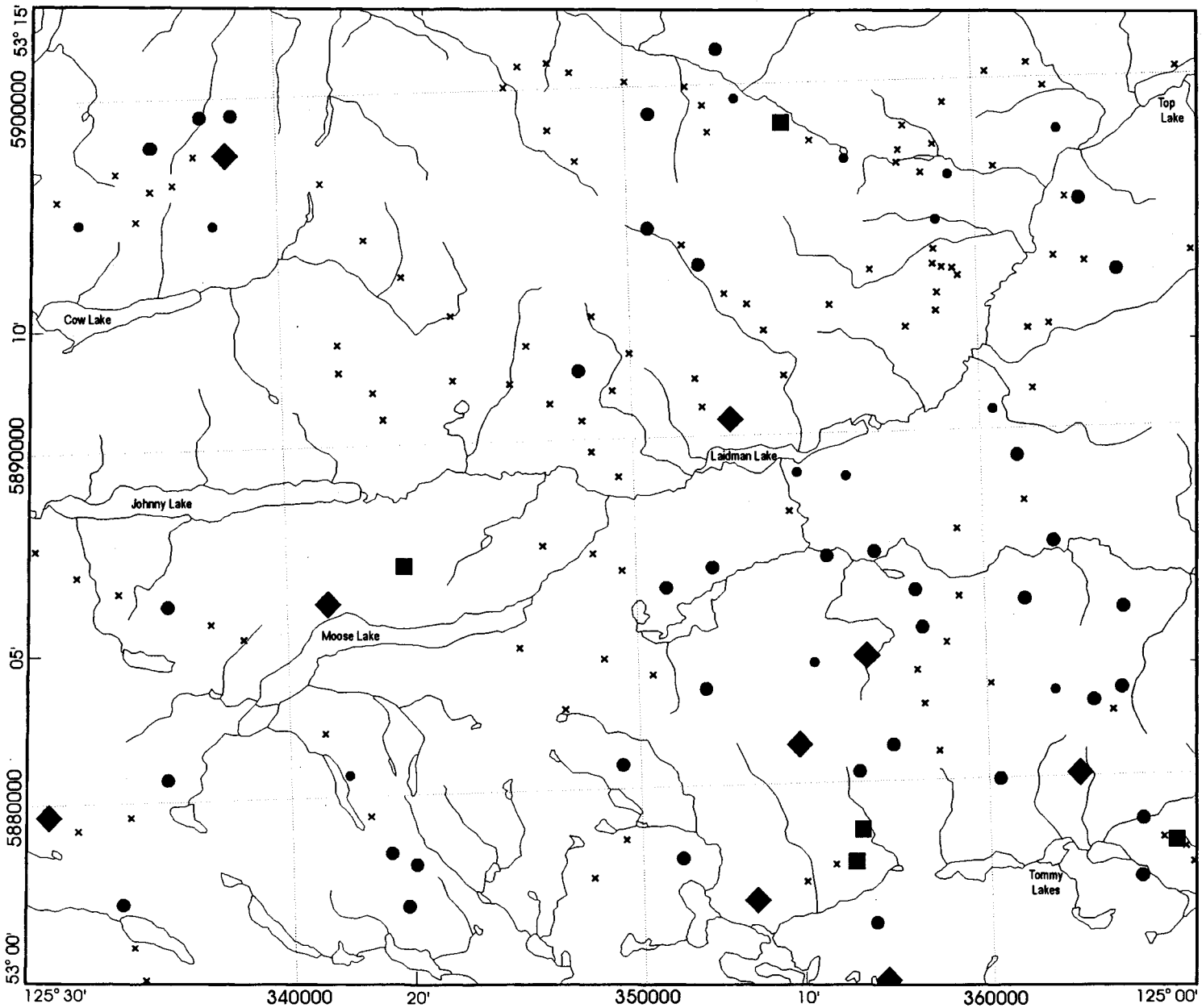
Transverse Mercator Projection
NAD 27 Datum

Nd (ppm)

Concentration	Frequency
34 to 42	n = 7 (4.1%)
31 to 33	n = 9 (5.3%)
26 to 30	n = 27 (15.8%)
23 to 25	n = 40 (23.4%)
5 to 22	n = 88 (51.5%)

171 Samples

Neodynium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

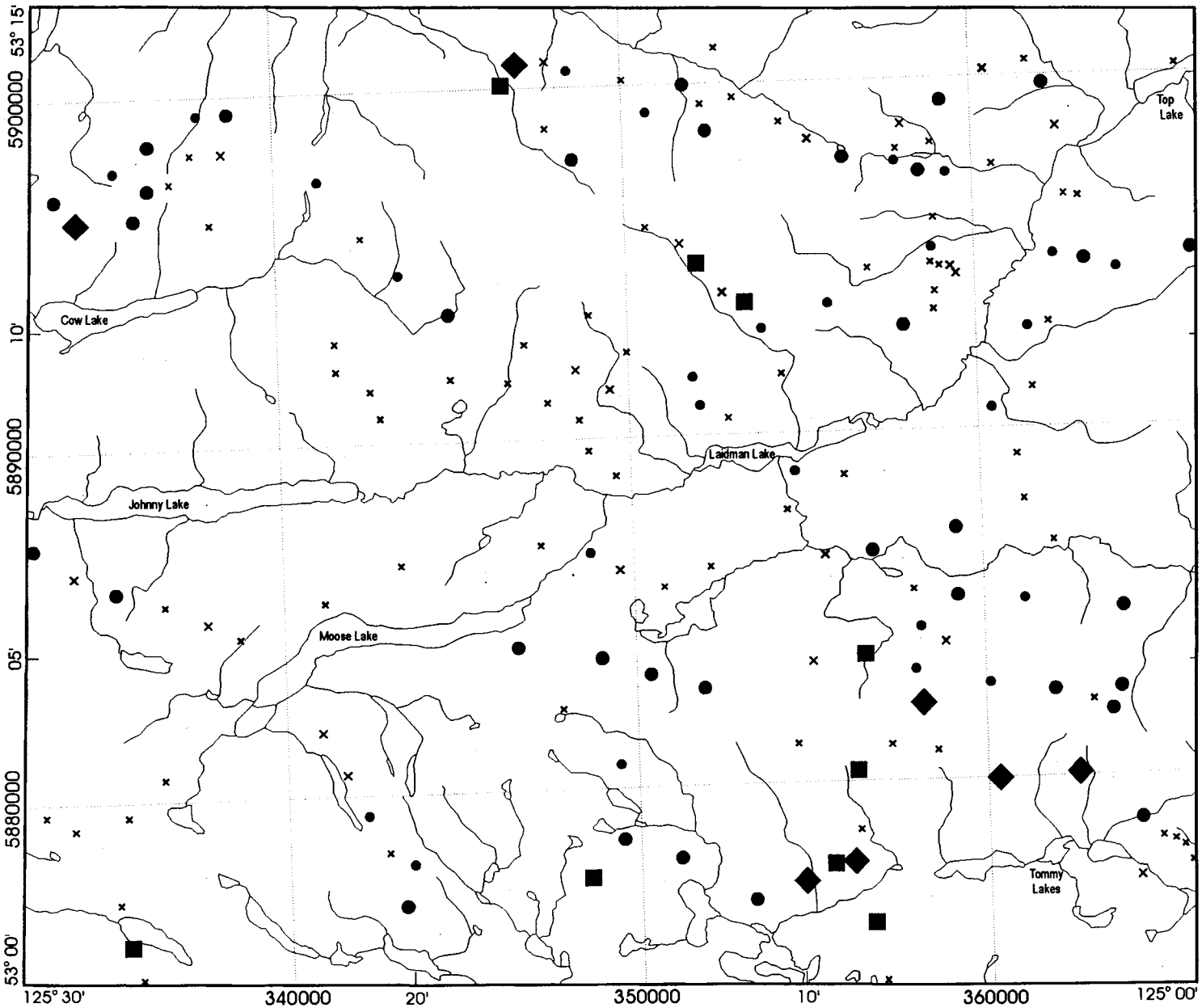
Transverse Mercator Projection
NAD 27 Datum

Ta (ppm)

Concentration		Frequency
2.5 to 3.4	◆	n = 9 (5.3%)
2.3 to 2.4	■	n = 5 (2.9%)
1.3 to 2.2	●	n = 37(21.6%)
0.6 to 1.2	•	n = 13 (7.6%)
0.5 to 0.5	×	n = 107(62.6%)

171 Samples

Tantalum by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

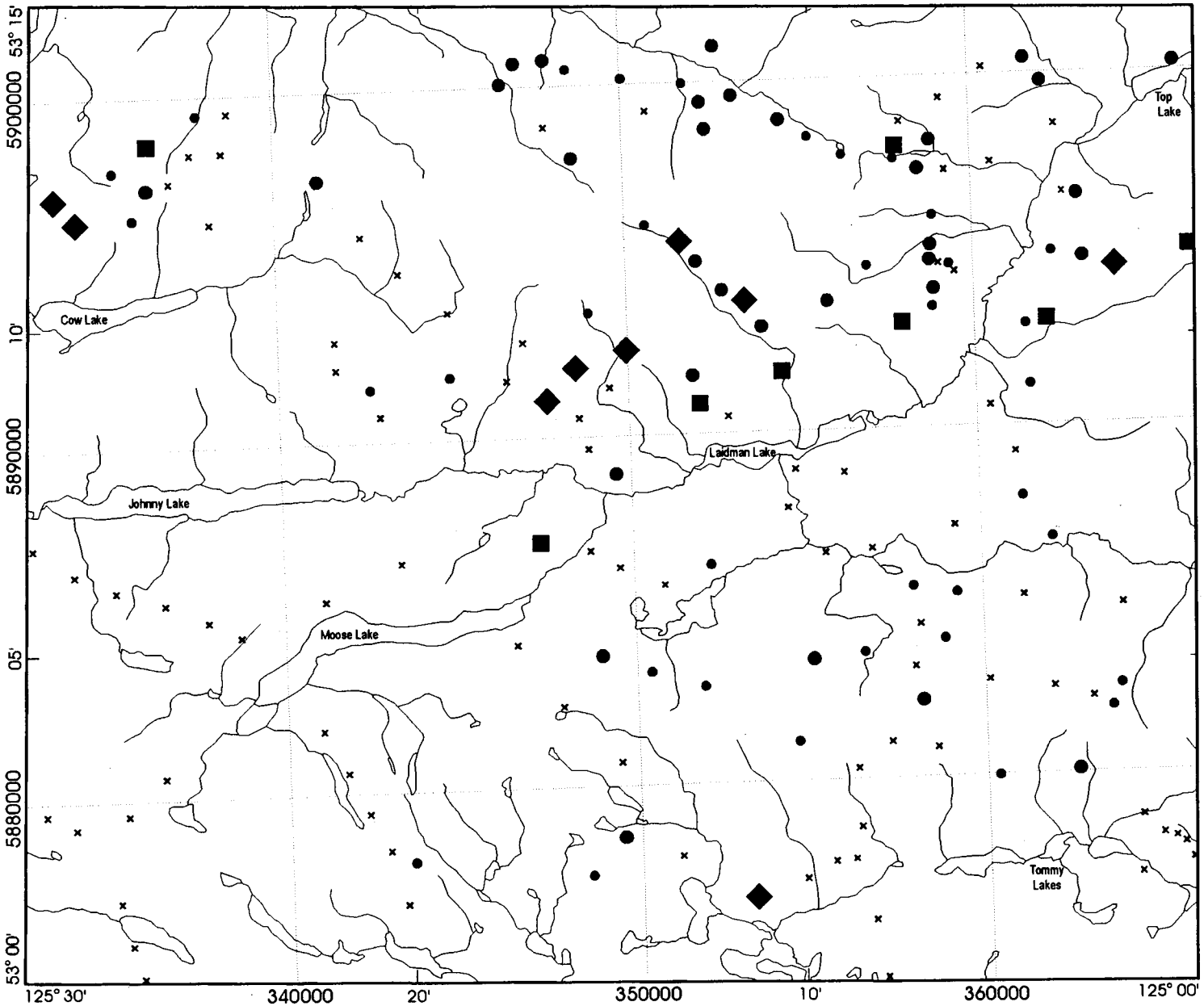
Transverse Mercator Projection
NAD 27 Datum

Tb (ppm)

Concentration	Frequency
1.2 to 1.3	n = 7 (4.1%)
1.1 to 1.1	n = 9 (5.3%)
0.9 to 1.0	n = 34 (19.9%)
0.8 to 0.8	n = 26 (15.2%)
0.5 to 0.7	n = 95 (55.6%)

171 Samples

Terbium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

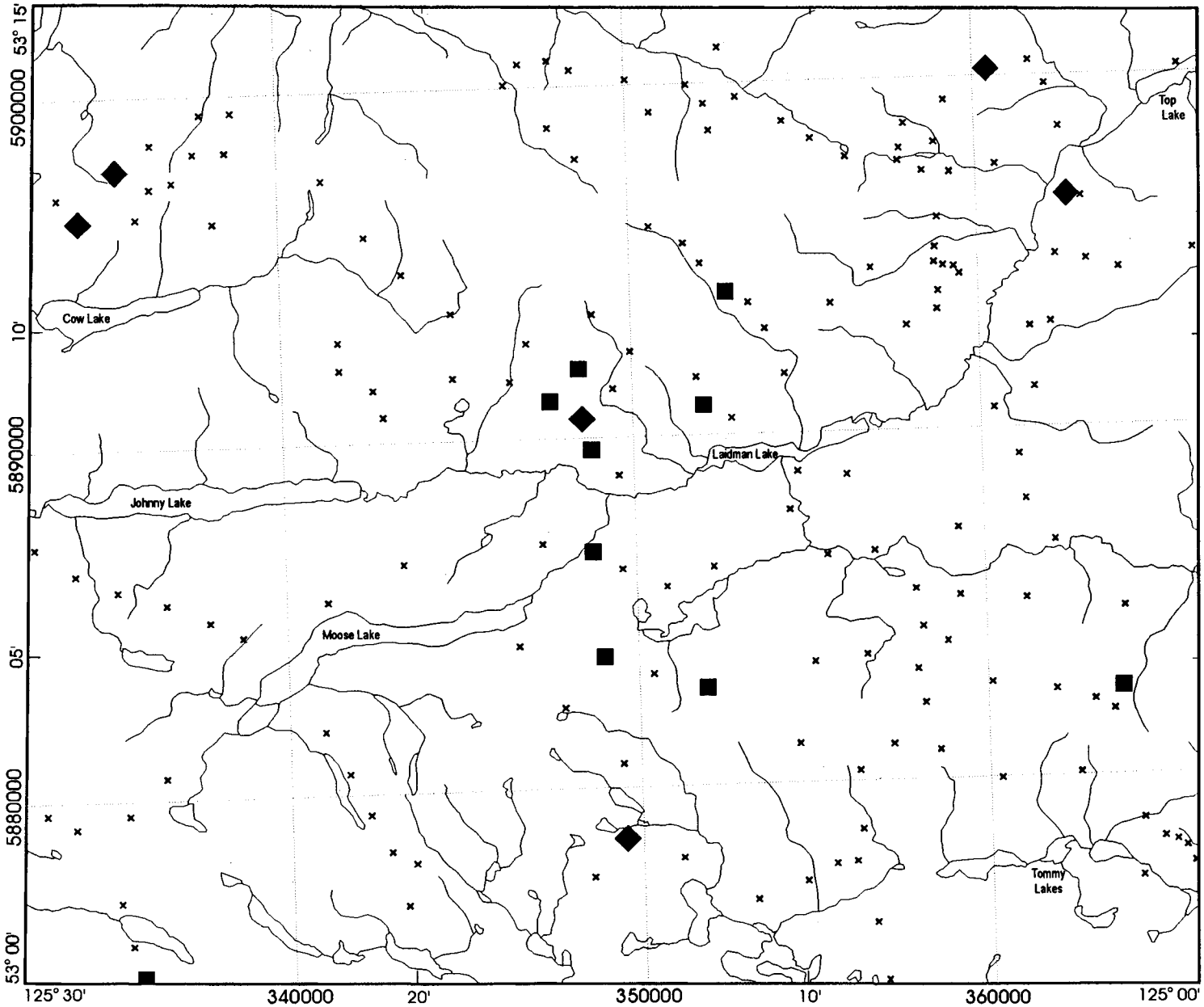
Transverse Mercator Projection
NAD 27 Datum

Th (ppm)

Concentration	Frequency
7.1 to 11.0 ◆	n = 9 (5.3%)
6.6 to 7.0 ■	n = 8 (4.7%)
5.4 to 6.5 ●	n = 32(18.7%)
4.9 to 5.3 •	n = 35(20.5%)
3.1 to 4.8 ×	n = 87(50.9%)

171 Samples

Thorium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

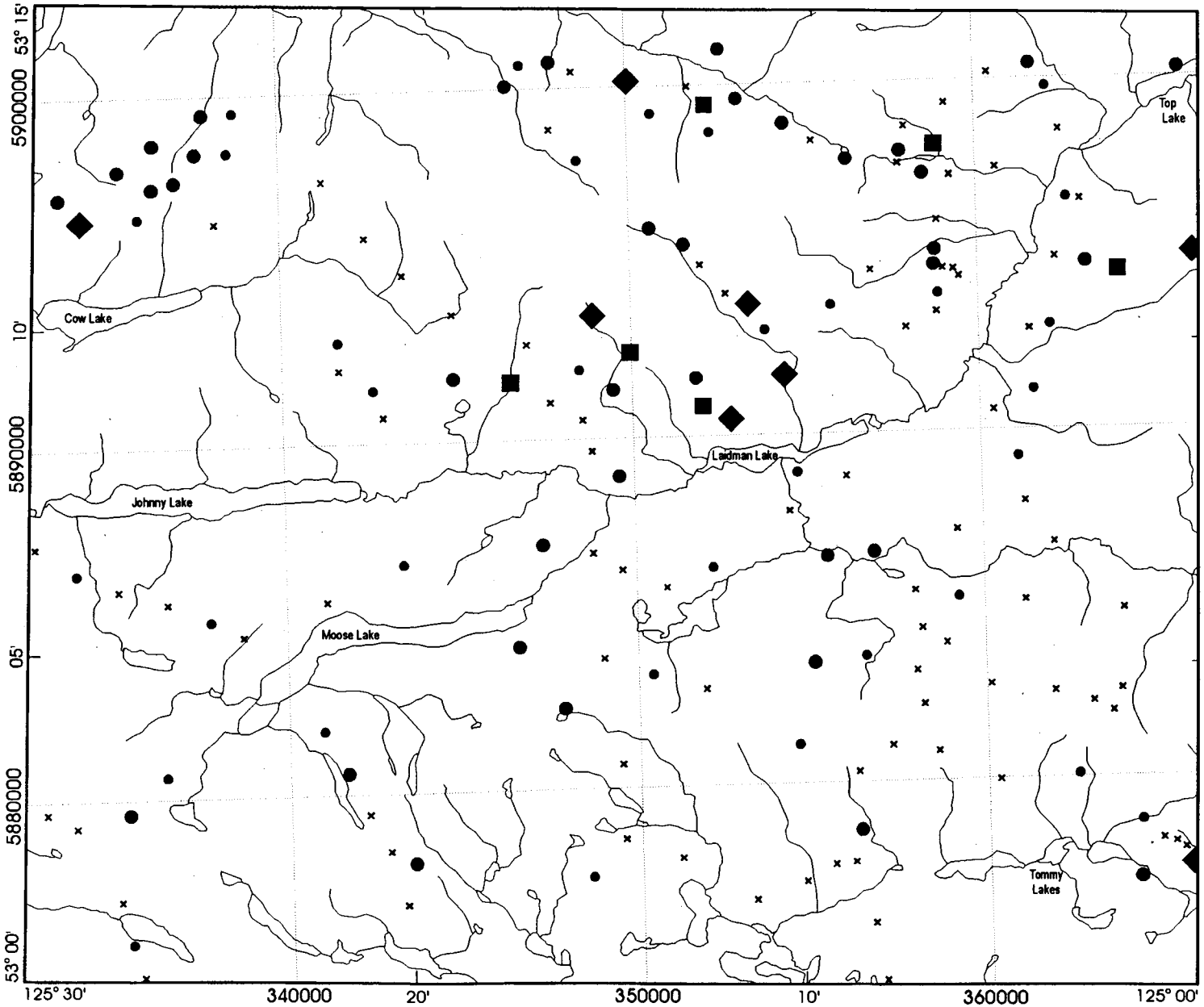
Transverse Mercator Projection
NAD 27 Datum

W (ppm)

Concentration	Frequency
4 to 10	n = 6 (3.5%)
2 to 3	n = 10 (5.9%)
1 to 1	n = 0 (0.0%)
1 to 1	n = 0 (0.0%)
1 to 1	n = 155 (90.6%)

171 Samples

Tungsten by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

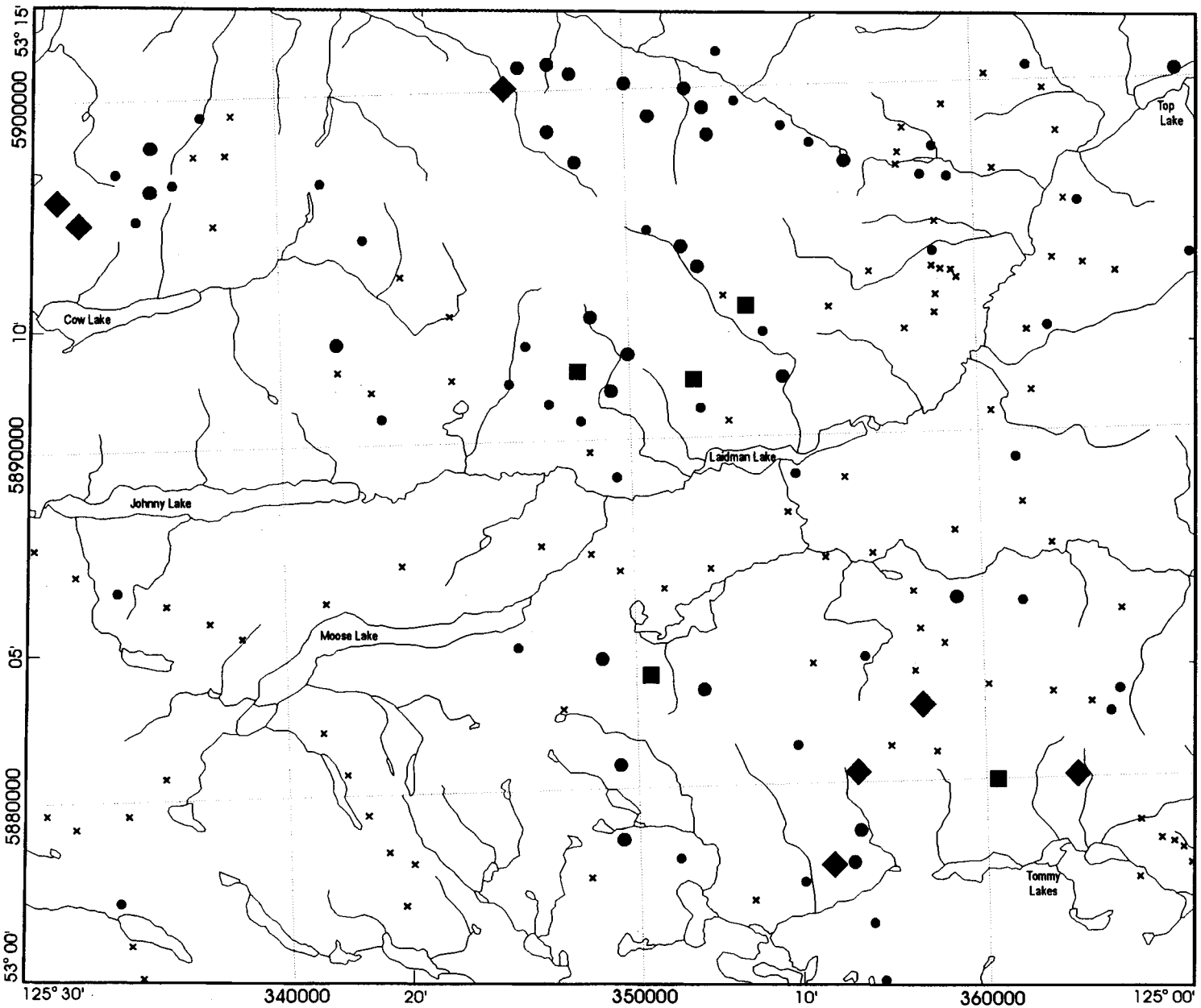
Transverse Mercator Projection
NAD 27 Datum

U (ppm)

Concentration		Frequency
3.8 to 5.3	◆	n = 8 (4.7%)
3.4 to 3.7	■	n = 6 (3.5%)
2.6 to 3.3	●	n = 37(21.6%)
2.3 to 2.5	•	n = 33(19.3%)
0.5 to 2.2	×	n = 87(50.9%)

171 Samples

Uranium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

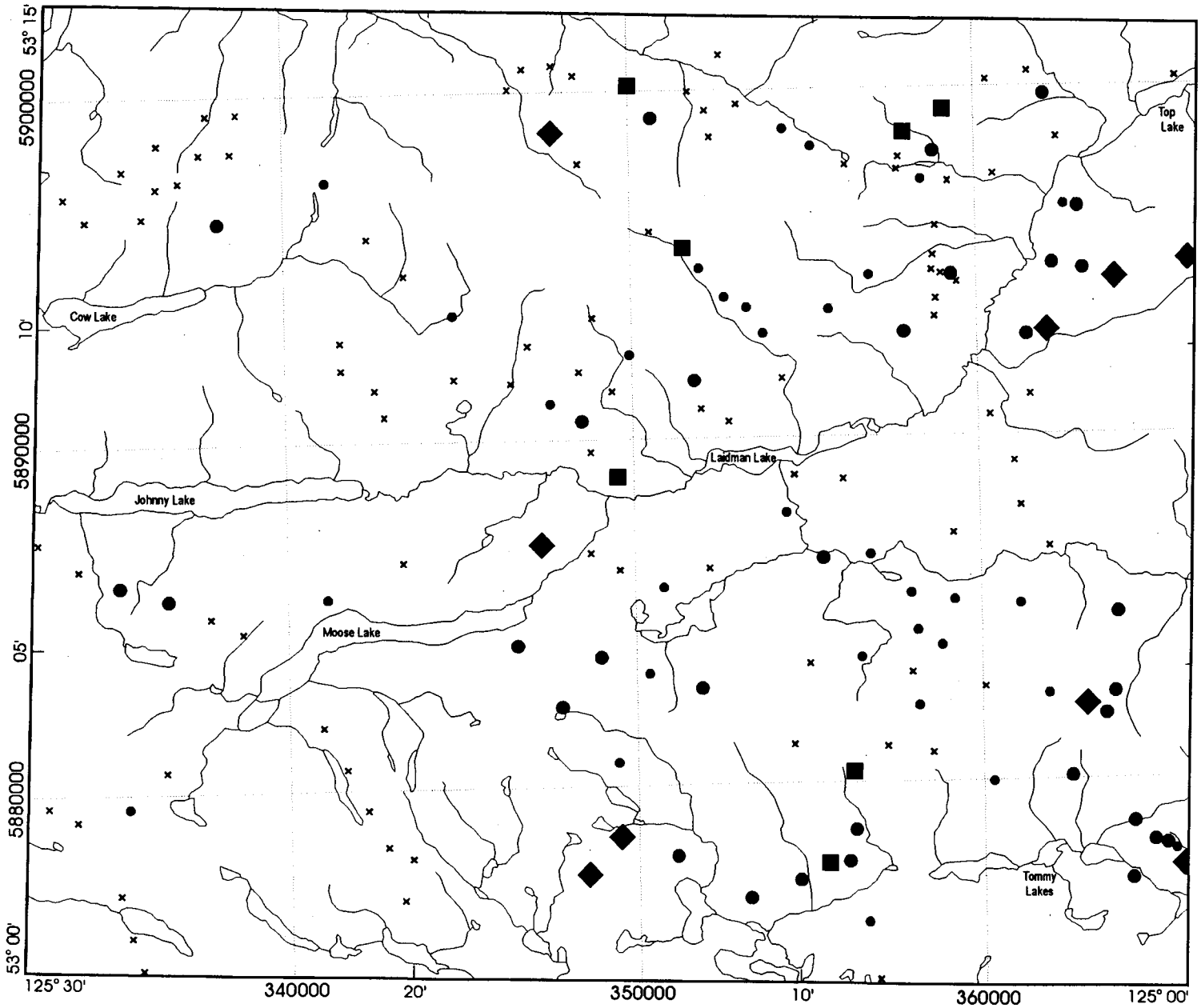
Transverse Mercator Projection
NAD 27 Datum

Yb (ppm)

Concentration	Frequency
4.1 to 4.8	n = 7 (4.1%)
3.9 to 4.0	n = 5 (2.9%)
3.5 to 3.8	n = 28 (16.4%)
3.2 to 3.4	n = 41 (24.0%)
2.1 to 3.1	n = 90 (52.6%)

171 Samples

Ytterbium by INA



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

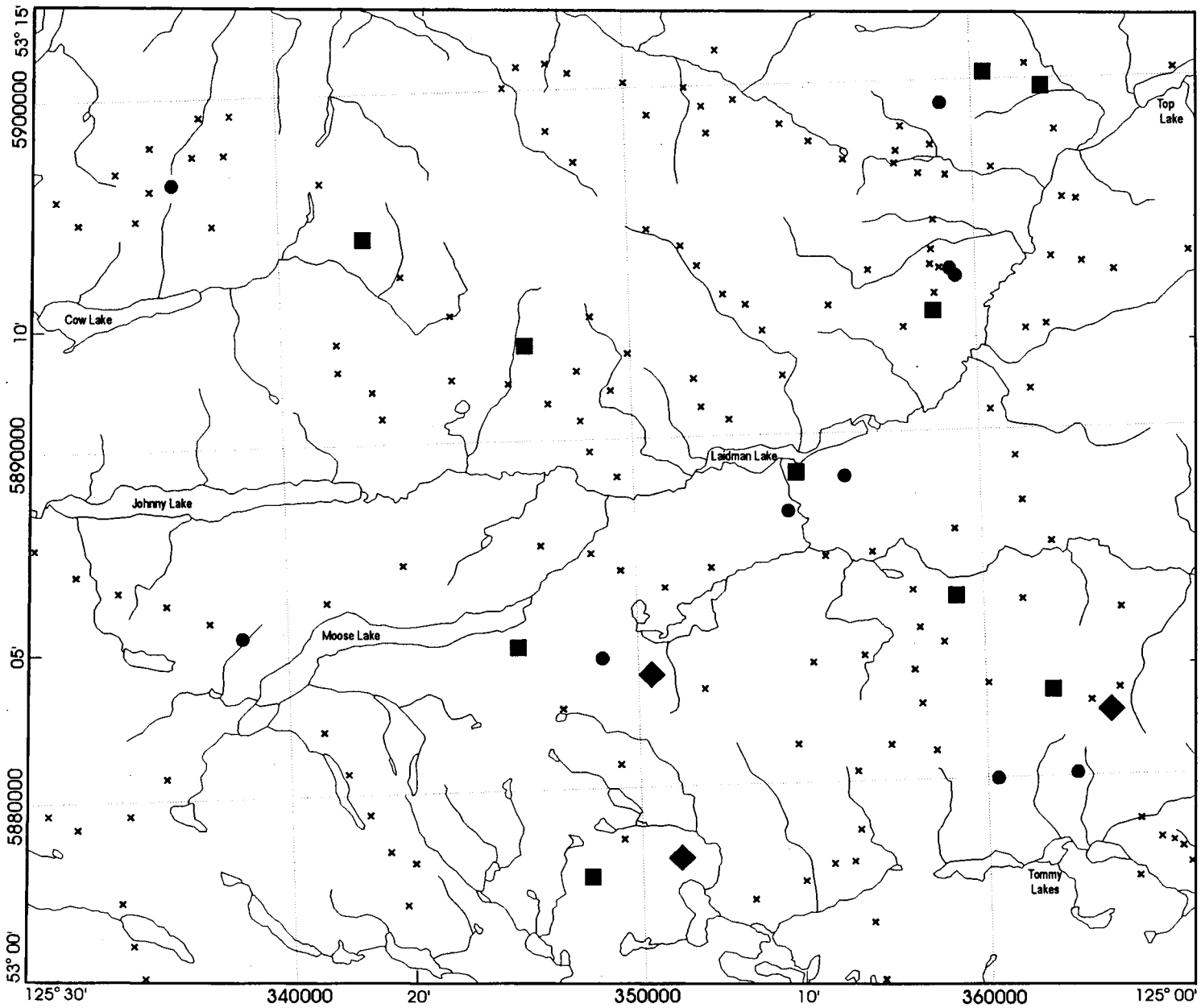
Transverse Mercator Projection
NAD 27 Datum

Ba (ppm)

Concentration		Frequency
154 to 390	◆	n = 9 (5.3%)
145 to 153	■	n = 7 (4.1%)
115 to 144	●	n = 34 (19.9%)
101 to 114	•	n = 32 (18.7%)
27 to 100	×	n = 89 (52.0%)

171 Samples

Barium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

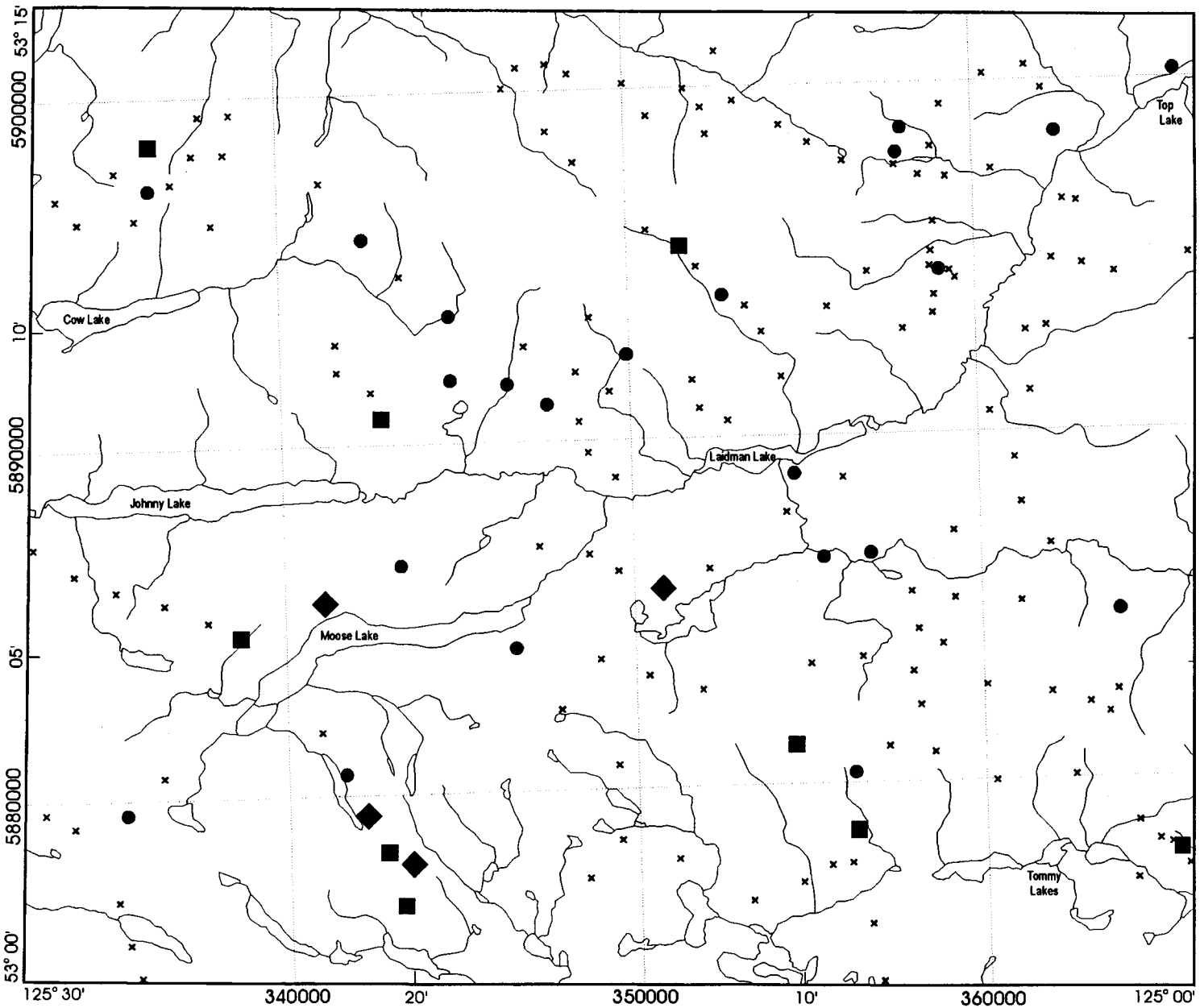
Transverse Mercator Projection
NAD 27 Datum

Bi (ppm)

Concentration	Frequency
5 to 8	n = 3 (1.8%)
4 to 4	n = 10 (5.8%)
3 to 3	n = 11 (6.4%)
2 to 2	n = 0 (0.0%)
2 to 2	n = 147 (86.0%)

171 Samples

Bismuth by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

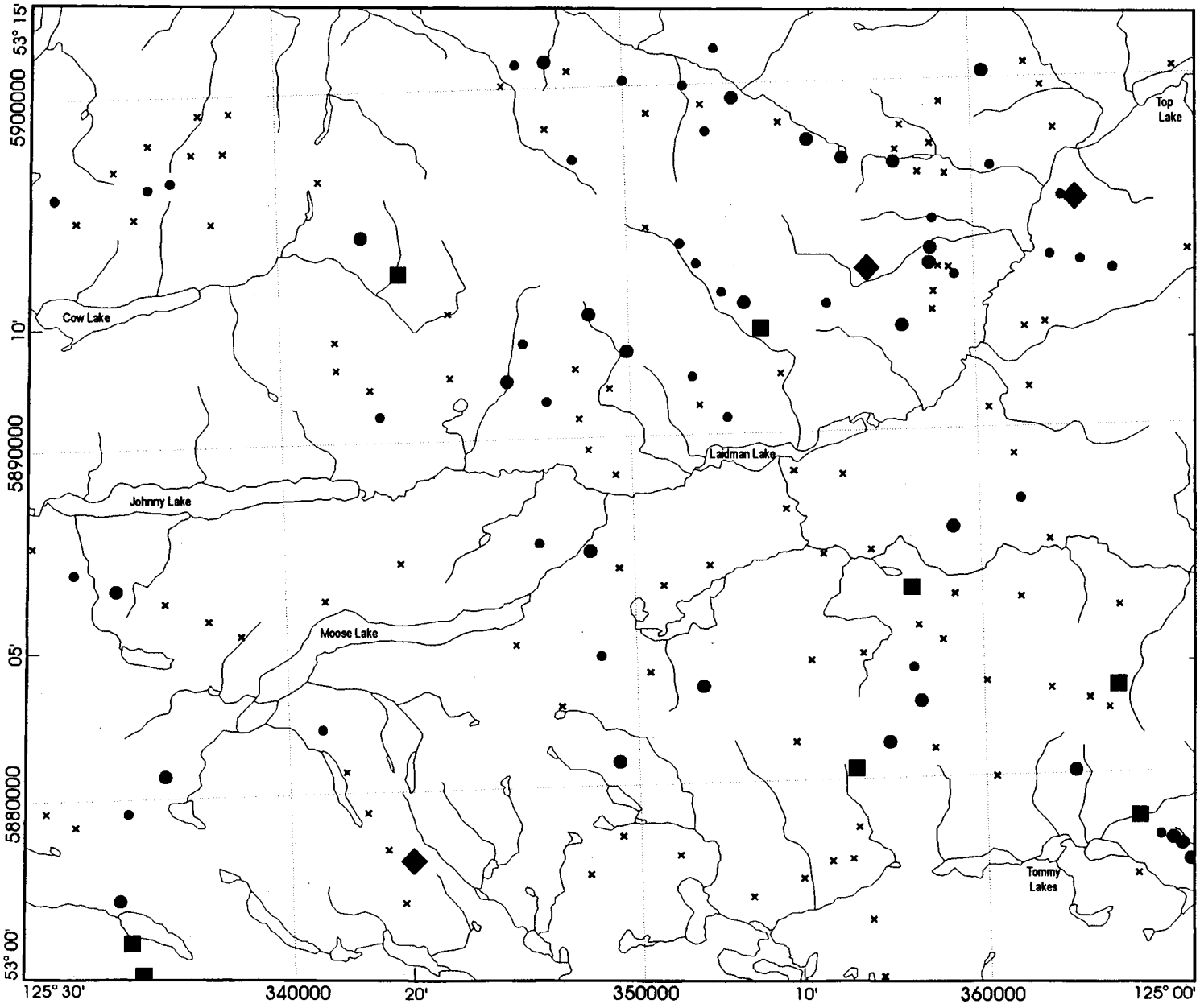
Transverse Mercator Projection
NAD 27 Datum

B (ppm)

Concentration	Frequency
6 to 7	n = 4 (2.3%)
5 to 5	n = 9 (5.3%)
4 to 4	n = 24 (14.0%)
3 to 3	n = 0 (0.0%)
2 to 3	n = 134 (78.4%)

171 Samples

Boron by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

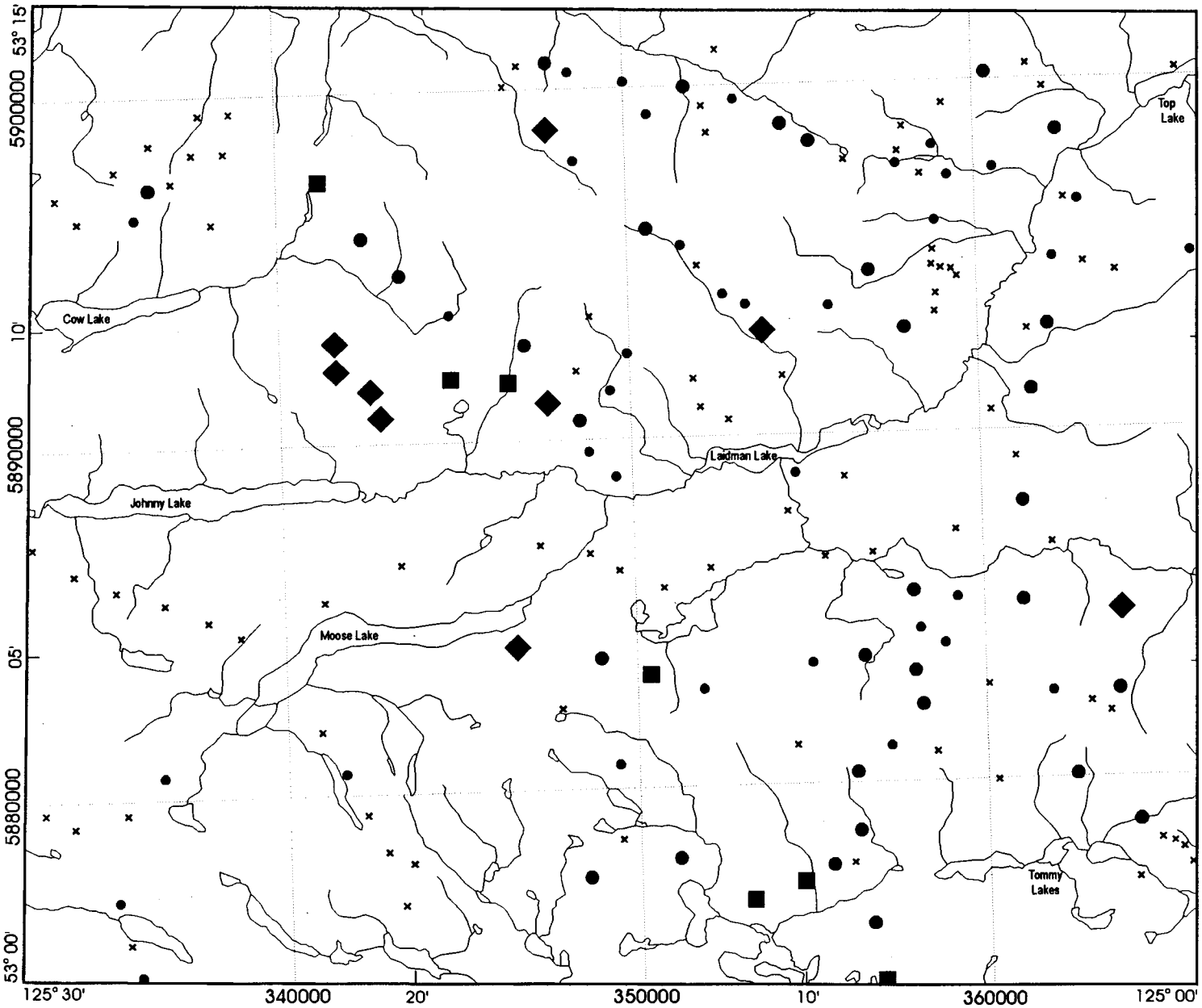
Transverse Mercator Projection
NAD 27 Datum

Cd (ppm)

Concentration		Frequency
0.7 to 0.7	◆	n = 3 (1.8%)
0.6 to 0.6	■	n = 8 (4.7%)
0.4 to 0.5	●	n = 27 (15.8%)
0.3 to 0.3	•	n = 33 (19.3%)
0.2 to 0.2	×	n = 100 (58.5%)

171 Samples

Cadmium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

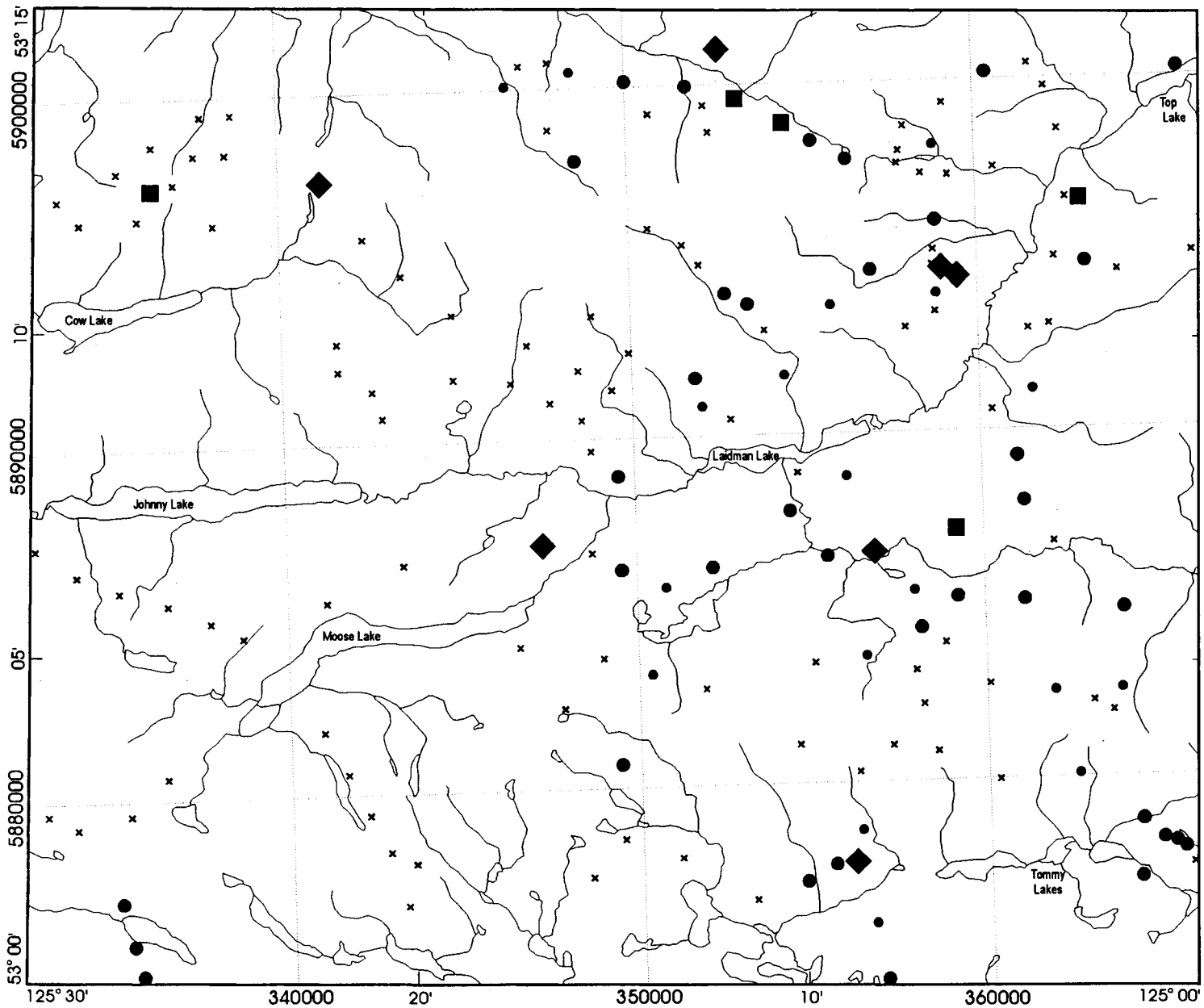
0 5 km

Transverse Mercator Projection
NAD 27 Datum

Concentration		Frequency
0.91 to 1.61	◆	n = 9 (5.3%)
0.86 to 0.90	■	n = 7 (4.1%)
0.75 to 0.85	●	n = 32(18.7%)
0.64 to 0.74	•	n = 36(21.1%)
0.23 to 0.63	×	n = 87(50.9%)

171 Samples

Calcium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

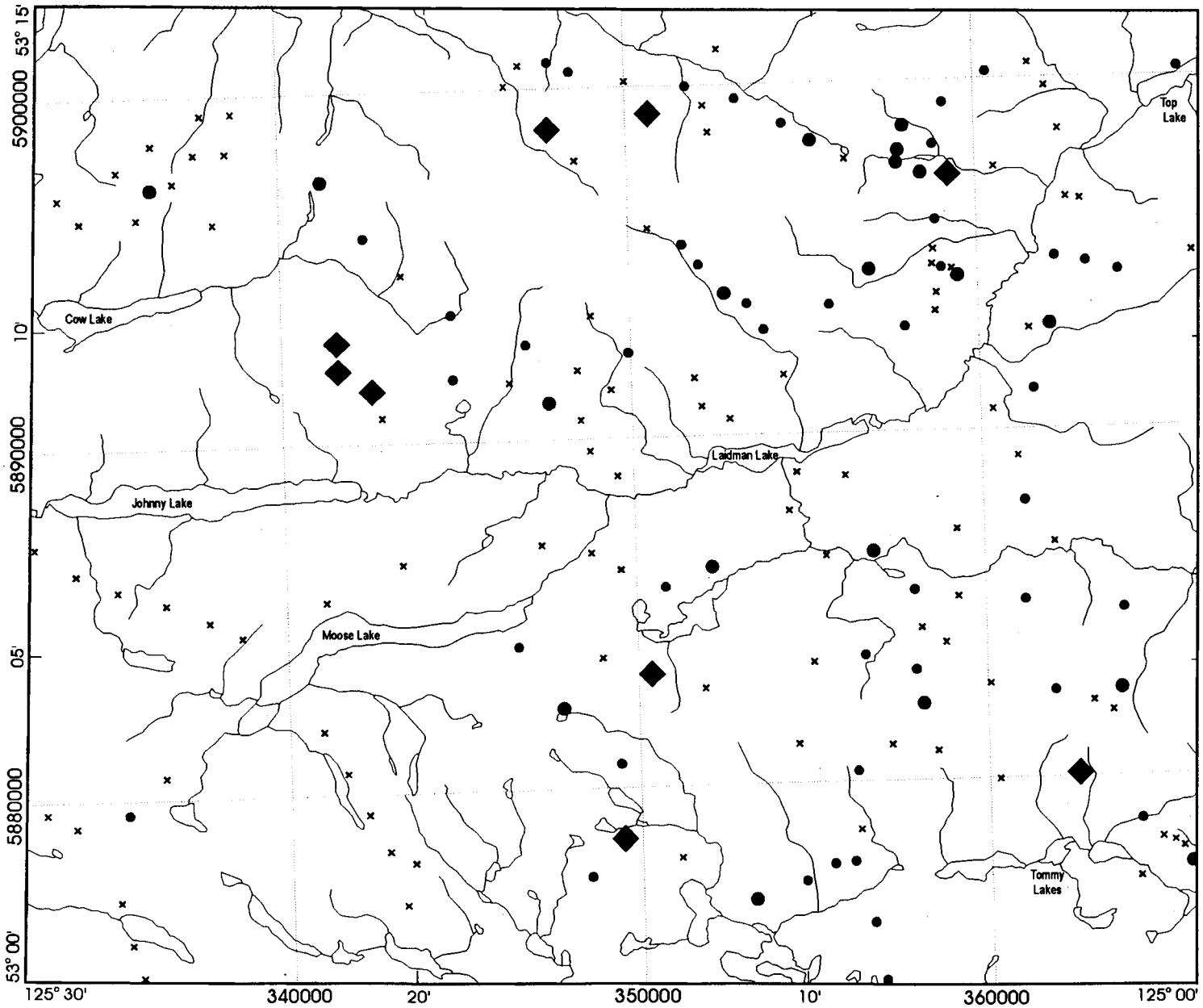
Transverse Mercator Projection
NAD 27 Datum

Cr (ppm)

Concentration	Frequency
30 to 48	n = 7 (4.1%)
28 to 29	n = 5 (2.9%)
24 to 27	n = 38(22.2%)
23 to 23	n = 18(10.5%)
11 to 22	n = 103(60.2%)

171 Samples

Chromium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

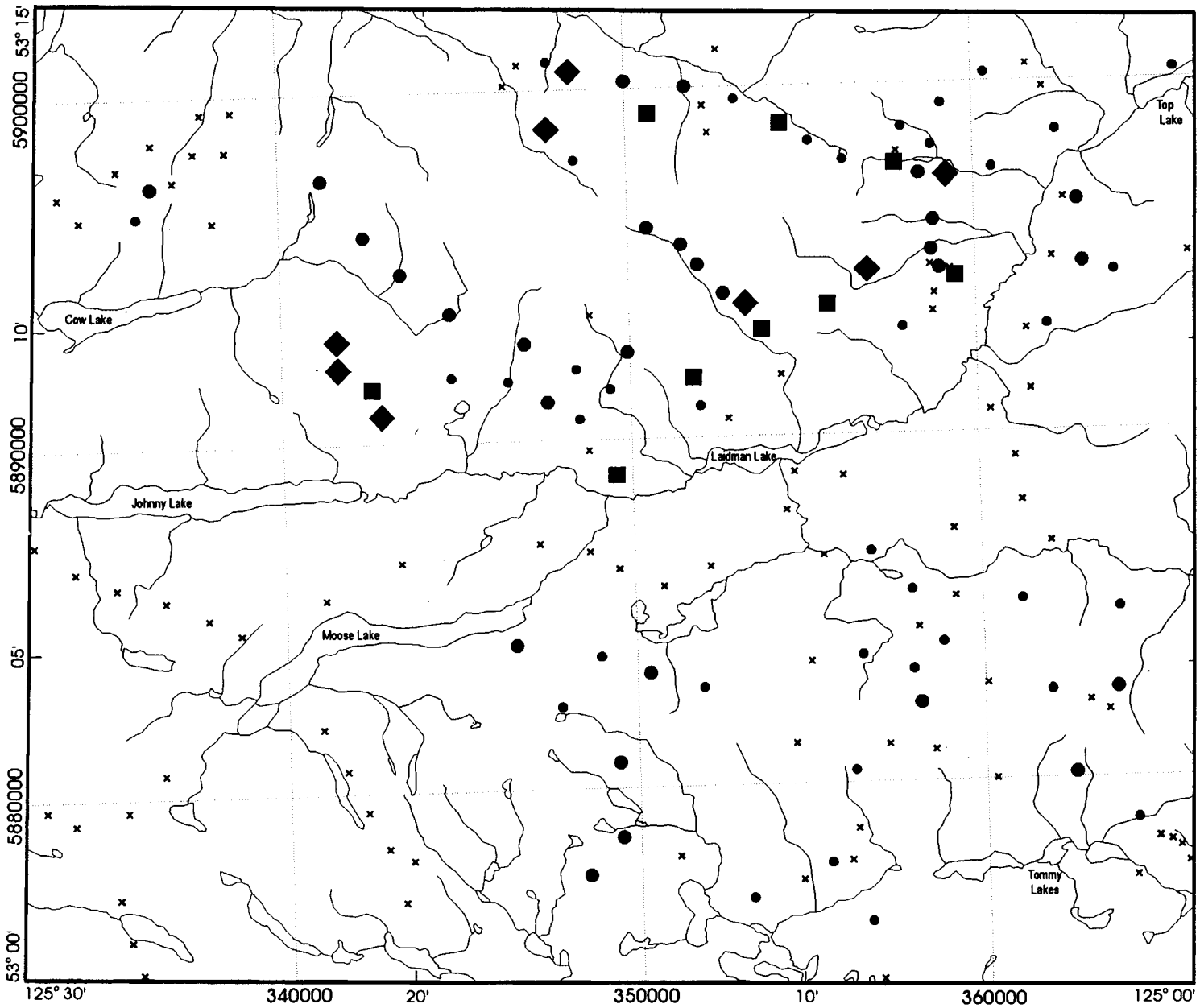
Transverse Mercator Projection
NAD 27 Datum

Co (ppm)

Concentration		Frequency
13 to 18	◆	n = 9 (5.3%)
12 to 12	■	n = 0 (0.0%)
11 to 12	●	n = 19(11.1%)
9 to 10	•	n = 45(26.3%)
2 to 8	×	n = 98(57.3%)

171 Samples

Cobalt by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

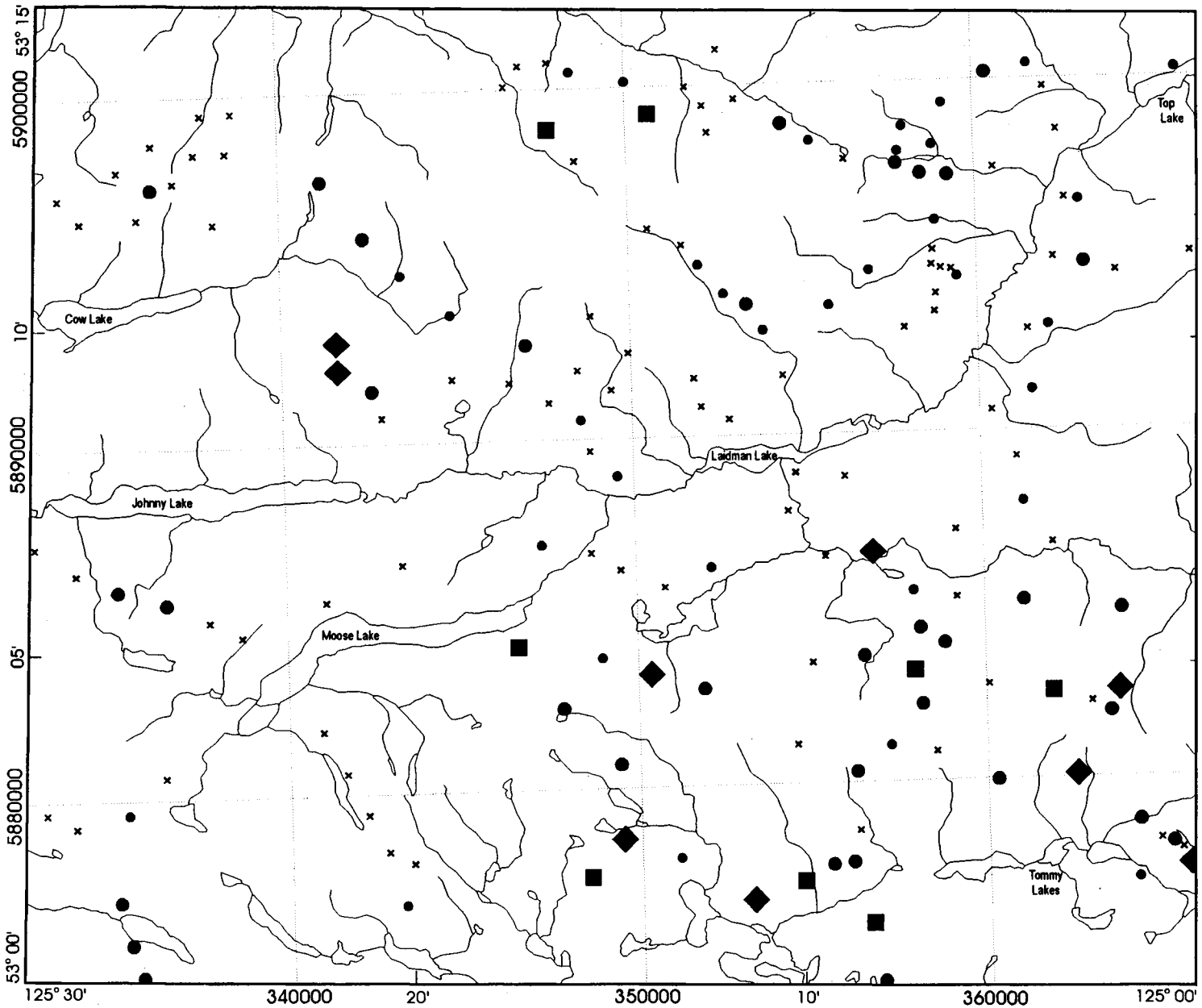
Transverse Mercator Projection
NAD 27 Datum

Cu (ppm)

Concentration	Frequency
47 to 66	n = 8 (4.7%)
43 to 46	n = 9 (5.3%)
32 to 42	n = 28 (16.4%)
25 to 31	n = 38 (22.2%)
6 to 24	n = 88 (51.5%)

171 Samples

Copper by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

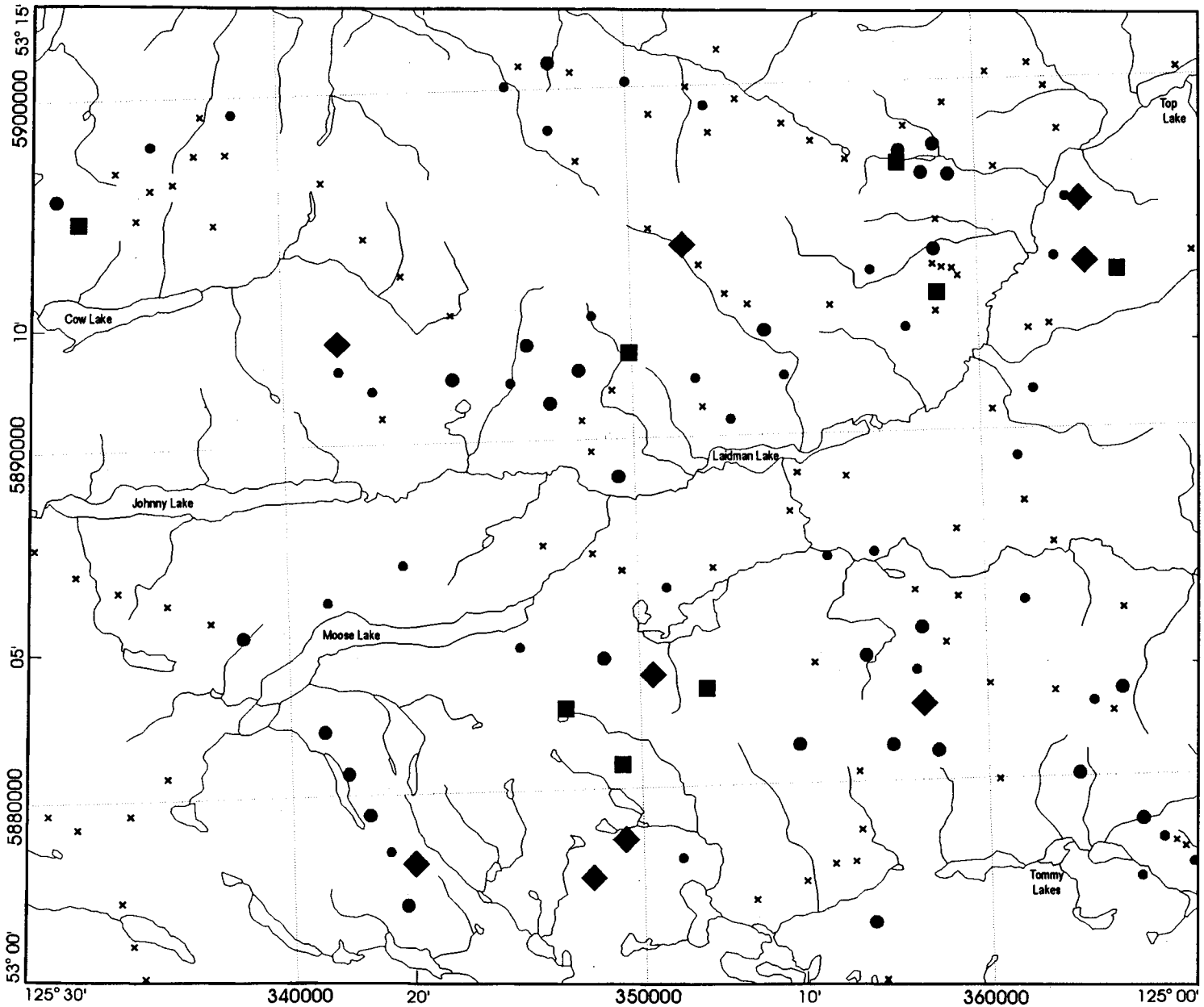
Transverse Mercator Projection
NAD 27 Datum

Fe (%)

Concentration		Frequency
4.69 to 5.68	◆	n = 9 (5.3%)
4.49 to 4.68	■	n = 8 (4.7%)
3.93 to 4.48	●	n = 34 (19.9%)
3.66 to 3.92	•	n = 34 (19.9%)
1.48 to 3.65	×	n = 86 (50.3%)

171 Samples

Iron by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

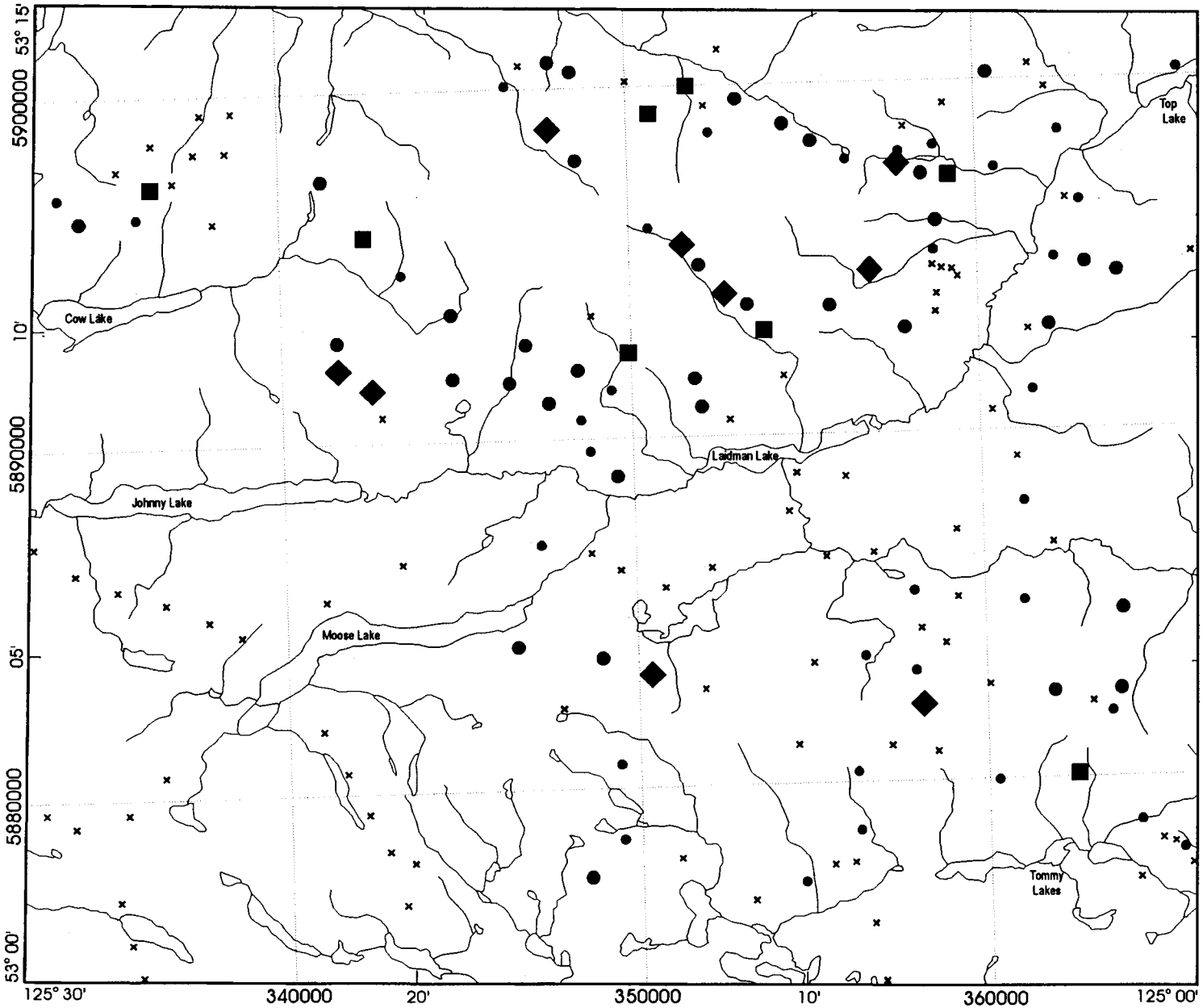
Transverse Mercator Projection
NAD 27 Datum

Pb (ppm)

Concentration	Frequency
19 to 58	n = 9 (5.3%)
15 to 18	n = 8 (4.7%)
11 to 14	n = 28 (16.4%)
9 to 10	n = 33 (19.3%)
2 to 8	n = 93 (54.4%)

171 Samples

Lead by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

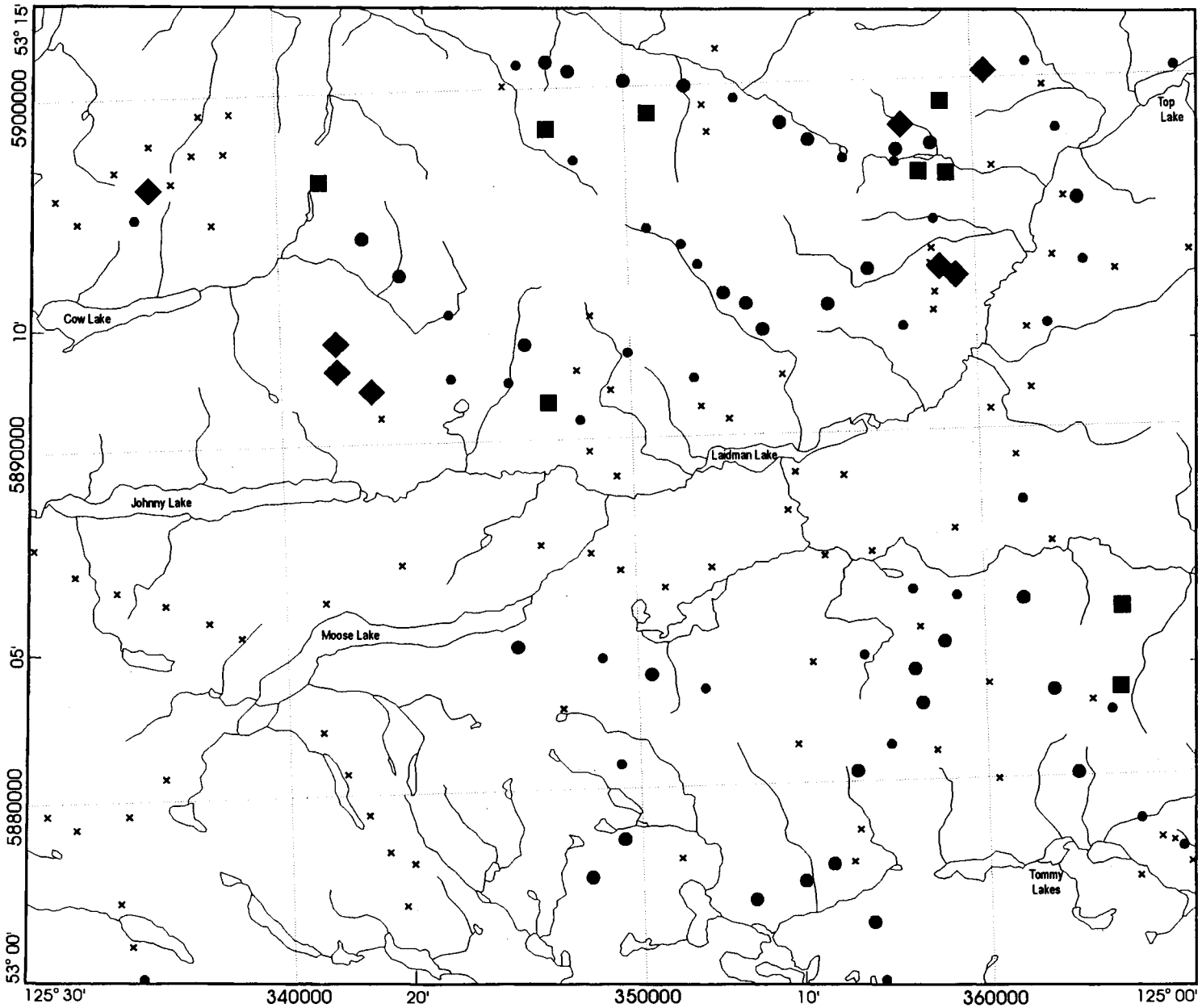
Transverse Mercator Projection
NAD 27 Datum

Mn (ppm)

Concentration	Frequency
942 to 1259 ◆	n = 9 (5.3%)
835 to 941 ■	n = 8 (4.7%)
630 to 834 ●	n = 34 (19.9%)
509 to 629 •	n = 34 (19.9%)
164 to 508 ×	n = 86 (50.3%)

171 Samples

Manganese by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

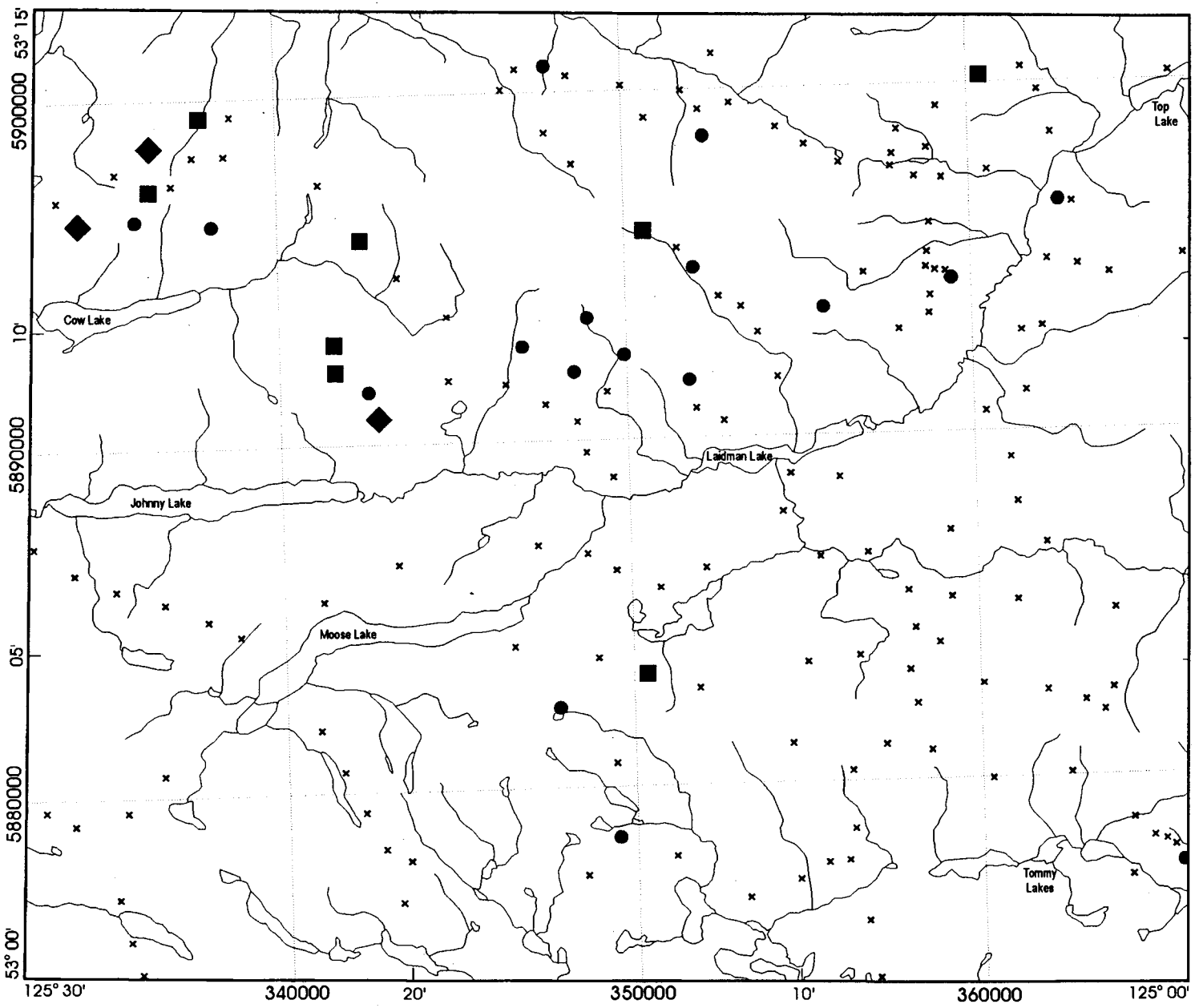
Transverse Mercator Projection
NAD 27 Datum

Mg (%)

Concentration	Frequency
0.81 to 1.17	n = 8 (4.7%)
0.73 to 0.80	n = 9 (5.3%)
0.60 to 0.72	n = 32 (18.7%)
0.47 to 0.59	n = 35 (20.5%)
0.18 to 0.46	n = 87 (50.9%)

171 Samples

Magnesium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

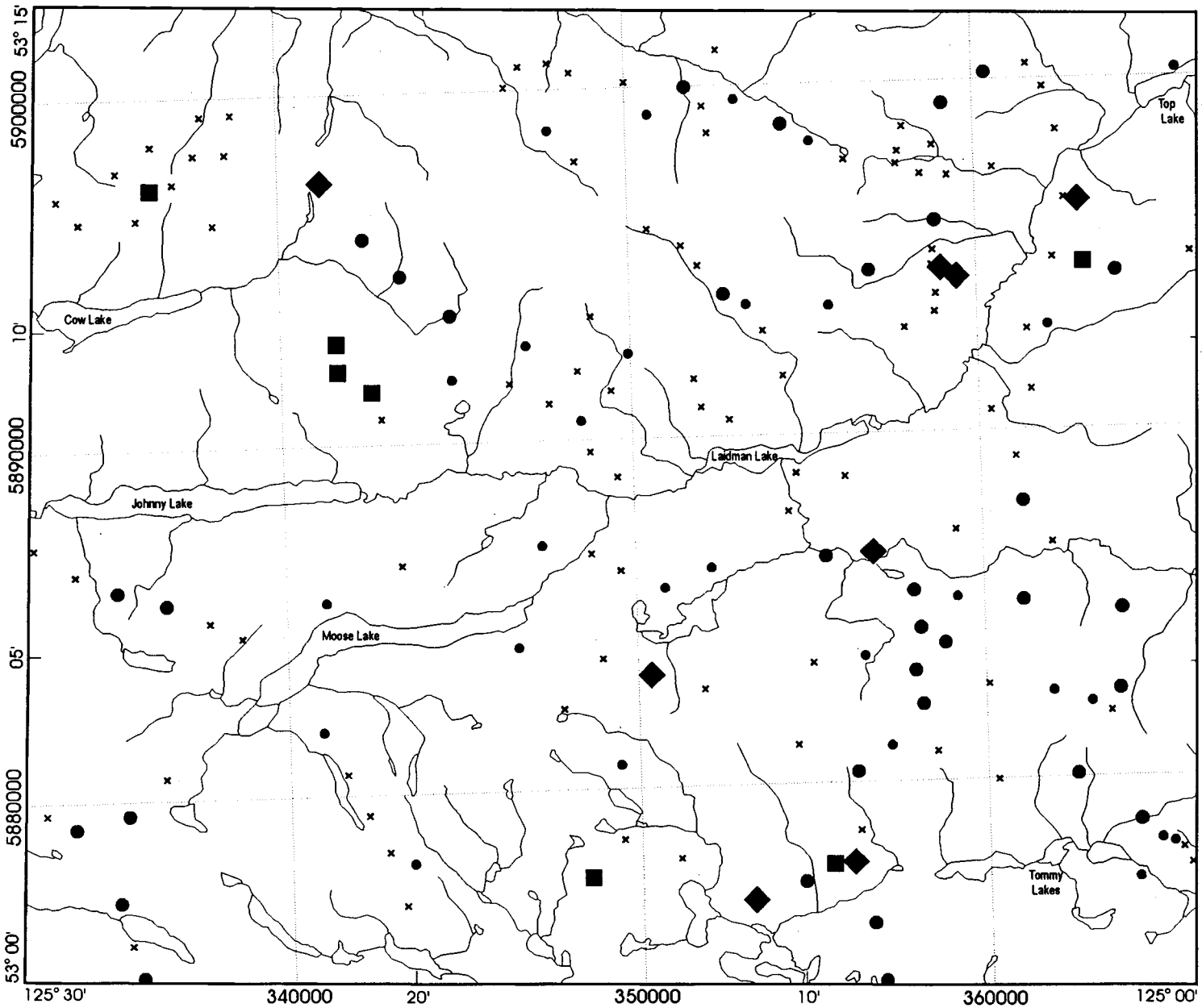
Transverse Mercator Projection
NAD 27 Datum

Mo (ppm)

Concentration	Frequency
4 to 7	n = 3 (1.8%)
3 to 3	n = 8 (4.7%)
2 to 2	n = 17 (9.9%)
1 to 1	n = 0 (0.0%)
1 to 1	n = 143 (83.6%)

171 Samples

Molybdenum by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

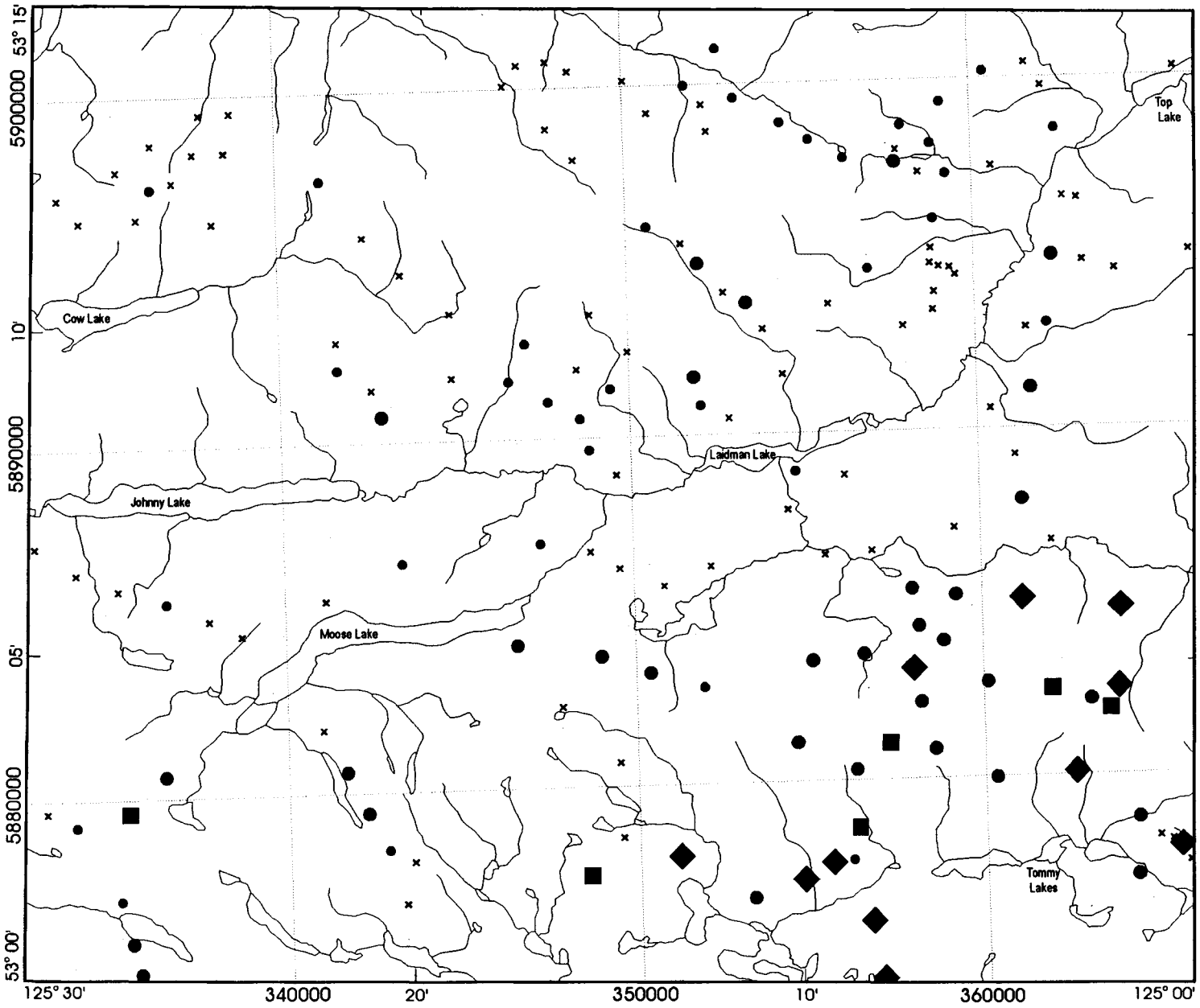
Transverse Mercator Projection
NAD 27 Datum

Ni (ppm)

Concentration	Frequency
23 to 35	n = 8 (4.7%)
20 to 22	n = 7 (4.1%)
15 to 19	n = 33(19.3%)
13 to 14	n = 28(16.4%)
5 to 12	n = 95(55.6%)

171 Samples

Nickel by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

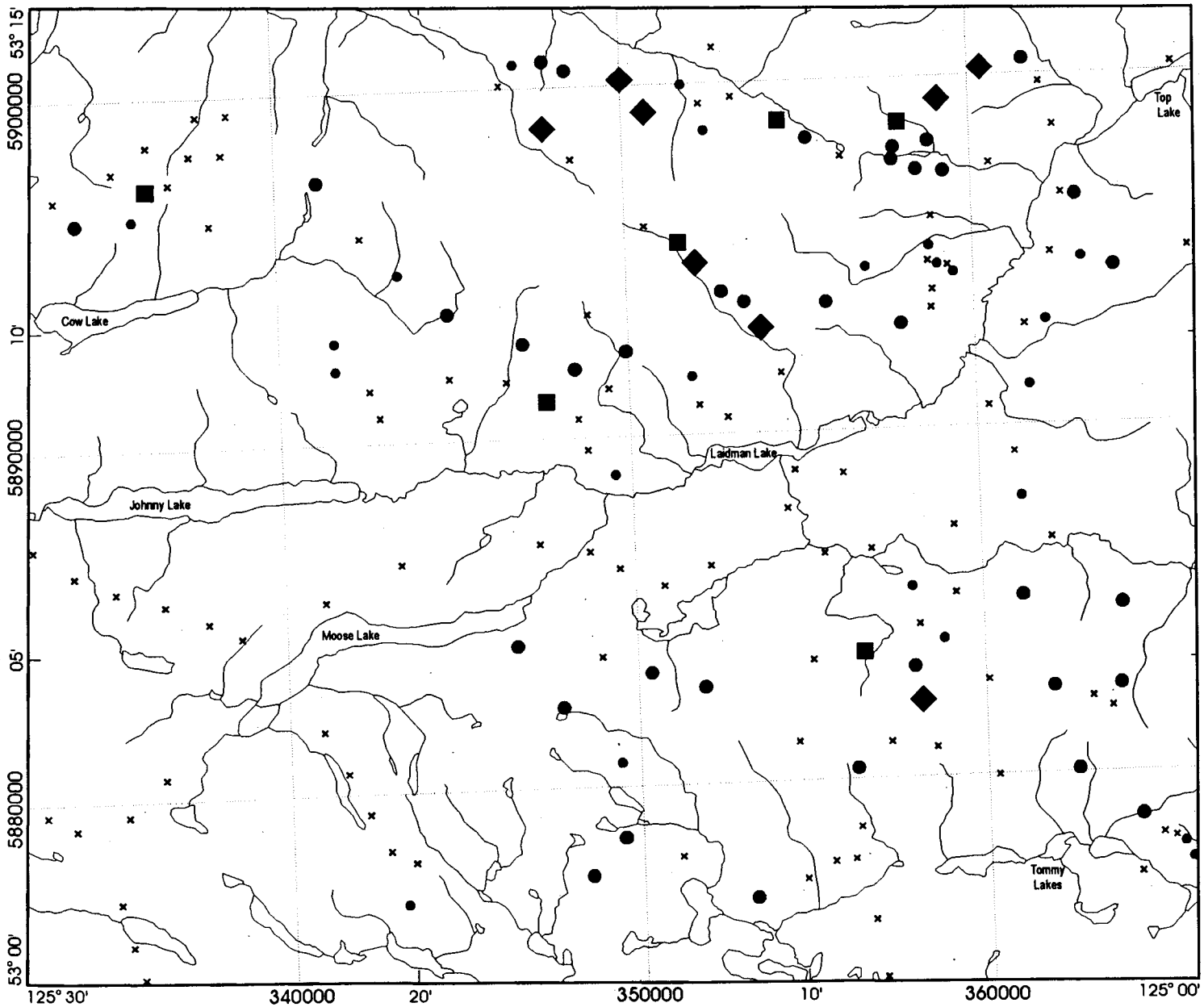
Transverse Mercator Projection
NAD 27 Datum

P (%)

Concentration	Frequency
0.104 to 0.150 ◆	n = 11 (6.4%)
0.094 to 0.103 ■	n = 6 (3.5%)
0.075 to 0.093 ●	n = 32(18.7%)
0.066 to 0.074 •	n = 35(20.5%)
0.019 to 0.065 ×	n = 87(50.9%)

171 Samples

Phosphorus by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

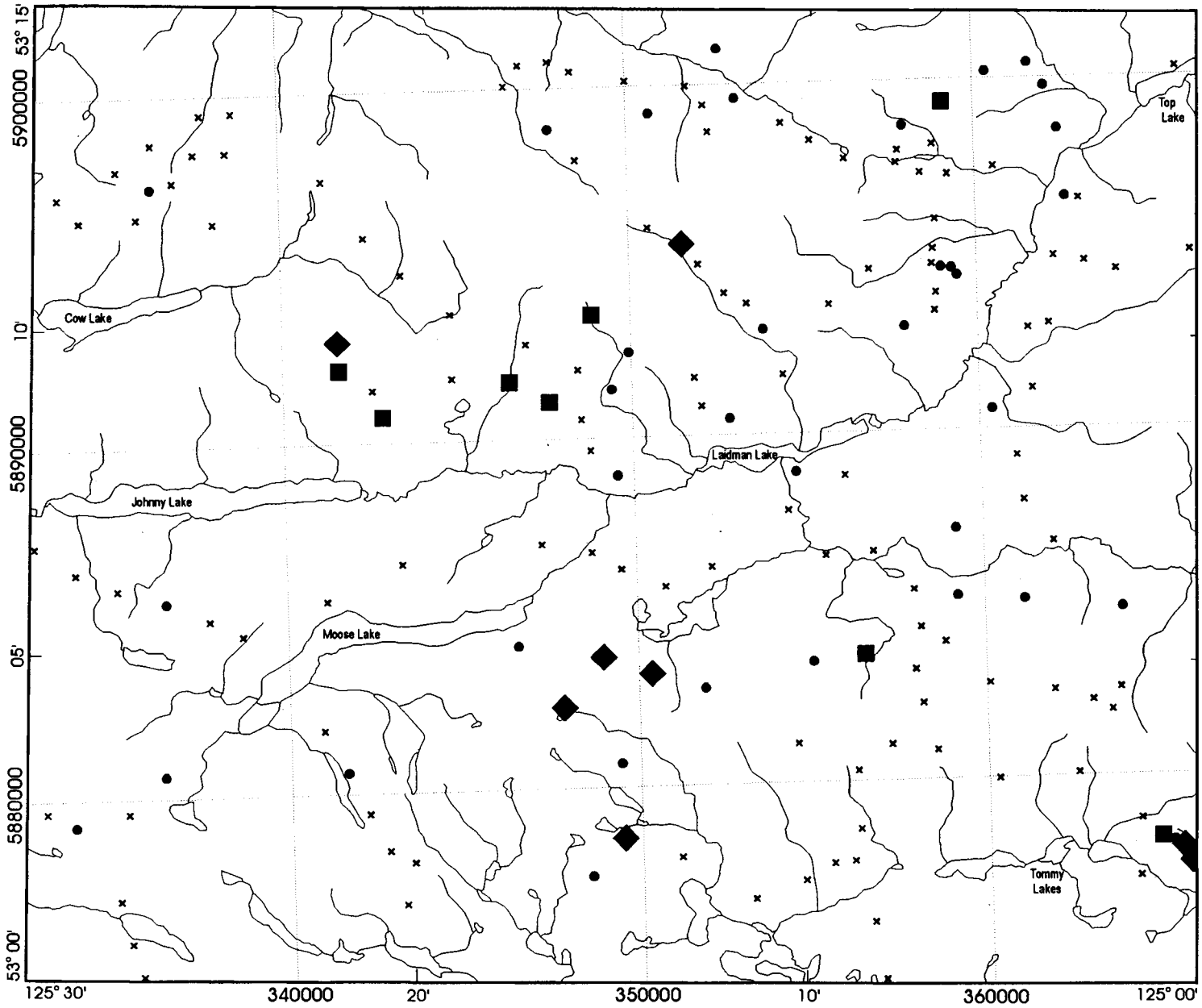
Transverse Mercator Projection
NAD 27 Datum

K (%)

Concentration	Frequency
0.19 to 0.26	n = 8 (4.7%)
0.17 to 0.18	n = 6 (3.5%)
0.12 to 0.16	n = 36 (21.1%)
0.10 to 0.11	n = 23 (13.5%)
0.03 to 0.09	n = 98 (57.3%)

171 Samples

Potassium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

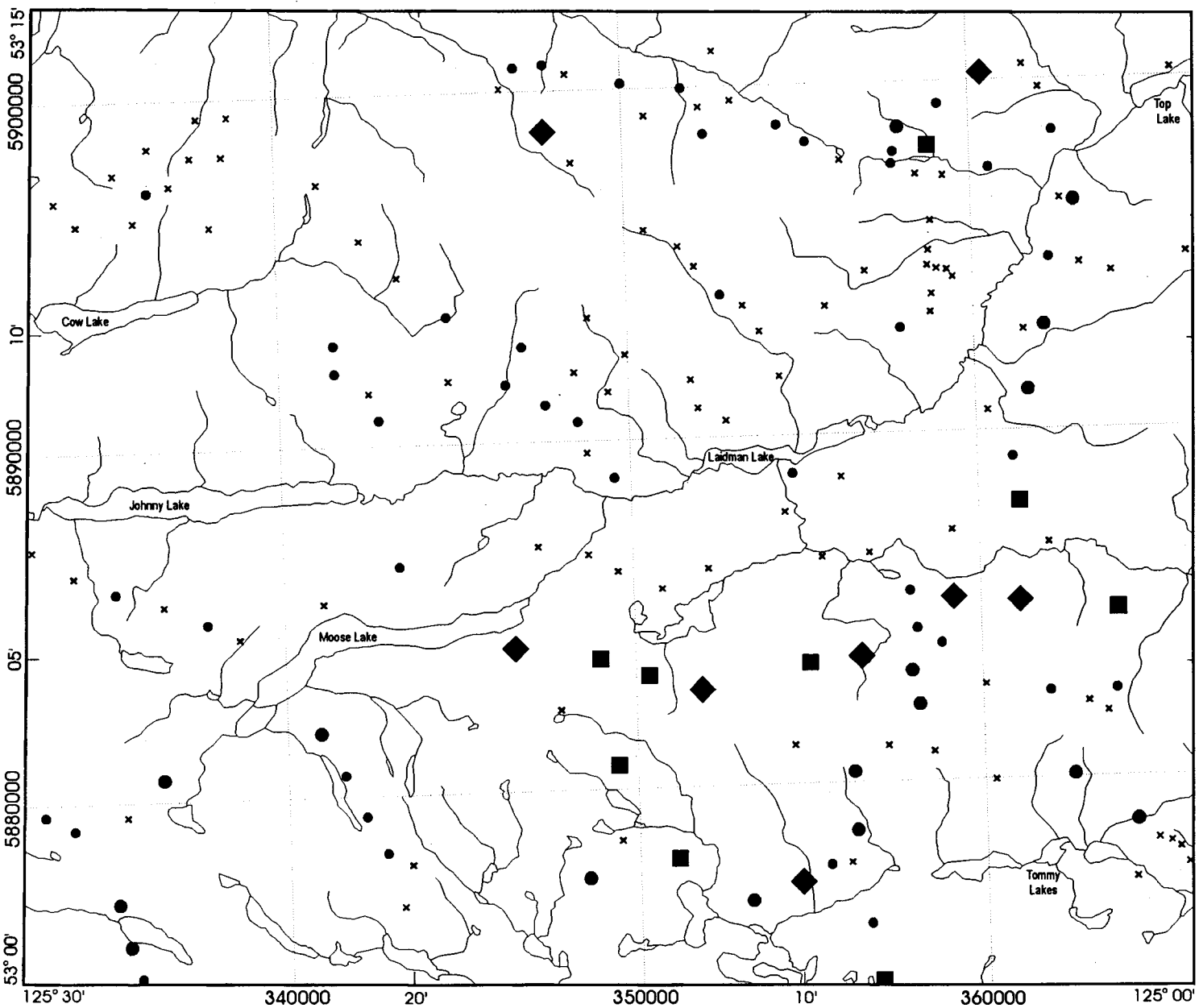
Transverse Mercator Projection
NAD 27 Datum

Ag (ppm)

Concentration	Frequency
0.41 to 0.70	n = 8 (4.7%)
0.31 to 0.40	n = 8 (4.7%)
0.30 to 0.30	n = 0 (0.0%)
0.21 to 0.30	n = 36(21.1%)
0.10 to 0.20	n = 119(69.6%)

171 Samples

Silver by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

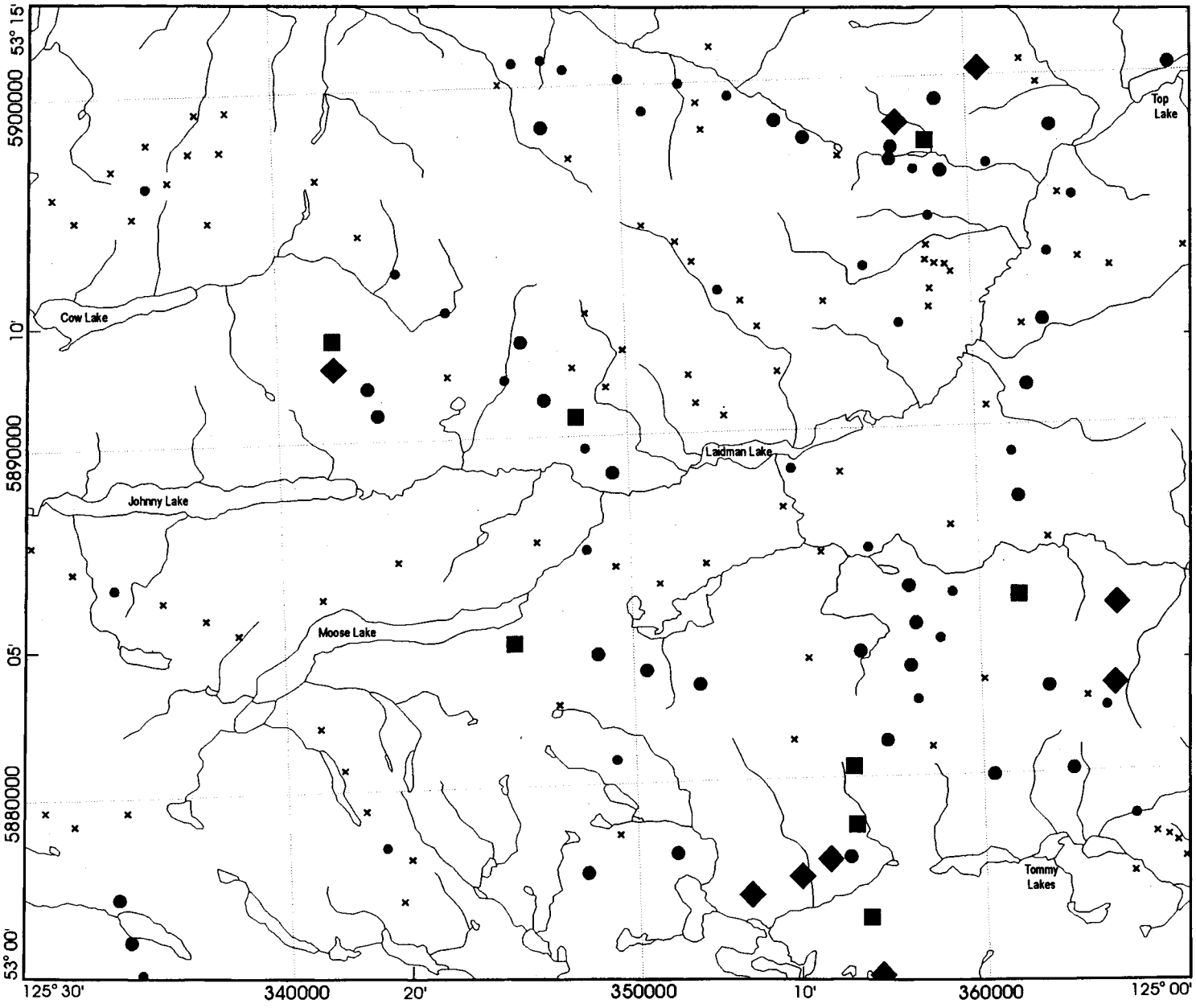
Transverse Mercator Projection
NAD 27 Datum

Na (%)

Concentration	Frequency
0.11 to 0.11	n = 8 (4.7%)
0.09 to 0.10	n = 9 (5.3%)
0.07 to 0.08	n = 16 (9.4%)
0.05 to 0.06	n = 43(25.2%)
0.02 to 0.04	n = 95(55.6%)

171 Samples

Sodium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

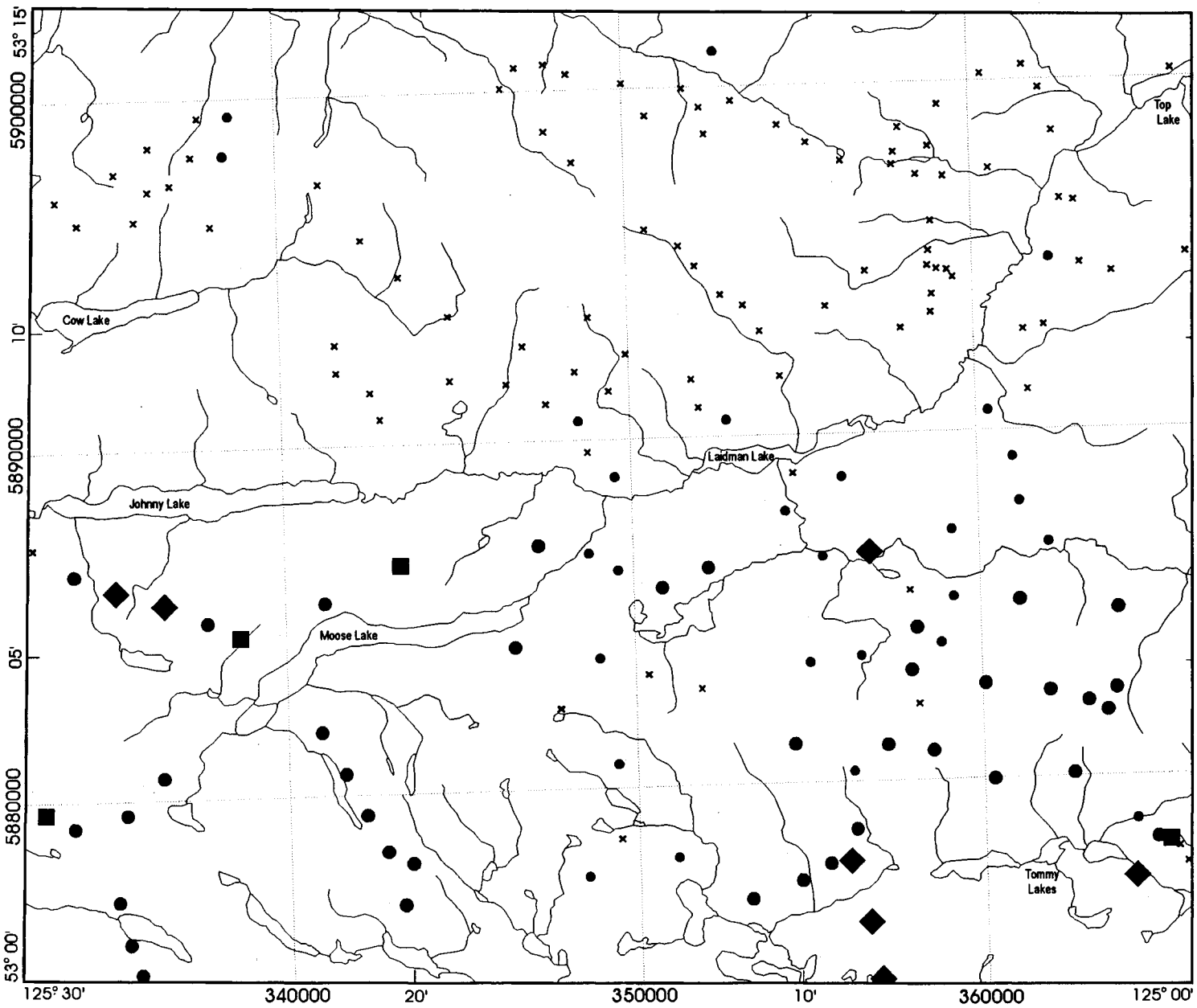
Transverse Mercator Projection
NAD 27 Datum

Sr (ppm)

Concentration	Frequency
101 to 149	n = 9 (5.3%)
86 to 100	n = 8 (4.7%)
62 to 85	n = 33(19.3%)
53 to 61	n = 34(19.9%)
18 to 52	n = 87(50.9%)

171 Samples

Strontium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

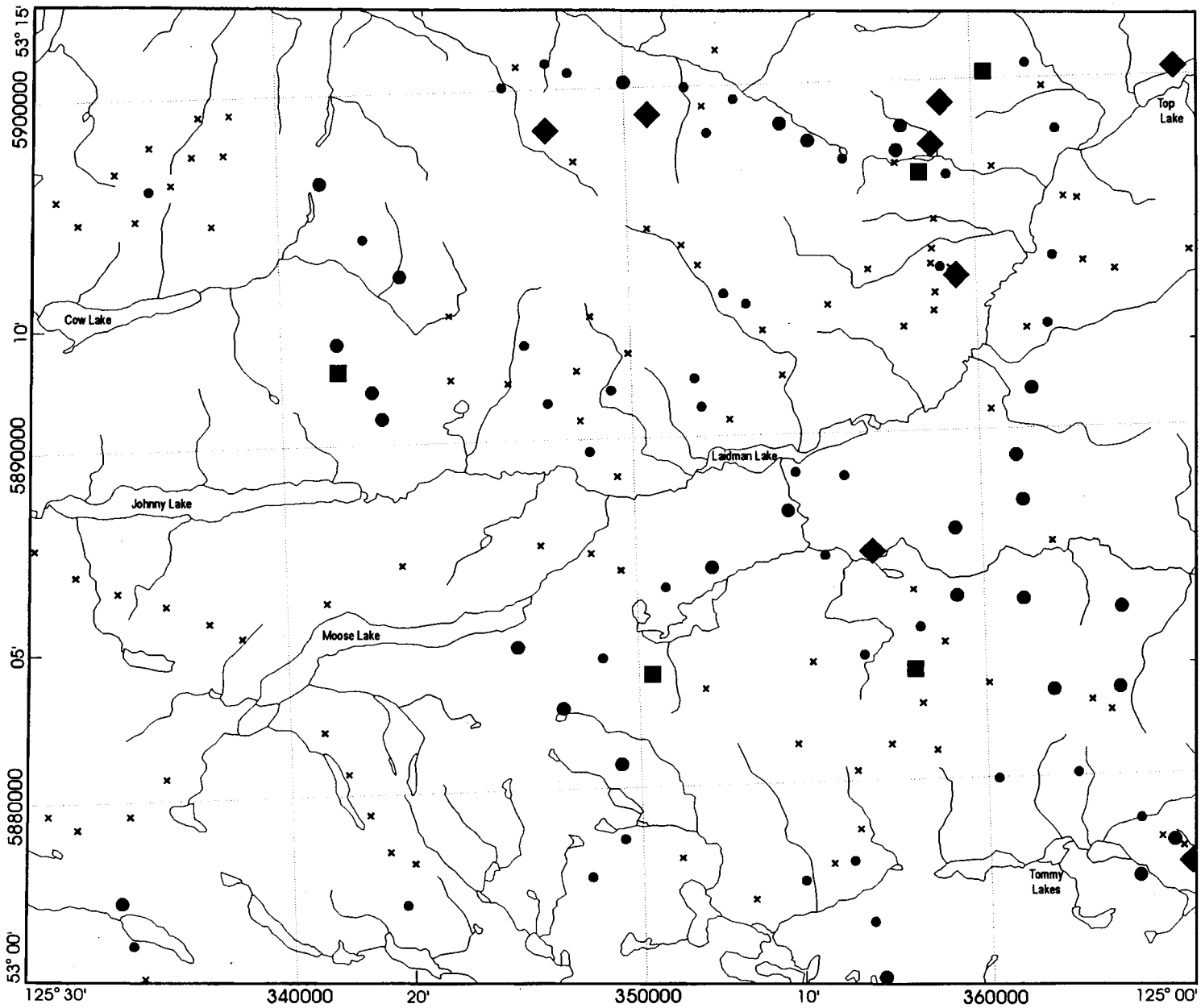
Transverse Mercator Projection
NAD 27 Datum

Ti (%)

Concentration	Frequency
0.41 to 0.46	n = 7 (4.1%)
0.39 to 0.40	n = 5 (2.9%)
0.32 to 0.38	n = 39 (22.8%)
0.27 to 0.31	n = 27 (15.8%)
0.08 to 0.26	n = 93 (54.4%)

171 Samples

Titanium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

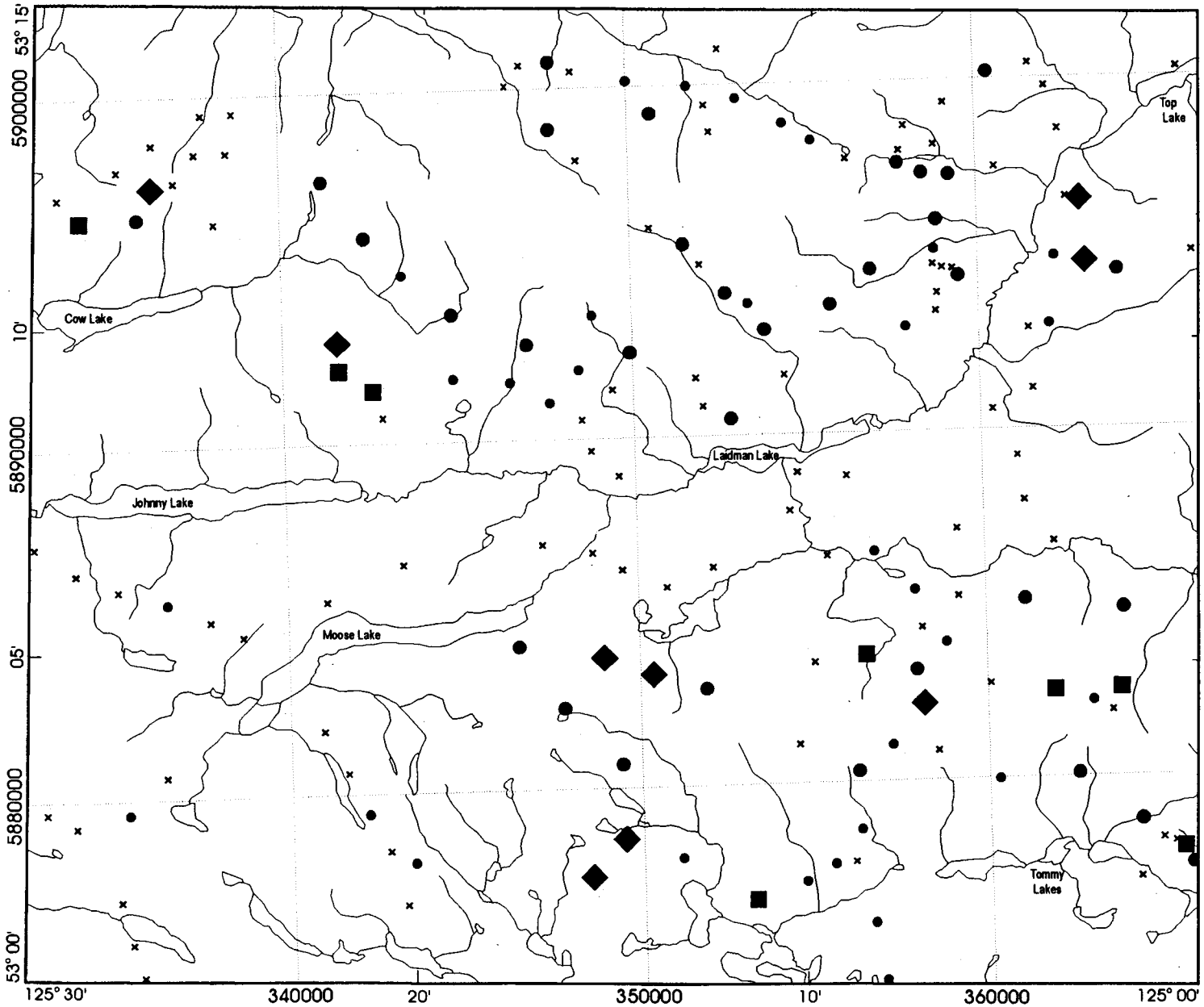
Transverse Mercator Projection
NAD 27 Datum

V (ppm)

Concentration		Frequency
77 to 104	◆	n = 8 (4.7%)
74 to 76	■	n = 5 (2.9%)
67 to 73	●	n = 30 (17.6%)
63 to 66	•	n = 40 (23.4%)
32 to 62	×	n = 88 (51.5%)

171 Samples

Vanadium by ICP



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

0 5 km

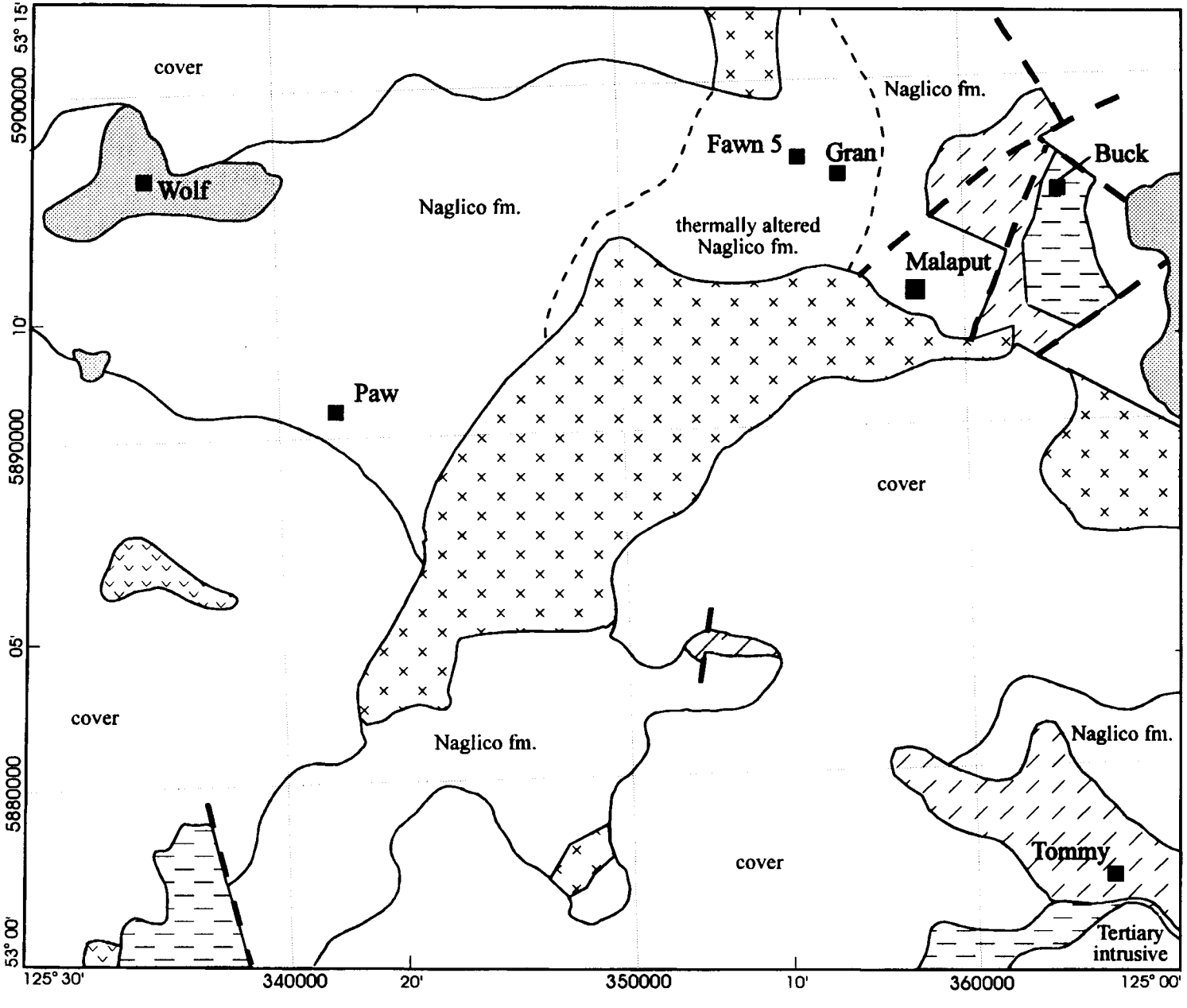
Transverse Mercator Projection
NAD 27 Datum

Zn (ppm)

Concentration	Frequency
105 to 168	n = 9 (5.3%)
97 to 104	n = 8 (4.7%)
77 to 96	n = 33(19.3%)
66 to 76	n = 32(18.7%)
29 to 65	n = 89(52.0%)

171 Samples

Zinc by ICP



Till Geochemistry of the
Fawnie Creek Map Area
(93F/03)

Open File 1994-18

0 5 km

Transverse Mercator Projection
NAD 27 Datum

Tertiary flood basalts

Ootsa Group

Capoose batholith (quartz monzonite)

Hazelton Group
Naglico fm.
andesites and basalts

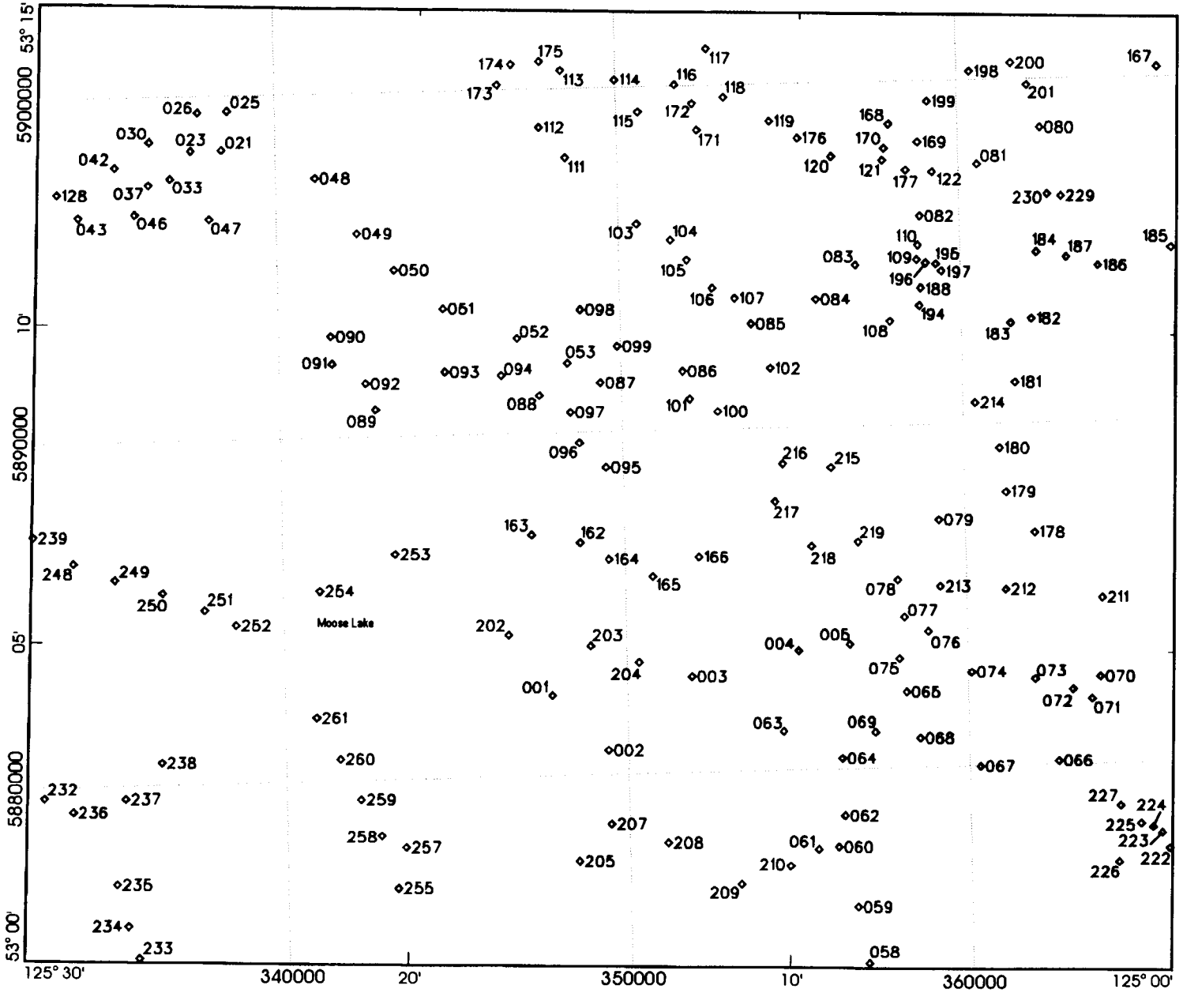
Naglico fm. sediments

Naglico fm. rhyolite

Mineral Occurrence

Bedrock Geology

Clear Overlay



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

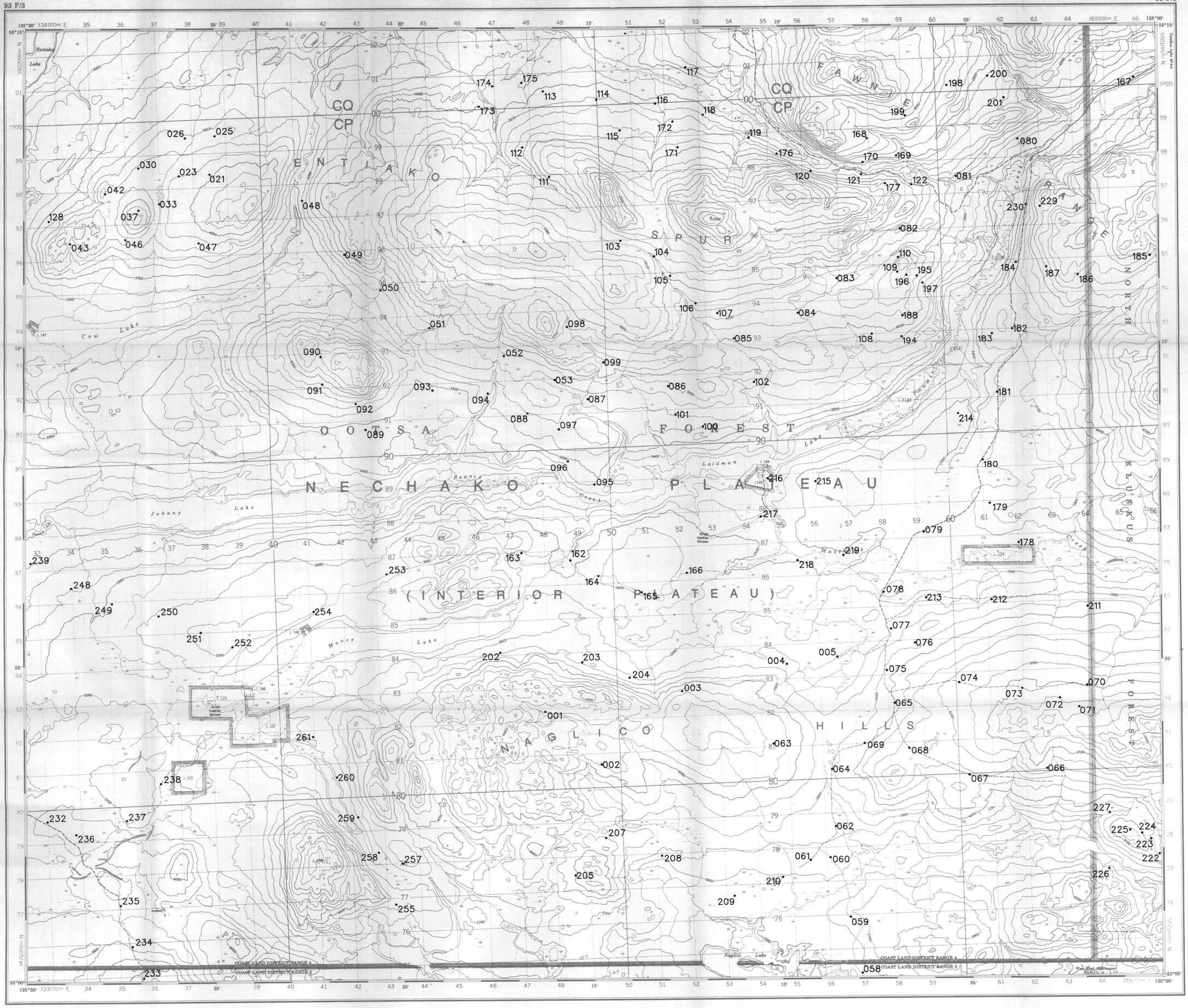
Open File 1994-18

0 5 km

Transverse Mercator Projection
NAD 27 Datum

Sample Locations

Clear Overlay



Till Geochemistry of the Fawnie Creek Map Area (93F/03)

Open File 1994-18

SAMPLE LOCATION MAP

Scale 1:50 000

0 — 3 km

Transverse Mercator Projection
North American Datum 1927

Approximate mean declination (1986) for center of map is 25° 38'.
Annual change decreasing 14.2'.

Contour interval 100 feet.
Elevations in feet above mean sea level.