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TILL GEOCHEMISTRY OF THE CHEDAKUZ CREEK MAP AREA (93F/7), BRITISH COLUMBIA

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ABSTRACT

Surficial geology mapping and till sampling in the Chedakuz Creek (NTS 93F/7) map area were conducted as part of the British Columbia Geological Survey Interior Plateau mapping and mineral exploration project. Till samples for the regional geochemical exploration program were collected from 143 different sites. Each sample was analysed by instrumental neutron activation (INA) and inductively coupled plasma (ICP) for 39 different elements. Five areas were identified by anomalous (>90th percentile) multi-element concentrations for gold, arsenic, antimony, lead, nickel, silver, zinc, molybdenum or copper. Areas 1,2 and 3 were previously unidentified. Areas 4 and 5 occur near known mineral showings.

The most pronounced multi-element geochemical till anomalies occur at six sample sites in Area 1. Some of the highest arsenic, antimony, molybdenum, nickel and zinc values encountered in the regional sampling program occur in this area. Two highly anomalous antimony and arsenic sample sites define Area 2. Area 3 is defined by elevated concentrations of copper, nickel and zinc at two sample sites. Seven sample sites in Area 4 are highly anomalous for gold, copper, molybdenum, silver, zinc or lead. Five of the seven gold values above the 95th percentile are located in Area 4, including the highest gold value (79 ppb). Most anomalous lead and copper concentrations also occur in or near this area. Samples within Area 5 have multi-element anomalies for arsenic, antimony, copper and gold. Anomalous sample sites and the presence of mineralized float suggest that bedrock mineralization may be present near or a short distance up-ice of Area 5.

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INTRODUCTION

This report presents the results of a regional till geochemistry sampling program and highlights areas of potential mineralization in the Chedakuz Creek map area (NTS 93F/07) (Figure 1). This work was supported by the British Columbia Federal - Provincial Mineral Development Agreement and is part of the Interior Plateau Project. Related studies in the map area include surficial geology mapping and stratigraphic studies (Giles *et al.*, 1995; Weary *et al*, 1995; Weary, 1996), bedrock geology mapping (Diakow *et al.*, 1995a,b), lake sediment geochemistry studies (Cook and Luscombe, 1995) and property scale till geochemistry surveys (O'Brien *et al.*, 1995).

Until recently, most ore bodies in Canada have been found in areas where outcrop is abundant. This is partly due to the difficulty of mineral exploration in areas of thick glacial overburden. In the British Columbia Interior Plateau, where most of the terrain is masked by glacial material, drift prospecting can be used as a means to delineate areas of mineralized bedrock.

Geochemical analyses of B soil-horizons is a common practice in exploration. However, the processes of soil formation, post-glacial hydromorphic effects and weathering can cause elemental concentration changes within soils and make interpretation of anomalies difficult (Nichol and Bjorklund, 1973; Plouffe, 1995). Till geochemical surveys aim to sample unleached sediments of the C-horizon. This horizon is relatively unaffected by soil formation, is not leached of carbonates and contains unaltered mineral grains (Kettles and Shilts, 1989).

To use drift prospecting effectively, an understanding of regional surficial geology, geomorphology, Quaternary stratigraphy and ice flow patterns is necessary. Geochemical till anomalies can be traced to their source with greater ease if the sample medium is properly identified. For this program, till was chosen as the only sampling medium.

Recent till geochemical surveys indicate that till sampling programs are an effective tool for locating mineralized zones in drift-covered parts of the Nechako Plateau (Levson *et al.*, 1994). Geochemical till anomalies generally produce cigar or ribbon shaped dispersal trains that are typically a few kilometres long and less than a kilometre wide, but can be much larger. Also, till geochemical anomalies reflect a bedrock source that is up-ice of the sample location, and not necessarily the immediate underlying bedrock.

ACCESS

The Chedakuz Creek map area (NTS 93 F/7) is approximately 80 kilometres southwest of Vanderhoof and is reached by the Kluskus-Ootsa Forest Service Road (Figure 1). Logging roads provide access to most areas but some areas were accessible only by foot, boat or trail-bike.

PHYSIOGRAPHY

The Chedakuz Creek map area lies within the Nechako Plateau, in the west-central part of the Interior Plateau physiographic region (Holland, 1976). A generalised physiographic map is presented in Figure 2. The Nechako Range trends northwesterly and dominates the east-central portion of the map sheet, reaching elevations of more than 1660 meters. The Fawnie Range in the southwest part of the area includes Fawnie Dome, the highest elevation in the map area (1728 m). The Nechako Reservoir, in the northwest corner, lies at the lowest elevation (854 m). Along the central portion of the map sheet, the Nechako Range is separated from the Fawnie Range by the broad, gently inclined Chedakuz Creek valley. Drainage in this central area carries water from both mountain ranges into Tatelkuz Lake, Chedakuz Creek, and Earhorn Creek, which all flow northward to the Nechako Reservoir. Drainage on the eastern side of the Nechako Range is northward via Big Bend Creek.

PREVIOUS WORK

Regional mapping of Quaternary deposits in the Interior Plateau was conducted by Tipper (1963, 1971a) and Howes (1977). Recent geological publications of surficial geology for areas adjacent to the Chedakuz Creek map area, include the Fawnie Creek map (Levson and Giles, 1994) and the Tsacha Lake map (Giles and Levson, 1995). Surficial geology mapping of four 1:50,000 NTS sheets southeast of the survey area (93C/1, 8, 9, 16) was completed by Kerr and Giles (1993a,b) and

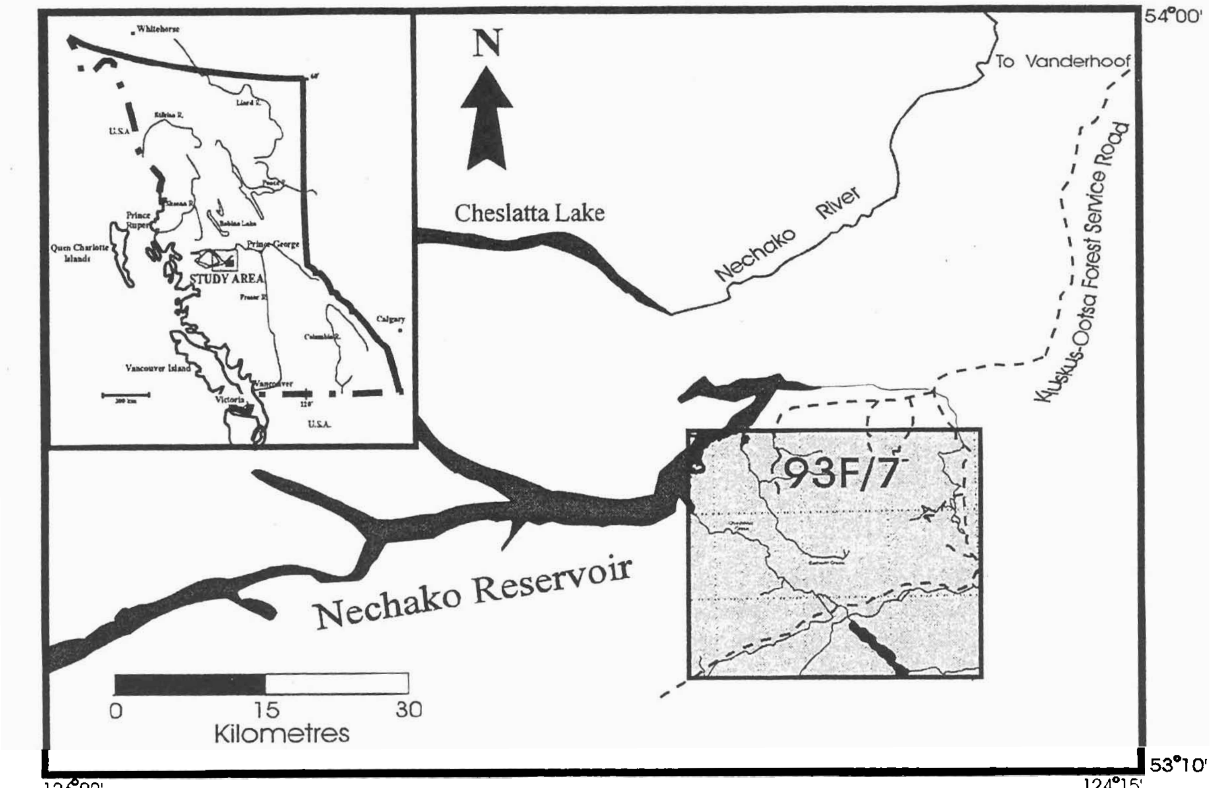

Figure 1: Location of the Chedakuz Creek (NTS 93F/7) Map Sheet

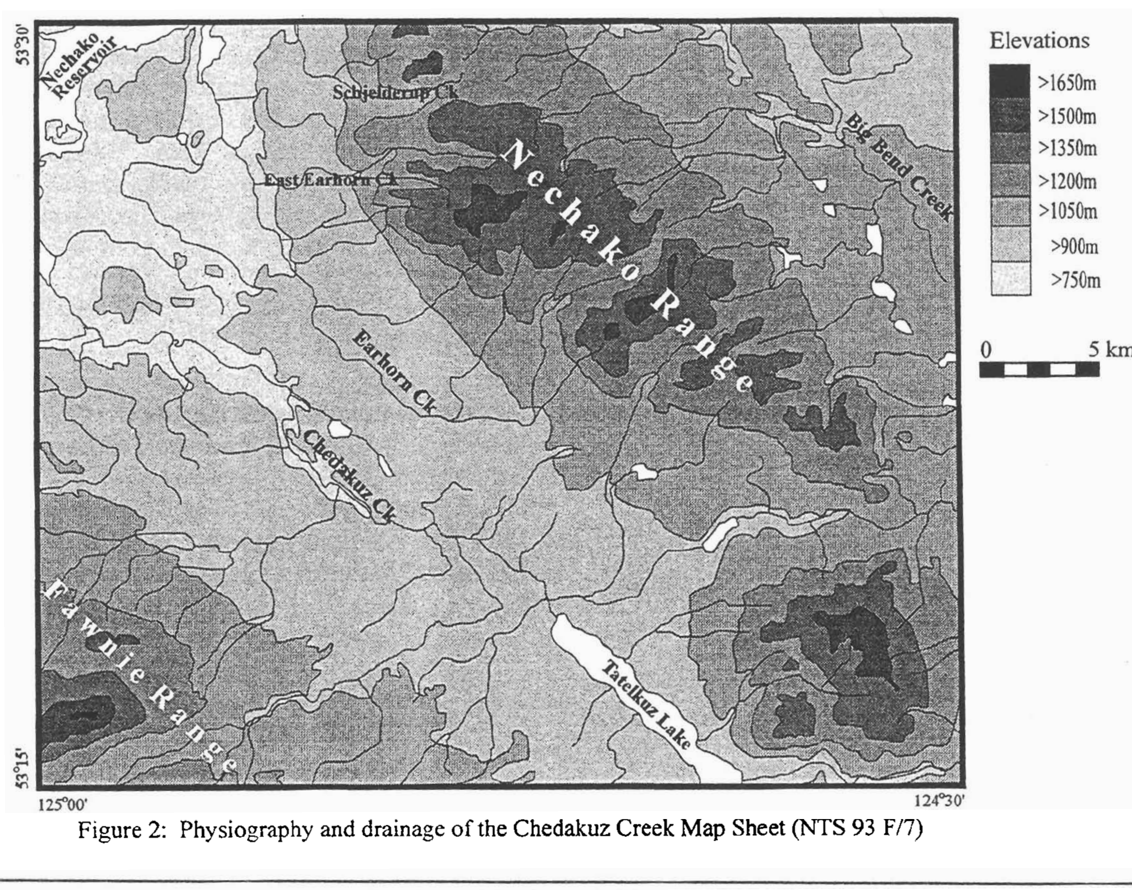

Figure 2: Physiography and drainage of the Chedakuz Creek Map Sheet (NTS 93 F/7)

Proudfoot and Allison (1993a,b). Regional drift-prospecting programs previously conducted in the Interior Plateau include the Manson River - Fort Fraser area (Plouffe and Ballantyne, 1993) and the southeast Taseko Lakes area (Broster and Huntley, 1994). The results of a regional till geochemical survey in the Fawnie Creek map area (93F/3) were presented by Levson *et al,* (1994). More recently, two 1:50,000 map sheets (93M/1, 93L/16) north of the study area were mapped and till geochemical samples were obtained (Huntley *et al.*, 1996; Stumpf *et al.*, 1996).

Previous surficial geology studies in the Chedakuz Creek map area involved 1:250,000 scale surficial geology mapping (Tipper, 1963), and more detailed 1:50,000 scale surficial geology mapping and till geochemical sampling (Weary *et al.*, 1995 and Giles *et al.,* 1995). Tipper (1963) recorded northeasterly directions of ice movement and defined regional areas of ablation moraine, pitted outwash, esker complexes and meltwater channels.

BEDROCK GEOLOGY

The Nechako River map area (NTS 93E) was first mapped by Tipper (1963) at a scale of 1:250,000 and most recently, parts were covered by Diakow *et al.* (1995b) at a 1:50,000 scale. A generalised bedrock geology map is presented in Figure 3. The oldest rocks are rare massive sediments containing Upper Triassic bivalves. The dominant volcanic and sedimentary formations are Jurassic and Tertiary in age. Intrusive rocks include Jura-Cretaceous and Eocene age granodiorite and quartz monzonite with granite stocks and batholiths.

Diakow (1995a, b) mapped the Nechako uplift, a wide structurally uplifted zone that is underlain by Lower and Middle Jurassic rocks. These include Hazleton Group volcanic rocks of the Naglico formation and crystal-rich sandstone and siltstone of the Nechako Range assemblage. Overlying these rocks, particularly in the Nechako Range, are deposits of conglomerate characterized by chert pebbles.

Tertiary rocks unconformably overlie Jurassic strata in the Nechako uplift. Along the southern boundary of the map sheet, there are isolated occurrences of Ootsa Lake Group rhyolites and andesites (Diakow *et al.*, 1995a,b). Endako Group andesites; black, aphanitic, often vesicular or amygdaloidal, are found on the north of the map sheet near Knewstubb Lake and north of Big Bend Creek.

Intrusive rocks of Late Cretaceous to Eocene age occur on both a large and small scale throughout the Nechako Range. Middle Jurassic mafic plutons of diorite, augite porphyry, and gabbro are exposed in the Fawnie Range and at a single location to the west of Tatelkuz Lake. These rocks are probably cogenetic with Middle Jurassic basalts that occur in the area (Diakow *et al.*, 1995a,b). Intrusive bodies of Late Cretaceous grey-green pyroxene porphyritic diorite are mapped along the western and northern part of the Nechako Range. These rocks are likely associated with the Jura-Cretaceous Capoose batholith. A large body of Eocene CH stock (Diakow *et al.,* 1995b) biotite-hornblende granodiorite is proximal to many mineralized deposits.

MINERAL DEPOSITS

The geological environment of the Nechako Plateau is favourable to both porphyry and epithermal precious metal economic mineral deposits. The APRIL, CH (MINFILE 093F 060, 004) and CHU (MINFILE 093F 001) porphyry prospects, and BEN (MINFILE 093F 059) epithermal prospect cluster adjacent to the CH pluton in the southern Nechako Range. The locations of known mineral prospects are shown in Figure 4.

The APRIL and CH showings (MINFILE 093F 060, 004) are within two kilometres east of the CH stock granodiorite. Country rocks in this area are Lower Jurassic sandstone and siltstone. Contact metamorphism of the country rock may have occurred during emplacement of the CH pluton and was likely accompanied by propylitic, potassic, sericitic, and siliceous alteration. The primary exploration target for these showings is porphyry-copper type mineralization (Edward and Campbell, 1992).

The BEN property (MINFILE 093F 059) is a vein type, high sulphidation gold - silver epithermal prospect in which quartz sulphide veins are found in hornfelsed Jurassic rocks. Known mineralization on the BEN property occurs a few hundred metres south of the CH pluton. The CHU (MINFILE 093 001) is a copper - molybdenum stock work porphyry prospect. Similar to the BEN, it occurs near the contact between intrusive granodiorite and Hazelton group rocks.

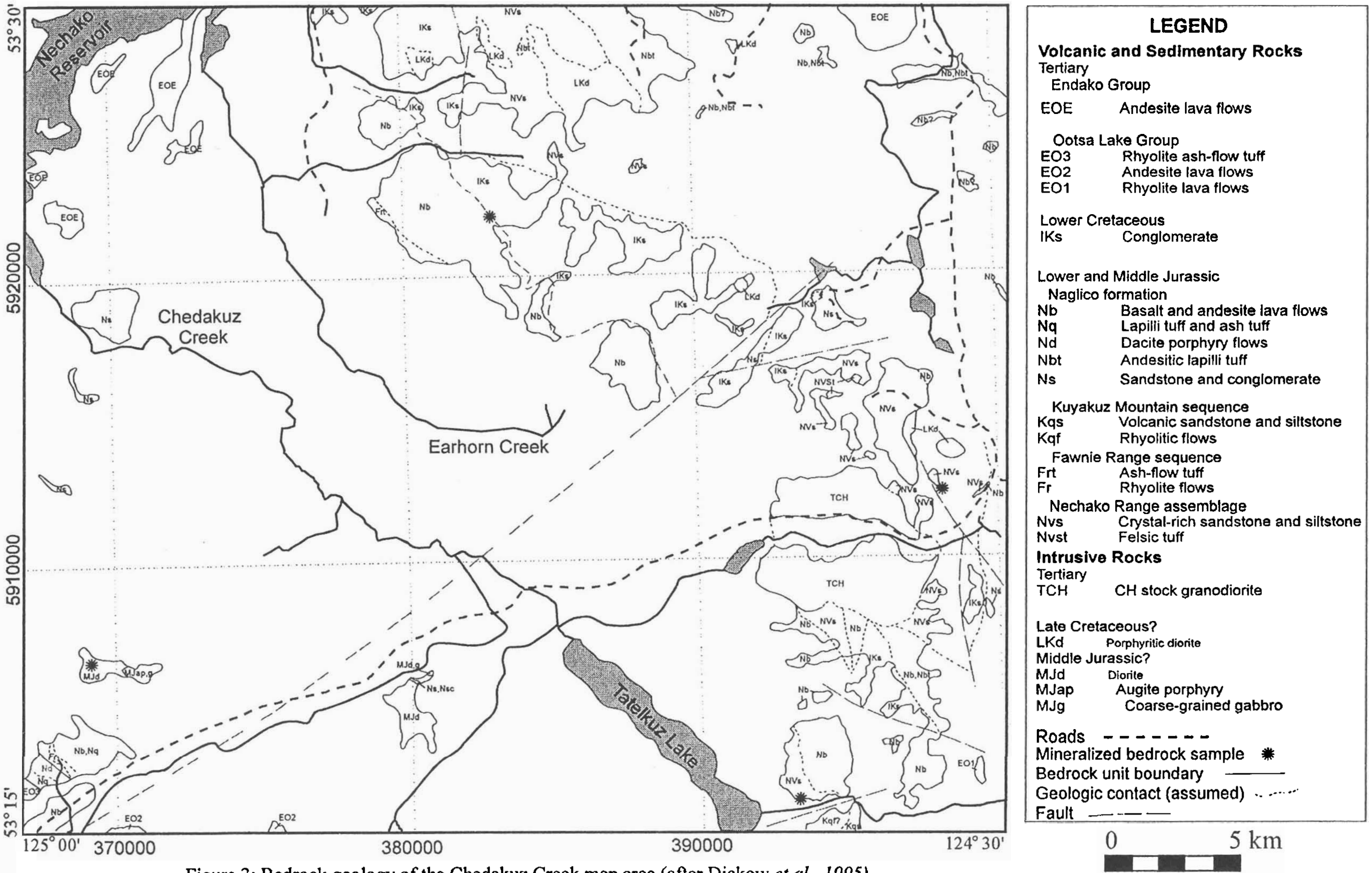

Figure 3: Bedrock geology of the Chedakuz Creek map area (after Diakow *et al., 1995)*

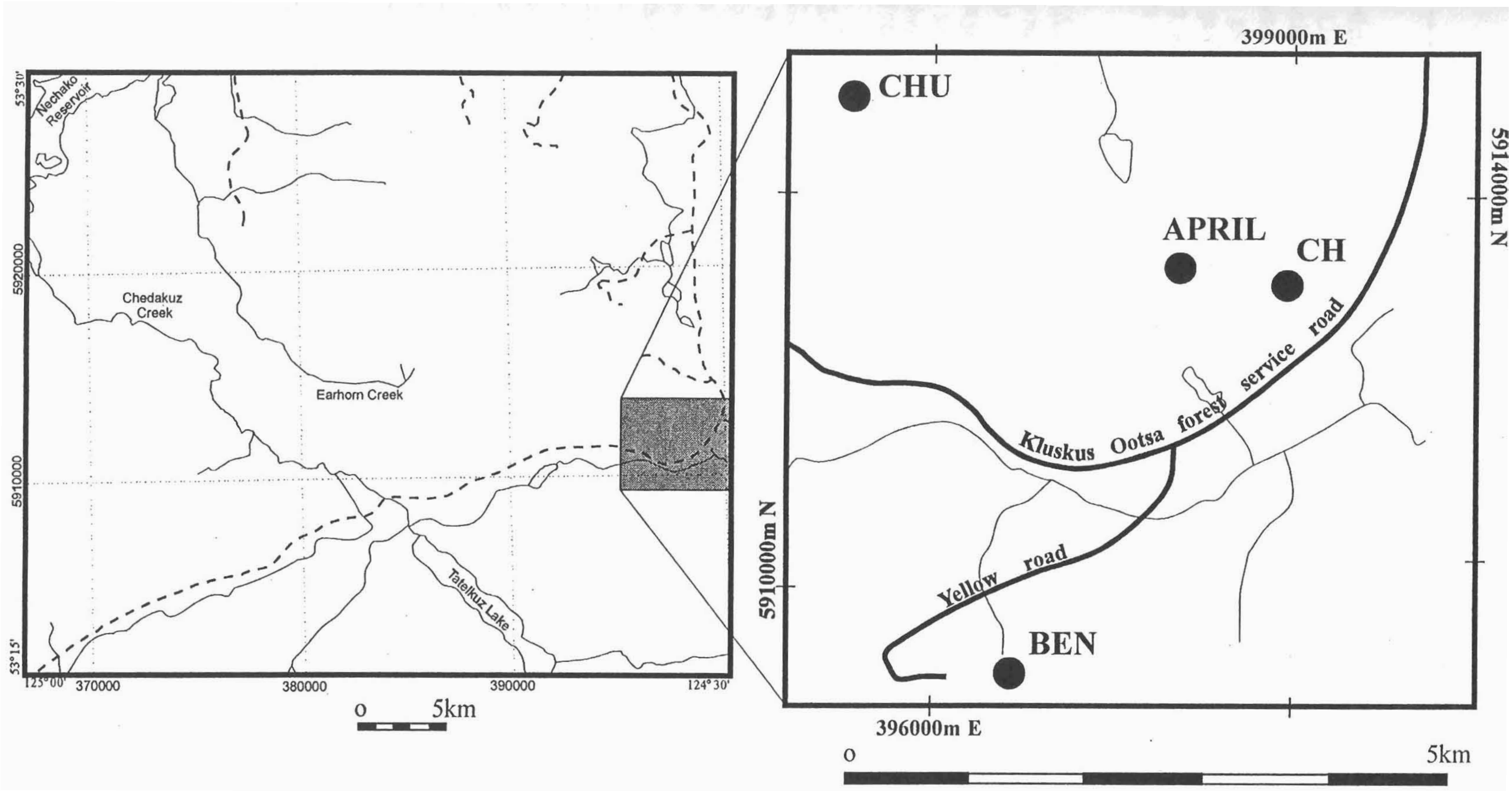

Figure 4: Location of the CHU, CH, BEN and APRIL (MINFILE 093F 001,004,059,60) mineral prospects

Map Symbol	Dominant Surficial Materials	Drift Prospecting Potential	Transport Distance (Order of Magnitude)	Applicable Survey Scale; and Type*
R:	Bedrock/Colluvium/ Morainal Area of thinly covered or exposed outcrop. On gentle slopes the overlying sediment is typically a morainal veneer, and on steeper slopes sandy angular diamicton of colluvial origin is often present.	Very High	<100m to 1km Direction will vary depending on material sampled	1:5000 (property scale); S,C
M:	Morainal Basal till.	High	< 2km to 5km Typically down-ice, linear dispersal train	1:5000 to 1:100 000 S, C, T, HM
	Unit includes **secondary till that has been reworked by glaciofluvial processes.** Unit includes **secondary till that has been deposited in association with glaciolacustrine sediments.**	Moderate	> 1km Broad, down-ice elongated fans	1:10 000 to 1: 100 000 S, C, T, HM
	Glaciofluvial/Fluvial (F) Sand and gravel deposited by glacial meltwater, or by rivers.	Low	> 5km Broad, down-flow discontinuous fans	1:50 000 to 1:250 000 C, HM
L:	Glaciolacustrine Sands, silts and clays deposited in a glacial lake.	Very Low	> 5km Irregular, discontinuous	Not recommended for sampling in most cases
O:	Organics Decayed vegetative material, typically occurs in swamps or peat bogs.	Very Low	> 10km Irregular, discontinuous	Not recommended for sampling in most cases

*S - soil geochemistry; T - till geochemistry; C - clast provenance surveys (boulder tracing, clast indicator surveys, pebble lithology studies); HM - heavy mineral sampling.

Figure 5b: Drift prospecting potential of surficial geologic units (after Levson *et al.*, 1994)

SURFICIAL GEOLOGY

The surficial geology of the area was mapped by Weary *et al.* (1995). Different units were assigned based on genetic origin, composition, and morphology of the surficial material. The genetic categories include; morainal, glaciofluvial, glaciolacustrine, fluvial, colluvial, organics and bedrock. A generalised surficial geology map and legend describing drift prospecting potential are presented in Figure 5 and Figure 5b respectively.

MORAINAL DEPOSITS

Till deposits occur throughout the map area, but their textural and compositional characters vary, both locally and regionally, depending on source material and depositional environment. In the study area, morainal deposits include basal till and resedimented till (after Dreimanis, 1988).

BASAL TILLS

Basal tills consist of local material transported and deposited at the base of the glacier by either lodgement or meltout processes (Dreimanis, 1976, 1988). Basal tills are typically compact to over-consolidated, matrix-supported, silty diamictons. Basal tills form a cover of variable thickness over much of the area. Blankets of basal till (greater than one metre in thickness) are common in relatively flat topography or where flutings and drumlinoid ridges occur. Till veneers (less than one metre in thickness) are common in upland areas and near exposed outcrops. Basal till ranges from a few centimetres to greater than five metres in thickness. Basal tills may occur at the surface, but are often overlain by secondary tills, colluvial deposits, glaciofluvial sediments or glaciolacustrine deposits (see sample descriptions in Appendix A).

RESEDIMENTED TILL

Resedimented till is a secondary till comprised of basally derived diamicton that has been sorted, reworked or winnowed by glaciofluvial or glaciolacustrine processes. In the Chedakuz Creek map area, a few to tens of centimetres of resedimented till may overlie basal till. Resedimented till is common in the Chedakuz Creek valley and near large meltwater channels. Resedimented till is typically loose to moderately compact, massive diamicton with occasional sand lenses. Sand usually dominates the matrix content, however clay may dominate where resedimented tills are associated with glaciolacustrine deposits.

GLACIOFLUVIAL AND GLACIOLACUSTRINE DEPOSITS

Glaciofluvial and glaciolacustrine sediments observed in the map area were likely deposited at the end of the Fraser glaciation. Glaciofluvial deposits are typically poorly sorted to well sorted, stratified sands and gravels that range from less than a metre to greater than 10 metres in thickness. Clasts are typically rounded to well-rounded pebbles or cobbles. Glaciofluvial deposits occur mainly as eskers, kame terraces, fans and outwash plains. Extensive glaciofluvial deposits occur in the Chedakuz Creek valley and along a large meltwater channel that parallels the Kluskus-Ootsa Forest Service road in the southern portion of the map sheet.

Extensive glaciolacustrine silts and sands are present in the southern portion of the Chedakuz Creek valley near Tatelkuz Lake. Glaciolacustrine deposits were found up to 1070 metres in elevation. Localised ice dams present in the Chedakuz Creek valley during deglaciation would have restricted meltwater flow allowing deposition of fine grained, well sorted, glaciolacustrine sediments. As these dams melted, glaciofluvial sands and gravels were again deposited (Weary, 1996). Glaciofluvial and glaciolacustrine sediments were often interbedded with diamicton units interpreted as glacigenic debris flow deposits (Weary, 1996).

FLUVIAL DEPOSITS

Fluvial deposits consist of sorted and stratified sands, gravels and silts. They occur in alluvial fans and on floodplains. Streams with steep gradients and high sediment loads tend to have gravelly floodplains. Conversely, low gradient streams are generally floored by sand or fine gravel. Examples of well-developed alluvial fans occur at the north end of Tatelkuz Lake (Weary *et al.*, 1995). Floodplains of silt, clay and fine sand occur along most modern rivers, and are commonly veneered by organic deposits.

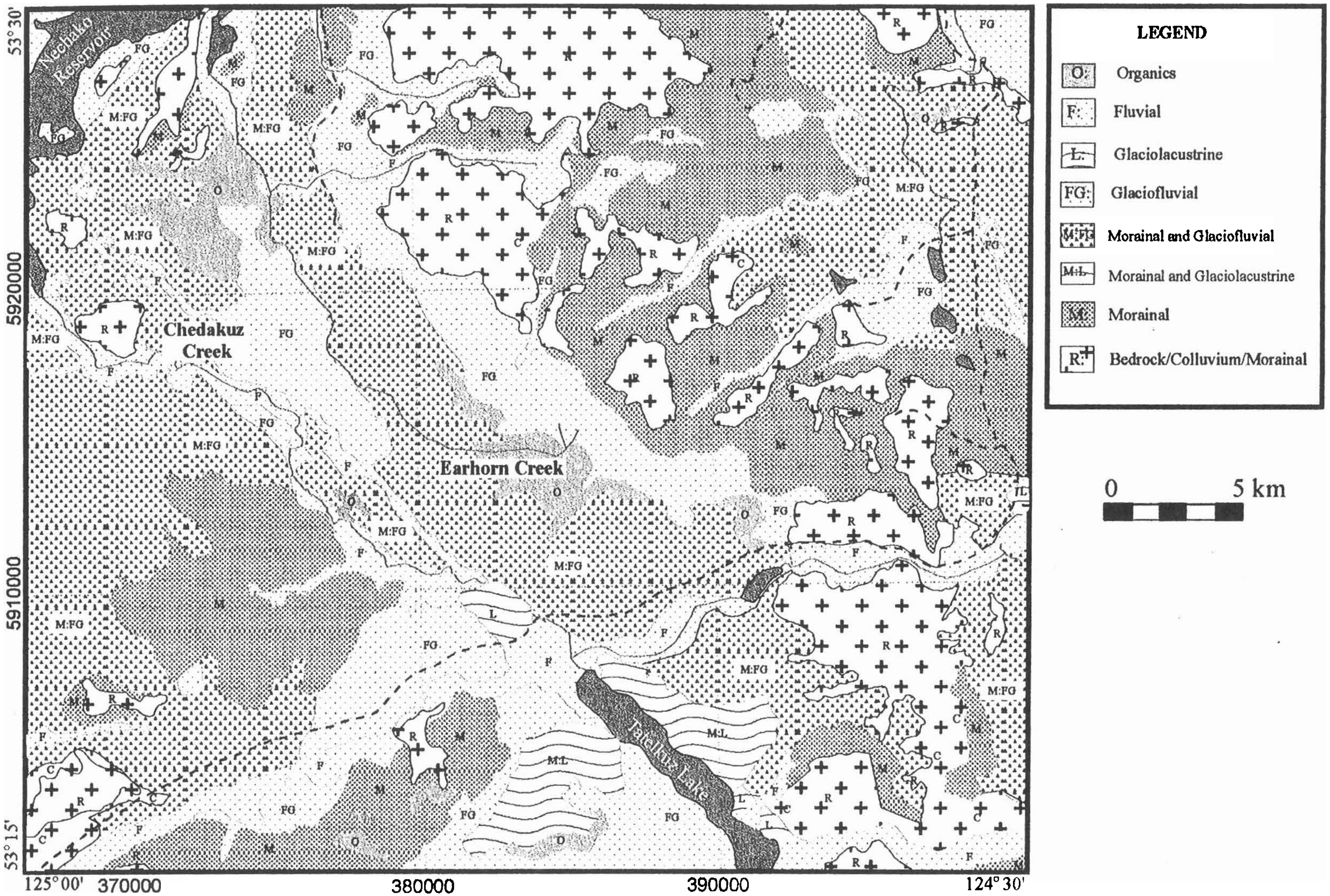

Figure 5: Generalised surficial geology of the Chedakuz Creek Map Area (NTS 93/F7)

ORGANIC DEPOSITS

Flat open terrain in the map area supports many marshes and shallow lakes filled with organic sediment. The organic deposits consist of decayed marsh vegetation with minor sand, silt and clay, and locally include glaciofluvial, glaciolacustrine, morainal or colluvial deposits. Where poor drainage persists and swamp deposits are common, organic deposits occur as a blanket greater than one metre thick.

COLLUVIAL DEPOSITS

Sheet erosion and mass-wasting rework weathered bedrock and glacial deposits into colluvium. Colluvium was often recognized as a veneer of weathered and broken bedrock clasts in a poorly sorted sandy diamicton Colluvial blankets are common along the flanks and at the base of slopes in areas of moderate to high relief. Colluvial veneers are thinner deposits commonly present near the top of ridges and associated with morainal veneers or exposed bedrock.

GLACIAL HISTORY

All till observed at the surface in the Chedakuz Creek map area is interpreted to be from a single Late Wisconsinan glacial advance. Stratigraphic evidence for pre-Late Wisconsinan sediments present near the Chedakuz Creek map area, are advance phase glaciofluvial and glaciolacustrine sediments underlying basal till, at exposures along the Nechako Reservoir (Levson and Giles, 1995). During the Late Wisconsinan Fraser glaciation, piedmont glaciers from the Coast, Omineca, Cariboo and Rocky mountains flowed and coalesced, forming the Cordilleran ice sheet that covered an area approximately 900 kilometres wide (Tipper, 1963; Clague, 1989). Ice flowed onto the Nechako Plateau in an east-northeasterly direction from the Coast Mountains and exceeded 1000 metres in thickness (Tipper, 1971b). During the last glaciation evidence of pre-Late Wisconsinan glacial events was largely removed or buried (Levson and Giles, 1995).

During early glacial phases topography may have influenced control over ice-flow, as indicated by valley-parallel striae on bedrock surfaces buried by thick till sequences (Giles *et al.*, 1995). However, evidence for one dominant flow direction during the glacial maximum toward the east-northeast is supported by striation measurements from exposed bedrock that vary from 055° to 080° (Giles *et al.*, 1995) and measurements of drumlins and flutings from aerial photographs of the Chedakuz Creek map area that vary between 050° and 070°.

During deglaciation large masses of stagnating ice likely remained in the Chedakuz Creek valley. As the ice melted, loose sandy, gravelly diamicton was deposited and till in the valley became reworked and sorted by meltwater to varying degrees. Along both the western flank of the Nechako Range and eastern flank of the Fawnie Range many small meltwater channels drained toward larger deeply incised meltwater channels near the centres of the Chedakuz Creek valley and Top Lake valley (see Weary *et al.*, 1995). Along the eastern flank of the Nechako Range drainage was toward a large meltwater channel in the northeast corner of the map area. The terraces and steep banks that border these large drainage channels were formed by meltwater during deglaciation.

Esker complexes, kettles and abandoned channels and gullies are common in the region (Tipper, 1963). A large esker complex that developed to the west of Tatelkuz Lake is evidence for downwasting ice in this area. Kames, kettles, and numerous meltwater channels, indicate the former presence of stagnating ice in both the Chedakuz Creek valley and the valley that parallels the Kluskus-Ootsa forest service road to the south. The chaotic arrangement of these deposits may have resulted from the decay of large masses of stagnant ice that were present in the valleys. Stagnating ice likely dammed many meltwater channels allowing for deposition of glaciolacustrine sediments. Proximal glaciolacustrine sands occur with glaciofluvial sediments in the north end of the Chedakuz Creek valley and along the valley that parallels the Kluskus-Ootsa forest service road (Weary, 1996). The presence of glaciolacustrine sediments interbedded with glaciofluvial sands and glacigenic debris flows suggests that ice dams were abundant in both valleys but were likely short-lived.

Extensive, silt-rich glaciolacustrine deposits occur at elevations up to 1070 metres in the south of the map area near Tatelkuz Lake (Weary *et al.*, 1995). Lake sediments were likely confined to this area by an ice mass in the northern part of the Chedakuz valley and by stagnating ice and higher ground to the south of Tatelkuz Lake (Giles *et al.*, 1995). Glaciofluvial fans are common at the ends of meltwater channels where sediment-laden meltwater has entered a larger river or lake. Fans are abundant along the Chedakuz Creek valley and in the northeast near Big Bend Creek (Weary *et al.*, 1995).

During postglacial times, freshly deglaciated drift was removed from slopes by landslides and running water and transported to lower elevations. After vegetation was established, surficial geology was modified mainly by fluvial activity and the development of alluvial fans in the valley bottoms. Colluvial reworking of weathered bedrock and glacial deposits occurred in areas of higher relief (Weary *et al.*, 1995).

METHODOLOGY

FIELD METHODS

Surficial geology mapping of the area was completed by interpretation of black and white 1:63,000 aerial photographs followed by ground truthing. In addition to till sampling, surficial sediments were examined at fifteen exposures (Weary *et al.*, 1995) along road cuts, stream cut banks or in hand excavated sample pits.

Till sample sites were selected based on aerial photograph mapping and access. Sample sites consisted predominantly of hand dug pits or road cuts. Sites were located on a 1:50,000 NTS topographic base map and were marked with a metal tag and flagging tape. Samples, weighing approximately three kilograms, were typically obtained at an average depth of 1.3 metres below the surface and were stored in plastic PVC sample bags.

At each sample site the location, map unit, sample medium, sample depth, type of exposure and topographic expression were recorded. Drainage conditions and the type of overlying vegetation were noted, as were the thicknesses of the various soil horizons. The fissility, density, oxidation, matrix percent, colour and texture of the sample medium were also recorded. In addition, pebble size, shape, mode, extent of striation and lithology were noted. Specific comments unique to each site were also registered (see Appendix A).

A total of 187 till samples were collected in the study area at an average density of approximately one sample per five square kilometres (Weary *et al*, 1995). Higher density sampling was conducted along the eastern border of the map area, near the CH mineral claim, to provide a better understanding of glacial dispersal processes (O'Brien *et al*, 1995). To avoid skewing the data toward this area of known mineral potential, eight samples of basal till from this study were randomly selected and included in the regional data set. The final regional data set contains 143 sample sites at an average sample density of approximately one sample per seven square kilometres.

SAMPLE MEDIUM

Till was selected as the sample medium. For accurate interpretation of geochemical anomalies, it is important to recognize and differentiate not only between till and other surficial sediments, but between different types of till. The sedimentological composition of till is highly variable; therefore, familiarity with glacial geology is necessary to evaluate the quality and character of till accurately. For this study, sample site location, density, sample medium and stratigraphic characteristics were used to classify each sample as; basal till, resedimented till or flow till (after Dreimanis, 1988; and Levson *et al.*, 1994).

Basal till was selected as the preferred sample medium. Basal till is primary till that is deposited directly down-ice from its source; therefore, its origin can be accurately traced once the glacial history is determined (Shilts, 1976). Basal tills often develop large dispersal trains that can allow mineral anomalies to be detected in regional surveys (Levson and Giles, 1995). Where basal till was not present, secondary tills (resedimented till or flow till) were sampled. However, secondary tills are more difficult to trace back to a source because they have undergone more complex processes of dispersal.

SAMPLE CLASSIFICATION

All samples obtained for geochemical analyses were unsorted, matrix-supported, diamictons. Clast content was typically between 10 and 40% and consisted of pebbles to boulders. Many clasts were striated, and lithologies varied, but were predominantly local in origin. Samples were classified as basal till, resedimented till or flow till.

BASAL TILL

Samples classified as basal till are compact to over-consolidated, fissile, massive, matrix-supported sandy-silt diamictons. Most clasts are striated and faceted, and are sub-angular to sub-rounded, small to large pebbles. Total matrix content typically ranges between 60 and 90%, with sand, silt and clay all present in excess of 10%. Basal tills are brown or grey in colour, and are often associated with ridged or fluted topography. Most samples (68%) collected were interpreted as basal till. Basal tills are primary in nature and have not undergone post-depositional remobilisation. Tracing basal till anomalies to their source in an area with one dominant ice direction should be relatively straightforward.

RESEDIMENTED TILL

Resedimented tills are moderately dense to loose, massive, matrix supported diamictons that are commonly associated with hummocky topography. Clasts vary from small to large pebbles, and typically only a few are glacially abraded. Sand lenses may be present and sand usually dominates the matrix content. Sandy resedimented tills were likely winnowed and reworked by meltwater during deglaciation. Clay or silt may dominate where resedimented tills occur near or with glaciolacustrine sediments. Because resedimented tills have undergone a minor secondary depositional phase they may be more difficult to trace to their source than basal tills.

FLOW TILL

Diamictons with characteristics similar to basal till, but stratigraphically interbedded or overlying glaciofluvial or glaciolacustrine sediments, were classified as flow till. Flow tills occur in layers with occasional internal convolutions and rip-up clasts or sand lenses. Beds are typically a few centimetres to less than two metres in thickness. Flow tills originate from ice-proximal, basally derived, glacigenic debris flows. Flow tills are generally found near meltwater channels or in areas of glaciofluvial outwash (Weary, 1996).

LABORATORY AND ANALYTICAL METHODS

All 143 till samples were air dried, split and sieved for analyses of the -230 mesh (<62.5 m) fraction. Previous studies on metal portioning have shown that metals are generally enriched in the fine grain fraction of the till (Shilts, 1976, 1984; DiLabio, 1985; Kerr *et al*, 1992). Samples were analyzed by instrumental neutron activation (INA) analysis for 16 elements and by inductively coupled plasma (ICP) analysis after aqua regia digestion for 23 elements (Appendix A). Summary statistics for each element and percentile distribution maps are provided in Appendix C and D, respectively. Laboratory analyses were performed using standard procedures of the British Columbia Geological Survey (Lett, 1995).

QUALITY CONTROL

Quality controls were established in both the field and analytical component of the sampling program in order to discriminate geochemical trends from human sampling errors in the field, or analytical errors in the laboratory. Each group of twenty samples included an analytical duplicate, a field duplicate, and a randomly inserted control standard. Field duplicates were obtained at accessible basal till sample sites using the same procedures as the original samples. Analytical duplicates are sample splits taken after preparation procedures but before analysis. Scatter plots for nine elements for field and analytical duplicates are presented in Appendix B. In total, ten field duplicate pairs and thirteen analytical duplicate pairs were obtained.

RESULTS

Geochemical concentrations of all elements analyzed at each sample site are presented in Appendix A. Analytical duplicate data and summary statistics for every element are displayed in Appendix B and C, respectively. Concentrations for each element were statistically averaged and then grouped into percentile intervals. As concentrations of many elements are typically ten to a thousand times more dilute in till than in their source rocks (Shilts, 1976. Dilabio, 1990), a relative comparison of every sample to background concentrations is generally more meaningful than absolute values. Percentile distribution maps with different symbols for the 0-50th, 50-75th, 75-90th, 90-95th, 95-98th and 98-100th percentage intervals are shown in Appendix D.

In the past, C-horizon till sampling did not play a large role in prospecting in central British Columbia. However, A and B horizon soil sampling and boulder tracing have been used in the region. A multi-element soil anomaly on the CH property produced dispersal trains parallel to ice flow direction, with mineralized source rocks located near the up-ice end (Edwards and Campbell, 1992). Although A and B soil horizon sampling may produce dispersal trains parallel to ice flow, post-glacial hydromorphic effects can cause elemental concentration changes that obscure the presence of dispersal trains and make interpretation of anomalies difficult (Nichol and Bjorklund, 1973; Plouffe, 1995).

Recently, till geochemical surveys have proven effective for locating mineralized zones in drift-covered parts of the Nechako Plateau. Levson *et al.* (1994) detected all existing mineral occurrences on the Fawnie Creek map sheet (93 F/2) and highlighted several new exploration targets. Exploration targets can be defined based on fan or cigar shaped dispersal trains in geochemically anomalous areas. Elemental concentrations typically follow a negative exponential curve with the highest values near the bedrock source and lower values down-ice (Shilts, 1976, 1993). The head of the dispersal train is not necessarily over the source rock but is likely down-ice of it. The distance down ice depends on the size and erodibility of the source and the thickness of the till (Shilts, 1972, 1993). Down-ice displacements on the order of 500 metres have been documented at many mineral properties in the region (Levson and Giles, 1995).

AREAS OF ANOMALOUS ELEMENT CONCENTRATIONS

Sampling in the Chedakuz Creek map area was designed to detect areas of potential economic interest by intersecting geochemically anomalous dispersal trains. Elements of particular exploration importance because of their economic significance or pathfinder capabilities are gold, arsenic, antimony, silver, nickel, molybdenum, copper, zinc and lead. This discussion is confined to these nine elements. On the Chedakuz Creek map sheet five areas are defined where anomalous (>90th percentile) multi-element concentrations occur (Figure 6). Areas 1,2 and 3 may highlight new exploration targets. Areas 4 and 5 are near the known CH, APRIL and BEN (MINFILE 093F 004, 059, 060) mineral properties.

AREA 1

Area 1 is in the north-central part of the map sheet and includes samples 3071 through to 3076. Multi-element anomalies above the 95th percentile include arsenic, molybdenum, nickel and zinc (Appendix D). Most sites in this area are anomalous (>95th percentile) in zinc and at least one other element: Site 3071 - Sb, As, Zn; Site 3072 - Zn, Ni; Site 3073 - Sb, Mo, Zn, Ni, As; Site 3074- Zn only; Site 3075 - Zn, Mo; Site 3076 - Zn, Mo, Sb. Site 3073 in the centre of this area has the greatest number of anomalous element concentrations and the highest values. Concentrations of most elements generally decrease toward the east-northeast from this site. This trend parallels the regional ice-flow direction and suggests the possibility that glacial dispersal from a source near site 3073 or west of it, is partly responsible for the observed pattern. However, anomalous concentrations of zinc, antimony and molybdenum at site 3076 and zinc, antimony and arsenic, at site 3071, east and west, respectively, of site 3073, indicate the potential for more than one source in this area.

All samples in this area were classified as basal till, except sample 3071 that was associated with colluvium and classified as resedimented till. Bedrock mapping in the region shows porphyritic diorite intrusions hosted by Nechako sandstone and siltstone and Naglico andesite. A chip sample from potassic altered quartz veined bedrock, obtained along a fault approximately five kilometres south of Area 1, assayed 65 ppb gold and 358 ppm arsenic (see Diakow *et al*, 1995; assay IWE 24-5). The

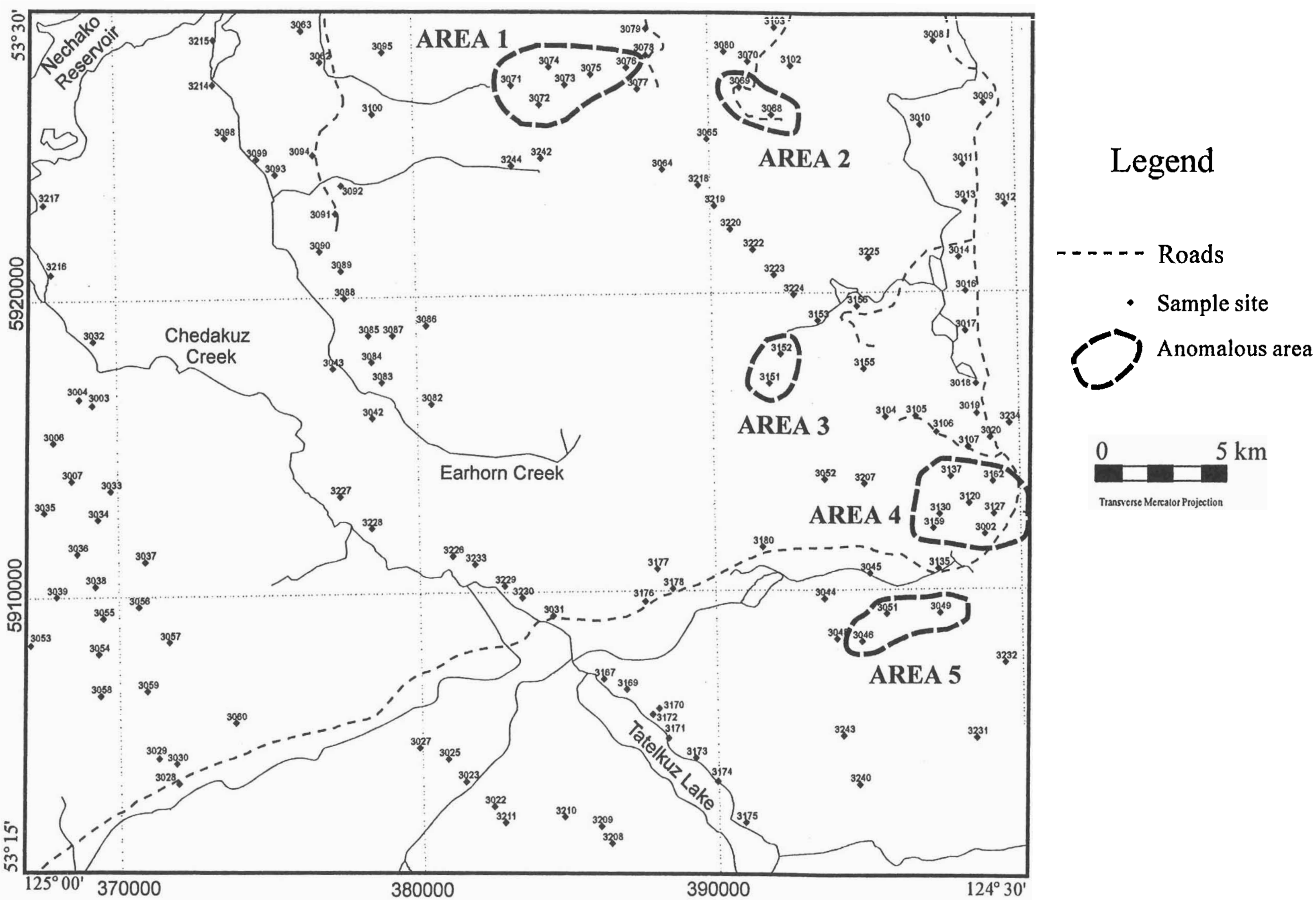

Figure 6: Sample site and Area locations

orientation and number of elevated multi-element anomalies make this area a prime target for further exploration.

AREA 2

Area 2 is located a few kilometres to the east of Area 1 and is defined by anomalous sample sites 3068 and 3069. This area is underlain by Naglico basalt and andesite with occasional intrusions of porphyritic diorite. At sample site 3068 antimony and arsenic values are anomalous in the 98th percentile and molybdenum and zinc concentrations are in the 90th percentile. At sample site 3069 antimony is in the 95th percentile and zinc and arsenic are in the 90th percentile. Although this area has fewer multi-element anomalies than Area 1, the up-ice end distribution is better defined by the presence of relatively low element concentrations to the southwest (3064, 3065, 3218). This suggests that the source producing anomalies at sites 3068 and 3069 may lie close to the sample sites themselves. To confirm this interpretation additional sampling is required to the south and west of this area.

The physiography and extent of outcrops in Areas 1 and 2, suggests that the till coverage is relatively thin and directly overlies bedrock. Usually, anomalies in areas of thin till lie close to their sources (Shilts 1976, 1993). The number and aerial extent of anomalies in both Area 1 and Area 2 may be explained by multiple sources of mineralization at a shallow depth or may simply reflect elevated concentrations in the underlying bedrock. To better understand the origin of these anomalous trends geochemical sampling of the underlying bedrock combined with further till sampling is required.

AREA 3

Area 3 is located approximately ten kilometres south of Area 2, and is defined by basal till sample sites 3151 and 3152. Sample site 3151 is anomalous above the 95th percentile for zinc, copper and nickel. Sample site 3151 is anomalous above the 95th percentile for copper and nickel, and above the 90th percentile for zinc. These two sites are underlain by Naglico sandstone and are bounded to the south and west by faults, and to the east by conglomerate. The underlying lithology is principally conglomerate with a single occurrence of intrusive diorite. The distribution of sample sites near this area is too sparse to delineate a dispersal train. However, the presence of highly anomalous, lead, copper and zinc, concentrations at both sample sites 3151 and 3152, and comparatively low concentrations at sample sites to the north and east, suggest a possible exploration target centred near these two samples.

AREA 4

Area 4 includes basal till samples 3002, 3120, 3127, 3130, 3137, 3159, and 3162. Area 4 is located near the CH copper and molybdenum porphyry prospect and APRIL precious and base metal showing. Most sites in this area have concentrations in the 98th percentile for copper, gold, lead, moybdenum, silver or zinc, and two sites are above the 90th percentile in arsenic or antimony. Site 3002 is the most anomalous with 98th percentile concentrations of copper, lead, molybdenum and silver, and 95th percentile concentrations for gold and arsenic. Nearby sites to the north (3120 and 3127), have greater than 95th percentile anomalies for copper, gold and lead To the east sites 3159 and 3130 have greater than 90th percentile anomalies for gold, copper and zinc. Nechako crystal rich sandstone and siltstone underlie samples 3159 and 3130, with a northwest - southeast high angle fault mapped near the centre of the area. A large intrusion of CH stock granodiorite is present southwest (up-ice) of the property (see Figure 3).

In contrast to Area 1, most of Area 4 is covered in a thick blanket of glacial sediments (Weary *et al.*, 1995); therefore, anomalies in till are likely from a source that is a greater distance up-ice than those from Area 1. The highest gold value (79 ppb at sample site 3159) is located both up-ice of the presumed bedrock source for the CH property soil anomalies (Edwards and Campbell, 1992), and up-ice of massive sulphide veins of the April showing. This suggests that the source producing Au anomalies on the CH property could be up-ice (southwest) of previously drilled areas on the CH claim. This observation supports the interpretation that a second source of mineralization on the CH property may be present further up-ice than previously investigated (Levson and Giles, 1995). The mineralised source producing these anomalies may be near the margin of a large intrusive granodiorite body mapped a short distance southwest of Area 4 (Figure 3).

AREA 5

Area 5 includes samples 3046, 3049, and 3051, and is located near the BEN precious metal showing. Arsenic, antimony, copper and gold have concentrations above the 95th percentile near the centre of the BEN mineral claim at site 3049. Sample sites 3046 has greater than 95th percentile anomalies for arsenic and antimony and site 3051 is anomalous in the 90th percentile for arsenic.

Morainal sediments are widespread in the Chedakuz Creek map area, occurring as blankets along mountain flanks and in lowlands, and as veneers in areas of higher relief. Till thicknesses range from tens of centimetres to greater than five meters. Till in the area was deposited during the last glacial period. The dominant direction of ice flow was east-northeast. Glaciofluvial sediments are also common in the map area, especially in the gently inclined valley between the Nechako and Fawnie Ranges. Glaciolacustrine sediments occur near Tatelkuz lake, and are often associated with glaciofluvial deposits.

The results of till drift exploration in the Chedakuz Creek map area allowed identification of several new exploration areas in addition to detecting all known mineral occurrences. One of the most pronounced multi-element geochemical till anomalies in the region occurs in Area 1, located in the north central part of the map sheet. Some of the highest arsenic, antimony, molybdenum, nickel and zinc values encountered in the regional sampling program occur in this area. Anomalous sample sites occur within a one kilometre wide and four kilometre long zone that is approximately parallel to ice flow direction.

Area 2 has two highly anomalous antimony and arsenic sample sites (3068 and 3069) that are confined to the southwest by sites with low concentrations. Results based on the current sample spacing may indicate a potential mineralized source a short distance northeast of sample site 3065. Follow-up till sampling is necessary to build on this interpretation. Multi-element geochemical anomalies also occur in Area 3, approximately ten kilometres south of Area 2. This area of interest in centred around sample sites 3151 and 3152, which contain elevated concentrations of copper, nickel and zinc.

Area 4 includes samples near the APRIL base metal showing and CH copper - molybdenum porphyry prospect. Sample sites in this area were highly anomalous for gold, copper, molybdenum silver, zinc and lead. High concentrations at sample sites 3130 and 3159, southwest of the main showings, suggest that a mineralized bedrock source may lie up-ice of the originally targeted areas (Levson and Giles, 1995). Geochemical results from a detailed sampling program in the area were published by O'Brien (1996).

Anomalies associated with Area 5 occur near the BEN precious metal occurrence. Multi-element anomalies at sample sites 3049 and 3046, and the presence of heavily mineralized float on this property, suggest that significant bedrock mineralization may be present on the western and/or eastern margin of the nearby CH stock granodiorite.

Area 5 is underlain by CH granodiorite stock in contact with Nechako Range sandstone and siltstone.

The proximity of anomalous sample sites 3046 and 3049 to the eastern boundary of the CH stock suggests that exploration along the margin of the stock may be warranted. Chip samples obtained from the BEN showing by BHP Minerals Canada Ltd. in 1991, assayed 0.7 g/t Au, 95 g/t Ag and 0.2% Pb (Lane and Schroeter, 1995). Interestingly, the highest gold value recorded on the property was from a polymetallic float boulder that assayed 12.4 g/t gold, and anomalous levels of silver, arsenic, lead zinc, antimony and copper (Lane and Schroeter, 1995). The presence of mineralized float combined with anomalous till values up-ice of this area, suggests that further exploration should be targeted toward the southwest (up-ice) of sample 3049.

GEOCHEMISTRY

Till geochemistry for gold, arsenic, antimony, lead, nickel, silver, zinc, molybdenum, and copper is discussed here with reference to individual elements statistical data, and the location of anomalous samples.

GOLD

The grain size distribution of gold in till results from a combination of; the original size of the gold at a source, the degree of glacial comminution, the grain size of gold released from weathered sulphides and the grain size of precipitated or absorbed gold, if any (Coker and DiLabio, 1987). The complex grain size distribution of gold in till allows gold concentrations to vary depending on the size fraction analyzed (Bloom and Steele, 1989). The finer fraction is used in this study to reduce both the nugget effect and self-shielding effects caused by larger grain sizes (Bloom and Steele, 1989). However, these effects are not entirely compensated for, as both field duplicate data and analytical duplicate data yield poor results. Analytical duplicate pairs are highly variable, especially at low concentrations, with one split commonly at or near the detection limit and the second, up to 16 ppb (see Appendix B). An R^2 value of .98 obtained for the analytical duplicates (Appendix B) is of little meaning, as it is largely influenced by a single data point that lies outside the range of the majority of the samples. The discrepancies in the field duplicate data, again reflect the number of gold concentrations that are close to the detection limit. At higher concentrations variances may be due to the nugget effect (Bloom and Steele, 1989).

The mean and median values of gold calculated from the 143 regional samples and eight field duplicates are 4.75 and 4.0 ppb, respectively. Background concentrations are those below the 50th percentile and are defined by the median value of 4 ppb. Five of the seven gold values above the 95th percentile (17 ppb) are located in Area 4, including the highest gold value (79 ppb) at sample site 3159.

The second highest individual gold anomaly (67 ppb) is at sample site 3227 near Chedakuz Creek. However, this sample was not anomalous for any other element. In addition, this sample was classified as resedimented till based both on sedimentological characteristics (see Appendix A) and the sample's proximity to a large meltwater channel. The secondary nature of the till sampled at this site suggests a more complex origin than a straightforward up-ice source. Follow up till sampling based on this anomaly may not be practical due to the scarcity of basal till near sample site 3227.

Two anomalous gold samples (>90th percentile) occur in the northeast, along the Kluskus-Ootsa Forest Service Road at sites 3016 and 3009. The underlying bedrock in this area is likely Naglico basalt and andesite. Although neither sample produced a multi-element anomaly, sample sites 3010 and 3011, southwest of 3009 were anomalous in arsenic. Sample site 3107 just north of Area 4 is anomalous (>90th percentile) for gold, copper and antimony. This may reflect mineralization to the southwest, on or near the CH claim.

Basal till sample sites 3060 and 3004 in the west of the map area are also in the 90th percentile for gold. However, neither of these sites nor surrounding sites produce multi-element anomalies. Relatively high sample spacing combined with few elevated anomalies or multi-element anomalies suggest a low potential for gold mineralization in the west of the map area.

ARSENIC

Mean and median values for arsenic analyzed by ICP are 10.9 and 8.0 ppm, respectively. Most arsenic values above the 90th percentile (20 ppm) are concentrated in Areas 1, 2, 4 and 5. The highest value (119 ppm) occurs at sample site 3049 located in Area 5. Anomalous sample sites found outside the highlighted areas are confined to the east of Big Bend Creek (3010, 3011, 3013).

ANTIMONY

The mean and median values for antimony are 2.3 and 1.7 ppm respectively. Anomalous concentrations

(>90th percentile) for antimony are 4.2 ppm. Similar to arsenic, antimony anomalies are located in Areas 1,2,4 and 5. Concentrations above the 98th percentile (7.1-8.3 ppm) are clustered around Areas 1 and 2. A single anomalous occurrence for antimony and arsenic exists outside these areas at sample site 3013 along the Kluskus Ootsa forest service road.

LEAD

Anomalous lead concentrations are principally centred around Area 4, where three values occur in the 98th percentile (26-55 ppm). The mean and median concentrations for lead are 9.1 and 8.0 ppm, respectively. Multi-element lead anomalies occur in the southern portion of the Nechako Range overlying basalt and andesite at sites 3240 and 3231. High concentrations for lead also occur at sites 3029, 3030, and 3036.

NICKEL

The mean nickel concentration for till in the Chedakuz Creek map area is 27.1 ppm and the median concentration is 24.0 ppm. Nickel values above the 90th and 98th percentile are 45 and 64 ppm, respectively. Nickel anomalies are mainly associated with Areas 1 and 3. Three sites (3007, 3035 and 3034) with anomalous (>90th percentile) nickel concentrations also occur northeast of the Fawnie Range. In addition, two nickel anomalies exist near Earhorn Creek at sites 3090 and 3093.

SILVER

The mean concentration of silver in tills in the area was 0.2 ppm. All silver concentrations were less 0.5 ppm, except for sample 3002 on the CH property, with a concentration of 1.2 ppm. Anomalous samples (>90th percentile) with concentrations of 0.4 ppm to 0.5 ppm are generally associated with Areas 1 through to 5. However, the low concentrations of silver and scarcity of anomalous samples in areas of known mineralization suggest that exploration for silver mineralization in the region should focus on associated pathfinder elements.

ZINC

Mean and median zinc values are 77 and 68 ppm, respectively. Area 1 is of high interest for zinc exploration, as six of the eight samples above the 95th percentile (145 ppm) are present there. The location of sample 3130 with a concentration of 204 ppm suggests that the zinc source that produced this 98th percentile anomaly is on the up-ice side of the CH property. Areas 2 and 3 also have multiple sites with anomalous zinc concentrations. A single zinc anomaly exists outside these areas at site 3063 near Sveldrup Creek.

MOLYBDENUM

Mean and median concentrations for molybdenum are 1.7 and 1.0 ppm, respectively. Similar to antimony and zinc, the main clustering of anomalous molybdenum concentrations in till samples is in Area 1. The highest molybdenum concentration (13 ppm) on the map sheet is at site 3207 located near the CHU molybdenum and copper porphyry prospect (MINFILE 093F 001). To the northeast of this area three anomalous molybdenum samples exist at sites 3104, 3105, and 3155. Anomalous molybdenum concentrations at these sites probably reflect down-ice dispersal from the vicinity of the CHU prospect. This area is underlain by Nechako Range sandstone and siltstone (as mapped by Diakow *et al.*, 1995). Anomalous molybdenum sites also occur in Areas 2 and 4.

COPPER

The mean and median concentrations for copper are 34.4 and 29.0 ppm, respectively. The highest copper concentration (355 ppm) is at site 3002 located on a northeasterly ice-oriented drumlin in Area 4. Most sites in Area 4 and sample sites 3019, 3105, and 3107 north of it, are anomalous in copper. These latter samples occur just north of a mapped porphyritic diorite intrusion. The elevated concentrations of copper in Area 4 correspond well with the known copper showings of the CH prospect (MINFILE 93F 059). Copper anomalies above the 95th percentile occur in Area 3, and above the 90th percentile occur in Area 1. A single copper anomaly exists outside these areas at sample site 3086, east of Earhorn Creek.

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Till Geochemistry of the Chedakuz Creek Map Area
(93F/07)

Open File 1997-11

Appendix A

Field Observations and Analytical Data

A-1...Reference Guide to Field Observations

A-2...Sample Locations

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A-23...ICP Analytical Duplicate Data

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A-26...INA Analytical Duplicate Data

Appendix A-1: Reference Guide to Field Observations

ID	Sample number	**Density (Dens)**	Consolidation of the sample 1 - loose 2 - moderate 3 - compact
Dup	10 - first duplicate sample Field Dup - second duplicate sample		
Northing	UTM North Coordinate		
Easting	UTM East Coordinate	**Oxidation (Ox)**	Extent of sample oxidation 0 - none 1 - mild 2 - moderate 3 - strong
Elevation	Elevation above sea level in feet		
Map Unit	Surficial geology map unit Mb - Till blanket Mv - Till veneer Cv - Colluvial veneer Ov - Organic veneer FG - Glaciofluvial sediments LG - Glaciolacustrine sediments s - sandy g - gravelly x/y - Unit x overlies unit y x:y - Unit x occurs with unit y	**Matrix (Mtrx)**	Percent matrix of sample
		Color	Color of sample
		Mode (Mod)	Size of clasts in sample 1 - small pebble 2 - small to medium pebble 3 - medium pebble 4 - medium to large pebble 5 - large pebble
Sample Medium	Sediment type sampled Dmm - Massive, matrix-supported diamicton s - sandy z - silty sz - sandy silt zs - silty sand c - clay	**Striated Clasts (Strt. Clst)**	Presence of striated clasts N - no F - few Y - yes A - abundant
		Bedrock (Brx)	Type of bedrock underlying sample site (see LEGEND in Figure 3)
Depth	Depth to sample from surface, in metres	**Sample Interpretation (Int)**	Interpretaion of type of till sampled BT - Basal till RT - Resedimented till FT - Flow till
Exposure (Exp)	Sample exposure type		
Terrain Type	Physiography at sample site		
Fissility (Fis)	Type of fissility present 0 - none 1 - weak 2 - moderate 3 - strong	**Comments**	Other attributes unique to the sample site

Sample Locations

ID	Dup	Northing	Easting	Elev. (ft)
3002		5911906	399127	3700
3003		5916559	369094	3100
3004	10	5916761	368654	3120
3006		5915326	367757	3250
3007		5914037	368371	3400
3008		5928383	397552	3200
3009		5926326	399207	3250
3010		5925634	397058	3500
3011		5924293	398494	3580
3012		5922958	399917	3700
3013		5923056	398551	3590
3014		5921207	398330	3700
3016		5920072	398547	3650
3017		5918739	398533	3650
3018		5916956	398873	3650
3019		5915945	398889	3720
3020		5915143	399338	3700
3022		5903002	382501	3480
3023	10	5903824	381564	3490
3025		5904577	380985	3510
3027		5904964	380012	3550
3028		5903892	371879	3900
3029		5904735	371232	4220
3031		5909304	384527	3100
3032		5918725	369155	2950
3033		5913687	369693	3350
3034		5912733	369250	3450
3035		5912991	367435	3500
3036		5911594	368542	3600

ID	Dup	Northing	Easting	Elev. (ft)
3037		5911302	370820	3500
3038		5910507	369140	3650
3039		5910175	367820	3720
3042		5916000	378509	3200
3043		5917693	377196	3100
3044		5909797	393708	3700
3045		5910621	395238	3500
3046	10	5908338	394955	4350
3048		5908435	394119	4220
3049		5909275	397588	4400
3051		5909260	395784	3950
3052		5913778	393751	4080
3053		5908551	366921	4200
3054		5908236	369234	4050
3055		5909432	369394	3780
3056		5909800	370596	3650
3057		5908598	371616	3760
3058		5906842	369288	4600
3059		5906976	370858	4350
3060		5905894	373825	3800
3062		5927918	376862	3170
3063		5928970	376240	3000
3064		5924206	388351	4290
3068		5925995	392066	3580
3069		5926907	390991	3650
3070		5927759	391281	3590
3071		5927059	383286	4400
3072		5926424	384218	4430
3073		5927062	385094	4350

ID	Dup	Northing	Easting	Elev. (ft)
3074		5927656	384558	4290
3075		5927393	385974	4200
3076		5927599	387171	4050
3077		5926889	387549	4120
3078		5927996	387842	3760
3079		5928885	387858	3500
3080		5928089	390482	3550
3082		5916443	380526	3310
3083		5917202	378845	3190
3084		5917889	378500	3180
3085		5918778	378404	3150
3086		5919094	380365	3390
3087		5918772	379228	3230
3088		5920048	377608	3100
3089		5920964	377506	3110
3090		5921626	376791	3090
3091		5922880	377338	3190
3092		5923810	377537	3380
3093		5924208	375320	3000
3094		5924840	376590	3150
3095	10	5928212	378964	3650
3098		5925462	373639	2850
3099		5924738	374707	2930
3102		5927611	392722	3500
3103		5928880	392187	3460
3104		5915854	395805	4000
3105		5915877	396824	3940
3106		5915326	397517	3830
3107		5914835	398585	3780

Sample Locations

ID	Dup	Northing	Easting	Elev. (ft)
3120		5912940	398610	3750
3127		5912585	399444	3710
3130		5912586	397612	4000
3135	10	5910761	397553	3600
3137		5913846	397996	4110
3151		5917016	391905	4590
3152		5918006	392303	4290
3153	10	5919119	393573	4120
3155		5917489	395091	4020
3156		5919590	394891	3950
3159		5912108	397397	4300
3162		5913668	399418	3820
3167		5907171	386226	3130
3169		5906814	386996	3130
3170		5906158	388090	3150
3171		5905167	388397	3080
3172		5905965	387873	3080
3173		5904509	389317	3080
3174		5903724	390048	3080
3175		5902368	390987	3080
3176		5909746	387657	3350
3177		5910834	388066	3320
3178	10	5910173	388591	3300
3207		5913625	395080	4490
3208		5901731	386449	3450
3209		5902303	386102	3450
3210		5902630	384868	3510
3211		5902470	382873	3490
3214		5927226	373252	2790

ID	Dup	Northing	Easting	Elev. (ft)
3215		5928711	373302	2790
3216		5920971	367731	2790
3217		5923297	367492	2790
3218		5923669	389562	4220
3219		5922978	390110	4280
3220		5922190	390641	4280
3222		5921503	391397	4250
3223		5920661	392094	4300
3224		5919998	392754	4300
3225		5921195	395288	3730
3226		5911331	381191	3080
3227		5913388	377406	2990
3228		5912302	378459	3020
3229		5910322	382920	3070
3230		5909923	383505	3110
3231		5905090	398797	4500
3232		5907600	399783	4060
3233		5911055	381932	3100
3234		5915622	399986	3650
3240		5903578	394829	4500
3242		5924643	384259	4650
3243		5905205	394307	4300
3244		5924395	383270	4425

Field Observations

ID	Map Unit	Sample Medium	Depth (m)	Exp.	Terrain Type	Fis.	Dens.	Ox.	Mtrx. (%)	Color	Mod.	Strt. Clst.	Brx.	Int.	Comments
3002	Mb	sDmm	0.8	Pit	Ridge top	0	2	2	75	Light brown	4	Y	Nvs?	BT	Many oxidized granitic erratics
3003	Mv/LG	zsDmm	0.5	Pit	Gentle slope	0	1	2	75	Brown-grey	4	A	Ns?	FT	Diamicton overlying clay silt and sand
3004	Mb	szDmm	1.25	Roadcut	Ridge top	3	3	2	65	Light brown-grey	4	Y	Ns	BT	
3006	Mb	szDmm	1	Roadcut		3	2	3	80	Grey	4	Y		BT	
3007	Mb	zsDmm	1.9	Roadcut	Ridge top	3	3	3	75	Dark brown	4	Y		BT	
3008	FG/Mb	szDmm	2.5	Roadcut	Top of spur	1	2	2	80	Dark brown-gre	4	Y	EOE	BT	Upper 1-2m is sg, pitted FG outwash in valley
3009	Mb	zsDmm	3	Roadcut	Top of knoll	3	3	3	75	Dark brown	4	A	Nb?	BT	
3010	Mb	zsDmm	0.9	Pit	Ridge top	2	2	3	85	Dark brown	4	Y		BT	
3011	Mb	zsDmm	1.5	Roadcut		2	2	2	80	Dark brown	4	Y		BT	
3012	Mb	zsDmm	1.6	Roadcut		3	3	3	75	Dark brown	4	Y	Nb?	BT	
3013	Mb	szDmm	3	Roadcut		2	2	2	85	Brown-red	3	A		BT	
3014	Mb	sczDmm	1.8	Roadcut		2	2	0	80	Dark grey	4	Y		BT	Gravel pit 50m to west
3016	Mb	zsDmm	1.4	Roadcut		3	2	2	85	Dark grey-brown	4	Y		BT	Esker 100m south
3017	Mb	szDmm	0.6	Roadcut		3	3	2	80	Grey	4	A		BT	
3018	Mb	zsDmm	2	Roadcut		2	2	0	70	Brown	4	Y	NVs,Nb?	BT	
3019	Mb	szDmm	3	Roadcut	Gently rolling	2	3	1	75	Brown	4	Y	NVs,Nb?	BT	
3020	Mb	zsDmm	1.2	Roadcut		2	2	2	70	Dark brown	4	Y		BT	
3022	Mb:LG	szDmm	0.6	Roadcut		2	2	0	80	Brown	3	Y		RT	Sandy layers, perhaps ablation till
3023	Mb:LG	zsDmm	3.8	Roadcut	Gently rolling	3	3	0	80	Brown	4	Y	MJd?	RT	Thin sand lenses present
3025	Mbr	zsDmm	2.5	Roadcut	Ridge top	3	2	0	80	Brown	5	Y	MJd	BT	
3027	Mb	szDmm	1.5	Roadcut	Rolling	2	2	1	80	Brown	4	Y	MJd	BT	Sandy till
3028	gFG/Mb	zsDmm	3	Roadcut	Mod. slope	2	3	0	80	Brown	4	Y		FT	Till located 2m under gFG
3029	Mb	szDmm	2	Roadcut	Gentle slope	1	2	2	70	Red-brown	4	F		BT	May be slightly resedimented
3030	Mb:FG	zsDmm	2.5	Roadcut	Rolling	2	2	2	75	Red-brown	3	Y		BT	
3031	Mb	zsDmm	1.3	Roadcut	Gentle slope	3	3	0	75	Brown	3	Y		BT	Base of Chedakuz valley in FG area
3032	Mb	zsDmm	0.4	Pit	Top of slope	0	1	1	70	Brown-grey	4	F	Ns	BT	On the edge of meltwater channel
3033	Mb	zsDmm	0.6	Pit	Small Hummock	0	2	0	75	Brown	3	F		BT	

Field Observations

ID	Map Unit	Sample Medium	Depth (m)	Exp.	Terrain Type	Fis.	Dens.	Ox.	Mtrx. (%)	Color	Mod.	Strt. Clst.	Brx.	Int.	Comments
3034	Mb	zsDmm	1.2	Roadcut	Flat	2	3	0	80	Brown	3	Y	Ns?	BT	
3035	Mv:gFG?	zsDmm	0.7	Pit	Drumlin	0	2	1	75	Brown	3	F	Ns?	RT	Drumlin or esker?
3036	Mb	zsDmm	2	Roadcut	Gentle slope	2	2	1	80	Brown	2	Y		BT	
3037	Mb:FG	sDmm	0.6	Roadcut	Gentle slope	1	2	1	70	Brown	4	F		RT	Located close to FG , eskers perpendicular to valley
3038	Mb	zsDmm	1.5	Roadcut	Flat	2	2	1	75	Brown	2	F		BT	Minor sand lenses present
3039	Mb	zsDmm	1.5	Roadcut	Ridge	2	3	0	75	Brown	4	Y		BT	Rolling terrain
3042	Mb/FG	sDmm	1.2	Roadcut	Flat	0	1	0	70	Brown	4	Y		RT	Perhaps ablation till
3043	Mb:FG	zsDmm	2	Roadcut	Gentle slope	0	2	1	80	Brown	2	F		RT	Perhaps ablation till over meltout till
3044	Mv:FG	sDmm	1.1	Roadcut	Top of drumlin	1	1	0	70	Brown-yellow-gr	4	Y	TCH	RT	Sandy till due to granite
3045	FG/Mv	szDmm	5	Roadcut	Mod. slope	0	3	1	85	Brown	3	Y	TCH	FT	
3046	Cv/Mv	szDmm	2	Pit	Top of slope	3	2	1	75	Brown	3	Y	TCH	BT	
3048	Mb	zsDmm	0.8	Pit	Mod. slope	1	1	0	75	Brown	4	F	TCH	RT	
3049	Cv/Mb	zsDmm	2.5	Pit	Steep slope	2	3	2	65	Brown	4	Y	TCH	BT	Till may be slightly colluviated
3051	FG/Mv	zsDmm	1.7	Roadcut	Mod. slope	1	2	2	75	Brown-grey	4	Y	TCH	RT	Highly oxidised 1m thick sand layer overlying till
3052	Mv	sDmm	0.9	Roadcut	Mod. slope	1	2	1	75	Brown-grey	4	F		BT	Granitic outcrop nearby
3053	gsFG/Mb	sDmm	0.8	Pit	Top of ridge	0	1	3	70	Orange-brown	4	F		RT	
3054	Mb	zsDmm	0.5	Pit	Gentle slope	2	2	1	75	Brown	4	F		BT	
3055	gsFG/Mb	szDmm	2	Roadcut	Gentle slope	2	2	1	80	Brown	4	Y		BT	
3056	gFG/Mb	szDmm	0.4	Roadcut	Hummocky	3	3	0	80	Brown	4	A		BT	
3057	Mb	zsDmm	2	Roadcut	Gentle slope	3	2	1	75	Dark brown	4	F		BT	
3058	Cv:Mv	zsDmm	0.8	Pit	Mod. slope	0	1	2	70	Yellow-brown	4	N	MJd	RT	
3059	FG/Mb	sDmm	1	Pit	Mod. slope	0	1	1	75	Brown	4	Y	MJd,MJap	RT	
3060	Mb	zsDmm	1	Roadcut	Flat	1	3	1	80	Brown	4	Y		BT	
3062	Mb	czsDmm	0.6	Pit	Flat	2	2	3	90	Orange	2	F		RT	Oxidized and clay rich?
3063	Mb	zsDmm	1.5	Roadcut	Gently rolling	1	2	1	75	Brown	4	F		BT	
3064	Mb	zsDmm	0.5	Roadcut	Gentle slope	1	1	0	70	Brown	2	F	NVs?	BT	Poorly drained
3065	Mb	zsDmm	0.5	Roadcut	Flat	2	2	1	80	Grey-brown	4	F		BT	

Field Observations

ID	Map Unit	Sample Medium	Depth (m)	Exp.	Terrain Type	Fis.	Dens.	Ox.	Mtrx. (%)	Color	Mod.	Strt. Clst.	Brx.	Int.	Comments
3098	Mb	sDmm	1	Pit	Top of fluting	1	2	1	70	Orange-brown	2	F		BT	Sandy till
3099	Mb	zsDmm	0.8	Roadcut	Ridge crest	2	2	0	75	Brown	4	F		BT	
3100	Mb	szDmm	4	Roadcut	Mod. slope	3	3	1	75	Grey-brown	2	F		BT	6m exposed section of till
3102	Mb	szDmm	0.2	Roadcut	Gentle slope	1	3	1	70	Brown	2	F		BT	
3103	Mb	szDmm	0.5	Roadcut	Flat	2	1	0	80	Brown	2	Y	Nb?	BT	
3104	Cv/Mb	szDmm	0.6	Pit	Gentle slope	2	3	2	80	Brown-grey	2	F	NVs.	BT	
3105	Mb	szDmm	0.75	Roadcut	Gentle slope	1	2	1	70	Brown	2	F	NVs	BT	Oxidized outcrop nearby
3106	Mb	szDmm	1.5	Roadcut	Gentle slope	2	2	2	85	Orange-brown	1	F	NVs	BT	
3107	Mb	szDmm	0.6	Roadcut	Flat	2	3	1	75	Brown-grey	2	F		BT	
3120	Mb	sDmm	0.5	Pit	Gentle slope	1	1	2	70	Brown	4	Y	NVs	RT	
3127	Cv/Mb	sDmm	0.7	Pit	Ridge top	2	2	0	80	Brown	1	N		RT	
3130	Cv/Mv	sDmm	1	Pit	Ridge side	0	1	3	75	Orange-brown	4	F	NVs	RT	Colluviated till?
3135	sgFG/Mb/sFG	sDmm	0.6	Roadcut	Slope	2	2	1	80	Brown	4	A	TCH	FT	10 m section, mostly FG sediments
3137	Cv/Mb	zsDmm	1.2	Roadcut	Ridge crest	3	3	1	80	Brown	4	Y		BT	
3151	Cv:sgFG/Mb	szDmm	0.7	Pit	Gentle slope	3	3	2	80	Brown-orange	2		Ns,IKs?	BT	Compact diamicton below sand and gravel
3152	Cv:sgFG/Mb	szDmm	2.5	Roadcut	Gentle slope	1	2	2	80	Brown-grey	2	F	Ns,IKs?	BT	Slightly resedimented
3153	Cv/Mb/sgFG	szDmm	2	Roadcut	Mod. slope	3	3	1	70	Grey	2	Y	IKs?	FT	Till overlying sgFG?
3155	Cv/Mb	szDmm	0.8	Roadcut	Gentle slope	2	2	0	75	Grey	2	F		BT	
3156	Mb	szDmm	4	Roadcut	Mod. slope	3	2	0	90	Grey	1	F	Ns?	BT	
3159	Cb:Mb	sDmm	1	Pit	Hill side	1	1	3	80	Orange-brown	2	F	TCH, NVs?	RT	Colluviated till
3162	Cv:Mv	zsDmm	0.9	Roadcut	Ridge crest	2	1	2	80	Brown-black	4	F	LKd?	RT	Colluviated till
3167	LG/Mb	sDmm	1	Pit	Mod. slope	1	1	1	70	Grey-brown	4	F		RT	Sandy and loose
3169	LG/Mb	szDmm	0.7	Pit	Gentle slope	1	2	1	85	Grey	2	N		RT	Loose
3170	LG:Mb	zDmm	0.8	Pit	Ridge top	2	1	1	90	Dark brown	4	F		RT	Lake seds. with till
3171	LG/Mb	zDmm	2.5	Cutbank	Gentle slope	2	2	1	65	Light brown	3	Y		BT	Overlain by 2m of silt and clay
3172	LG/Mb	zDmm	0.5	Pit	Bluff	1	1	2	80	Dark brown	2	F		FT	Possibly a debris flow (occassional silty beds)
3173	LG/Mb	zDmm	0.75	Pit	Mod. slope	3	2	1	85	Brown	2	F		BT	

ID	Map Unit	Sample Medium	Depth (m)	Exp.	Terrain Type	Fis.	Dens.	Ox.	Mtrx. (%)	Color	Mod.	Strt. Clst.	Brx.	Int.	Comments
3068	Mb	zsDmm	0.7	Roadcut	Top of ridge	3	3	2	70	Orange-brown	4	F		BT	Hummocky topography
3069	Mb	zsDmm	0.25	Pit	Flat	3	3	1	75	Grey-brown	2	F		BT	
3070	Mb	zsDmm	0.5	Roadcut	Top of ridge	3	3	2	75	Brown-orange	2	F	LKd	BT	Fluting between two meltwater channels
3071	Mv:Cv	sDmm	1	Roadcut	Top of ridge	1	3	2	60	Brown-grey	1	F	NVs,LKd?	RT	Angular gravelly sample
3072	sFG:Cv/Mb	szDmm	4	Roadcut	Mod. slope	3	3	1	75	Grey	2	F	NVs	BT	
3073	Mbr	szDmm	1	Roadcut	Mod. slope	3	3	0	75	Brown	2	F	LKd	BT	Highly oxidized outcrop nearby
3074	Cv/Mb	szDmm	1.5	Roadcut	Mod. slope	2	2	0	70	Brown	2	F	Nbt,LKd	BT	
3075	Mv	zsDmm	1	Roadcut	Gentle slope	3	1	2	70	Grey-brown	2	F	NVs,LKd	BT	
3076	Mb	szDmm	1.5	Roadcut	Mod. slope	2	1	1	75	Grey-brown	2	F	Nbt,NVs,L	BT	
3077	Mv	zsDmm	0.5	Roadcut	Edge of ridge	2	2	0	70	Brown	2	F	LKd,Nbt	BT	
3078	Mb	szDmm	0.5	Roadcut	Gentle slope	2	2	0	75	Brown	4	F	Nbt	BT	
3079	Mb	szDmm	0.4	Roadcut	Gentle slope	2	2	0	70	Grey-brown	2	Y	Nbt	BT	
3080	Mb	szDmm	0.3	Pit	Flat	3	3	2	80	Brown	2	F		BT	
3082	sFG/Mb	sDmm	0.4	Pit	Gentle slope	1	1	0	65	Beige	4	Y		RT	Poorly drained
3083	FG/Mb	zsDmm	0.4	Roadcut	Flat	1	2	0	65	Brown	4	F		RT	Meltwater channel terrace nearby
3084	FG/Mb	szDmm	0.8	Roadcut	Flat	1	2	1	75	Grey-brown	4	F		BT	
3085	sFG/Mb	szDmm	1.5	Roadcut	Flat	2	2	0	75	Grey-brown	4	Y		BT	Porphyritic
3086	Mb	szDmm	0.5	Roadcut	Top of plateau	1	2	3	75	Orange-brown	1	F		BT	
3087	Mb	szDmm	1.4	Roadcut	Flat	1	2	0	60	Brown-grey	5	A		BT	Bouldery till
3088	Mb	zsDmm	1.9	Roadcut	Flat	1	2	0	70	Grey-brown	2	A		BT	Porphyritic grey andesite nearby
3089	Mb	sDmm	1	Roadcut	Flat	2	2	0	75	Grey-brown	4	Y		BT	
3090	Mb	zsDmm	1.7	Roadcut	Flat ridge	2	3	2	60	Orange-brown	4	Y		BT	
3091	Mb	zsDmm	1.4	Roadcut	Flat	2	2	0	75	Brown	2	A		BT	Occasional sand lenses within till
3092	sFG/Mb	zsDmm	1.1	Roadcut	Gentle slope	3	2	0	70	Brown	4	F		BT	
3093	sFG/Mb	zsDm	1.4	Roadcut	Gentle slope	2	2	0	75	Brown	2	Y		BT	
3094	sFG/Mb	zsDmm	1	Roadcut	Flat	2	2	0	75	Grey-brown	4	Y		BT	Sandy unit over till
3095	Mb	zsDmm	1.3	Roadcut	Top of ridge	3	3	0	70	Brown	4	Y		BT	

Field Observations

ID	Map Unit	Sample Medium	Depth (m)	Exp.	Terrain Type	Fis.	Dens.	Ox.	Mtrx. (%)	Color	Mod.	Strt. Clst.	Brx.	Int.	Comments
3174	LG/Mb	szDmm	0.7	Pit	Bluff	3	2	1	80	Dark brown	2	Y		BT	
3175	LG/Mb	zDmm	2	Pit	Bluff	1	2	1	75	Brown-grey	2	F		RT	Loose, roots abundant
3176	LG/Mb	zDmm	2	Roadcut	Flat	1	1	0	85	Grey	2	Y		RT	Loose diamict with LG sediments nearby
3177	Mb	zsDmm	0.6	Pit	Hummocky	2	2	0	80	Brown-grey	3	Y		BT	
3178	Mb	zsDmm	1	Roadcut	Hummocky	2	2	0	80	Grey	2	Y		BT	
3180	Mb	szDmm	0.7	Pit	Flat	3	2	0	80	Grey	2	Y		BT	
3207	Mb	zsDmm	0.7	Pit	Mod. slope	1	2	1	80	Brown-grey	2	Y		BT	Wet and sandy
3208	Mb	zsDmm	0.7	Roadcut	Flat	1	2	1	80	Dark-brown	4	A		BT	
3209	Mb	sDmm	3	Roadcut	Ridge	3	3	2	80	Dark brown-grey	4	A		BT	
3210	Mb	zsDmm	1.9	Roadcut	Ridge top	1	2	2	75	Dark grey-brown	4	Y		BT	
3211	Mb/LG	zsDmm	1.5	Roadcut	Ridge top	2	3	2	70	Light brown	4	Y		FT	Underlain by silts, possibly a debris flow?
3214	LG/Mb	zsDmm	2.3	Cutbank	Ridge	3	3	2	80	Dark brown	4	A	EOE?	BT	
3215	Mb/FG	sDmm	1.5	Cutbank	Knoll	2	1	1	60	Light grey	5	Y	EOE?	RT	7m exposure, includes lenses of sand and gravel
3216	Mb	sDmm	2	Cutbank	Base of slope	2	2	1	85	Light brown	3	A		RT	
3217	Mb	zsDmm	4	Cutbank	Mod. slope	2	2	0	75	Grey-brown	3	Y	EOE?	FT	Sand lenses present, possibly a debris flow?
3218	sFG/Mb	sDmm	1.2	Pit	Gentle slope	1	2	1	60	Brown-grey	2	F		RT	
3219	Mb:LG	sDmm	0.4	Pit	Flat	1	2	0	75	Grey	4	F		RT	
3220	Mb	sDmm	0.7	Pit	Gentle slope	2	2	1	75	Grey	3	F		BT	Siltstone outcrop nearby
3222	CV/Mb	zsDmm	0.5	Pit	Gentle slope	1	1	2	75	Brown	4	F		RT	Loose
3223	sgFG/Mb	sDmm	0.7	Pit	Slope	1	1	2	75	Orange-brown	2	F		RT	Colluviated till? Siltstone nearby
3224	Cv/Mb	sDmm	0.8	Pit	Gentle slope	1	2	2	70	Orange-grey	2	F		RT	Colluviated till
3225	Mb	zsDmm	1.1	Roadcut	Hummocky	2	2	0	80	Brown	2	A		BT	
3226	Mb:LG	zDmm	0.7	Pit	Flat	1	1	0	80	Grey	3	N		FT	Debris flow?
3227	LG:Mb	zDmm	0.7	Roadcut	Flat	1	2	1	80	Grey	2	N		RT	Possibly LG with abundant dropstones
3228	LG/Mb	zDmm	0.7	Roadcut	Ridge top	2	2	1	85	Grey	2	N		BT	LG underlain by silty diamicton
3229	LG:Mb	zDmm	0.7	Roadcut	Gentle slope	2	2	1	90	Grey-brown	2	N		RT	Remobilised or waterlain till
3230	LG:Mb	zDmm	0.6	Roadcut	Gentle slope	1	2	1	90	Grey	3	N		RT	Remobilised or waterlain till

Field Observations

ID	Map Unit	Sample Medium	Depth (m)	Exp.	Terrain Type	Fis.	Dens.	Ox.	Mtrx. (%)	Color	Mod.	Strt. Clst.	Brx.	Int.	Comments
3231	Mb	szDmm	0.4	Pit	Ridged	2	2	1	85	Grey	2	N		BT	
3232	sgFG/Mb	sDmm	4	Cutbank	MW ridge	0	2	1	75	Brown	3	Y		RT	Reworked till at base of meltwater channel
3233	sgFG/Mb	zsDmm	1	Roadcut	Mod. slope	2	2	0	85	Brown-grey	2	N		BT	
3234	LG/Mb	sDmm	0.75	Pit	Gently rolling	2	2	1	85	Brown	2	F		RT	Slightly laminated, possibly waterlain till
3240	Mb	zsDmm	0.85	Pit	Gentle slope	2	3	2	60	Grey-brown	4	Y	Nb	BT	Compact till overlain by resedimented till
3242	Mb	zsDmm	0.8	Pit	Base of slope	1	3	2	60	Grey	4	A		BT	
3243	Ov/Mb	cszDmm	0.8	Pit	Gentle slope	1	2	1	80	Orange-brown	4	F	Nb	BT	
3244	Mb	szDmm	0.75	Pit	Slope	3	2	0	80	Light brown	4	Y	IKs?	BT	
AVG.			1.30			1.8	2.1	1.1	75.9		3.1				

ICP Analytical Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3002	1.2	1.48	37	2	247	0.63	0.3	13	25	355	5.71	0.44	1.01	206	8	0.01	24	0.139	55	57	0.13	97	95
3003	0.1	1.64	5	3	95	0.58	0.2	8	29	29	3.39	0.09	0.35	347	1	0.03	30	0.047	11	58	0.15	74	51
3004	0.2	1.75	4	2	117	0.8	0.3	9	30	29	3.56	0.1	0.52	405	1	0.05	36	0.069	11	85	0.13	77	70
3005	0.2	1.76	10	3	113	0.9	0.3	10	27	29	3.55	0.09	0.55	465	1	0.07	36	0.072	6	91	0.13	76	68
3006	0.2	1.68	6	2	114	0.78	0.2	10	30	30	3.64	0.13	0.96	521	1	0.05	36	0.068	8	62	0.14	76	69
3007	0.2	1.71	3	4	86	1.67	0.2	15	46	30	3.73	0.16	1.09	696	1	0.04	64	0.064	8	71	0.12	71	84
3008	0.2	1.22	5	3	140	0.71	0.3	12	26	26	3.47	0.13	0.45	660	1	0.05	23	0.076	11	53	0.12	73	61
3009	0.1	1.23	16	3	189	2.35	0.4	17	20	30	3.91	0.09	0.42	1129	2	0.04	30	0.078	9	75	0.11	69	87
3010	0.3	1.89	29	4	282	0.94	0.6	14	15	40	4.93	0.12	0.5	1094	2	0.04	26	0.069	10	61	0.07	86	96
3011	0.2	1.09	20	3	191	3.14	0.3	8	14	28	3.65	0.1	0.37	546	2	0.03	16	0.074	3	79	0.09	62	81
3012	0.1	1.41	19	3	191	0.59	0.2	9	20	39	3.87	0.08	0.33	650	2	0.02	25	0.069	6	40	0.11	68	89
3013	0.2	1.44	20	5	198	1.35	0.5	10	20	41	3.68	0.1	0.4	539	2	0.03	30	0.067	6	46	0.07	60	106
3014	0.1	1.15	14	3	208	1.51	0.4	10	21	32	3.05	0.11	0.46	534	2	0.03	30	0.063	5	63	0.08	54	84
3016	0.2	1.56	14	4	246	0.65	0.3	12	27	39	3.54	0.12	0.49	679	1	0.03	43	0.069	7	48	0.1	64	95
3017	0.1	1.69	5	2	190	0.35	0.2	7	25	27	2.29	0.05	0.4	235	1	0.02	27	0.047	9	27	0.09	48	64
3018	0.2	1.65	16	4	168	0.54	0.2	10	26	42	3.48	0.11	0.44	606	2	0.02	33	0.076	11	42	0.13	69	83
3019	0.1	2.05	15	3	191	1.06	0.2	14	20	52	4.2	0.16	0.95	831	3	0.06	26	0.082	11	74	0.17	92	85
3020	0.2	1.21	11	2	144	0.85	0.2	12	21	41	3.63	0.1	0.44	703	1	0.04	17	0.081	9	56	0.13	85	72
3022	0.1	1.32	3	2	93	0.57	0.2	6	23	16	2.8	0.07	0.32	320	1	0.03	16	0.051	5	41	0.17	69	42
3023	0.1	1.13	6	4	88	1.05	0.2	9	20	24	2.88	0.08	0.37	549	1	0.04	21	0.063	6	53	0.13	64	55
3024	0.2	1.19	5	4	94	1.11	0.2	10	24	23	3.07	0.08	0.4	601	1	0.04	22	0.067	9	56	0.14	67	58
3025	0.1	0.97	7	3	83	0.59	0.2	7	20	18	2.56	0.05	0.29	373	1	0.04	17	0.059	6	45	0.12	60	46
3027	0.1	1.3	6	2	101	0.58	0.2	8	28	25	3.32	0.07	0.34	383	1	0.03	24	0.064	7	45	0.14	74	55
3028	0.4	1.53	14	2	117	1.03	0.2	13	27	33	3.74	0.12	0.49	700	1	0.05	32	0.07	11	49	0.14	78	87
3029	0.2	2.14	16	2	138	0.71	0.2	11	25	42	4.04	0.13	0.91	590	1	0.04	22	0.073	14	51	0.16	90	82

ICP Analytical Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3030	0.2	1.7	18	3	144	0.73	0.2	11	28	30	3.72	0.09	0.46	693	1	0.06	26	0.07	14	59	0.17	83	79
3031	0.2	1.39	5	2	101	0.72	0.2	9	24	21	3.26	0.09	0.37	571	1	0.05	19	0.072	8	64	0.18	76	59
3032	0.2	1.7	3	2	143	0.46	0.2	8	33	14	3.04	0.12	0.37	346	1	0.01	38	0.037	5	52	0.18	73	75
3033	0.1	1.52	8	3	76	0.49	0.2	8	29	17	3.39	0.09	0.47	432	1	0.02	29	0.046	11	47	0.18	77	56
3034	0.2	1.75	5	6	116	0.81	0.2	13	31	32	3.62	0.12	0.86	896	1	0.06	49	0.065	9	69	0.14	77	76
3035	0.4	1.79	10	2	209	0.81	0.2	11	25	37	3.91	0.14	0.87	600	1	0.05	50	0.062	8	55	0.1	75	88
3036	0.3	1.38	11	3	157	0.65	0.2	10	18	31	3.76	0.13	0.45	745	1	0.05	27	0.075	15	45	0.13	74	86
3037	0.3	1.65	5	2	128	0.73	0.2	8	25	24	3.51	0.07	0.46	484	1	0.07	27	0.068	6	62	0.15	77	59
3038	0.1	1.1	5	3	103	0.59	0.2	8	20	22	3.41	0.09	0.34	581	1	0.05	17	0.068	7	44	0.15	74	55
3039	0.1	1.19	12	2	103	0.6	0.2	8	16	26	3.34	0.09	0.34	475	1	0.04	13	0.074	12	43	0.15	69	59
3042	0.1	1.03	3	2	68	0.61	0.2	6	24	11	2.91	0.06	0.23	363	1	0.05	14	0.069	3	60	0.2	74	40
3043	0.1	1.15	4	2	91	0.69	0.2	8	22	19	2.95	0.07	0.29	495	1	0.05	17	0.082	9	71	0.18	71	51
3044	0.1	1.17	5	2	133	0.53	0.2	6	25	16	2.83	0.06	0.25	345	1	0.02	14	0.08	6	61	0.19	77	38
3045	0.2	1.2	7	2	146	0.67	0.2	9	27	22	3.1	0.12	0.34	554	1	0.04	23	0.081	9	54	0.19	79	56
3046	0.3	2.31	51	2	214	0.75	0.2	14	23	48	4.37	0.26	1.15	786	1	0.03	24	0.071	7	57	0.19	106	107
3047	0.4	2.23	53	3	199	0.73	0.2	14	23	49	4.26	0.17	1.01	809	1	0.03	25	0.067	14	58	0.18	101	105
3048	0.3	1.9	9	2	138	0.68	0.2	12	19	34	3.46	0.12	0.92	585	1	0.02	18	0.051	8	40	0.2	91	83
3049	0.4	2.4	119	2	267	0.75	0.2	21	18	140	5.42	0.73	1.12	675	2	0.08	19	0.085	9	55	0.24	140	109
3051	0.1	1.95	26	2	294	0.7	0.2	10	22	32	3.33	0.26	0.98	479	1	0.03	20	0.103	9	61	0.22	85	65
3052	0.3	1.64	2	2	234	0.55	0.2	8	27	21	3.02	0.2	0.4	373	1	0.02	22	0.089	2	55	0.21	78	49
3053	0.1	1.76	6	3	79	0.39	0.2	9	22	15	3.05	0.05	0.25	295	1	0.02	13	0.055	7	31	0.16	72	32
3054	0.1	1.77	2	3	97	0.49	0.2	8	20	19	2.58	0.08	0.37	327	1	0.02	15	0.057	8	33	0.16	64	38
3055	0.2	1.3	4	2	120	0.64	0.2	8	20	25	3.42	0.1	0.36	516	1	0.05	17	0.071	5	48	0.15	74	63
3056	0.2	1.34	5	3	167	1.34	0.3	11	22	34	3.75	0.13	0.53	654	1	0.05	29	0.07	7	64	0.12	74	77
3057	0.1	1.92	9	3	161	0.75	0.2	11	33	39	3.96	0.14	0.53	598	1	0.05	42	0.069	9	49	0.14	84	82

ICP Analytical Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3058	0.1	1.68	15	2	126	0.44	0.3	8	29	29	3.41	0.08	0.42	382	1	0.03	25	0.037	9	56	0.19	83	63
3059	0.1	1.79	5	3	127	0.31	0.3	7	23	24	2.84	0.05	0.32	281	1	0.02	16	0.041	7	26	0.16	68	89
3060	0.2	1.72	10	2	132	0.61	0.2	9	27	31	3.69	0.13	0.41	495	1	0.04	29	0.067	8	47	0.14	80	75
3062	0.2	2.01	11	3	187	0.5	0.2	9	35	38	3.71	0.09	0.38	345	1	0.03	26	0.056	10	52	0.12	79	107
3063	0.2	1.27	11	3	155	1.56	0.2	10	25	35	3.52	0.11	0.39	549	2	0.05	30	0.067	9	84	0.1	67	125
3064	0.1	1.39	6	3	114	0.34	0.2	7	25	20	2.34	0.04	0.36	259	1	0.01	29	0.029	10	30	0.1	47	73
3065	0.1	1.36	5	3	91	0.37	0.2	6	23	17	2.3	0.05	0.36	242	2	0.01	28	0.052	8	24	0.1	46	98
3067	0.1	1.34	9	2	88	0.37	0.2	7	24	15	2.35	0.05	0.36	244	2	0.01	27	0.055	8	24	0.1	46	91
3068	0.2	1.45	48	2	215	0.74	0.5	14	18	43	4.48	0.1	0.36	1156	4	0.03	29	0.083	10	42	0.08	68	143
3069	0.2	1.88	22	2	272	0.78	0.2	11	20	45	4.41	0.11	0.46	698	3	0.03	30	0.078	11	48	0.09	72	140
3070	0.1	1.47	8	2	181	0.48	0.2	6	13	17	2.75	0.07	0.37	389	1	0.02	12	0.053	10	27	0.09	57	54
3071	0.2	1.73	31	2	188	0.38	0.5	11	26	46	3.73	0.09	0.38	692	5	0.02	43	0.069	12	36	0.1	59	148
3072	0.1	1.54	11	3	180	0.58	0.8	14	27	41	3.73	0.11	0.43	674	5	0.03	50	0.074	7	51	0.11	62	145
3073	0.3	1.52	29	2	195	1.38	1.3	15	22	50	4.34	0.15	0.4	848	10	0.02	54	0.076	13	67	0.06	59	250
3074	0.3	2.3	18	2	189	0.8	0.6	13	25	52	4.6	0.11	0.49	875	5	0.02	39	0.082	8	49	0.13	75	167
3075	0.1	1.52	26	2	128	0.54	0.2	11	25	35	3.94	0.1	0.4	696	7	0.02	39	0.083	11	38	0.1	60	151
3076	0.3	2.04	26	3	221	0.66	0.2	13	26	56	4.75	0.13	0.45	765	6	0.03	48	0.074	12	46	0.09	71	195
3077	0.2	1.97	14	2	149	0.55	0.2	10	23	38	3.9	0.07	0.45	452	3	0.02	35	0.06	9	43	0.13	64	103
3078	0.3	1.99	18	2	228	0.82	0.2	11	23	44	4.21	0.11	0.48	734	4	0.03	34	0.073	11	50	0.12	74	117
3079	0.4	1.63	17	2	185	1.33	0.3	11	20	36	3.74	0.11	0.48	752	3	0.04	28	0.08	8	64	0.12	68	114
3080	0.2	2.48	8	2	332	0.74	0.2	13	20	41	4.95	0.13	0.91	858	2	0.02	26	0.051	11	51	0.12	87	101
3082	0.1	1.38	3	2	74	0.38	0.2	4	22	13	1.85	0.05	0.2	197	1	0.02	10	0.032	9	32	0.22	48	25
3083	0.1	1.81	4	2	100	0.49	0.2	8	34	22	3.55	0.09	0.37	370	1	0.03	20	0.048	7	51	0.22	80	57
3084	0.1	1.72	5	2	147	0.73	0.2	8	28	29	3.39	0.11	0.43	386	1	0.06	22	0.064	10	78	0.16	74	65
3085	0.2	1.56	4	2	207	0.94	0.2	12	23	35	3.13	0.11	0.44	607	1	0.05	29	0.062	9	98	0.1	68	65

ICP Analytical Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3086	0.2	3.7	2	2	159	1.51	0.2	14	28	57	4.56	0.12	1.58	503	1	0.06	31	0.078	5	194	0.22	123	56
3087	0.1	1.96	4	2	190	0.73	0.2	11	23	30	3.4	0.32	0.85	661	1	0.05	27	0.063	6	65	0.17	83	65
3088	0.2	1.6	2	2	167	0.88	0.2	10	25	29	3.2	0.12	0.45	613	1	0.05	27	0.068	7	83	0.14	78	56
3089	0.1	1.65	2	2	189	0.77	0.2	10	27	28	3.21	0.11	0.35	492	1	0.04	24	0.072	10	68	0.13	71	59
3090	0.4	1.8	2	2	312	1.75	0.2	12	31	39	3.7	0.11	0.52	409	1	0.05	56	0.046	10	109	0.05	70	78
3091	0.1	1.36	11	2	692	0.88	0.2	11	32	25	3.53	0.1	0.47	557	1	0.06	31	0.098	8	82	0.17	84	67
3092	0.1	1.47	10	2	266	0.61	0.2	11	27	31	3.46	0.11	0.42	636	1	0.05	34	0.066	12	65	0.13	74	74
3093	0.2	1.64	8	2	241	1.13	0.2	12	28	36	3.31	0.15	0.61	680	1	0.06	45	0.066	11	77	0.1	73	80
3094	0.1	1.41	3	2	133	0.64	0.2	9	27	21	3.29	0.09	0.34	576	1	0.05	17	0.071	7	65	0.17	76	60
3095	0.2	1.43	4	2	165	1.1	0.2	11	25	28	3.41	0.12	0.49	644	1	0.06	24	0.081	5	82	0.16	76	68
3097	0.2	1.29	7	4	153	0.98	0.2	10	25	26	3.23	0.11	0.41	593	1	0.06	23	0.071	9	78	0.15	73	64
3098	0.3	1.37	3	3	186	0.62	0.2	10	34	32	3.72	0.09	0.32	474	1	0.04	31	0.067	3	57	0.13	80	64
3099	0.2	1.51	9	4	131	0.68	0.2	11	24	30	3.43	0.12	0.4	693	1	0.05	20	0.075	10	71	0.15	74	65
3100	0.1	1.26	9	4	210	0.8	0.2	13	23	25	3.13	0.12	0.33	1112	1	0.05	29	0.067	11	66	0.13	69	66
3102	0.3	1.79	10	3	200	0.58	0.2	9	21	29	3.71	0.1	0.41	532	1	0.02	17	0.068	11	40	0.15	76	74
3103	0.4	1.49	12	4	250	0.76	0.2	11	24	32	3.81	0.08	0.36	773	1	0.05	23	0.074	11	68	0.15	79	80
3104	0.1	1.76	10	2	151	0.38	0.2	9	26	24	3.05	0.14	0.42	344	4	0.02	17	0.046	7	36	0.22	83	55
3105	0.2	1.66	16	2	135	0.95	0.2	14	17	65	4.35	0.16	0.9	1059	5	0.07	19	0.085	7	62	0.21	88	79
3106	0.1	1.73	10	2	184	0.79	0.2	11	23	39	3.67	0.15	0.62	621	1	0.06	21	0.082	11	69	0.21	85	74
3107	0.4	1.98	10	3	291	1.34	0.2	14	19	59	4.54	0.17	1.02	1015	2	0.06	20	0.098	7	89	0.14	93	91
3120	0.3	1.78	34	2	141	0.41	0.3	10	25	27	3.33	0.25	0.59	500	1	0.02	21	0.063	26	36	0.21	84	101
3127	0.2	1	15	2	103	0.4	0.2	8	22	128	3.14	0.09	0.3	321	3	0.02	13	0.051	20	32	0.18	74	57
3130	0.1	3.57	8	2	222	0.24	0.2	13	18	76	4.48	0.15	1.4	636	3	0.02	16	0.059	15	32	0.25	121	204
3135	0.2	1.23	10	2	158	0.62	0.2	10	25	22	2.96	0.15	0.38	543	1	0.05	22	0.088	8	59	0.18	79	55
3136	0.2	1.28	10	2	160	0.63	0.2	10	27	26	3.06	0.16	0.39	564	1	0.05	22	0.087	6	60	0.18	80	57

ICP Analytical Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3137	0.1	2.1	13	2	224	0.52	0.2	11	26	58	4.3	0.29	0.6	829	4	0.03	30	0.058	13	52	0.17	89	110
3151	0.3	2.35	11	2	267	0.32	0.5	13	42	62	3.43	0.1	0.91	462	1	0.01	90	0.054	12	29	0.11	59	151
3152	0.5	2.25	8	2	280	0.65	0.4	15	48	61	3.88	0.18	1	604	1	0.03	80	0.068	10	64	0.11	69	119
3153	0.2	1.54	11	2	190	0.54	0.2	13	31	40	3.33	0.08	0.39	670	1	0.02	41	0.064	7	43	0.14	69	87
3154	0.3	1.59	10	5	194	0.55	0.2	11	31	44	3.39	0.08	0.4	615	1	0.02	42	0.066	8	44	0.13	69	87
3155	0.3	1.83	16	3	195	0.51	0.4	11	29	48	3.91	0.11	0.44	679	4	0.03	42	0.06	9	51	0.14	69	139
3156	0.2	1.18	9	2	249	0.52	0.2	9	24	33	2.85	0.06	0.34	483	1	0.03	37	0.063	8	48	0.12	57	73
3159	0.2	3.7	8	2	244	0.27	0.2	10	18	58	4.91	0.45	2.2	887	4	0.02	12	0.07	11	45	0.25	131	117
3162	0.2	2.01	7	2	132	0.64	0.2	9	24	53	3.6	0.1	0.47	415	1	0.03	17	0.042	28	53	0.16	83	66
3167	0.1	1.76	5	2	80	0.53	0.2	8	25	19	3.3	0.09	0.36	340	1	0.03	17	0.054	4	54	0.2	80	50
3169	0.1	1.26	4	2	71	0.5	0.2	7	21	13	2.92	0.06	0.25	336	1	0.02	13	0.073	3	40	0.21	74	47
3170	0.1	1.27	4	3	88	0.8	0.2	8	21	19	3.28	0.06	0.36	456	1	0.06	13	0.071	8	61	0.21	79	50
3171	0.1	1.28	7	2	83	1.24	0.2	10	23	26	3.39	0.07	0.5	710	1	0.07	18	0.086	9	76	0.2	81	59
3172	0.1	1.4	5	3	110	1.71	0.2	10	23	30	3.34	0.08	0.56	612	1	0.06	18	0.081	6	87	0.19	76	60
3173	0.1	1.59	4	2	128	1.19	0.2	13	23	35	3.43	0.18	0.71	1074	1	0.06	26	0.086	10	78	0.18	76	66
3174	0.2	1.83	6	3	137	1.7	0.2	13	25	34	3.6	0.13	1.1	795	1	0.06	26	0.077	11	107	0.16	76	77
3175	0.2	1.97	6	2	143	0.84	0.2	13	26	44	3.64	0.1	0.93	710	1	0.08	28	0.068	11	74	0.16	77	70
3176	0.1	1.55	9	2	106	0.64	0.2	8	28	21	3.06	0.06	0.32	409	1	0.04	19	0.068	8	62	0.18	73	53
3177	0.1	1.4	2	2	89	0.52	0.2	7	30	18	3.23	0.05	0.28	385	1	0.03	16	0.06	5	56	0.23	80	46
3178	0.1	1.25	4	2	89	0.64	0.2	7	26	18	3.07	0.06	0.26	408	1	0.04	15	0.084	6	63	0.21	76	48
3179	0.1	1.25	5	2	89	0.65	0.2	7	26	17	3.1	0.06	0.27	419	1	0.04	15	0.085	6	63	0.21	76	49
3180	0.1	1.32	2	2	109	0.66	0.2	7	26	20	3.12	0.07	0.31	414	1	0.05	18	0.071	4	67	0.19	76	50
3207	0.1	1.15	4	2	129	0.58	0.2	6	22	17	2.48	0.14	0.3	325	13	0.03	13	0.09	7	35	0.2	72	37
3208	0.1	1.48	5	2	102	0.59	0.2	7	27	19	3.29	0.08	0.33	350	1	0.04	20	0.071	8	54	0.19	78	53
3209	0.1	1.43	4	2	116	0.76	0.2	10	25	21	3.48	0.1	0.41	631	1	0.05	22	0.08	10	63	0.18	80	66

ICP Analytical Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg			Na	Ni	P	Pb	Sr	Ti	V	Z
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3210	0.1	1.36	3	2	103	0.69	0.2	9	26	21	3.28	0.09	0.37	463	1	0.05	20	0.072	7	57	0.17	78	58
3211	0.1	1.55	5	2	113	1.22	0.2	11	25	27	3.43	0.1	0.52	746	1	0.07	27	0.074	10	70	0.16	79	67
3214	0.1	1.3	4	3	148	0.66	0.3	11	20	21	3.02	0.13	0.34	684	1	0.06	22	0.069	4	62	0.14	66	61
3215	0.1	1.02	6	2	193	0.67	0.2	9	19	19	3.05	0.06	0.28	456	1	0.06	15	0.084	7	66	0.15	67	55
3216	0.1	1.39	4	2	105	0.77	0.4	10	22	24	3.38	0.08	0.47	633	1	0.07	18	0.073	6	77	0.17	77	59
3217	0.1	1.58	2	4	132	1.21	0.2	12	27	28	3.24	0.17	0.89	582	1	0.06	34	0.063	8	80	0.14	73	70
3218	0.1	1.41	12	2	178	0.34	0.3	8	28	28	2.81	0.05	0.31	353	1	0.01	31	0.065	8	26	0.12	58	68
3219	0.1	1.06	4	2	90	0.28	0.2	4	20	15	1.48	0.04	0.25	160	1	0.01	20	0.049	4	18	0.11	34	38
3220	0.1	1.4	6	2	139	0.29	0.2	6	28	23	2.18	0.04	0.38	235	1	0.01	38	0.031	10	23	0.12	46	64
3222	0.1	2.09	3	2	183	0.25	0.2	8	35	30	2.77	0.05	0.65	257	1	0.01	48	0.039	10	20	0.12	56	98
3223	0.2	2.54	6	2	209	0.25	0.2	11	38	37	2.88	0.04	0.65	233	1	0.01	56	0.049	10	18	0.12	60	71
3224	0.1	2.02	9	2	217	0.22	0.2	13	35	30	3.32	0.06	0.45	315	1	0.01	46	0.058	8	18	0.11	67	102
3225	0.2	1.54	15	2	206	0.54	0.5	11	28	38	3.3	0.1	0.42	529	2	0.03	43	0.066	9	40	0.1	60	92
3226	0.1	1.21	2	2	58	0.42	0.2	6	23	11	3	0.07	0.24	305	1	0.02	11	0.046	7	34	0.21	80	42
3227	0.1	1.52	8	2	85	0.59	0.2	9	29	26	3.34	0.13	0.37	470	1	0.03	18	0.078	7	48	0.17	77	57
3228	0.1	1.73	8	2	109	0.63	0.2	10	26	27	3.5	0.08	0.42	614	1	0.04	21	0.067	8	60	0.16	77	66
3229	0.1	1.19	3	2	77	0.5	0.2	6	24	15	2.84	0.05	0.25	361	1	0.03	13	0.051	7	45	0.19	70	41
3230	0.1	0.92	5	2	85	0.63	0.2	7	19	15	2.8	0.05	0.26	405	1	0.05	13	0.075	6	55	0.18	73	46
3231	0.1	1.85	6	2	69	0.32	0.2	8	22	20	2.38	0.05	0.51	242	1	0.01	22	0.049	13	23	0.1	53	60
3232	0.1	1.59	18	3	88	0.41	0.2	11	25	31	3.52	0.08	0.65	484	1	0.01	27	0.072	8	34	0.15	83	61
3233	0.1	1.33	6	2	76	0.6	0.2	7	23	23	3.06	0.06	0.28	355	1	0.04	15	0.056	7	53	0.17	73	47
3234	0.1	1.71	6	2	145	0.4	0.2	6	22	21	2.19	0.07	0.3	289	1	0.02	20	0.059	8	33	0.16	54	47
3240	0.1	2.59	19	2	104	0.42	0.2	13	28	40	3.98	0.06	0.82	538	1	0.01	21	0.07	15	31	0.18	86	78
3242	0.1	1.73	15	2	95	0.3	0.2	12	32	32	3.41	0.05	0.38	442	1	0.01	49	0.083	9	21	0.12	63	72
3243	0.1	1.7	6	2	113	0.62	0.2	8	28	21	3.15	0.06	0.45	342	1	0.02	16	0.068	10	41	0.19	74	56
3244	0.1	1.35	12	2	82	0.46	0.2	11	28	26	3.37	0.01	0.39	464	1	0.01	39	0.031	9	28	0.11	59	61

INA Analytical Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3002	18	1.9	84	3	1.7	8	37	0.36	29	70	4.8	14	6.2	8.3	3	2
3003	5	0.5	49	2	1.6	6	23	0.57	22	66	1.2	16	5.3	5.8	2.4	3.5
3004	16	0.5	48	4	1.5	6	22	0.65	16	87	1.3	17	5.1	5.7	1.9	3.2
3005	10	0.5	43	2	1.4	5	20	0.51	11	25	1.1	16	4.3	5.5	1	3.1
3006	8	0.5	44	3	1.4	5	20	0.53	19	27	1.1	16	4.7	5.4	1.1	3.4
3007	3	0.5	44	2	1.2	5	19	0.51	9	25	1.2	15	4.2	4.9	1.3	3.1
3008	3	0.5	51	1	1.5	5	24	0.54	22	74	1.4	14	4.8	4.6	1.3	3
3009	10	0.5	49	1	1.4	6	20	0.46	22	50	2.7	14	4.5	4.5	1.3	3.2
3010	3	2.6	50	4	1.8	6	23	0.65	31	32	3.1	20	5.5	4.8	2.3	4.1
3011	8	1.8	46	1	1.4	5	20	0.56	18	31	3.4	14	4.7	4.2	1.4	3.2
3012	8	0.5	52	1	1.8	6	24	0.63	24	73	3.8	18	5.9	4	2.4	4
3013	1	2.3	41	4	1.5	5	19	0.54	18	49	5.5	18	4.6	4.7	2.4	3.3
3014	3	0.5	45	3	1.3	5	20	0.46	13	35	4	15	4.2	3.6	1.5	3
3016	12	1.1	49	3	1.4	5	21	0.51	16	30	2.8	15	4.4	4.7	2.7	3.1
3017	1	0.5	43	1	1.2	5	20	0.42	22	37	1.4	13	4	4.6	1.5	2.7
3018	8	2.1	46	1	1.3	5	20	0.5	20	29	2.3	14	4.6	4.3	2.5	3.1
3019	1	0.5	43	2	1.4	4	20	0.43	19	84	1.8	17	4.5	5.5	1.7	3
3020	1	0.5	45	5	1.4	6	21	0.46	19	67	5.6	17	4.4	4	2.1	2.6
3022	1	2.3	46	1	1.4	6	22	0.52	22	40	1.2	14	4.5	4.9	2.2	3.3
3023	5	0.5	46	2	1.4	6	22	0.49	19	68	1.3	14	4.4	4.6	1.5	2.7
3024	1	0.5	48	3	1.4	6	22	0.47	19	68	1.2	14	4.4	4.8	1.5	2.4
3025	1	0.5	48	2	1.5	6	22	0.49	19	57	1.4	14	4.6	5	1.7	2.6
3027	2	1.8	48	2	1.6	7	23	0.56	20	69	1.4	16	4.9	4.7	2.8	2.8
3028	6	0.5	54	2	1.7	6	24	0.62	21	62	2.1	19	5.4	6.2	1.5	3.1
3029	7	1.3	42	4	1.5	5	21	0.56	21	62	1.9	18	4.7	4.4	1.7	3.5

INA Analytical Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	[redacted]
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3030	6	0.5	51	3	1.5	6	23	0.55	20	55	1.5	16	4.9	4.9	2	3.3
3031	1	0.5	57	2	1.5	6	24	0.54	23	58	1.3	15	5	5.1	1.1	3.4
3032	1	0.5	52	1	1.3	7	24	0.54	16	30	0.9	16	4.3	5.7	2.4	3.3
3033	5	2.1	54	2	1.3	6	23	0.51	14	87	1.4	15	4.5	5.6	1.3	3.1
3034	3	0.5	48	2	1.3	6	21	0.57	18	62	1.1	16	4.5	5.5	1.9	3.4
3035	6	0.5	52	5	1.6	6	24	0.69	23	83	1.9	20	5.5	6.5	1.8	4.3
3036	6	0.5	42	2	1.3	5	21	0.5	21	74	2	15	4.4	5.4	1.8	3.3
3037	1	0.5	44	2	1.3	5	20	0.51	19	58	1.3	14	4.3	4.4	1.7	3
3038	1	0.5	47	2	1.4	5	20	0.48	17	66	1.7	14	4.3	5	1.8	3.2
3039	7	0.5	45	2	1.4	4	20	0.48	16	53	1.8	13	4.3	4.6	2.2	3.2
3042	1	0.5	45	1	1.2	6	21	0.46	19	50	0.9	11	3.9	4.3	2	2.6
3043	1	0.5	52	2	1.6	7	25	0.5	21	49	1.3	14	5.3	5	2	3.5
3044	1	0.5	52	1	1.6	7	25	0.48	20	44	1.4	14	5	5.4	3.2	3
3045	1	0.5	45	1	1.4	6	23	0.45	16	66	1.7	13	4.3	4.6	1.8	2.7
3046	1	0.5	38	3	1.5	7	22	0.45	19	30	7	20	4.9	5.1	1.7	3.6
3047	11	0.5	50	2	1.7	6	23	0.61	18	68	6.8	20	5.5	5.3	1.9	4.1
3048	5	2.9	47	2	1.7	6	22	0.61	17	45	2.5	19	5.2	4.5	1.3	3.8
3049	17	0.5	41	5	1.5	5	19	0.59	17	73	5.8	23	4.6	4.7	1.5	3.7
3051	6	0.5	63	2	1.8	5	31	0.47	22	54	1.8	16	5.6	9	2.1	2.7
3052	8	1.5	63	1	1.5	7	30	0.45	26	50	1.3	13	5.2	5.7	2.3	2.5
3053	1	4.3	43	1	1.2	6	19	0.46	17	64	1.2	12	3.8	4.4	1.5	2.7
3054	1	2.6	44	2	1.2	7	20	0.49	20	52	1.1	14	3.9	4.9	2.1	2.9
3055	1	0.5	49	2	1.5	6	23	0.53	20	61	1.8	16	4.7	5.7	2	3.5
3056	4	0.5	43	2	1.5	6	21	0.58	17	38	1.7	16	4.5	4.9	2.5	3.6
3057	8	3.7	51	2	1.6	6	24	0.72	22	67	2.2	19	5.6	6.8	2.4	4.2

INA Analytical Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3058	1	0.5	49	2	1.2	5	20	0.44	14	60	1.7	13	3.8	3.7	1.6	2.8
3059	6	0.5	45	2	1.1	6	19	0.43	18	44	1.5	13	3.6	4.5	2.3	2.9
3060	10	0.5	44	2	1.4	6	22	0.55	20	55	1.8	15	4.6	5.2	2.3	3.5
3062	4	0.5	43	3	1.4	5	21	0.48	19	44	1.5	17	4.8	4.8	1.5	3.2
3063	6	3	44	3	1.3	6	21	0.55	16	61	1.8	16	4.5	5.3	2.5	3.4
3064	7	2.2	42	2	1.2	5	20	0.42	17	54	1.8	11	3.6	4.4	2.2	2.7
3065	13	2	55	3	1.3	6	22	0.5	15	61	2.5	13	4.5	4.8	2.7	3
3067	8	2.6	45	2	1.1	5	21	0.45	15	51	2.3	12	3.9	4.3	2.1	2.6
3068	3	1.4	46	6	1.5	5	20	0.59	22	49	7.1	17	4.8	4.1	1.6	3.7
3069	6	2	45	6	1.5	5	24	0.64	26	57	6.9	18	5.6	5.6	2.2	4
3070	1	1.4	40	2	1.1	5	20	0.49	16	36	2.6	11	4.1	4	1.6	2.8
3071	7	1.5	67	4	1.6	6	28	0.57	26	52	8.2	14	6.3	6.2	2.5	3.7
3072	1	0.5	46	3	1.2	5	22	0.48	18	56	3.1	14	4.6	5.5	1.9	3.1
3073	1	0.5	48	5	1.4	5	23	0.68	18	45	8.3	16	5.2	5.5	3.7	4
3074	2	0.5	50	4	1.6	6	24	0.69	21	34	5	18	5.6	5.7	1.7	4.1
3075	5	2	56	3	1.6	5	26	0.58	25	42	5.2	13	5.6	5.7	2.6	3.6
3076	9	0.5	43	4	1.4	5	21	0.67	19	51	6.4	16	5	5.4	3.3	3.9
3077	4	3	54	3	1.5	5	24	0.52	20	20	3.9	14	5	5.2	2.9	3.2
3078	6	2	44	3	1.5	5	24	0.61	25	53	4.5	16	5.6	4.9	2.2	3.9
3079	9	0.5	46	3	1.4	5	23	0.53	21	46	4.1	13	4.9	5.2	2.8	3.2
3080	7	3	43	5	1.7	5	22	0.56	22	73	4	18	4.8	4.4	2.1	3.3
3082	1	1.1	36	2	0.9	6	19	0.36	10	43	1.2	9.4	3	4.8	2.3	2.2
3083	6	1.5	42	2	1.3	6	24	0.39	23	40	1.5	12	4	4.9	2.6	2.5
3084	7	1.3	40	1	1.3	5	23	0.47	20	57	1.1	12	4	5.6	1.5	2.8
3085	5	0.5	47	2	1.2	5	24	0.54	16	43	1	12	4.9	6.1	1.7	3.2

INA Analytical Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3086	7	1.8	37	2	1.4	4	20	0.4	23	20	0.9	17	4.7	4.1	1.5	2.6
3087	1	0.5	49	2	1.2	5	23	0.47	17	54	1.1	13	4.7	5.6	1.8	3
3088	4	0.5	40	2	1.2	5	20	0.42	17	46	1	11	3.8	4.8	2.1	2.4
3089	3	1	50	2	1.3	6	25	0.4	21	38	1.1	11	4.8	6.3	2.1	2.8
3090	9	4	47	2	1.3	5	23	0.54	19	44	1.8	14	4.6	6.9	3.1	3.3
3091	6	0.5	45	1	1.2	5	23	0.41	19	36	2.3	12	4.4	4.8	1.6	2.7
3092	7	0.5	47	4	1.3	6	24	0.51	16	51	2.5	14	4.2	5.8	3.2	3
3093	2	1.7	54	3	1.2	6	24	0.55	21	62	1.7	14	4.9	6.5	2.4	3.3
3094	7	0.5	43	2	1.2	6	24	0.46	17	47	1.4	12	4.2	4.9	1.7	2.8
3095	1	0.5	47	3	1.4	7	24	0.46	16	85	1.7	14	4.6	5.2	2.1	3.1
3097	1	0.5	47	2	1.2	6	23	0.49	17	57	1.4	12	4.1	5.7	2.4	2.8
3098	5	0.5	41	3	1.1	7	22	0.42	17	50	1.7	14	3.8	5.6	2	2.8
3099	5	0.5	51	3	1.4	6	26	0.49	22	59	1.4	13	4.5	5.5	2.5	3
3100	1	0.5	55	2	1.1	6	26	0.52	20	62	1.6	12	5	7.4	2.1	3.2
3102	1	2.6	44	3	1.3	6	22	0.53	21	58	3.2	15	4.2	4.7	2.3	3
3103	1	0.5	59	3	1.6	6	29	0.65	23	15	2.6	15	6	6.5	2.7	4
3104	1	0.5	44	1	1.1	5	22	0.35	14	15	1.4	11	3.4	4.4	1.7	2.3
3105	5	2	22	1	0.8	2	12	0.26	10	23	1.1	7.6	2.4	2.3	1.2	1.5
3106	1	0.5	47	2	1.4	4	23	0.44	20	48	1.7	14	4.4	5	1.9	2.6
3107	11	0.5	46	4	1.5	5	21	0.52	14	49	4.2	16	4.5	3.8	2	3.1
3120	29	1.8	42	2	1	5	21	0.38	15	45	2.4	11	3.5	4.1	2.6	2.4
3127	18	1.2	44	2	1.1	5	22	0.4	16	59	5.2	11	3.6	4.2	1.7	2.5
3130	16	3.8	35	2	1.1	5	19	0.38	16	34	1.5	14	3.2	4.5	2.2	2.4
3135	1	0.5	57	2	1.4	7	28	0.53	20	50	1.8	13	4.7	5.9	2.9	2.7
3136	5	0.5	47	1	1.3	6	24	0.38	19	48	1.6	12	4	5.5	2	2.3

INA Analytical Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3137	24	2.3	45	3	1.3	5	23	0.5	19	58	2.7	17	4.4	5.4	1.8	3
3151	6	2	46	3	1.2	5	23	0.48	22	61	3.3	13	4.5	5.7	2.7	2.9
3152	5	6.3	51	3	1.5	5	26	0.63	22	58	3.3	16	5.6	6	2.1	3.4
3153	9	2.4	74	3	2.1	8	33	0.77	31	77	3.9	17	7.1	7.8	2.8	4.7
3154	1	1.9	55	2	1.6	5	26	0.61	21	51	3.4	14	5.6	6.3	2.7	3.6
3155	1	1.1	58	2	1.6	5	27	0.61	22	45	3.5	15	5.9	5.9	2.8	3.8
3156	4	0.5	50	1	1.3	5	25	0.53	23	43	2.8	12	5	5.5	2	3.1
3159	79	4	41	2	1.3	5	21	0.49	19	41	1.1	16	3.7	4.1	2	2.7
3162	1	2	46	11	1.5	4	23	0.45	19	47	3.7	16	5	5.1	1.9	2.8
3167	1	0.5	46	2	1.4	5	25	0.5	24	55	1.2	13	5.5	5	1.8	3.1
3169	1	0.5	49	2	1.3	5	24	0.5	20	48	1.2	13	4.9	4.8	1.7	2.9
3170	7	0.5	49	1	1.4	5	24	0.49	22	42	1.2	13	5.3	4.9	1.5	2.9
3171	1	3.1	51	2	1.5	5	26	0.48	22	49	1.2	13	5.2	5.4	2.1	3
3172	6	5.2	56	2	1.5	5	26	0.57	24	50	1.3	14	5.6	6	1.8	3.2
3173	3	4.7	52	2	1.4	4	25	0.5	22	52	1.3	13	5.2	5.7	2	3.1
3174	3	5.5	55	3	1.5	5	27	0.56	24	70	1.6	14	5.7	6.8	2.6	3.4
3175	1	3.7	53	3	1.7	5	30	0.66	28	55	1.5	14	6.9	6.9	2.5	4.1
3176	3	0.5	51	2	1.5	5	27	0.52	22	51	1.7	13	5.3	5.7	2.4	3.1
3177	1	0.9	46	1	1.3	6	25	0.47	22	50	1.3	12	5	5.7	2.2	3
3178	9	0.5	57	1	1.4	6	28	0.57	23	50	1.4	13	5.6	5.9	2.2	3.3
3179	6	0.5	48	1	1.4	5	26	0.51	21	37	1.2	12	5.1	5.8	2.7	3
3180	1	0.5	46	2	1.3	6	24	0.56	20	58	1.4	13	4.4	5.5	2.6	3.1
3207	1	0.5	46	1	1.2	6	25	0.34	21	20	0.9	11	3.8	6.3	3.2	2.2
3208	1	0.5	36	1	1.3	5	20	0.29	17	46	1.2	12	3.8	5	1.9	2.6
3209	4	0.5	43	2	1.2	5	22	0.42	20	49	1.1	13	4.1	4.8	1.9	2.8

INA Analytical Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3210	9	1.4	40	2	1.2	5	21	0.4	19	34	1.3	13	3.8	4.9	2.1	2.8
3211	6	1.2	37	2	1.3	5	19	0.42	17	47	1.2	13	3.6	4.7	1.7	2.4
3214	10	0.5	48	2	1.2	6	24	0.44	18	53	1.2	12	4	5.8	2.3	2.7
3215	1	0.5	48	2	1.3	6	25	0.45	21	69	0.9	12	4.1	5.3	2.7	2.7
3216	5	0.5	50	2	1.4	7	26	0.5	20	60	1.4	15	4.7	7	2	3.5
3217	5	0.5	41	2	1.3	6	23	0.45	20	63	1.2	14	4.1	6.7	2.4	3
3218	5	0.5	55	2	1.3	6	26	0.42	25	53	2.6	13	4.1	5.7	2.6	2.8
3219	1	0.5	40	1	1	6	22	0.42	18	47	1.5	10	3.4	4.4	2	2.3
3220	5	0.5	40	2	1.1	5	22	0.38	18	41	1.7	11	3.4	5.1	1.7	2.4
3222	1	2.2	43	3	1.1	7	22	0.43	18	42	1.9	14	3.7	4.9	2	2.7
3223	2	4.1	39	2	1.2	5	19	0.41	18	51	2.1	13	3.5	3.9	2.3	2.6
3224	6	1.7	35	3	1	5	18	0.35	15	44	2.3	13	2.8	4.4	1.8	2.3
3225	1	0.5	43	3	1.5	5	23	0.47	21	65	3.8	16	4.6	5.2	1.7	3.2
3226	1	0.5	44	2	1.2	6	23	0.41	17	56	1.1	13	3.7	4.9	2.7	2.8
3227	67	1.7	44	2	1.5	6	27	0.5	25	56	1.3	14	4.9	6.2	1.9	3.4
3228	4	0.5	49	2	1.5	7	28	0.52	25	68	1.5	15	5	6.8	2.8	3.4
3229	1	1.2	43	2	1.3	5	23	0.43	21	44	1.2	13	4.2	5.2	2.5	2.8
3230	2	0.5	40	1	1.2	5	22	0.41	15	48	1.4	13	4	4.3	2	2.7
3231	2	1.1	39	4	1.1	5	20	0.37	15	65	2.3	14	3.5	4.3	1.9	2.5
3232	1	0.5	50	3	1.4	6	25	0.42	25	58	3.8	16	4.4	5.2	1.8	2.9
3233	4	0.5	43	1	1.3	6	25	0.48	19	59	1.4	14	4.4	6	2.2	3.1
3234	2	1.6	37	2	1.1	5	21	0.37	18	24	1.4	12	3.5	5.2	2.3	2.6
3240	6	2.1	44	3	1.4	6	23	0.49	17	46	2.8	19	4.5	5.6	2.3	3.2
3242	7	2.2	84	3	1.5	8	29	0.5	22	45	4.1	15	5.1	6.3	2.6	3.3
3243	5	2	49	2	1.4	7	29	0.47	26	62	2.5	16	4.7	6.3	3	3.3
3244	5	6	61	4	1.4	7	26	0.48	22	45	3.7	15	4.3	5.8	2.7	3.2

ICP Field Duplicate Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3004	0.2	1.75	4	2	117	0.8	0.3	9	30	29	3.56	0.1	0.52	405	1	0.05	36	0.069	11	85	0.13	77	70
3005	0.2	1.76	10	3	113	0.9	0.3	10	27	29	3.55	0.09	0.55	465	1	0.07	36	0.072	6	91	0.13	76	68
3023	0.1	1.13	6	4	88	1.05	0.2	9	20	24	2.88	0.08	0.37	549	1	0.04	21	0.063	6	53	0.13	64	55
3024	0.2	1.19	5	4	94	1.11	0.2	10	24	23	3.07	0.08	0.4	601	1	0.04	22	0.067	9	56	0.14	67	58
3046	0.3	2.31	51	2	214	0.75	0.2	14	23	48	4.37	0.26	1.15	786	1	0.03	24	0.071	7	57	0.19	106	107
3047	0.4	2.23	53	3	199	0.73	0.2	14	23	49	4.26	0.17	1.01	809	1	0.03	25	0.067	14	58	0.18	101	105
3065	0.1	1.36	5	3	91	0.37	0.2	6	23	17	2.3	0.05	0.36	242	2	0.01	28	0.052	8	24	0.1	46	98
3067	0.1	1.34	9	2	88	0.37	0.2	7	24	15	2.35	0.05	0.36	244	2	0.01	27	0.055	8	24	0.1	46	91
3095	0.2	1.43	4	2	165	1.1	0.2	11	25	28	3.41	0.12	0.49	644	1	0.06	24	0.081	5	82	0.16	76	68
3097	0.2	1.29	7	4	153	0.98	0.2	10	25	26	3.23	0.11	0.41	593	1	0.06	23	0.071	9	78	0.15	73	64
3112	1	1.25	27	3	128	0.56	0.2	11	25	322	4.83	0.2	0.39	412	4	0.04	17	0.07	32	60	0.16	87	90
3113	0.9	1.29	33	2	134	0.56	0.3	13	24	338	5.37	0.21	0.44	496	5	0.04	18	0.075	82	59	0.16	91	137
3135	0.2	1.23	10	2	158	0.62	0.2	10	25	22	2.96	0.15	0.38	543	1	0.05	22	0.088	8	59	0.18	79	55
3136	0.2	1.28	10	2	160	0.63	0.2	10	27	26	3.06	0.16	0.39	564	1	0.05	22	0.087	6	60	0.18	80	57
3153	0.2	1.54	11	2	190	0.54	0.2	13	31	40	3.33	0.08	0.39	670	1	0.02	41	0.064	7	43	0.14	69	87
3154	0.3	1.59	10	5	194	0.55	0.2	11	31	44	3.39	0.08	0.4	615	1	0.02	42	0.066	8	44	0.13	69	87
3178	0.1	1.25	4	2	89	0.64	0.2	7	26	18	3.07	0.06	0.26	408	1	0.04	15	0.084	6	63	0.21	76	48
3179	0.1	1.25	5	2	89	0.65	0.2	7	26	17	3.1	0.06	0.27	419	1	0.04	15	0.085	6	63	0.21	76	49
3237	0.1	1.6	12	2	139	0.79	0.2	12	22	40	3.75	0.08	0.71	591	2	0.07	39	0.085	11	70	0.16	69	87
3238	0.1	1.58	13	2	133	0.77	0.2	12	22	39	3.66	0.09	0.71	596	1	0.07	40	0.079	8	67	0.16	67	83

ICP Analytical Duplicate Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3001	0.2	1.77	8	3	118	0.82	0.2	9	32	34	3.62	0.1	0.53	410	1	0.05	38	0.072	10	86	0.13	79	71
3004	0.2	1.75	4	2	117	0.8	0.3	9	30	29	3.56	0.1	0.52	405	1	0.05	36	0.069	11	85	0.13	77	70
3021	0.2	1.29	9	3	101	1.2	0.2	11	25	23	3.33	0.12	0.43	627	1	0.05	26	0.071	8	61	0.15	73	63
3023	0.1	1.13	6	4	88	1.05	0.2	9	20	24	2.88	0.08	0.37	549	1	0.04	21	0.063	6	53	0.13	64	55
3041	0.3	2.32	50	2	217	0.76	0.3	15	22	48	4.45	0.25	1.23	800	1	0.03	25	0.072	18	57	0.19	108	108
3046	0.3	2.31	51	2	214	0.75	0.2	14	23	48	4.37	0.26	1.15	786	1	0.03	24	0.071	7	57	0.19	106	107
3061	0.1	1.4	7	3	95	0.38	0.3	6	23	16	2.34	0.05	0.36	248	2	0.01	34	0.052	9	25	0.1	47	98
3065	0.1	1.36	5	3	91	0.37	0.2	6	23	17	2.3	0.05	0.36	242	2	0.01	28	0.052	8	24	0.1	46	98
3081	0.1	1.47	5	2	170	1.14	0.2	12	26	30	3.56	0.12	0.51	667	1	0.06	23	0.083	10	84	0.16	79	71
3095	0.2	1.43	4	2	165	1.1	0.2	11	25	28	3.41	0.12	0.49	644	1	0.06	24	0.081	5	82	0.16	76	68
3101	0.8	1.17	28	3	119	0.52	0.2	11	23	298	4.54	0.18	0.37	387	4	0.04	16	0.065	34	56	0.15	81	84
3112	1	1.25	27	3	128	0.56	0.2	11	25	322	4.83	0.2	0.39	412	4	0.04	17	0.07	32	60	0.16	87	90
3121	0.1	1.19	10	3	153	0.61	0.5	10	25	24	2.87	0.15	0.37	526	1	0.05	20	0.084	6	56	0.17	76	53
3135	0.2	1.23	10	2	158	0.62	0.2	10	25	22	2.96	0.15	0.38	543	1	0.05	22	0.088	8	59	0.18	79	55
3141	0.3	1.48	12	3	186	0.53	0.2	13	31	42	3.25	0.08	0.38	656	1	0.02	41	0.064	9	42	0.14	68	85
3153	0.2	1.54	11	2	190	0.54	0.2	13	31	40	3.33	0.08	0.39	670	1	0.02	41	0.064	7	43	0.14	69	87
3161	0.2	1.3	2	2	92	0.66	0.2	7	26	17	3.13	0.07	0.27	420	1	0.04	15	0.086	7	65	0.21	78	49
3178	0.1	1.25	4	2	89	0.64	0.2	7	26	18	3.07	0.06	0.26	408	1	0.04	15	0.084	6	63	0.21	76	48

ICP Analytical Duplicate Data

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.001	2	1	0.01	2	1
3181	0.2	0.85	21	2	121	0.49	0.9	8	26	442	3.44	0.06	0.24	454	11	0.03	23	0.079	51	44	0.19	73	171
3182	0.4	0.85	23	2	123	0.48	0.8	8	26	437	3.43	0.07	0.24	452	11	0.03	21	0.078	53	44	0.18	73	171
3201	0.1	0.8	6	2	68	0.58	0.2	5	19	11	2.52	0.05	0.22	326	1	0.04	10	0.069	10	41	0.16	67	47
3213	0.1	0.87	4	2	75	0.65	0.2	6	20	13	2.8	0.05	0.24	362	1	0.05	11	0.077	7	46	0.18	73	44
3221	0.2	1.52	9	2	134	0.76	0.2	11	23	39	3.66	0.06	0.63	584	2	0.06	37	0.083	13	67	0.16	68	85
3237	0.1	1.6	12	2	139	0.79	0.2	12	22	40	3.75	0.08	0.71	591	2	0.07	39	0.085	11	70	0.16	69	87
3241	0.1	1.78	17	2	96	0.3	0.2	12	31	33	3.46	0.05	0.39	453	1	0.01	50	0.084	10	21	0.13	64	73
3242	0.1	1.73	15	2	95	0.3	0.2	12	32	32	3.41	0.05	0.38	442	1	0.01	49	0.083	9	21	0.12	63	72

INA Field Duplicate Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3004	16	0.5	48	4	1.5	6	22	0.65	16	87	1.3	17	5.1	5.7	1.9	3.2
3005	10	0.5	43	2	1.4	5	20	0.51	11	25	1.1	16	4.3	5.5	1	3.1
3023	5	0.5	46	2	1.4	6	22	0.49	19	68	1.3	14	4.4	4.6	1.5	2.7
3024	1	0.5	48	3	1.4	6	22	0.47	19	68	1.2	14	4.4	4.8	1.5	2.4
3046	1	0.5	38	3	1.5	7	22	0.45	19	30	7	20	4.9	5.1	1.7	3.6
3047	11	0.5	50	2	1.7	6	23	0.61	18	68	6.8	20	5.5	5.3	1.9	4.1
3065	13	2	55	3	1.3	6	22	0.5	15	61	2.5	13	4.5	4.8	2.7	3
3067	8	2.6	45	2	1.1	5	21	0.45	15	51	2.3	12	3.9	4.3	2.1	2.6
3095	1	0.5	47	3	1.4	7	24	0.46	16	85	1.7	14	4.6	5.2	2.1	3.1
3097	1	0.5	47	2	1.2	6	23	0.49	17	57	1.4	12	4.1	5.7	2.4	2.8
3112	85	0.5	40	3	1.3	6	23	0.36	19	58	6.3	14	4.5	3.5	1.5	2.4
3113	35	1.7	41	2	1.4	4	23	0.42	20	20	5.4	14	4.3	4.3	1.9	2.5
3135	1	0.5	57	2	1.4	7	28	0.53	20	50	1.8	13	4.7	5.9	2.9	2.7
3136	5	0.5	47	1	1.3	6	24	0.38	19	48	1.6	12	4	5.5	2	2.3
3153	9	2.4	74	3	2.1	8	33	0.77	31	77	3.9	17	7.1	7.8	2.8	4.7
3154	1	1.9	55	2	1.6	5	26	0.61	21	51	3.4	14	5.6	6.3	2.7	3.6
3178	9	0.5	57	1	1.4	6	28	0.57	23	50	1.4	13	5.6	5.9	2.2	3.3
3179	6	0.5	48	1	1.4	5	26	0.51	21	37	1.2	12	5.1	5.8	2.7	3
3237	1	0.5	48	2	1.8	6	26	0.51	23	57	2.7	18	5.5	5.2	1.9	3.7
3238	3	0.5	39	2	1.4	5	22	0.42	21	40	2	16	4.4	4.5	2.2	3

INA Analytical Duplicate Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3001	2	0.5	48	1	1.5	6	24	0.62	22	24	1.3	18	5.2	6.1	3.3	3.8
3004	16	0.5	48	4	1.5	6	22	0.65	16	87	1.3	17	5.1	5.7	1.9	3.2
3021	1	0.5	47	2	1.5	6	21	0.51	15	30	1.4	14	4.2	5.2	1.3	2.7
3023	5	0.5	46	2	1.4	6	22	0.49	19	68	1.3	14	4.4	4.6	1.5	2.7
3041	9	0.5	37	4	1.4	6	21	0.46	19	64	6.7	19	4.8	4.7	1.1	3.8
3046	1	0.5	38	3	1.5	7	22	0.45	19	30	7	20	4.9	5.1	1.7	3.6
3061	1	2	46	2	1.3	5	22	0.5	20	59	2.3	12	4.2	4.9	1.3	3
3065	13	2	55	3	1.3	6	22	0.5	15	61	2.5	13	4.5	4.8	2.7	3
3081	9	0.5	49	3	1.4	7	25	0.45	19	50	1.6	15	4.7	5.3	2.5	2.8
3095	1	0.5	47	3	1.4	7	24	0.46	16	85	1.7	14	4.6	5.2	2.1	3.1
3101	25	0.5	41	3	1.3	6	24	0.36	22	63	6.3	15	4.7	4.6	1.9	2.7
3112	85	0.5	40	3	1.3	6	23	0.36	19	58	6.3	14	4.5	3.5	1.5	2.4
3121	1	0.5	59	2	1.5	7	28	0.46	25	68	1.6	13	4.6	5.8	2.7	2.8
3135	1	0.5	57	2	1.4	7	28	0.53	20	50	1.8	13	4.7	5.9	2.9	2.7
3141	1	0.5	74	3	1.6	7	33	0.73	27	75	3.8	16	7	7.8	3.6	4.6
3153	9	2.4	74	3	2.1	8	33	0.77	31	77	3.9	17	7.1	7.8	2.8	4.7
3161	3	0.5	59	2	1.5	7	29	0.56	22	52	1.4	13	5.9	6.1	2.4	3.4
3178	9	0.5	57	1	1.4	6	28	0.57	23	50	1.4	13	5.6	5.9	2.2	3.3

INA Analytical Duplicate Data

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
3181	384	0.5	54	2	1.5	8	29	0.53	21	37	12	12	4.6	5.9	3.6	2.9
3182	436	0.5	53	3	1.5	8	29	0.47	23	48	12	12	4.5	6	3.3	2.9
3201	1	0.5	54	2	1.7	7	26	0.58	24	73	1.5	15	5.4	5.6	2	3.5
3213	1	0.5	39	1	1.3	5	21	0.38	18	50	1.2	13	3.9	4.4	1.6	2.6
3221	1	0.5	50	2	1.9	5	26	0.51	24	56	2.4	18	5.3	4.9	1.9	3.4
3237	1	0.5	48	2	1.8	6	26	0.51	23	57	2.7	18	5.5	5.2	1.9	3.7
3241	9	2.5	81	3	1.5	7	27	0.48	24	50	4	14	4.9	6	2.4	3.3
3242	7	2.2	84	3	1.5	8	29	0.5	22	45	4.1	15	5.1	6.3	2.6	3.3

Till Geochemistry of the Chedakuz Creek Map Area
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Appendix B

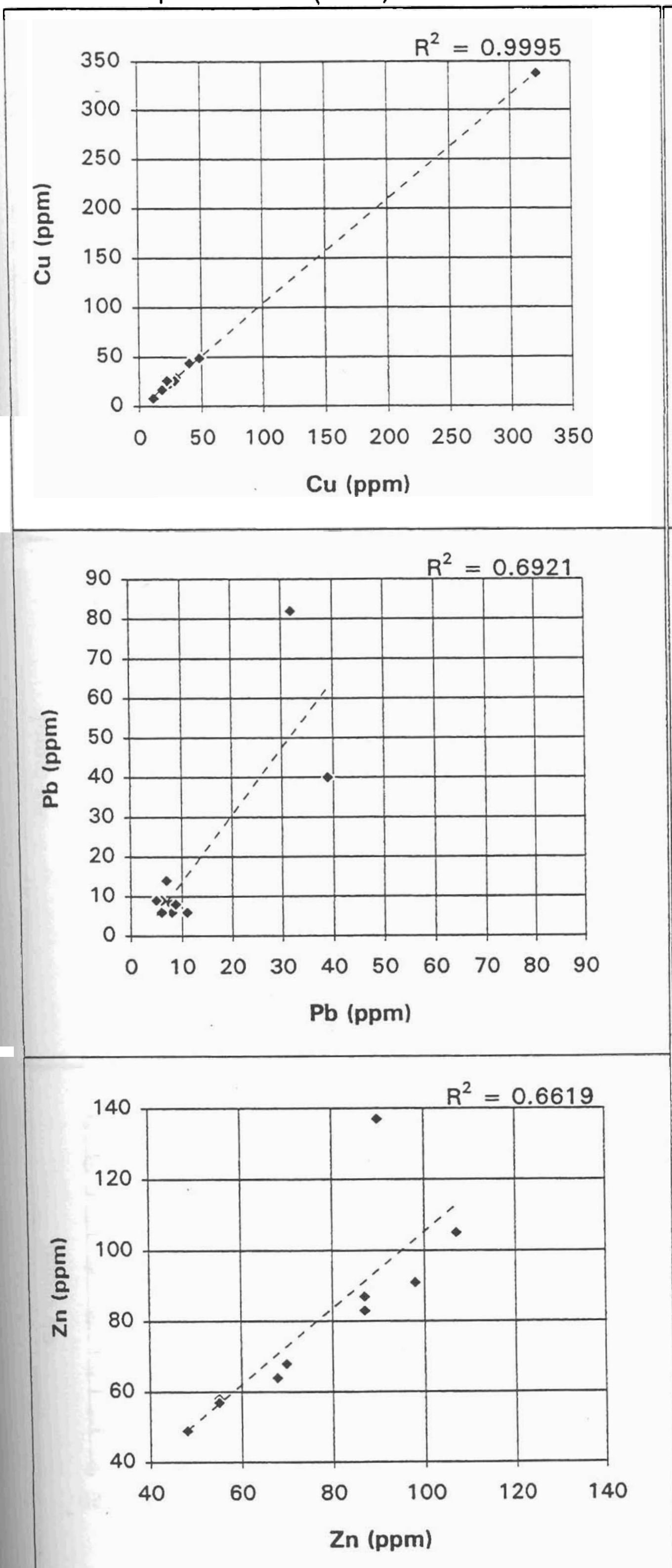
Scatterplots for Duplicate Data

B-1...Cu, Pb, Zn Scatterplots

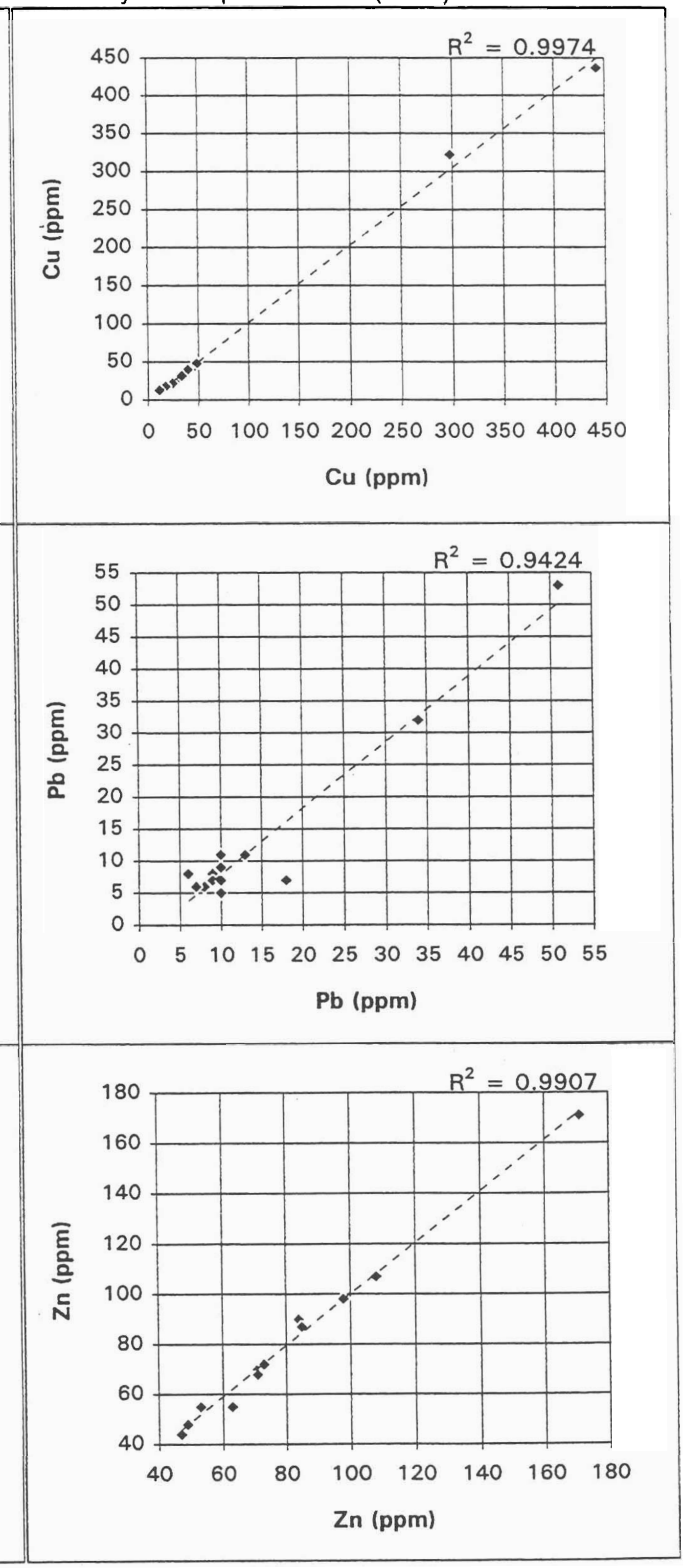
B-2...Mo, Ag, Ni Scatterplots

B-3...Au, As, Sb Scatterplots

ICP Field Duplicate Pairs (n=10)



ICP Analytical Duplicate Pairs (n=13)



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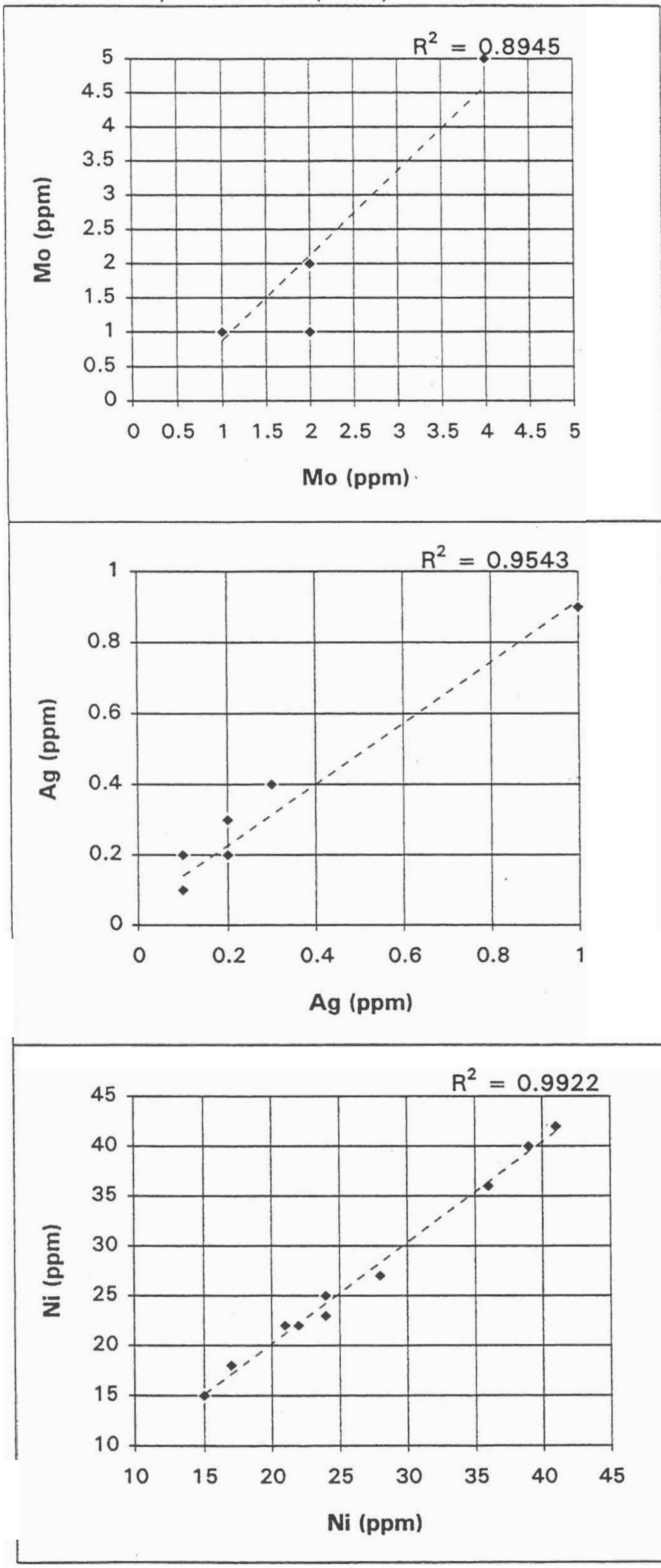

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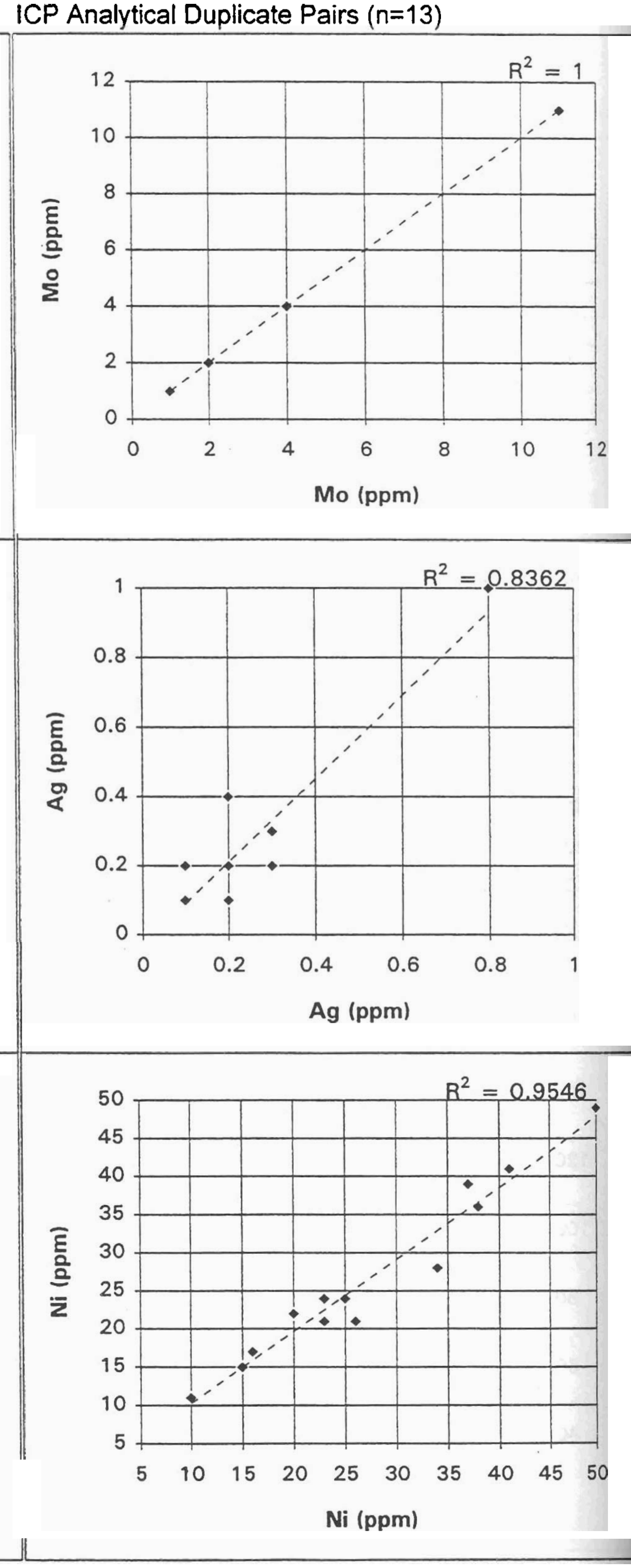
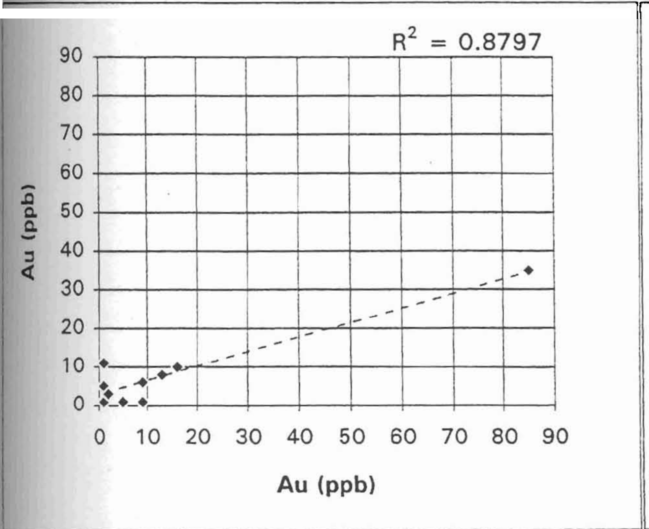
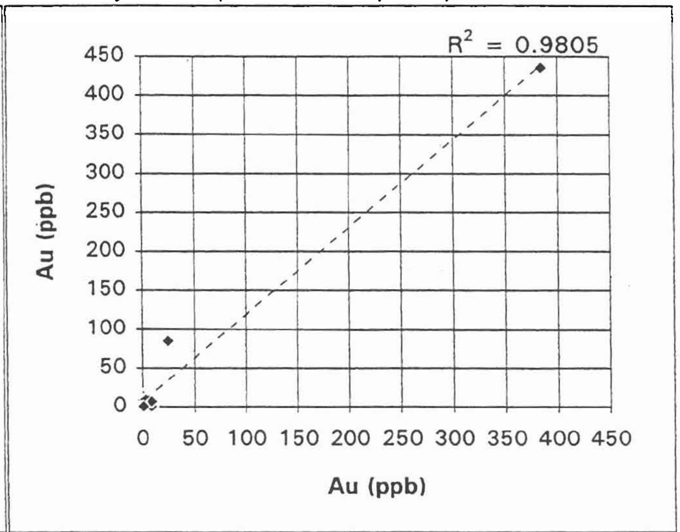
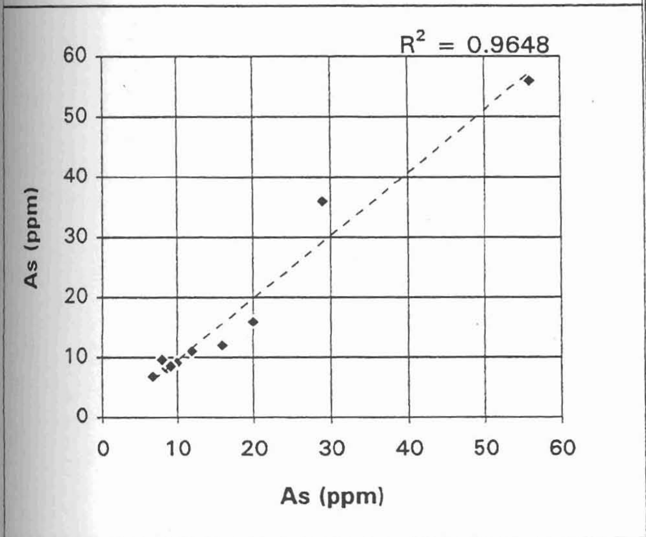


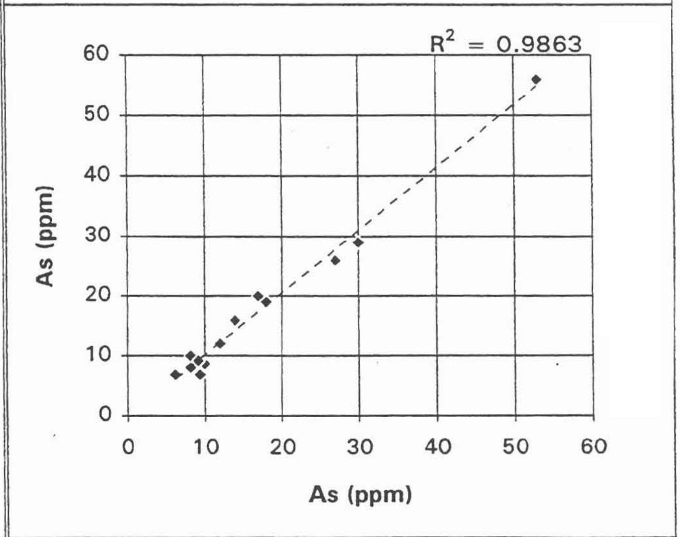
INA Field Duplicate Pairs (n=10)

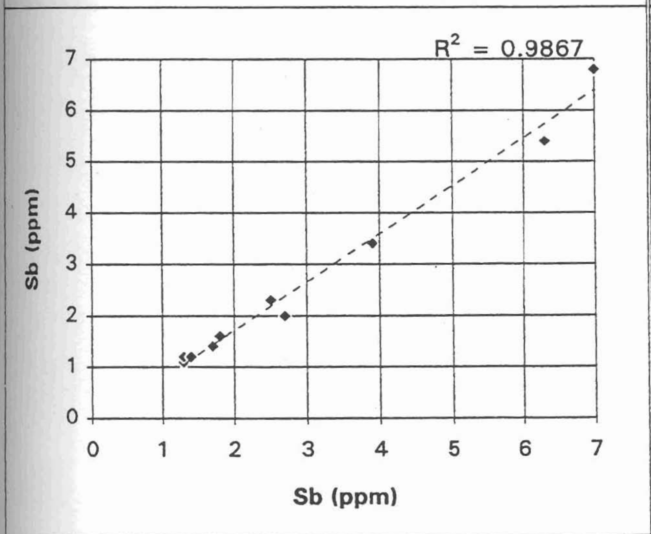
INA Analytical Duplicate Pairs (n=13)

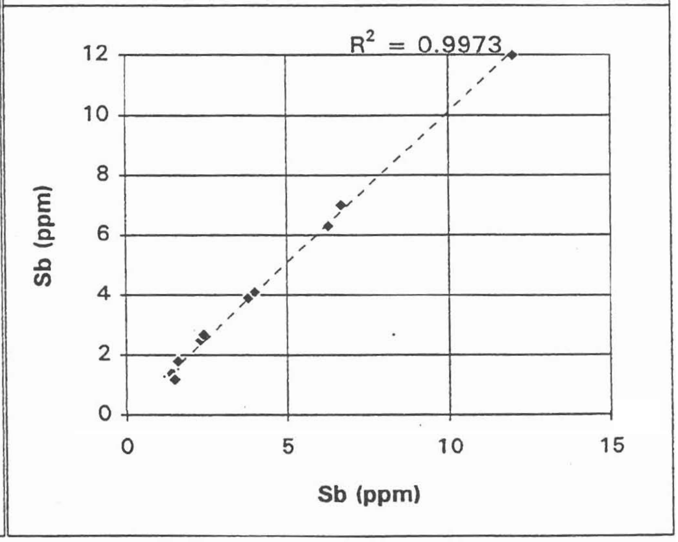












Till Geochemistry of the Chedakuz Creek Map Area
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Appendix C

Summary Statistics

C-1...ICP Total Data Set

C-2...INA Total Data Set

Note:

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

Appendix C-1: ICP Summary Statistics

Element	Ag	Al	As	B	Ba	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	P	Pb	Sr	Ti	V	Zn
Units	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	%	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	ppm
Det. Lim.	0.1	0.01	1	2	2	0.01	0.2	1	1	1	0.01	0.01	0.01	1	1	0.01	1	0.00	2	1	0.01	2	1
Mean	0.2	1.6	10.9	2.4	157	0.7	0.2	10	25.1	34.4	3.4	0.1	0.5	546.4	1.7	0	27.1	0.1	9.1	54.8	0.2	74.2	77
Standard Error	0	0	1	0.1	6	0	0	0.2	0.4	2.5	0.1	0	0	16.8	0.1	0	1	0	0.4	1.7	0	1.2	2.7
Median	0.1	1.6	8	2	143	0.6	0.2	10	25	29	3.4	0.1	0.4	538	1	0	24	0.1	8	54	0.2	74	68
Mode	0.1	1.8	5	2	88	0.6	0.2	11	25	30	3.4	0.1	0.4	405	1	0	17	0.1	8	62	0.1	74	55
Standard Deviation	0.1	0.4	12.6	0.7	74	0.4	0.1	2.6	5.2	31.3	0.6	0.1	0.3	206	1.7	0	12.7	0	5.1	21.5	0	14.2	33.2
Kurtosis	30.8	7	37.5	4.2	17	9.9	34.9	1.1	3.7	75.1	1.7	27.1	9	0.5	18.4	-0.9	5	3.1	45	10.8	-0.5	5.3	6.3
Skewness	4.3	2	5.1	1.9	2.8	2.5	5.2	0.5	1.2	7.7	0.4	4.4	2.5	0.7	3.9	0.2	1.8	0.3	5.5	1.9	0.1	1.2	2.1
Range	1.1	2.8	117	4	634	2.9	1.1	17	35	344	4.2	0.7	2	996	12	0.1	80	0.1	53	176	0.2	106	225
Minimum	0.1	0.9	2	2	58	0.2	0.2	4	13	11	1.5	0	0.2	160	1	0	10	0	2	18	0.1	34	25
Maximum	1.2	3.7	119	6	692	3.1	1.3	21	48	355	5.7	0.7	2.2	1156	13	0.1	90	0.1	55	194	0.3	140	250
Count	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151
Confidence Level (95%)	0	0.1	2	0.1	11.9	0.1	0	0.4	0.8	5	0.1	0	0	33.1	0.3	0	2	0	0.8	3.5	0	2.3	5.3

Appendix C-2: INA Summary Statistics

Element	Au	Br	Ce	Cs	Eu	Hf	La	Lu	Nd	Rb	Sb	Sc	Sm	Th	U	Yb
Units	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	2	0.5	3	1	0.2	1	0.5	0.05	5	5	0.1	0.1	0.1	0.2	0.5	0.2
Mean	5.8	1.3	47.4	2.4	1.4	5.6	23.1	0.5	19.6	51.3	2.3	14.3	4.6	5.3	2.1	3.1
Standard Error	0.7	0.1	0.6	0.1	0.0	0.1	0.3	0.0	0.3	1.2	0.1	0.2	0.1	0.1	0.0	0.0
Median	4.0	0.5	46.0	2.0	1.4	5.0	23.0	0.5	20.0	51.0	1.7	14.0	4.5	5.2	2.1	3.1
Mode	1.0	0.5	43.0	2.0	1.4	5.0	23.0	0.5	22.0	50.0	1.2	14.0	4.5	5.7	1.7	3.1
Standard Deviation	9.1	1.2	7.7	1.3	0.2	0.9	3.1	0.1	3.7	14.4	1.6	2.4	0.7	0.9	0.5	0.5
Kurtosis	41.5	3.3	6.9	13.9	1.0	1.9	3.2	0.5	1.0	0.2	3.1	1.0	0.8	2.3	-0.1	0.7
Skewness	5.8	1.8	1.6	2.7	0.2	0.1	0.8	0.3	0.1	-0.1	1.8	0.6	0.3	0.7	0.3	0.4
Range	78.0	5.8	62.0	10.0	1.3	6.0	25.0	0.5	22.0	72.0	7.4	15.4	4.7	6.7	2.7	3.2
Minimum	1.0	0.5	22.0	1.0	0.8	2.0	12.0	0.3	9.0	15.0	0.9	7.6	2.4	2.3	1.0	1.5
Maximum	79.0	6.3	84.0	11.0	2.1	8.0	37.0	0.8	31.0	87.0	8.3	23.0	7.1	9.0	3.7	4.7
Count	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151	151
Confidence Level(95%)	1.4	0.2	1.2	0.2	0.0	0.1	0.5	0.0	0.6	2.3	0.3	0.4	0.1	0.1	0.1	0.1

Till Geochemistry of the Chedakuz Creek Map Area
(93F/07)

Open File 1997-11

Appendix D

Element Maps

D-1...Sample Locations

D-2...Sample Classifications

D-3...Ice Flow Directions

D-4...Antimony by INA

D-5...Arsenic by ICP

D-6...Copper by ICP

D-7...Gold by ICP

D-8...Lead by ICP

D-9...Molybdenum by ICP

D-10...Nickel by ICP

D-11...Silver by ICP

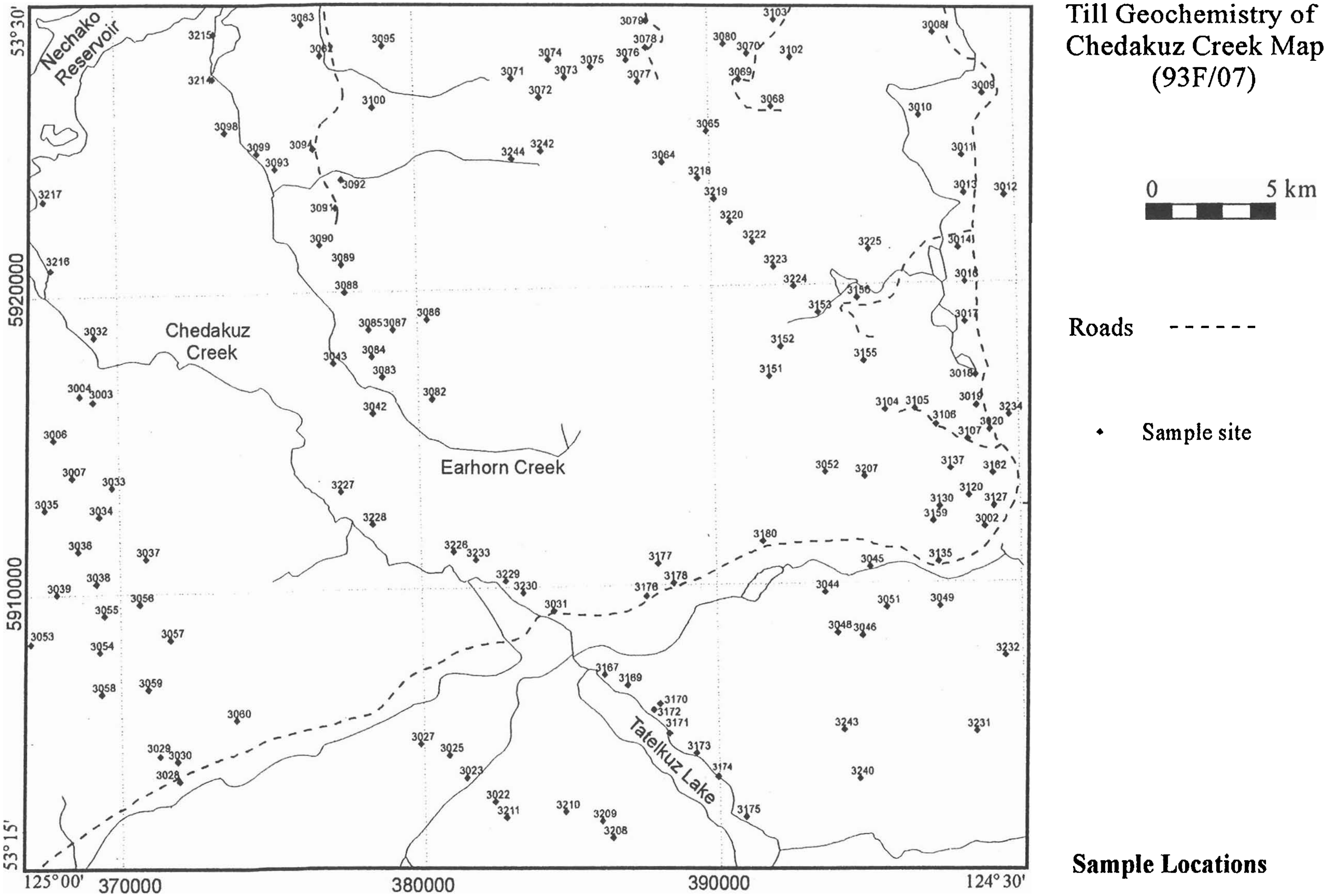
D-12...Zinc by ICP

D-13...All other INA and ICP Element Maps

Note:

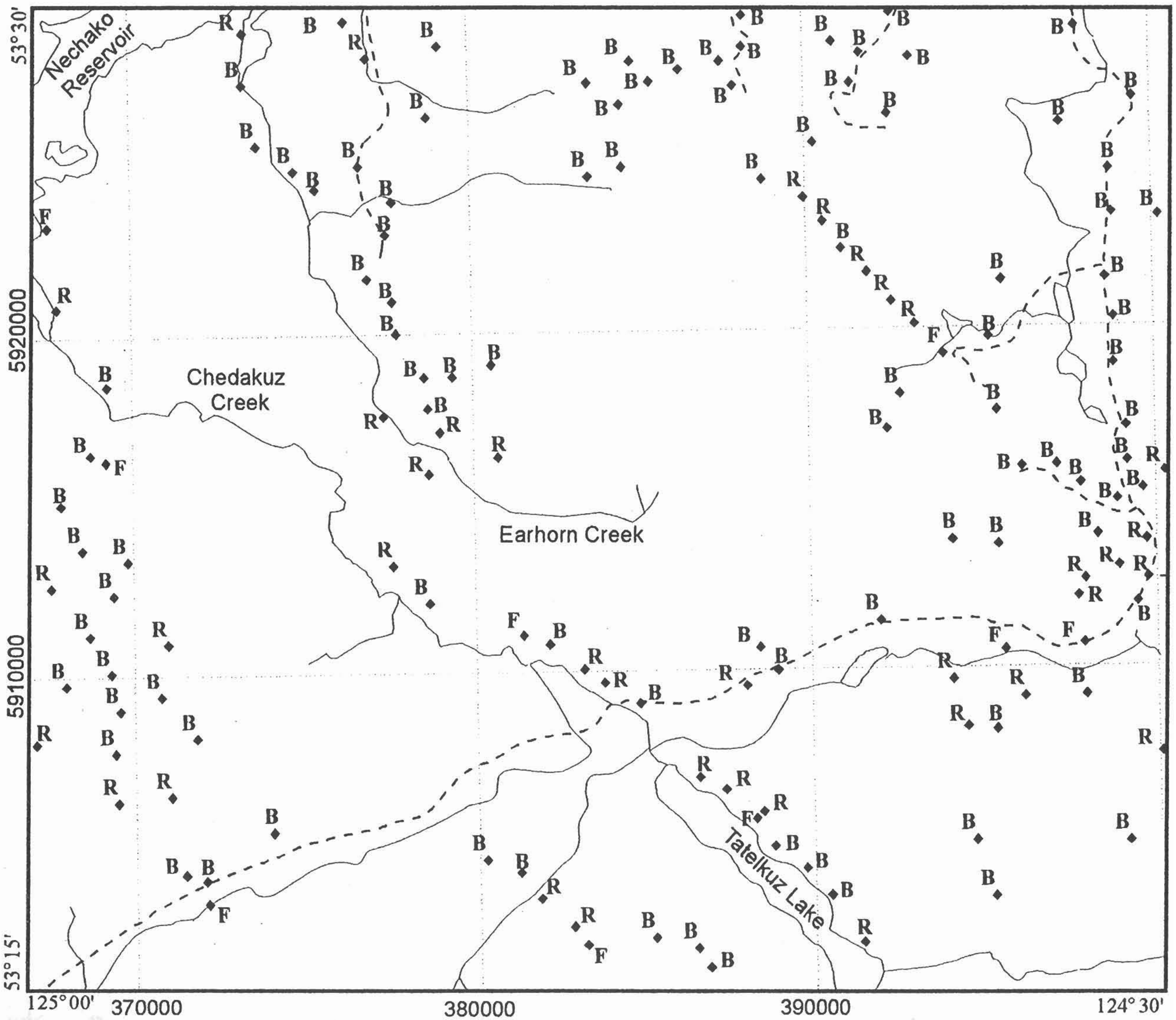
- Calculations ignore results from the second of paired field and analytical duplicates.

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



Sample Locations

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



0 5 km

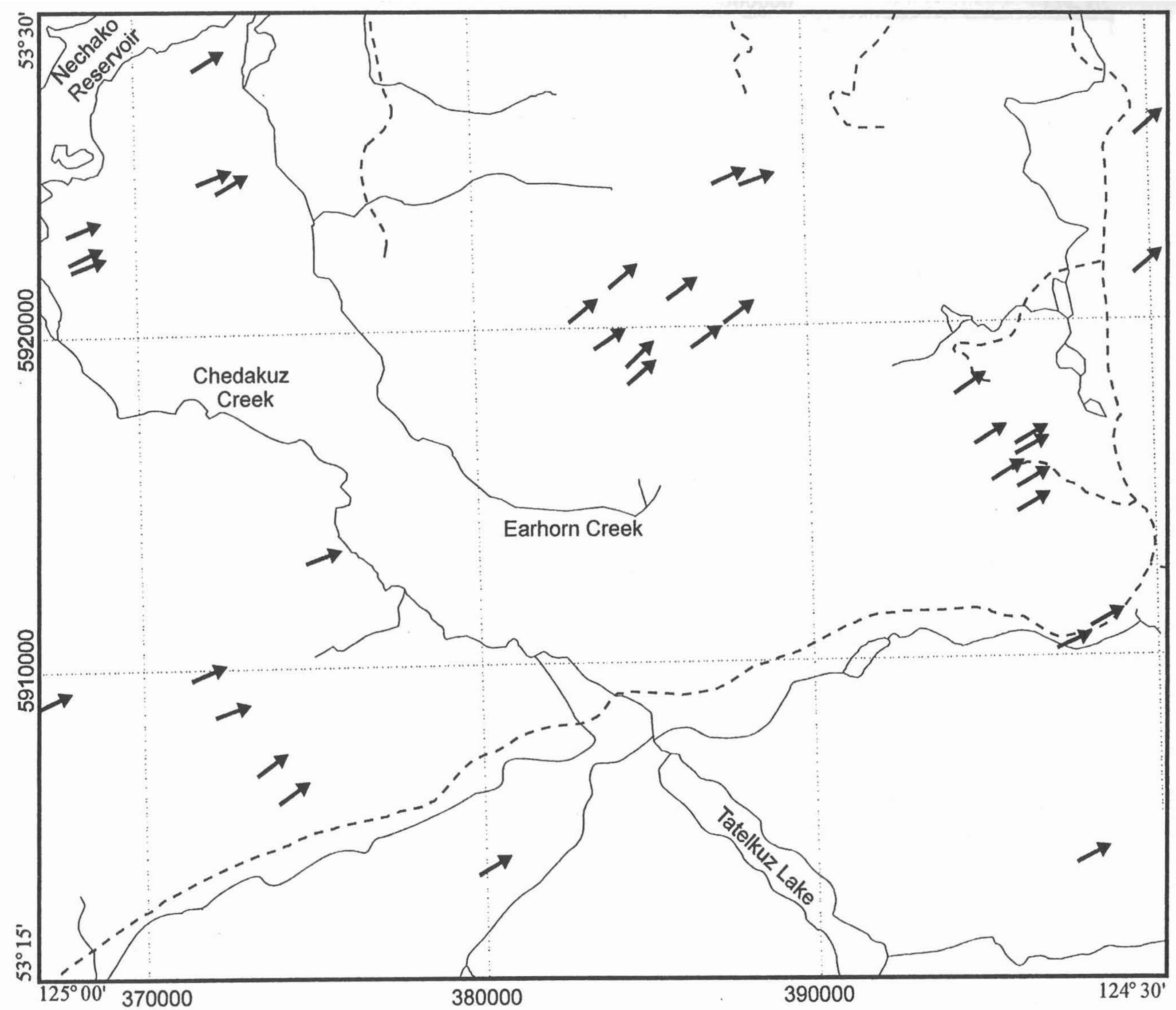
Transverse Mercator Projection

Roads - - - - - -

- ◆ Sample site
- **B** Basal Till
- **R** Resedimented Till
- **F** Flow Till

Sample Classifications

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

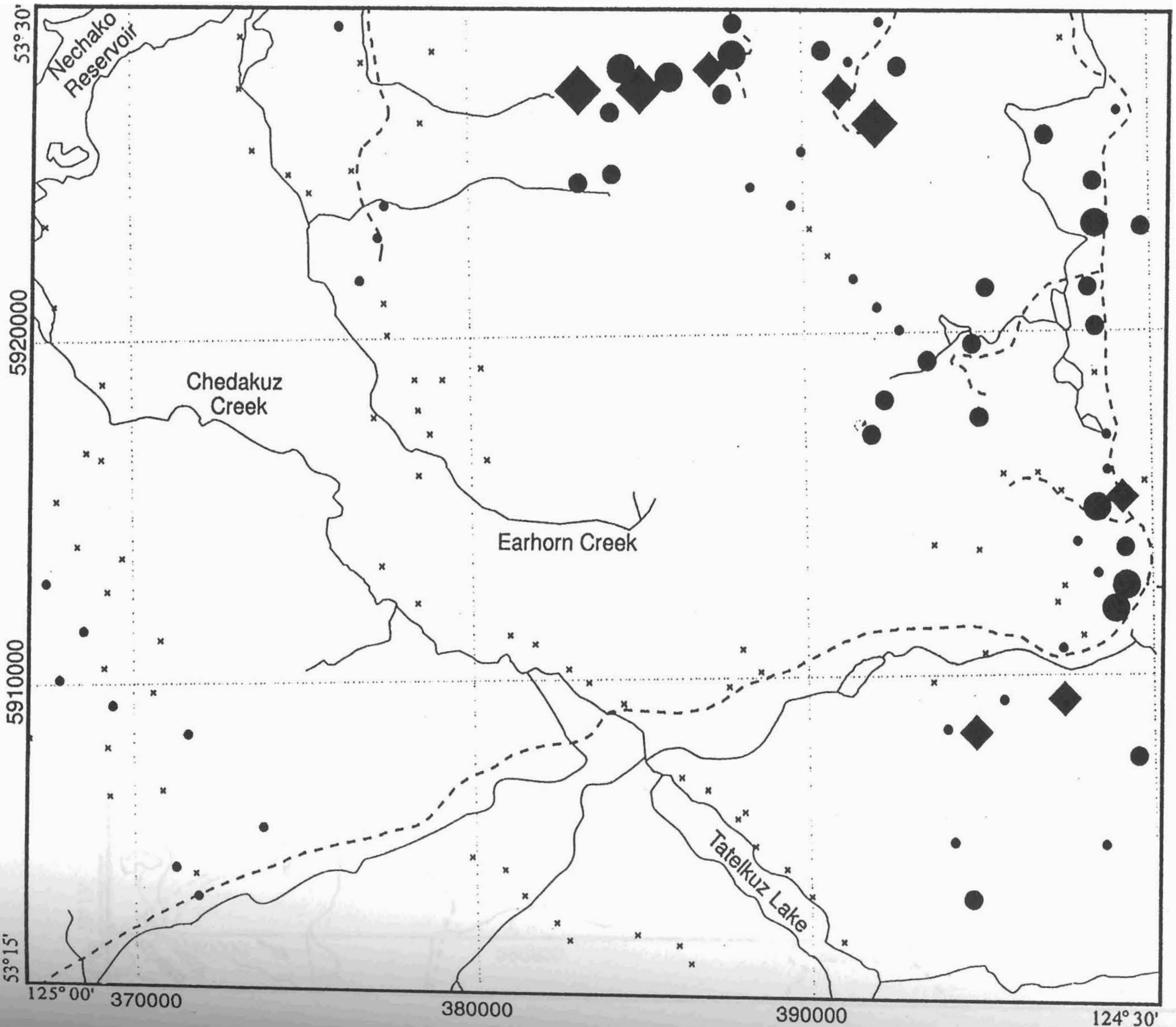


0 5 km

Transverse Mercator Projection

Roads - - - - - -

Ice Flow Directions



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

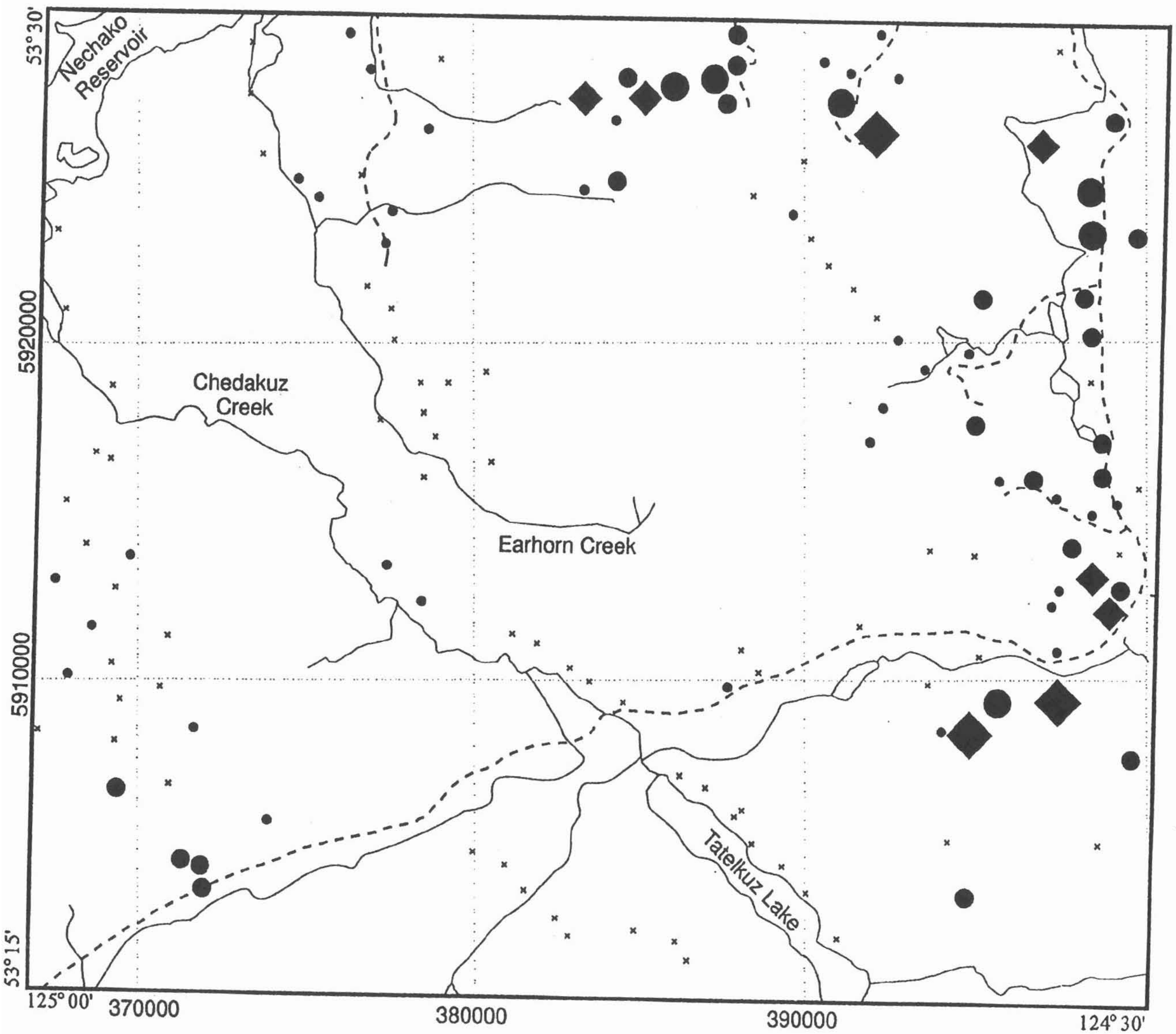
Transverse Mercator Projection

Roads - - - - - - -

Sb (ppm)

Concentration	Frequency
7.1 - 8.3	n = 3 (2%)
5.6 - 7.0	n = 5 (3%)
4.2 - 5.5	n = 7 (5%)
2.8 - 4.1	n = 21 (15%)
1.8 - 2.7	n = 30 (25%)
.9 - 1.7	n = 77 (50%)

Antimony by INA



Till Geochemistry of the Chedakuz Creek Map Are (93F/07)

0 5 km

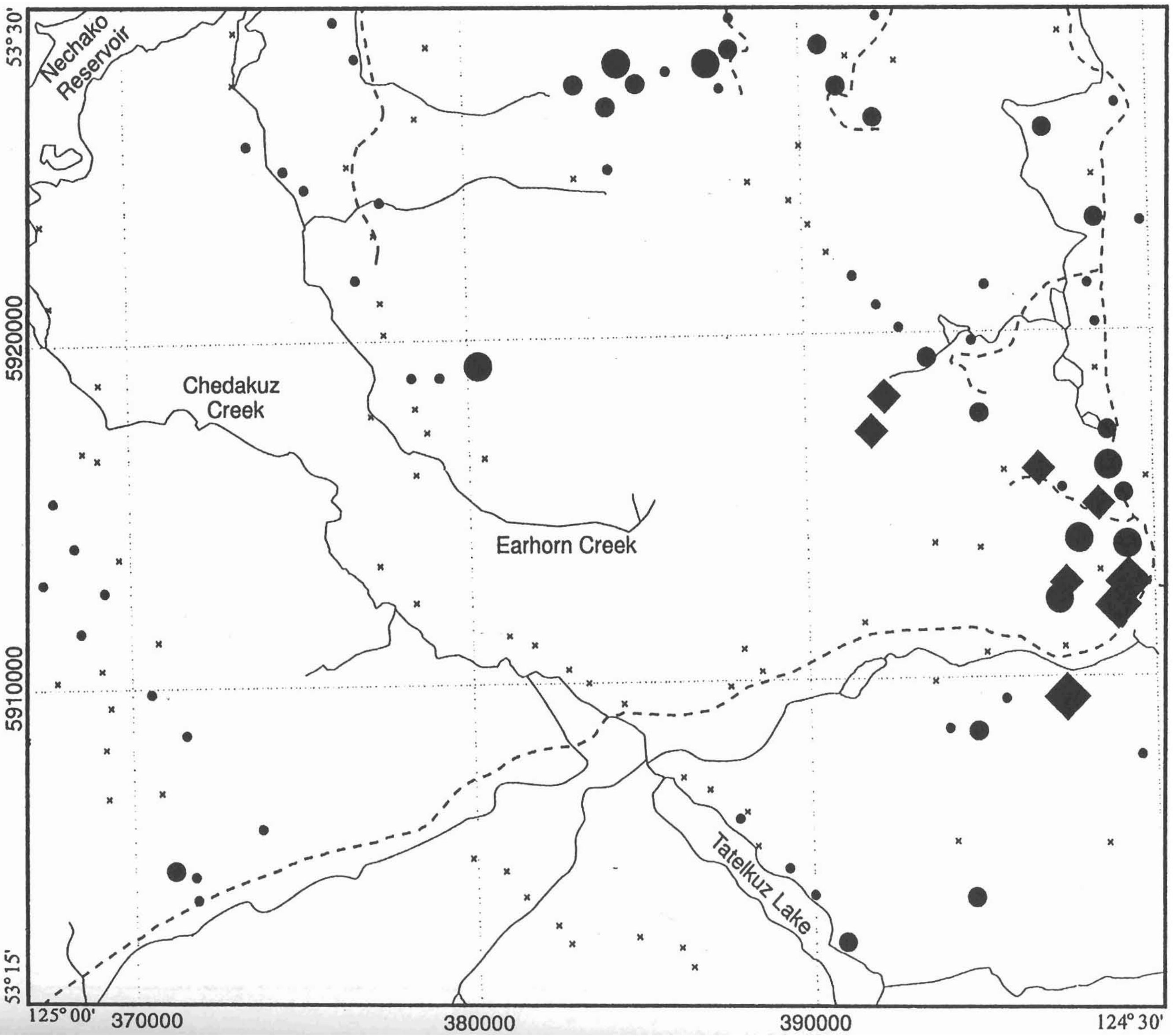
Transverse Mercator Projection

Roads - - - - - -

As (ppm)

Concentration	Frequency
48 - 119	n = 3 (2%)
29 - 37	n = 5 (3%)
20 - 26	n = 6 (5%)
13 - 19	n = 22 (15%)
8 - 12	n = 36 (25%)
2 - 7	n = 71 (50%)

Arsenic by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

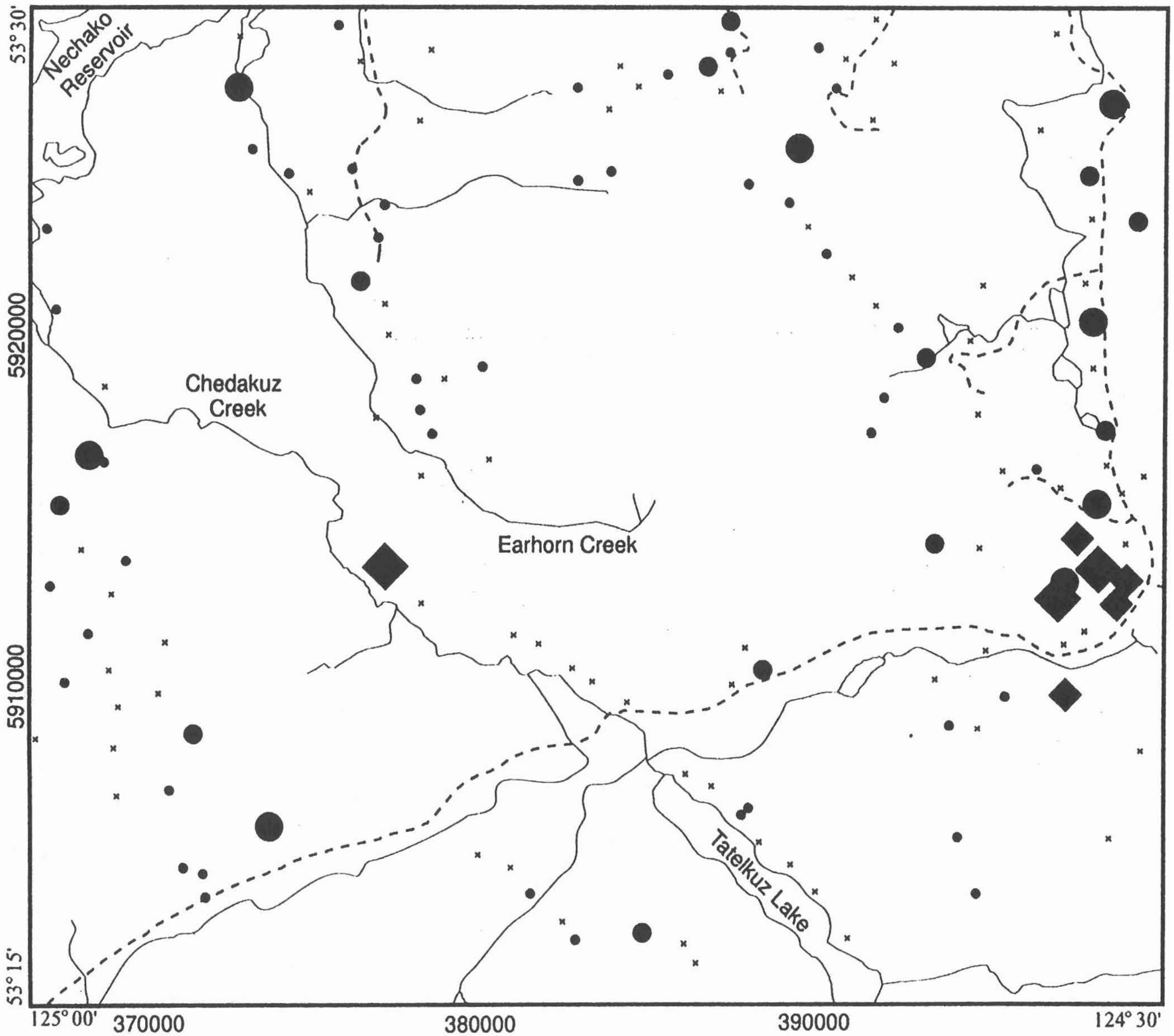
Transverse Mercator Projection

Roads - - - - - -

Cu (ppm)

Concentration	Frequency
128 - 355	n = 3 (2%)
59 - 76	n = 5 (3%)
52 - 58	n = 7 (5%)
40 - 50	n = 17 (15%)
30 - 39	n = 40 (25%)
11 - 29	n = 71 (50%)

Copper by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

Transverse Mercator Projection

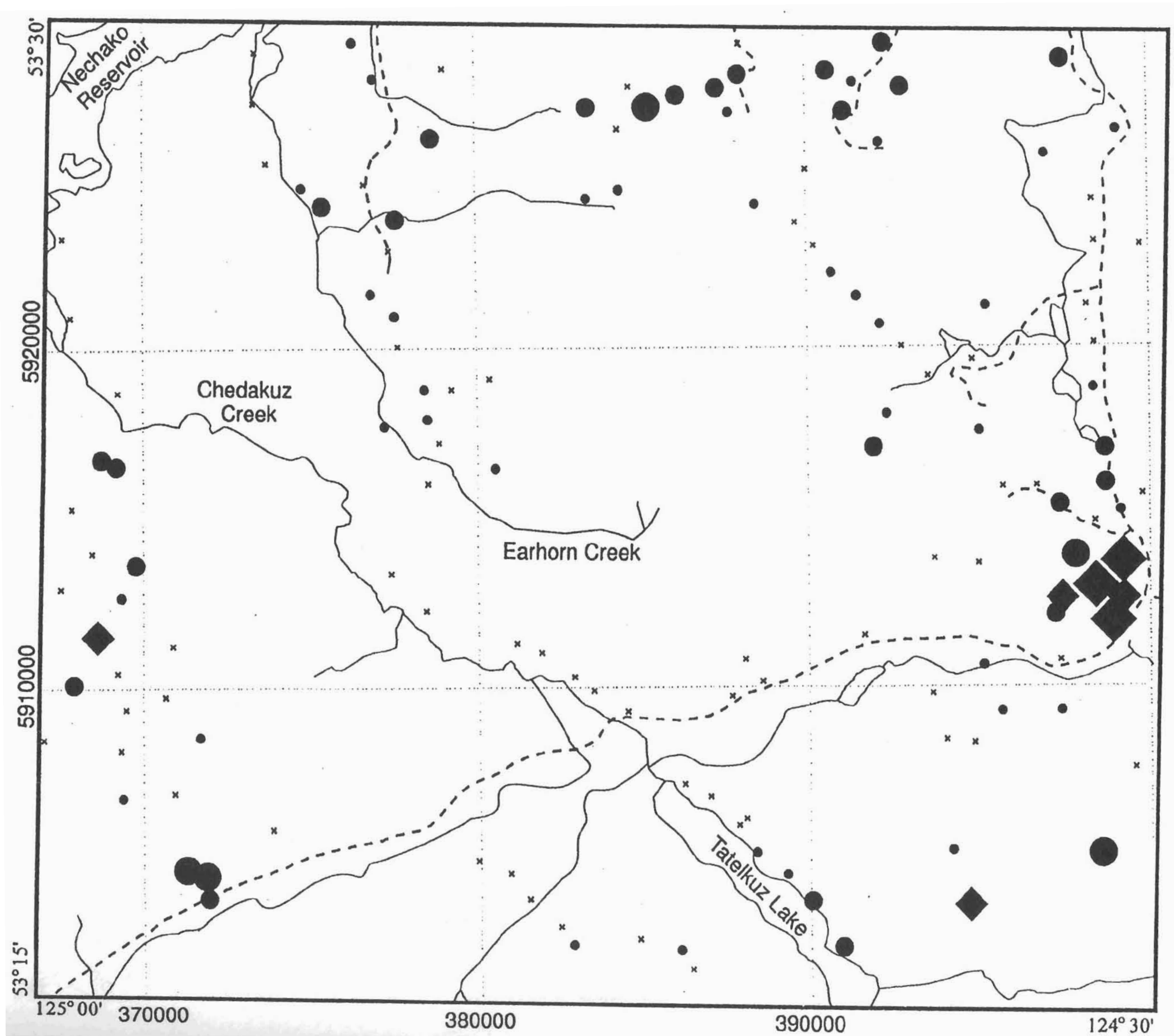
Roads - - - - - - -

Au (ppb)

Concentration	Frequency
29 - 79	n = 3 (2%)
17 - 24	n = 4 (3%)
10 - 16	n = 8 (5%)
8 - 9	n = 12 (15%)
5 - 7	n = 43 (25%)
0 - 4	n = 73 (50%)

Gold by INA

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



0 5 km

Transverse Mercator Projection

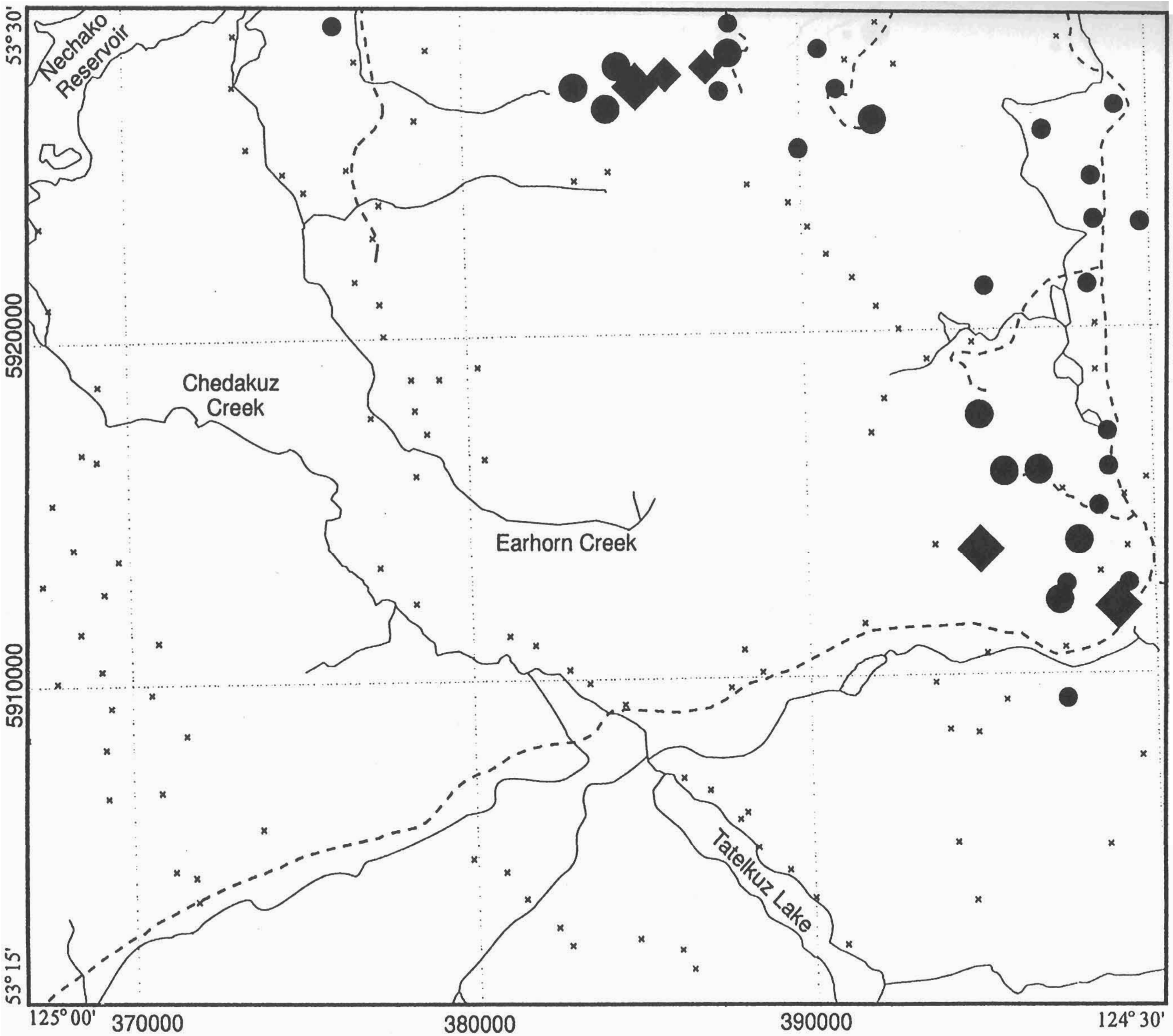
Roads - - - - - -

Pb (ppm)

Concentration		Frequency
26 - 55	◆	n = 3 (2%)
15 - 20	◆	n = 4 (3%)
13 - 14	●	n = 5 (5%)
11 - 12	●	n = 24 (15%)
9 - 10	•	n = 36 (25%)
2 - 8	×	n = 71 (50%)

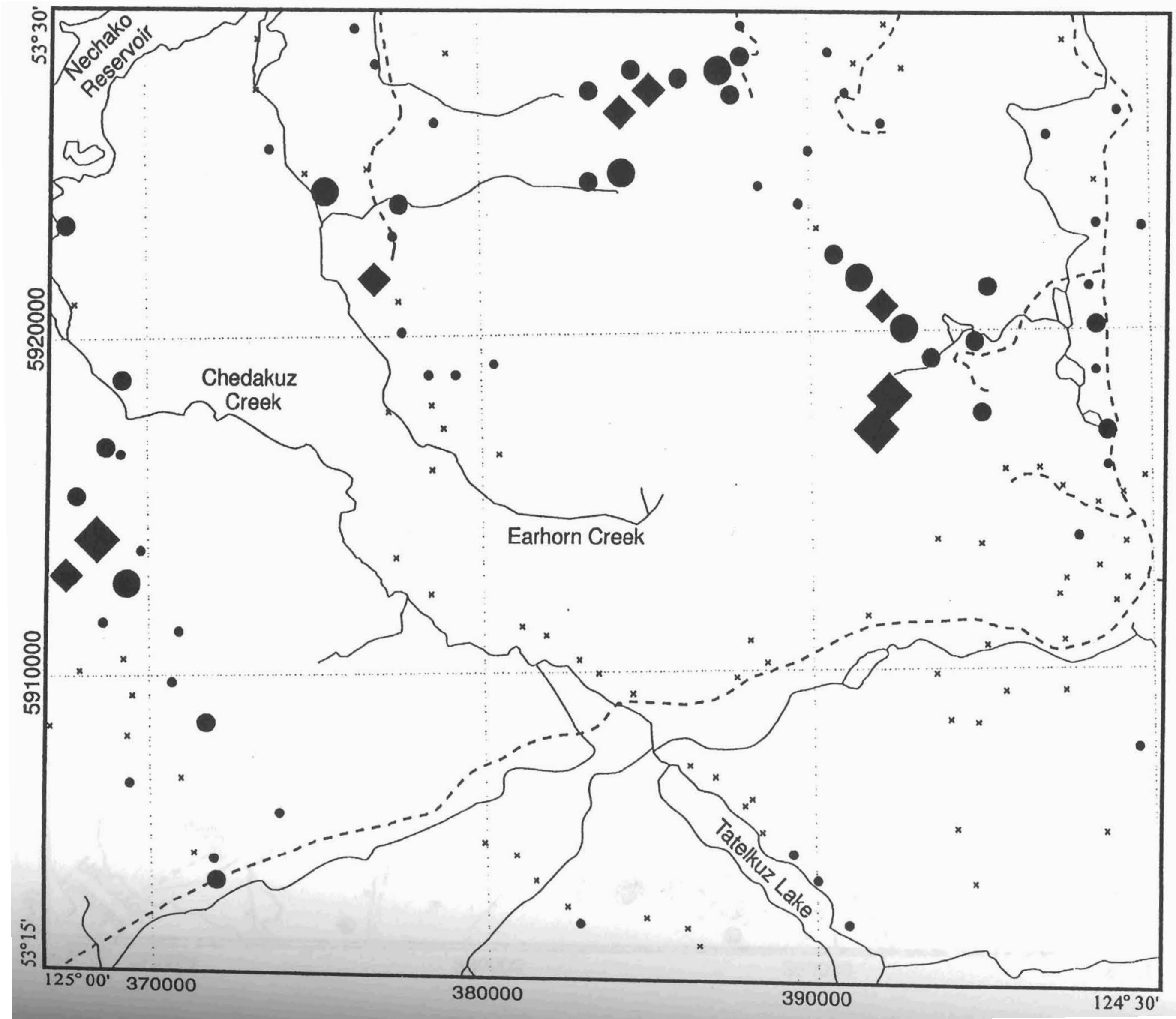
Lead by ICP

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



Concentration		Frequency
8 - 13	◆	n = 3 (2%)
6 - 7	◆	n = 2 (3%)
4 - 5	●	n = 10 (5%)
2 - 3	●	n = 19 (15%)
	•	n = 0 (25%)
1	×	n = 109 (50%)

Molybdenum by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

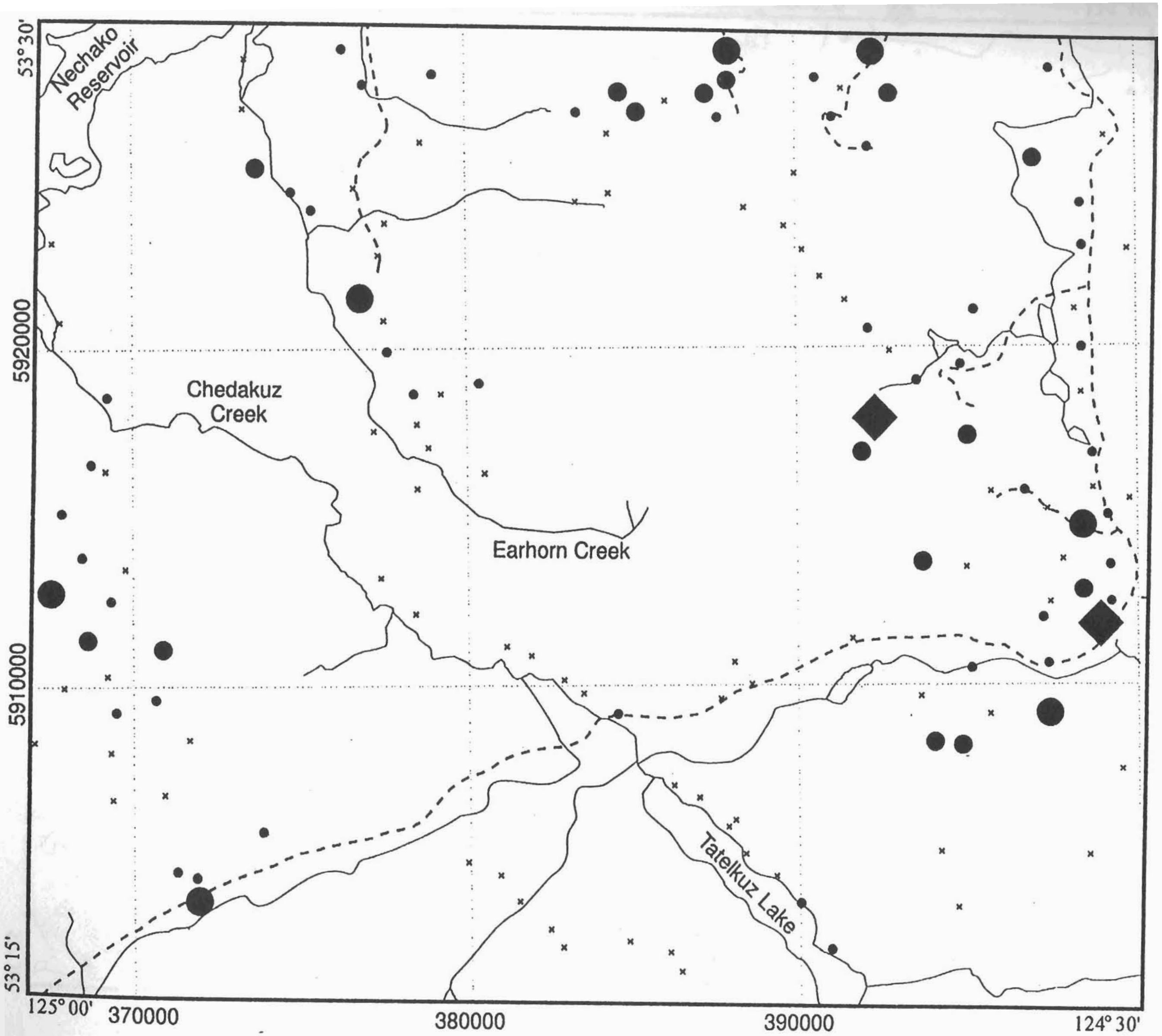
Roads - - - - - - -

Ni (ppm)

Concentration	Frequency
64 - 90	n = 3 (2%)
50 - 56	n = 5 (3%)
45 - 49	n = 6 (5%)
32 - 43	n = 20 (15%)
25 - 31	n = 37 (25%)
10 - 24	n = 72 (50%)

Nickel by ICP

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



0 5 km

Transverse Mercator Projection

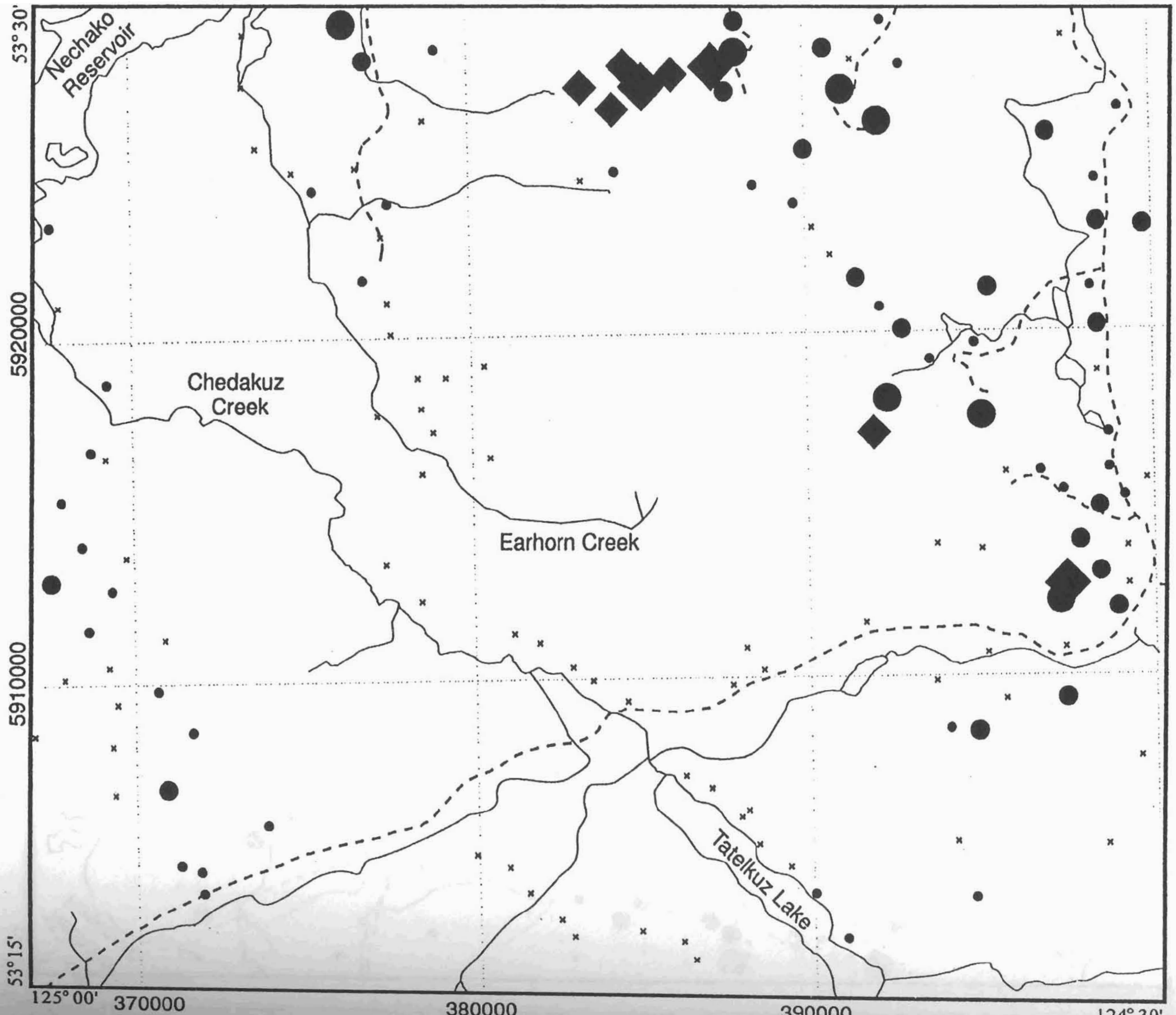
Roads - - - - - - -

Ag (ppm)

Concentration		Frequency
.5 - 1.2	◆	n = 2 (2%)
	◆	n = 0 (3%)
.4	●	n = 7 (5%)
.3	●	n = 15 (15%)
.2	•	n = 42 (25%)
.1	×	n = 77 (50%)

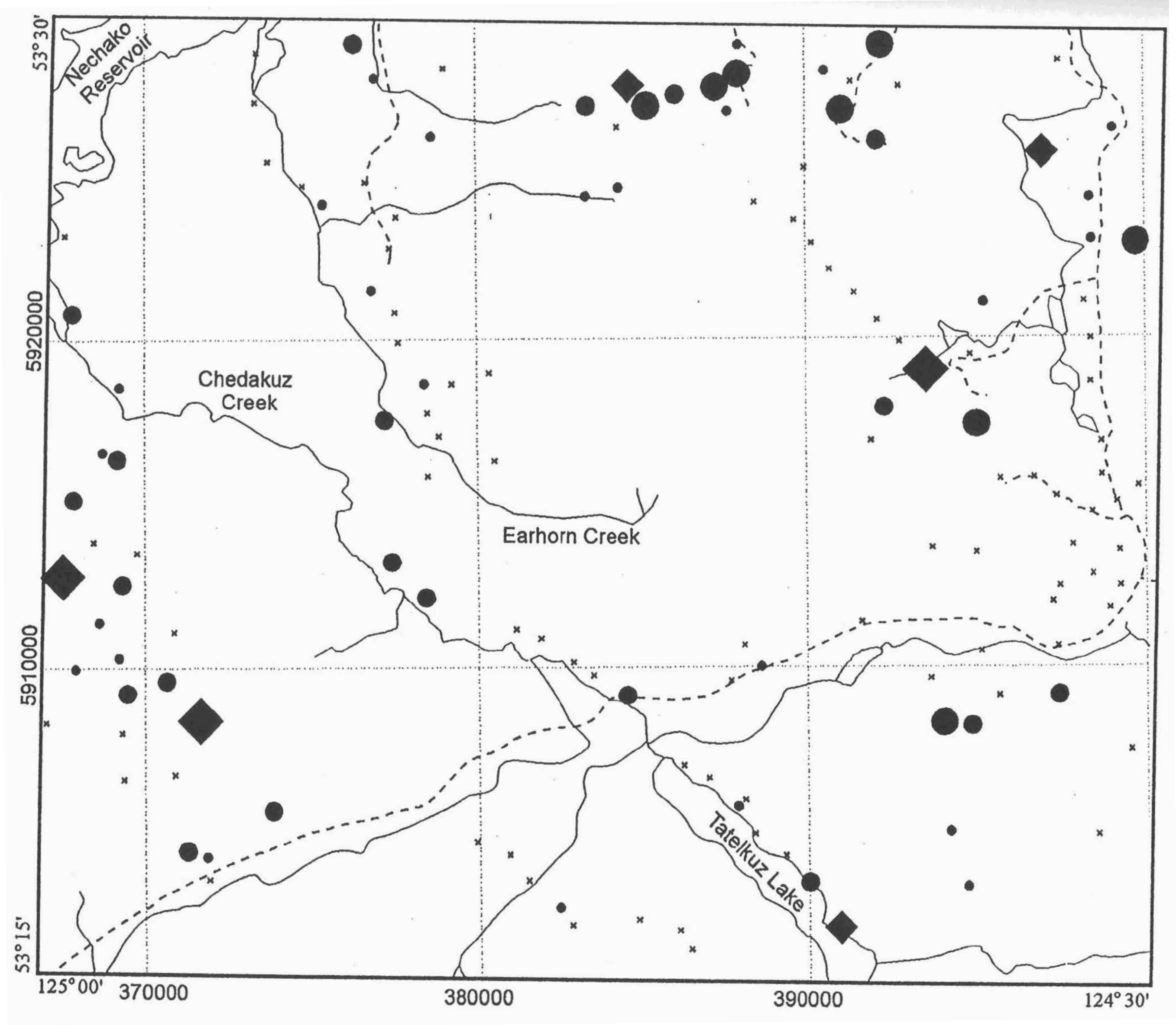
Silver by ICP

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



Concentration		Frequency
195 - 250	◆	n = 3 (2%)
145 - 167	◆	n = 5 (3%)
117 - 143	●	n = 7 (5%)
88 - 114	●	n = 20 (15%)
68 - 87	•	n = 37 (25%)
25 - 67	×	n = 71 (50%)

Zinc by ICP



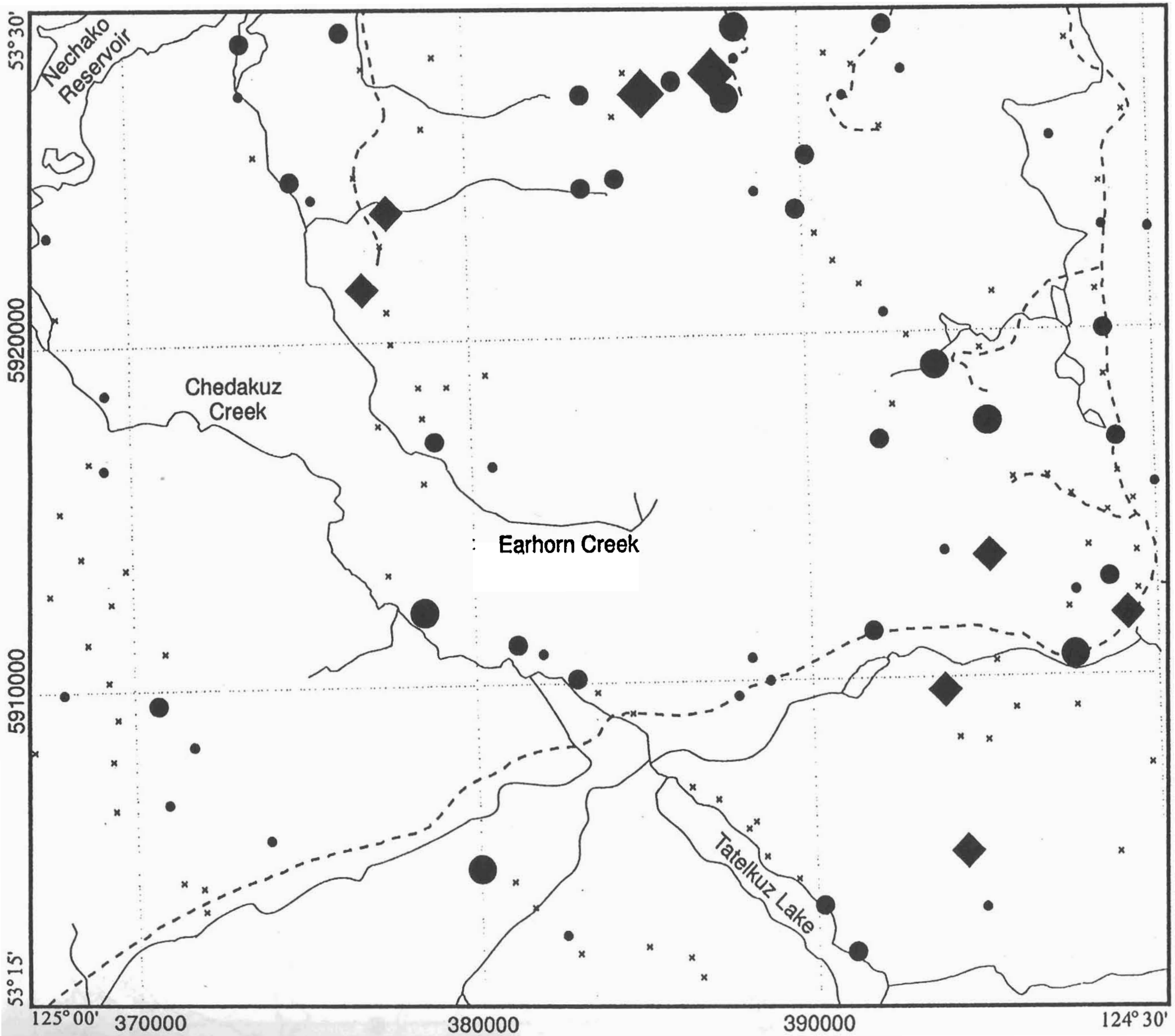
Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

Roads - - - - - -

Yb (ppm)

Concentration	Frequency
4.2 - 4.7	n = 3 (2%)
4.1	n = 3 (3%)
3.8 - 4.0	n = 8 (5%)
3.4 - 3.7	n = 20 (15%)
3.2 - 3.3	n = 25 (25%)
1.5 - 3.1	n = 84 (50%)

Ytterbium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

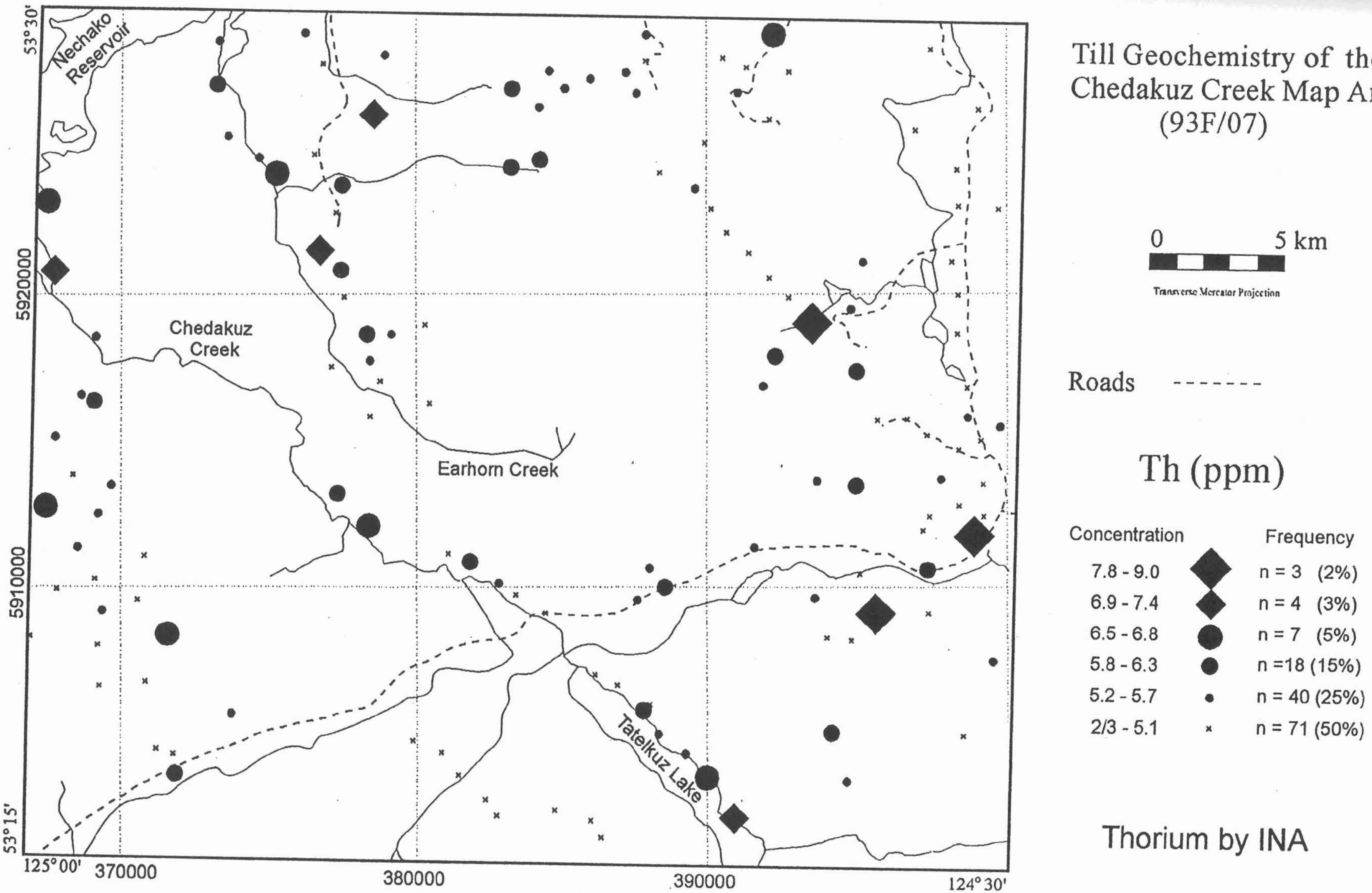
Transverse Mercator Projection

Roads - - - - - - -

U (ppm)

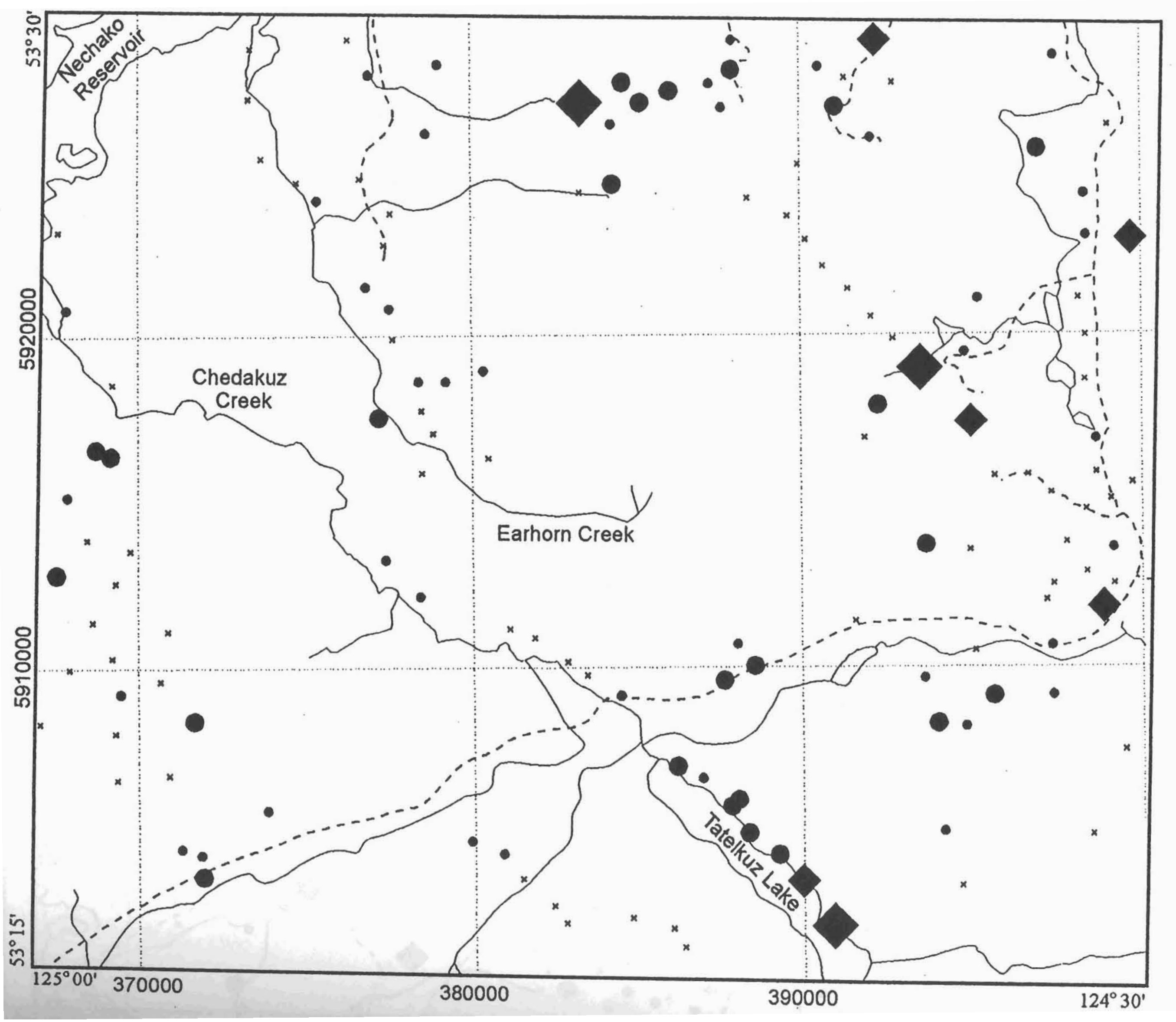
Concentration	Frequency
3.3 - 3.7	n = 2 (2%)
3.0 - 3.2	n = 6 (3%)
2.8 - 2.9	n = 7 (5%)
2.5 - 2.7	n =21 (15%)
2.2 - 2.4	n = 27 (25%)
1.1 - 2.1	n = 80 (50%)

Uranium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

Thorium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

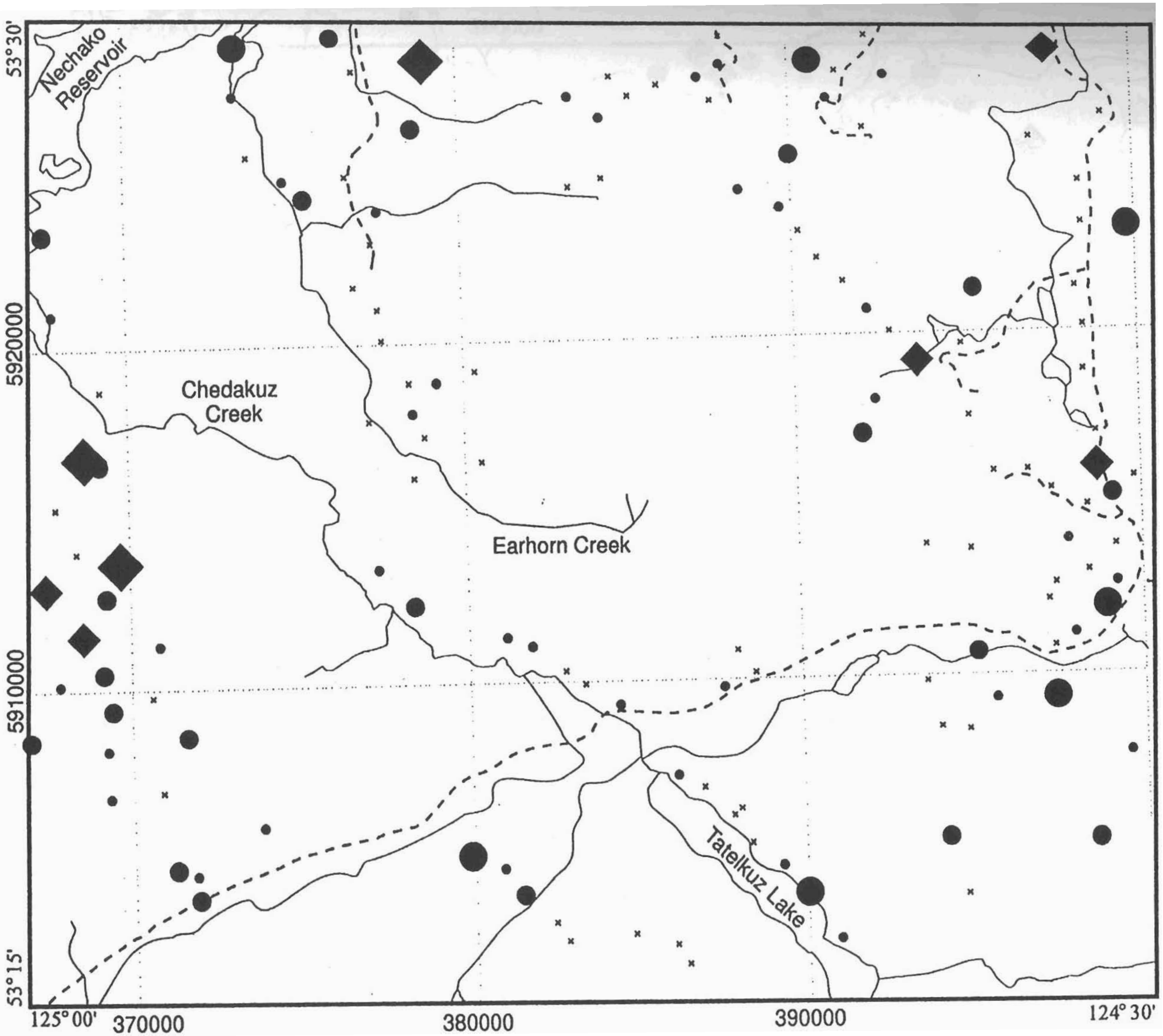
Transverse Mercator Projection

Roads - - - - - -

Sm (ppm)

Concentration		Frequency
6.3 - 7.1	◆	n = 3 (2%)
5.7 - 6.2	◆	n = 5 (3%)
	●	n = 0 (5%)
5.1 - 5.6	●	n = 24 (15%)
4.6 - 5.0	•	n = 40 (25%)
2.4 - 4.5	×	n = 71 (50%)

Samarium by INA



Till Geochemistry of the
Chedakuz Creek Map Area
(93F/07)

0 5 km

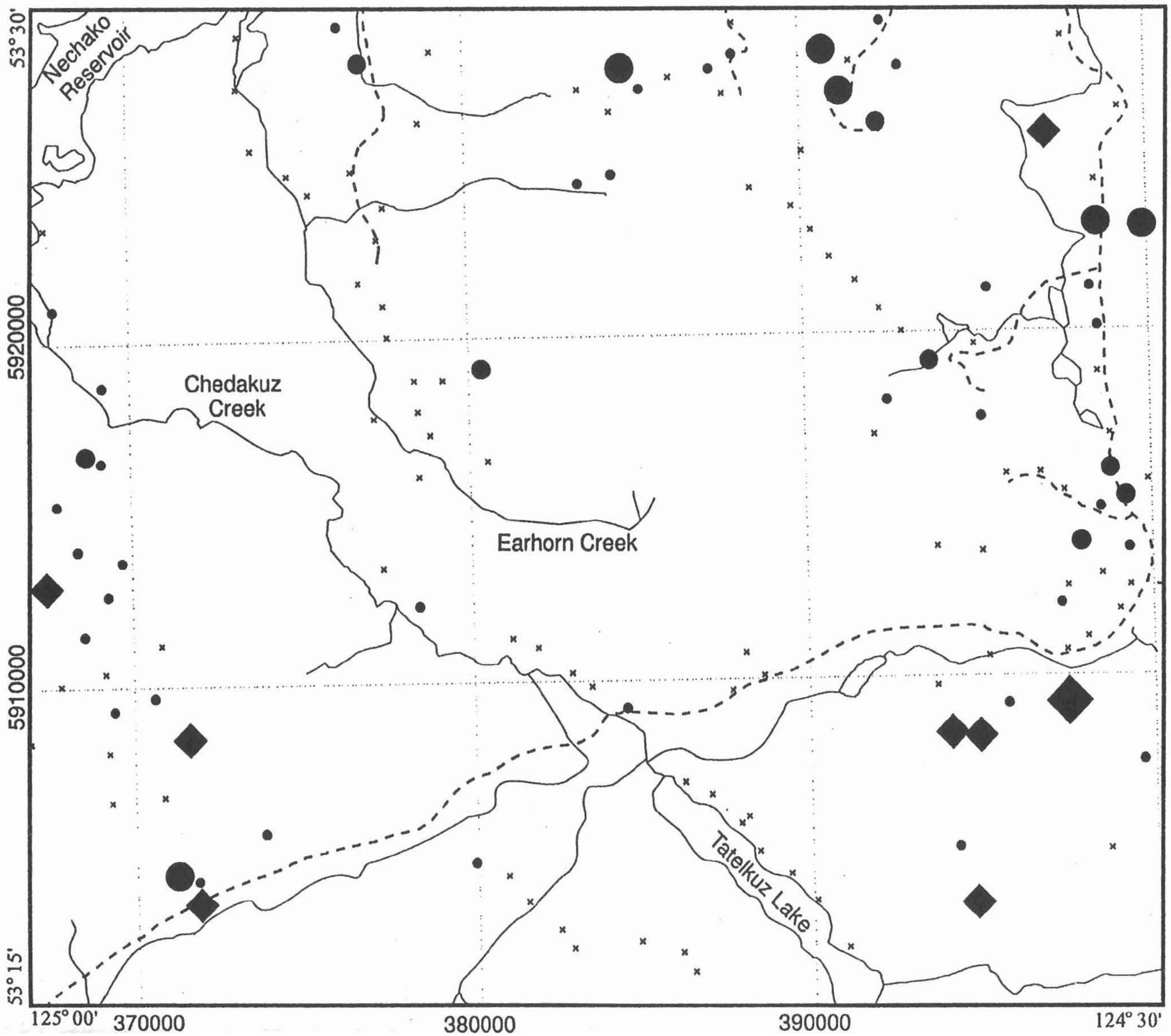
Transverse Mercator Projection

Roads - - - - - -

Rb (ppm)

Concentration	Frequency
85 - 87	n = 3 (2%)
74 - 84	n = 5 (3%)
69 - 73	n = 7 (5%)
61 - 68	n = 21 (15%)
51 - 60	n = 35 (25%)
5 - 50	n = 72 (50%)

Rubidium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

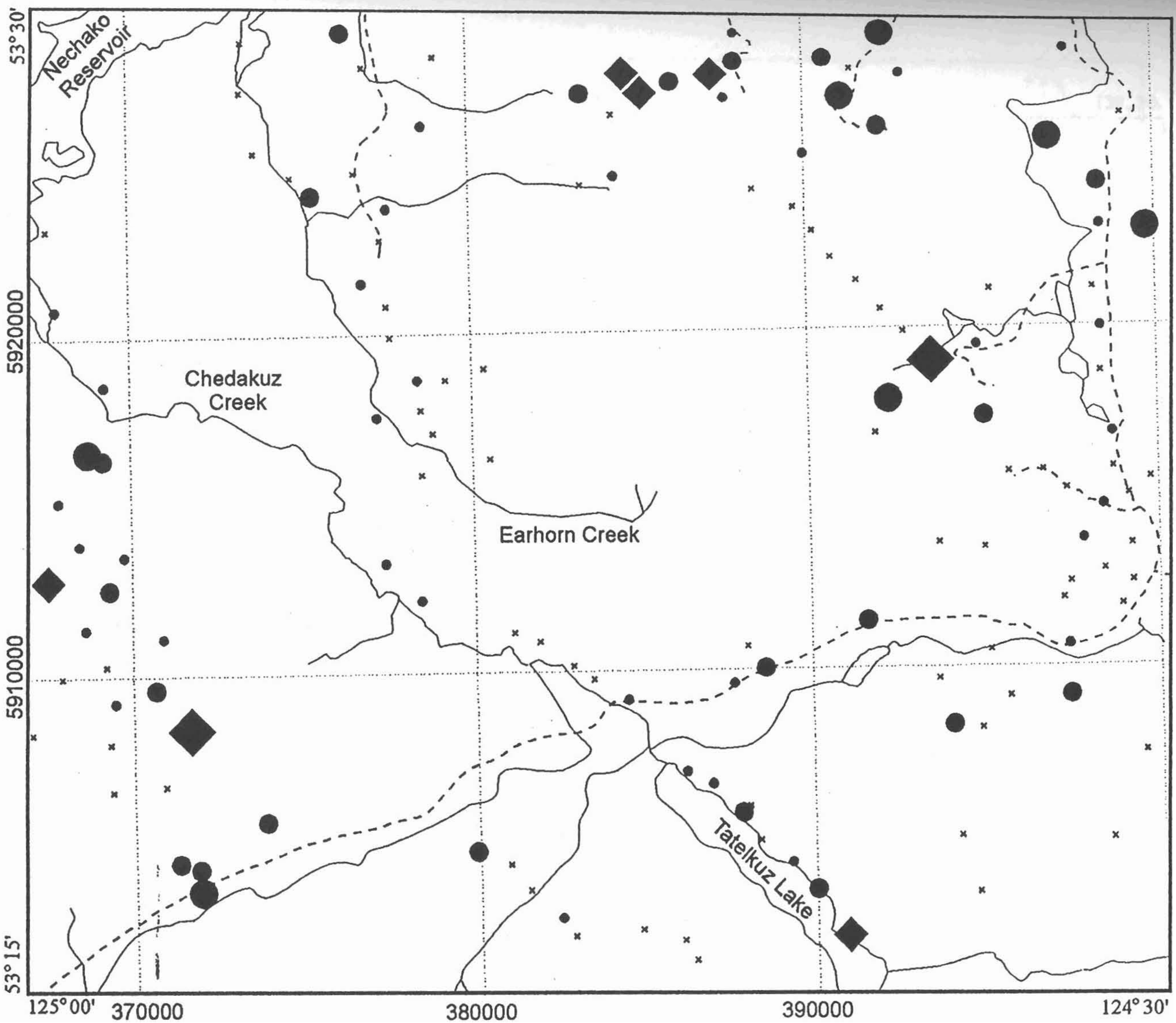
Transverse Mercator Projection

Roads - - - - - -

Sc (ppm)

Concentration	Frequency
23	n = 1 (2%)
19 - 20	n = 7 (3%)
18	n = 6 (5%)
17	n = 8 (15%)
15 - 16	n = 34 (25%)
7.6 - 14	n = 87 (50%)

Scandium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

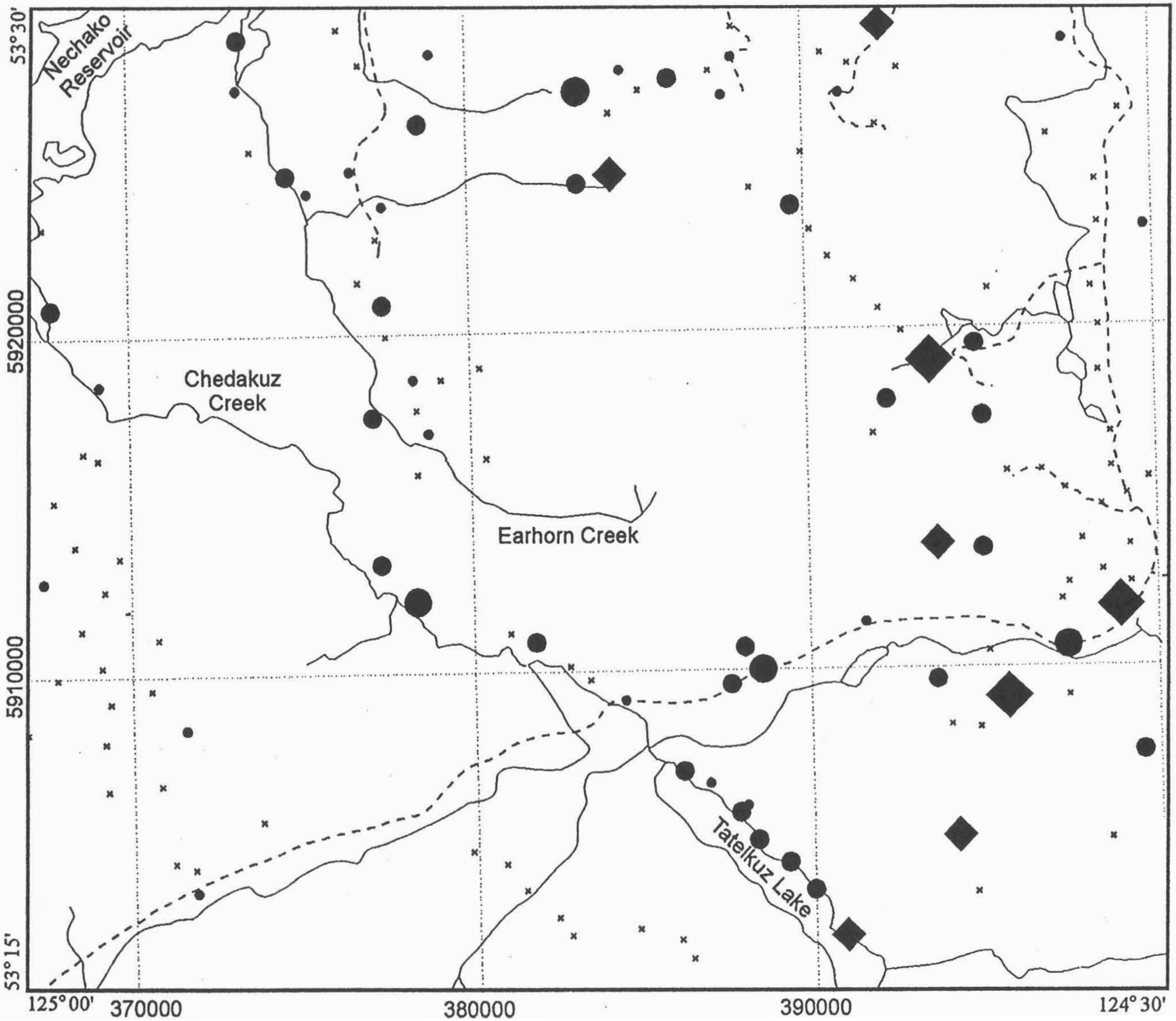
Transverse Mercator Projection

Roads - - - - - -

Lu (ppm)

Concentration	Frequency
.72 - .77	n = 2 (2%)
.66 - .69	n = 5 (3%)
.62 - .65	n = 7 (5%)
.55 - .61	n = 22 (15%)
.50 - .54	n = 34 (25%)
.26 - .49	n = 73 (50%)

Lutetium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

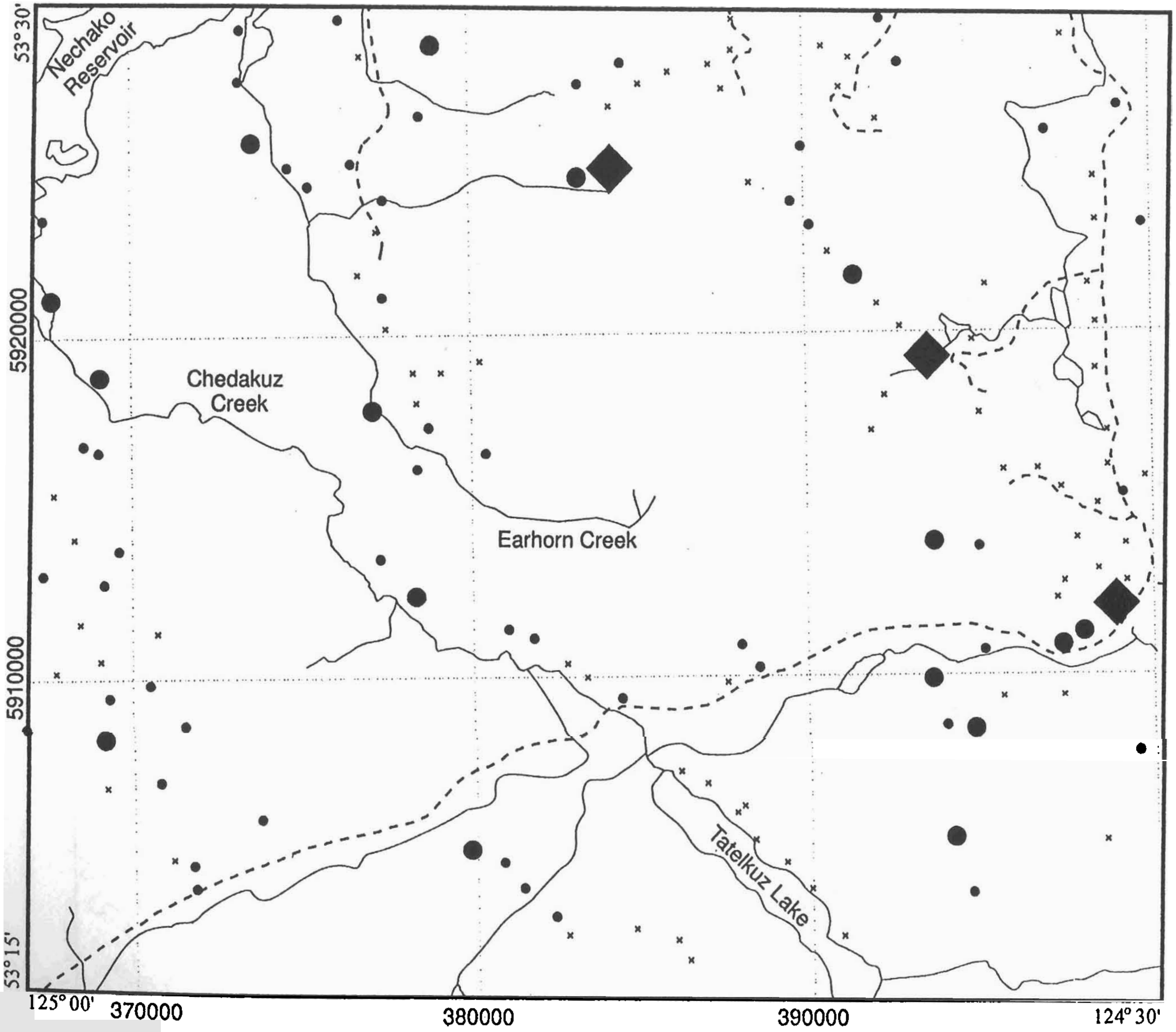
Transverse Mercator Projection

Roads - - - - - -

La (ppm)

Concentration	Frequency
31 - 37	n = 2 (2%)
29 - 30	n = 6 (3%)
28	n = 7 (5%)
25 - 27	n =21 (15%)
24	n = 27 (25%)
12 - 23	n = 80 (50%)

Lanthanum by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

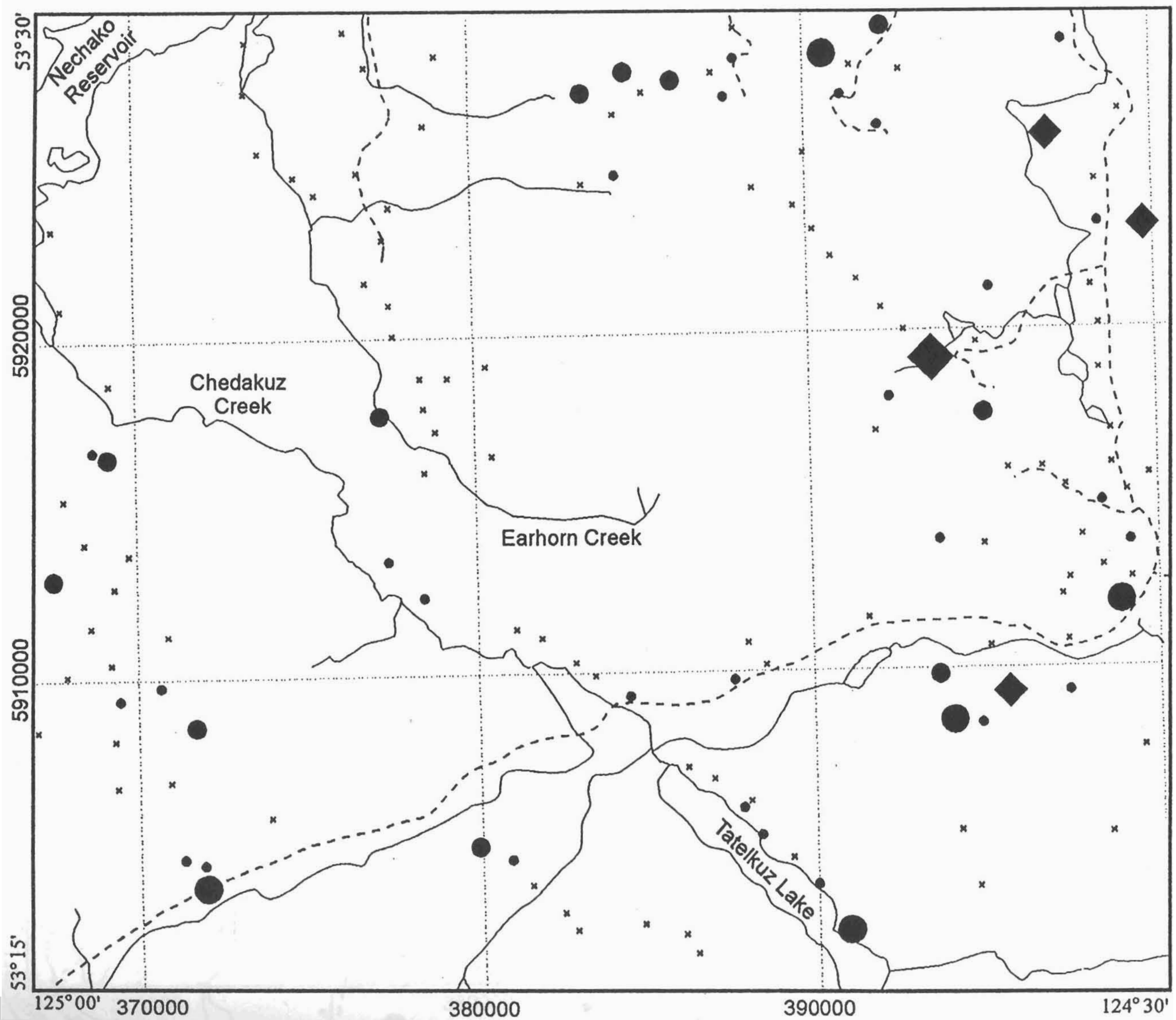
Transverse Mercator Projection

Roads - - - - - - -

Hf (ppm)

Concentration		Frequency
8	◆	n = 3 (2%)
	◆	n = 0 (3%)
	●	n = 0 (5%)
7	●	n = 16 (15%)
6	•	n = 51 (25%)
2 - 5		n = 73 (50%)

Hafnium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

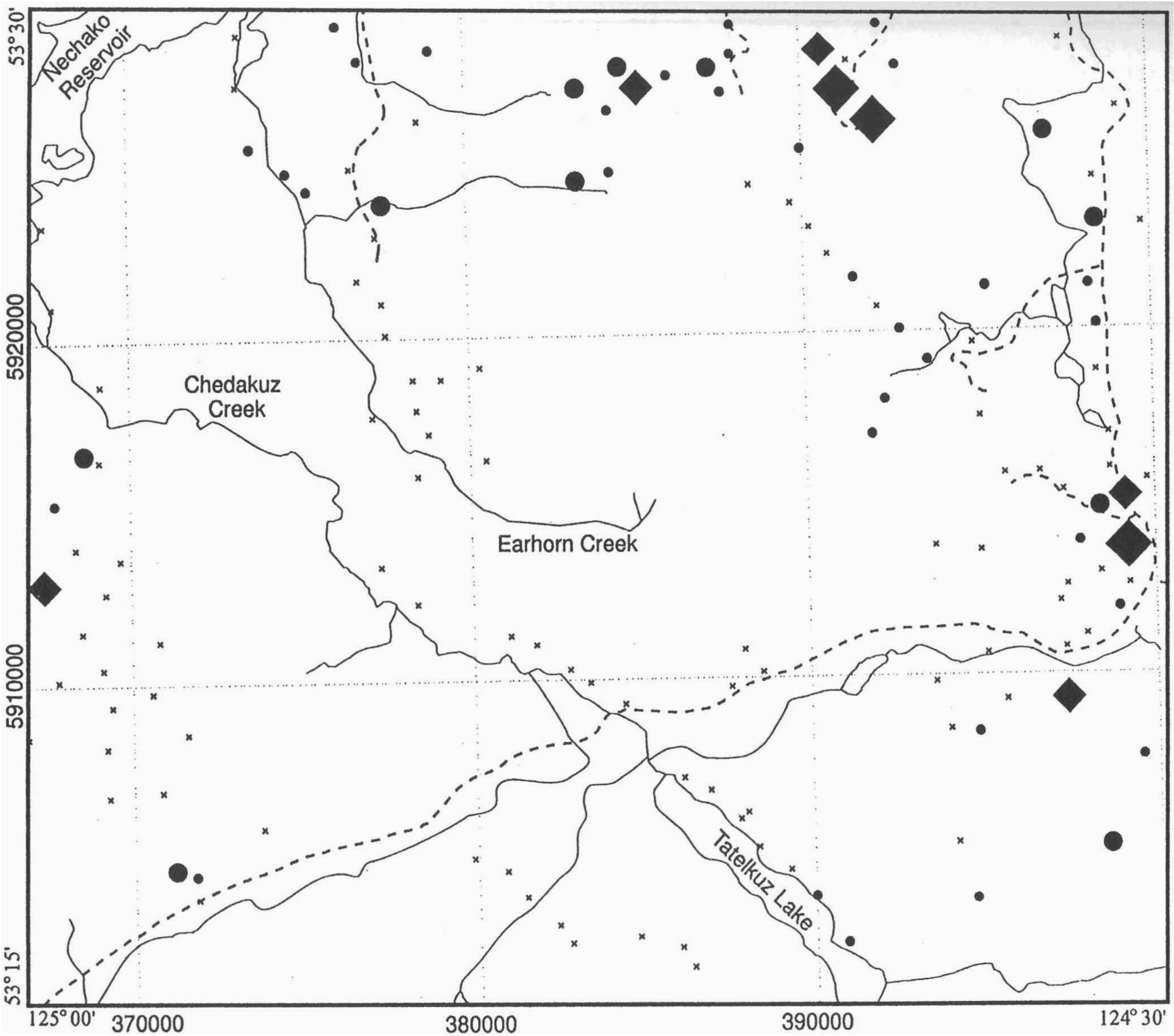
Transverse Mercator Projection

Roads - - - - - -

Eu (ppm)

Concentration	Frequency
2.1	n = 1 (2%)
1.8	n = 3 (3%)
1.7	n = 5 (5%)
1.6	n = 11 (15%)
1.5	n = 27 (25%)
.8 - 1.4	n = 96 (50%)

Europium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

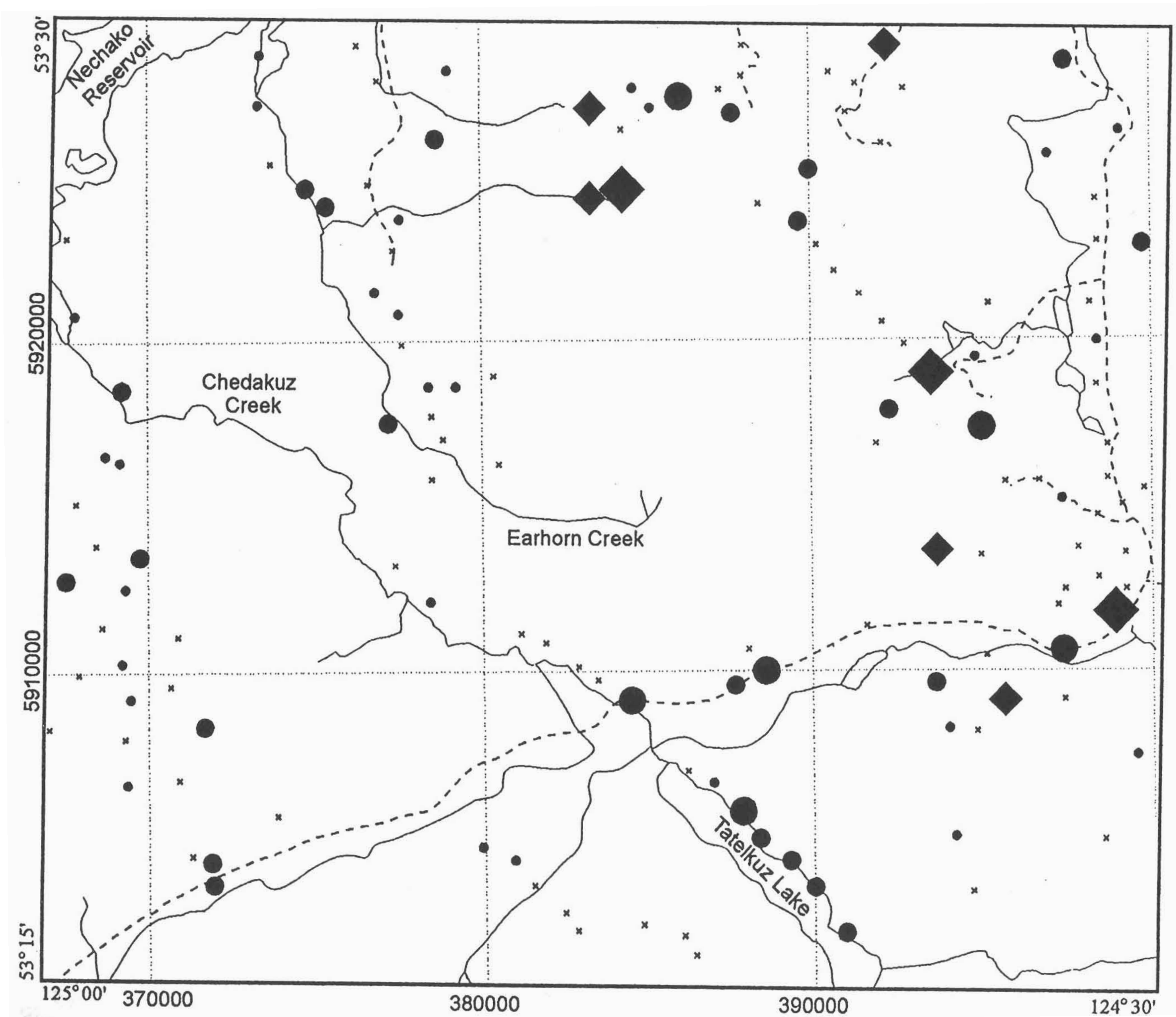
Transverse Mercator Projection

Roads - - - - - -

Cs (ppm)

Concentration	Frequency
6 - 11	n = 3 (2%)
5	n = 5 (3%)
	n = 0 (5%)
4	n = 11 (15%)
3	n = 32 (25%)
1 - 2	n = 92 (50%)

Cesium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

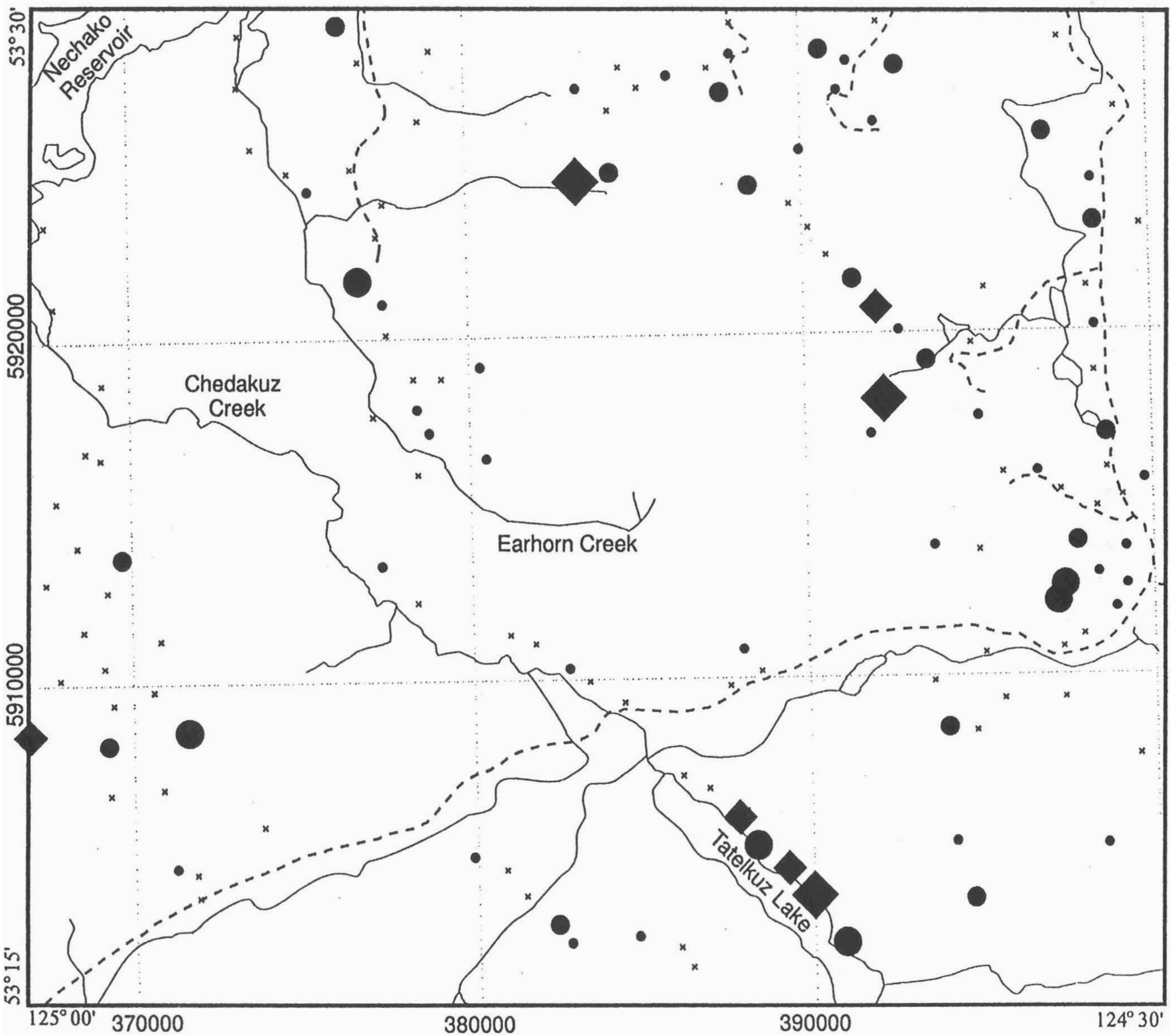
Transverse Mercator Projection

Roads - - - - - -

Ce (ppm)

Concentration	Frequency
74 - 84	n = 3 (2%)
59 - 67	n = 5 (3%)
56 - 58	n = 6 (5%)
51 - 55	n = 22 (15%)
47 - 50	n = 30 (25%)
22 - 46	n = 77 (50%)

Cerium by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

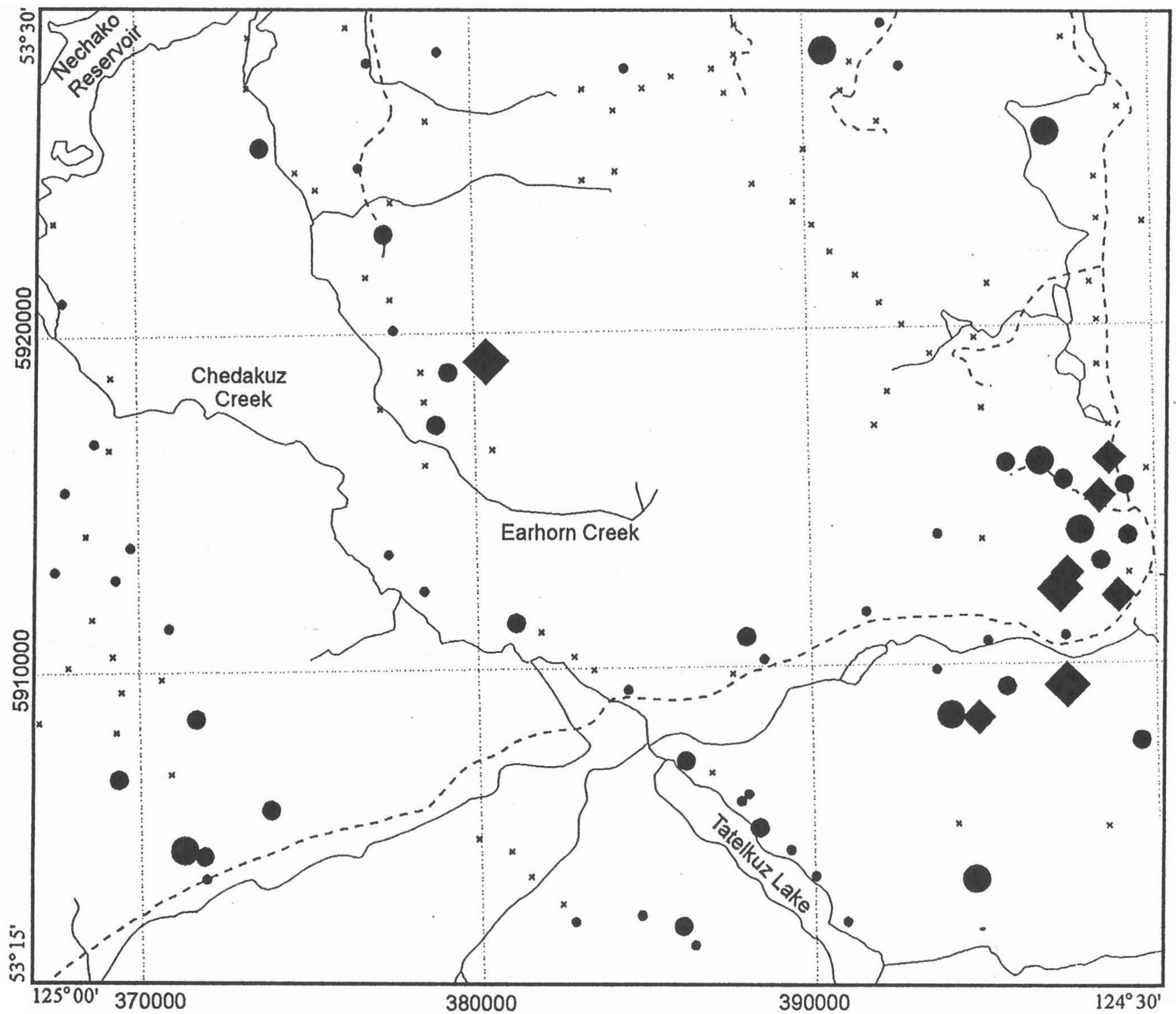
Transverse Mercator Projection

Roads - - - - - -

Br (ppm)

Concentration		Frequency
5.5 - 6.3	◆	n = 3 (2%)
4.1 - 5.2	◆	n = 4 (3%)
3.1 - 4.0	●	n = 6 (5%)
2.1 - 3.0	●	n = 17 (15%)
.9 - 2.0	•	n = 34 (25%)
0	×	n = 79 (50%)

Bromine by INA



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

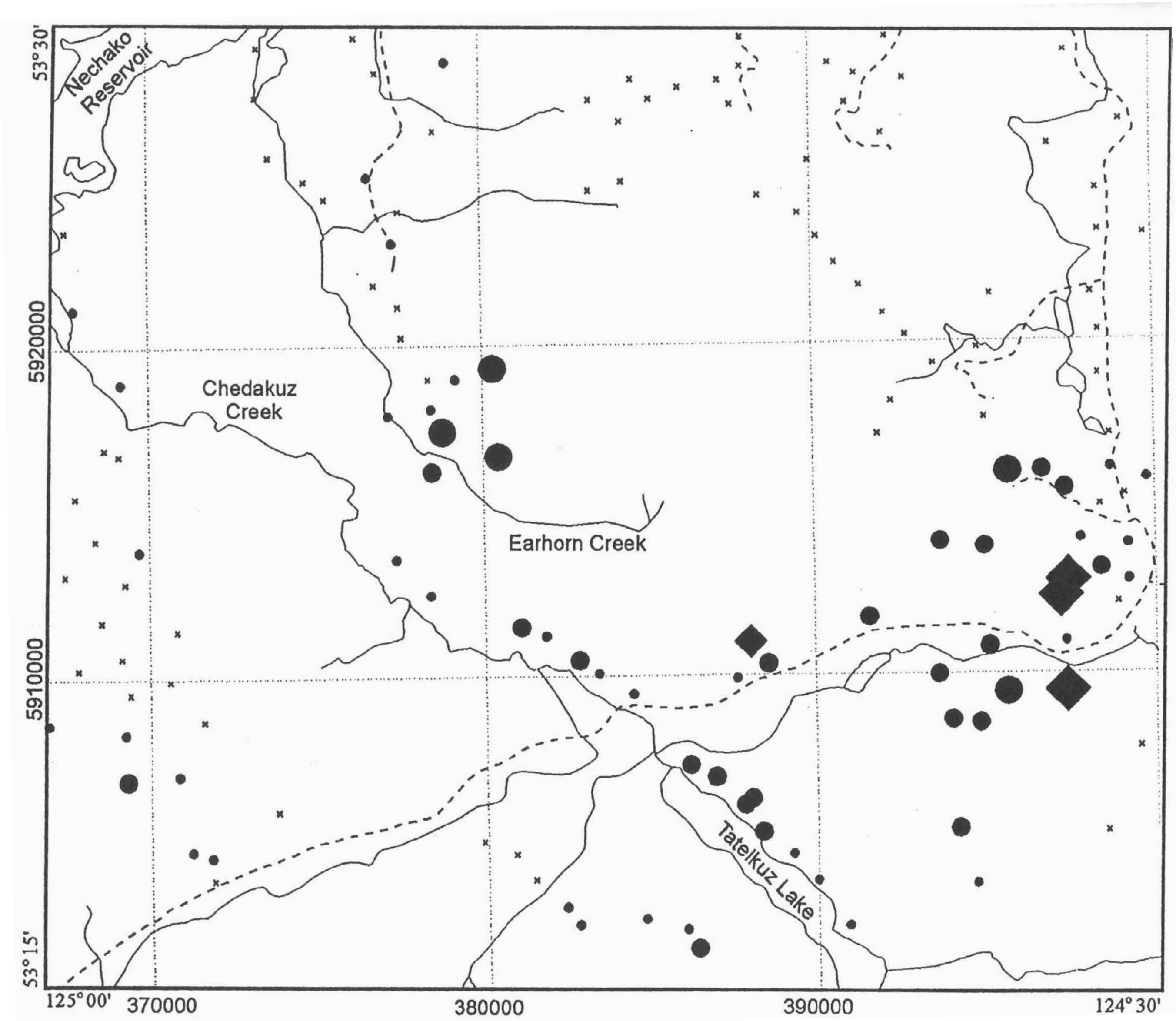
Transverse Mercator Projection

Roads - - - - - -

V (ppm)

Concentration		Frequency
123 - 140	◆	n = 3 (2%)
92 - 121	◆	n = 5 (3%)
86 - 91	●	n = 7 (5%)
80 - 85	●	n = 20 (15%)
75 - 79	•	n = 32 (25%)
34 - 74	×	n = 76 (50%)

Vanadium by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

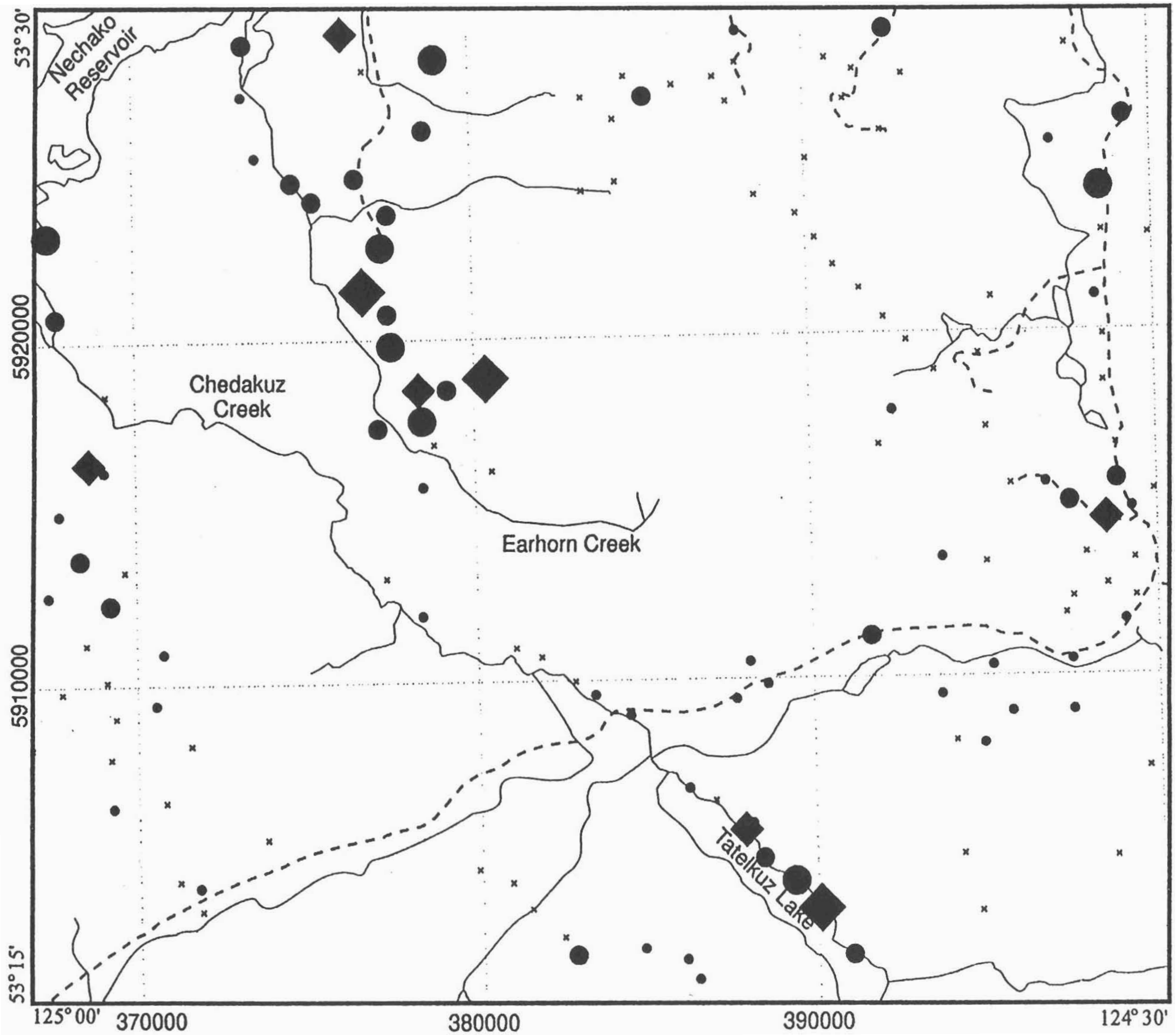
Transverse Mercator Projection

Roads - - - - - - -

Ti (%)

Concentration	Frequency
.24 - .25	n = 3 (2%)
.23	n = 1 (3%)
.22	n = 5 (5%)
.19 - .21	n = 22 (15%)
.16 - .18	n = 34 (25%)
.05 - .15	n = 78 (50%)

Titanium by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

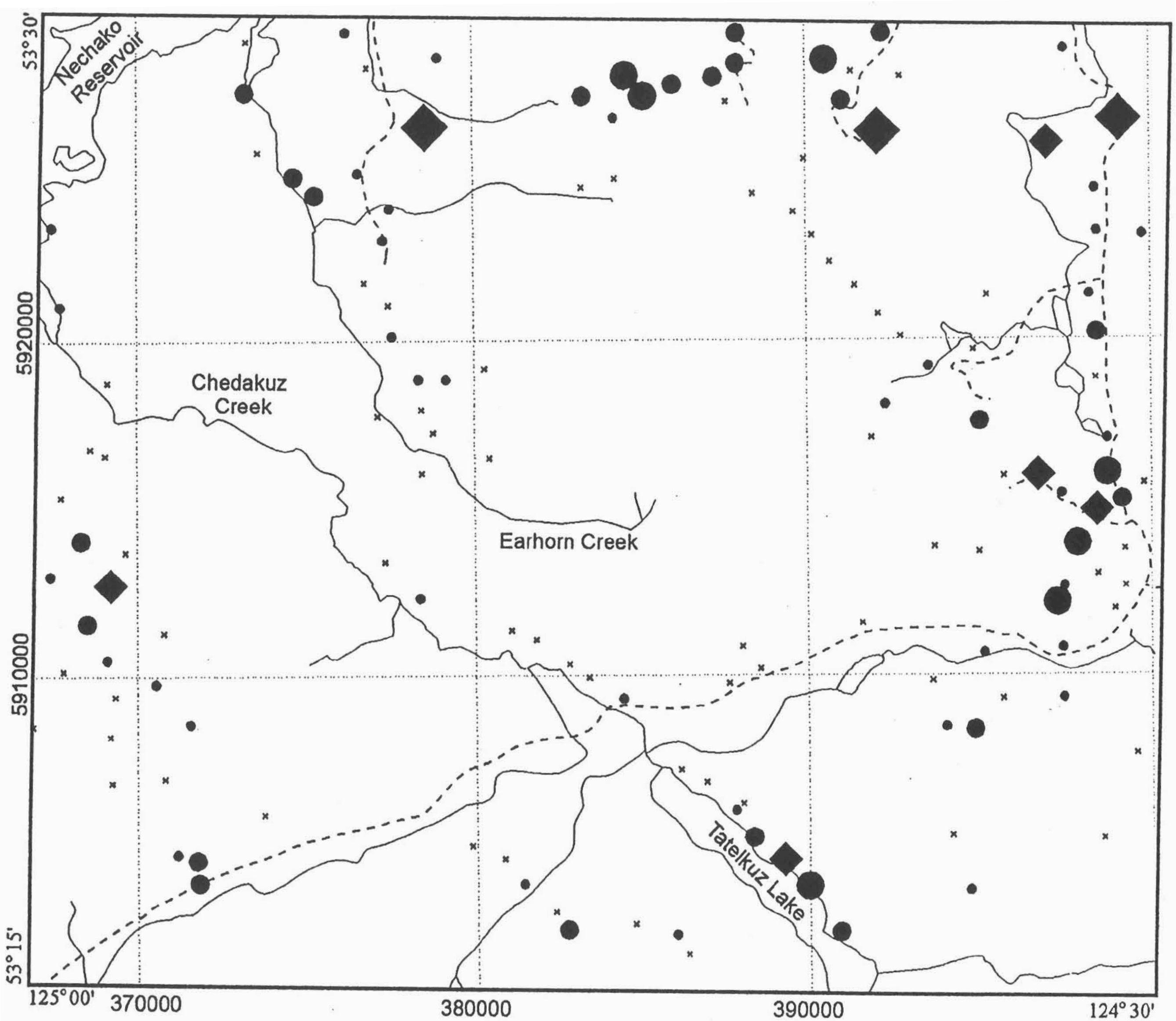
Transverse Mercator Projection

Roads ------

Sr (ppm)

Concentration	Frequency
107 - 194	n = 3 (2%)
84 - 98	n = 5 (3%)
78 - 83	n = 7 (5%)
65 - 77	n = 21 (15%)
54 - 64	n = 35 (25%)
18 - 53	n = 72 (50%)

Strontium by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

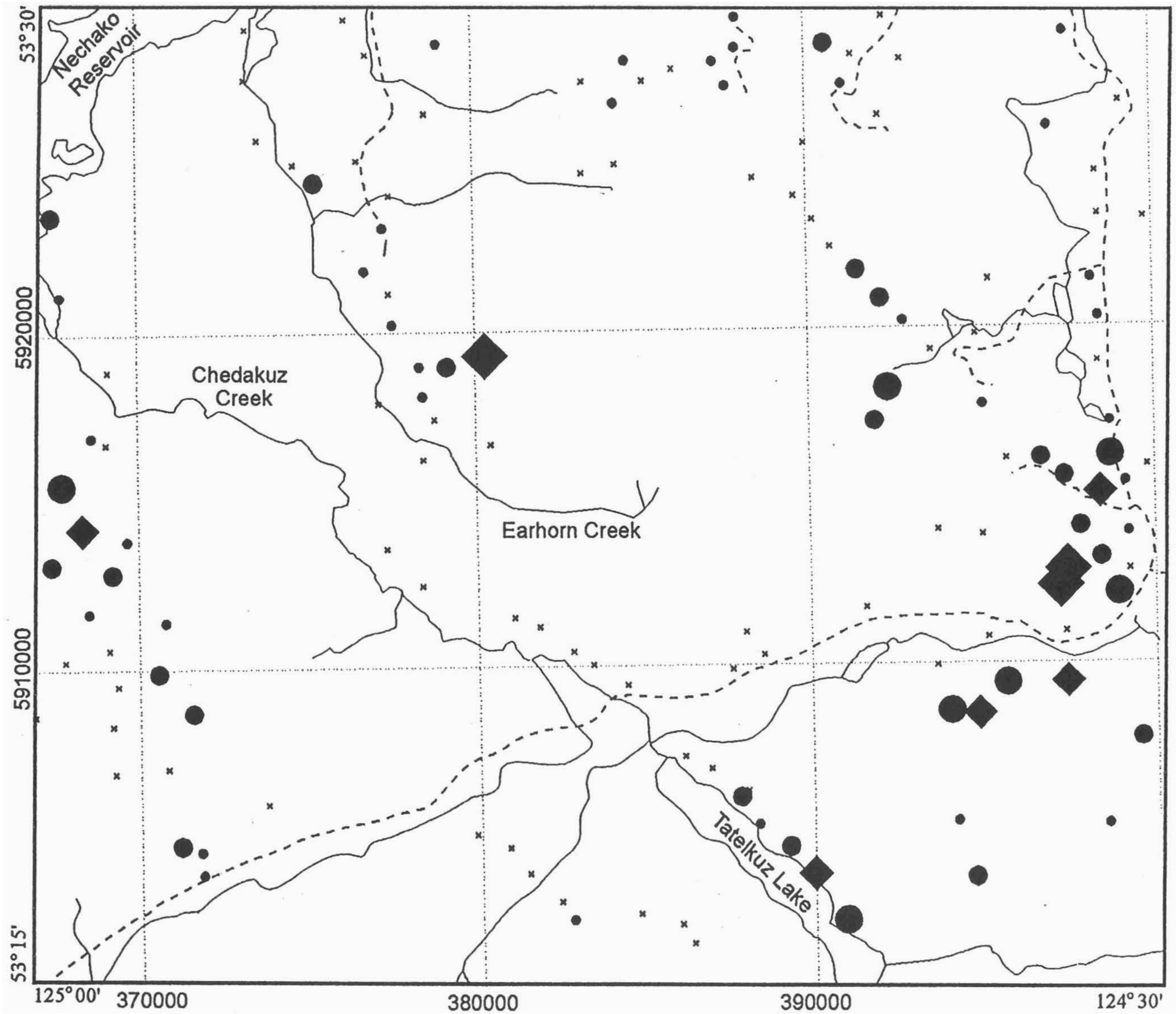
Transverse Mercator Projection

Roads - - - - - -

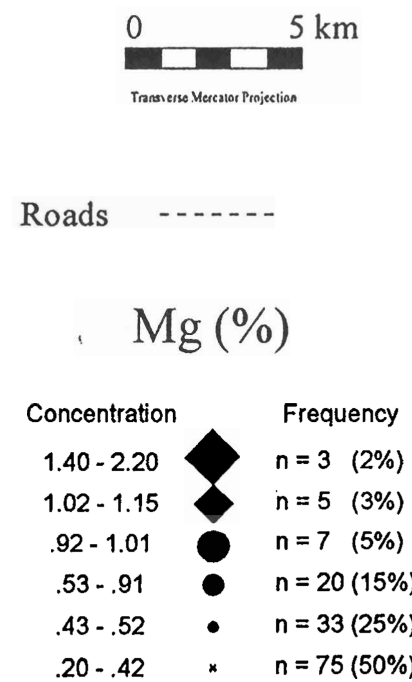
Mn (ppm)

Concentration	Frequency
1112 - 1156	n = 3 (2%)
896 - 1094	n = 5 (3%)
795 - 887	n = 7 (5%)
679 - 786	n = 21 (15%)
534 - 675	n = 36 (25%)
160 - 532	n = 71 (50%)

Manganese by ICP

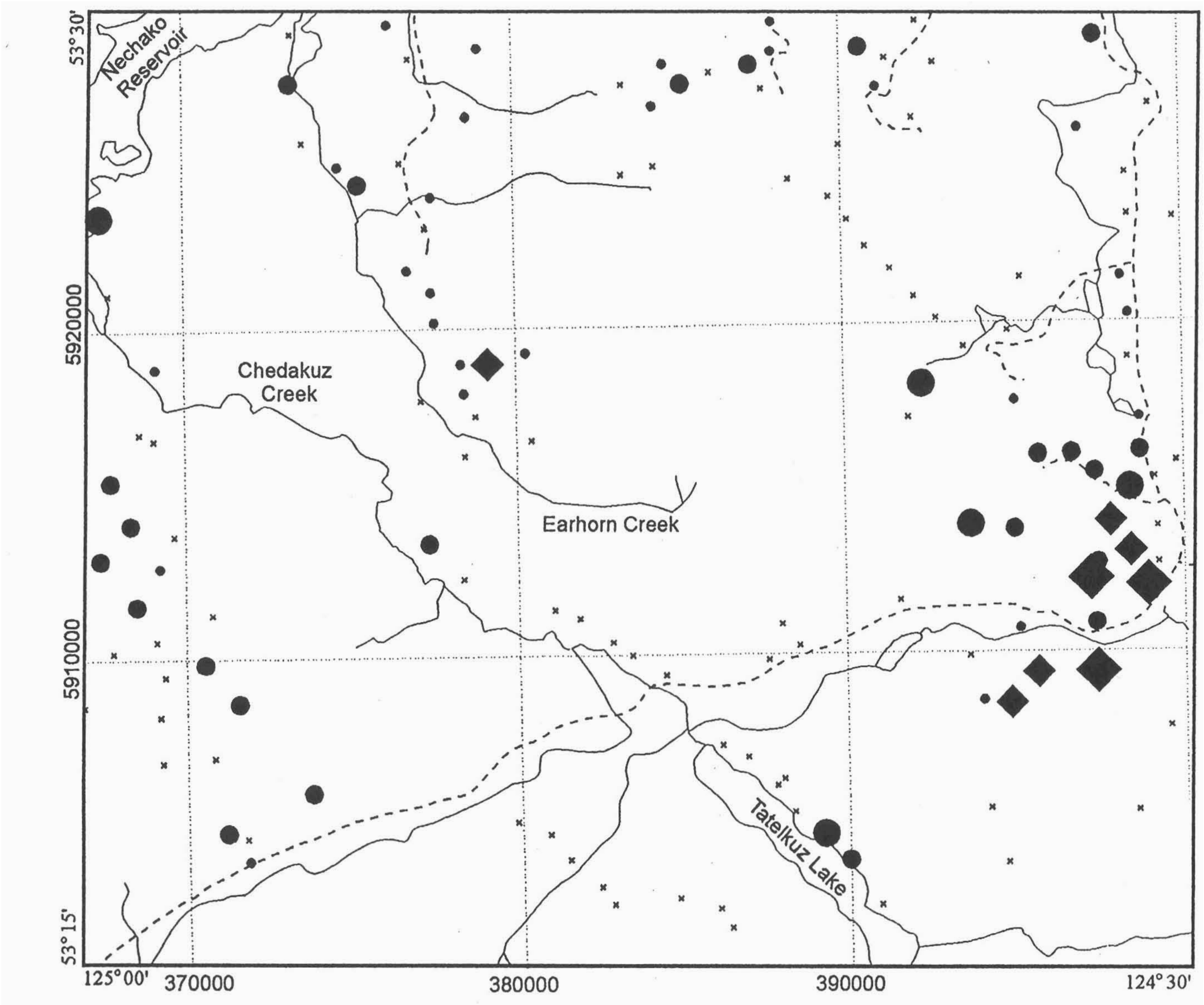


Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



Magnesium by ICP

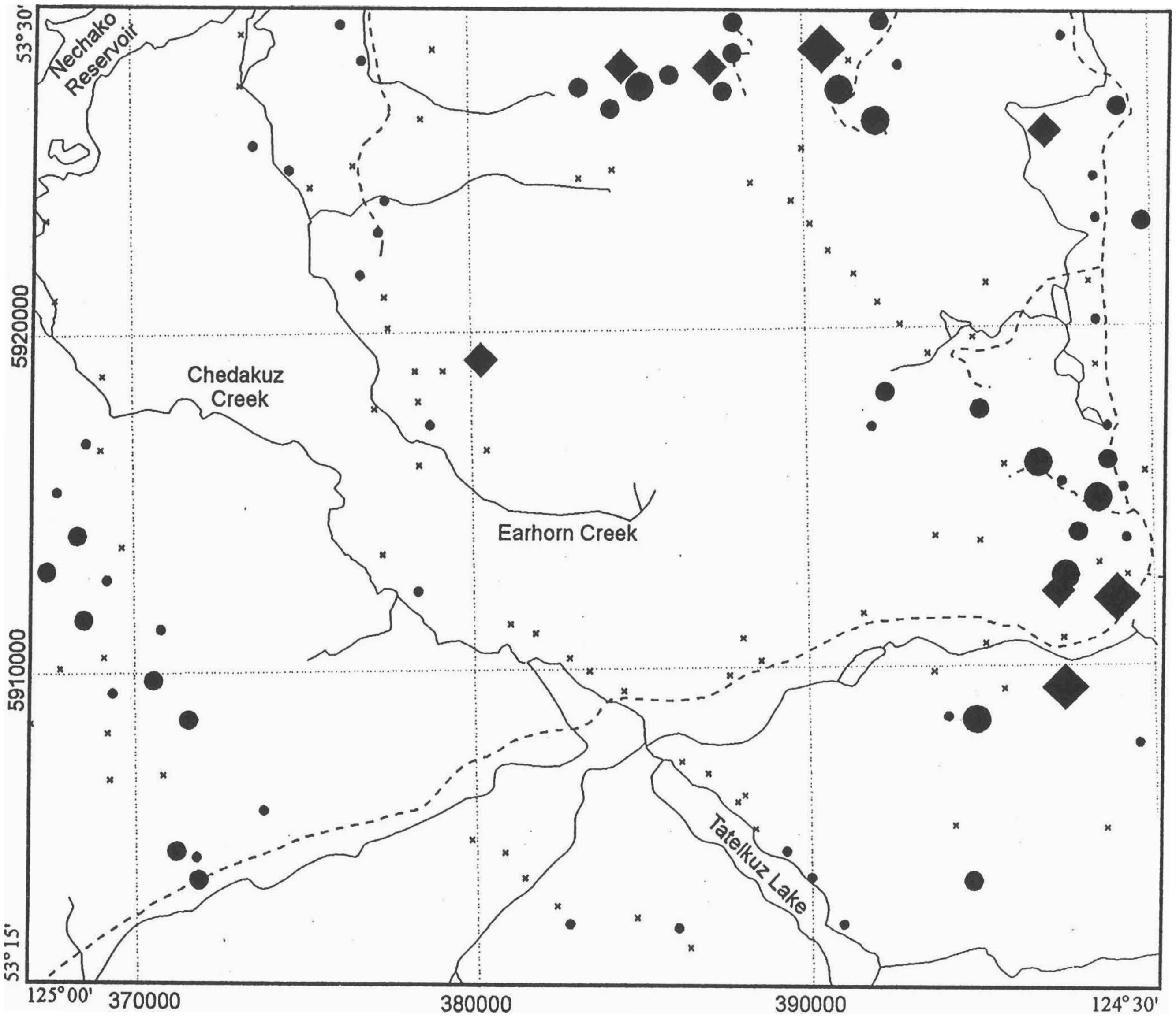
Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



K (%)

Concentration	Frequency
.44 - .73	n = 3 (2%)
.25 - .32	n = 5 (3%)
.17 - .20	n = 5 (5%)
.13 - .16	n = 23 (15%)
.11 - .12	n = 26 (25%)
.01 - .10	n = 81 (50%)

Potasium by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

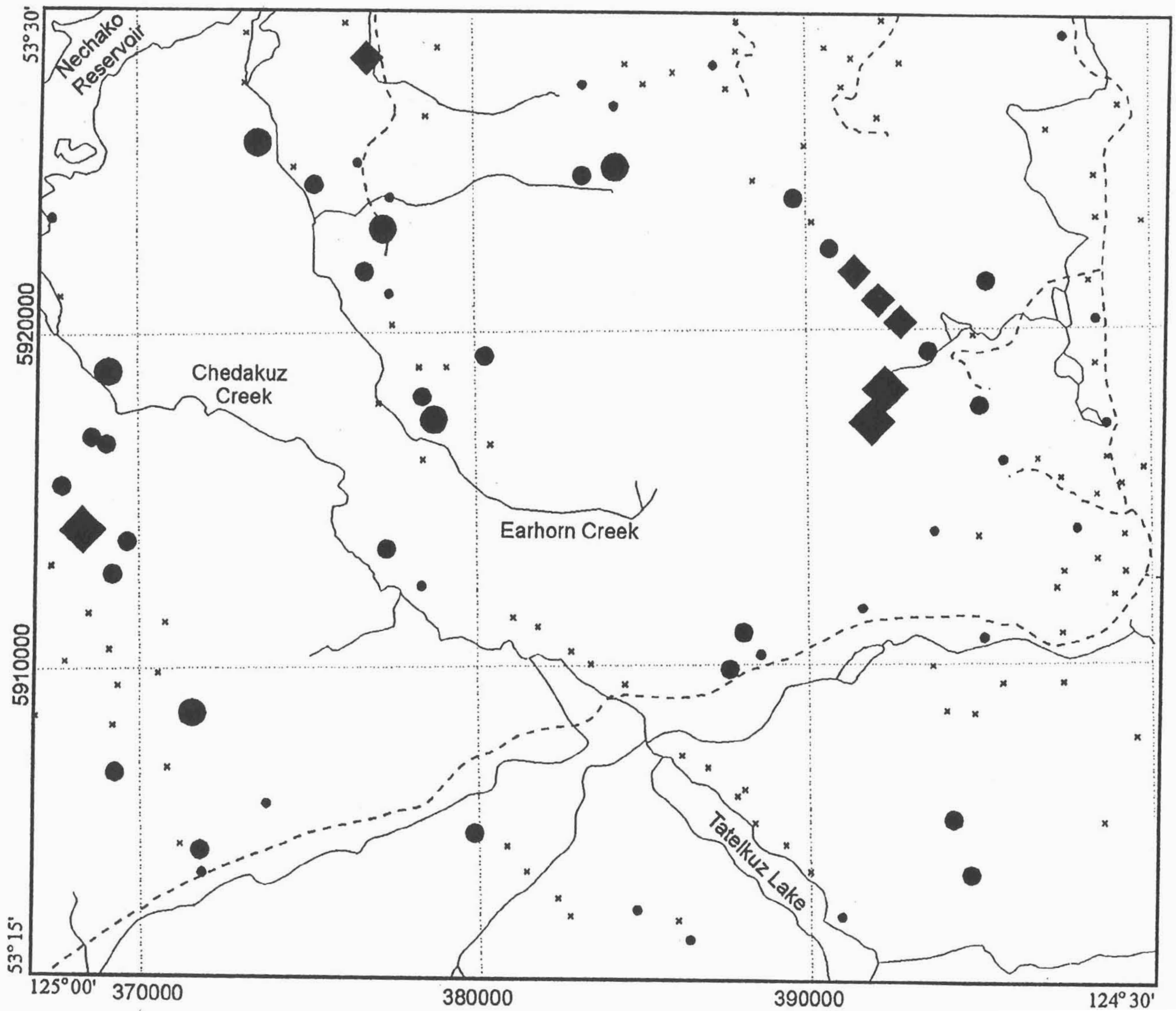
Transverse Mercator Projection

Roads - - - - - - -

Fe (%)

Concentration	Frequency
4.95 - 5.71	n = 3 (2%)
4.56 - 4.93	n = 5 (3%)
4.34 - 4.54	n = 7 (5%)
3.73 - 4.30	n = 21 (15%)
3.42 - 3.72	n = 33 (25%)
1.48 - 3.41	n = 74 (50%)

Iron by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

Transverse Mercator Projection

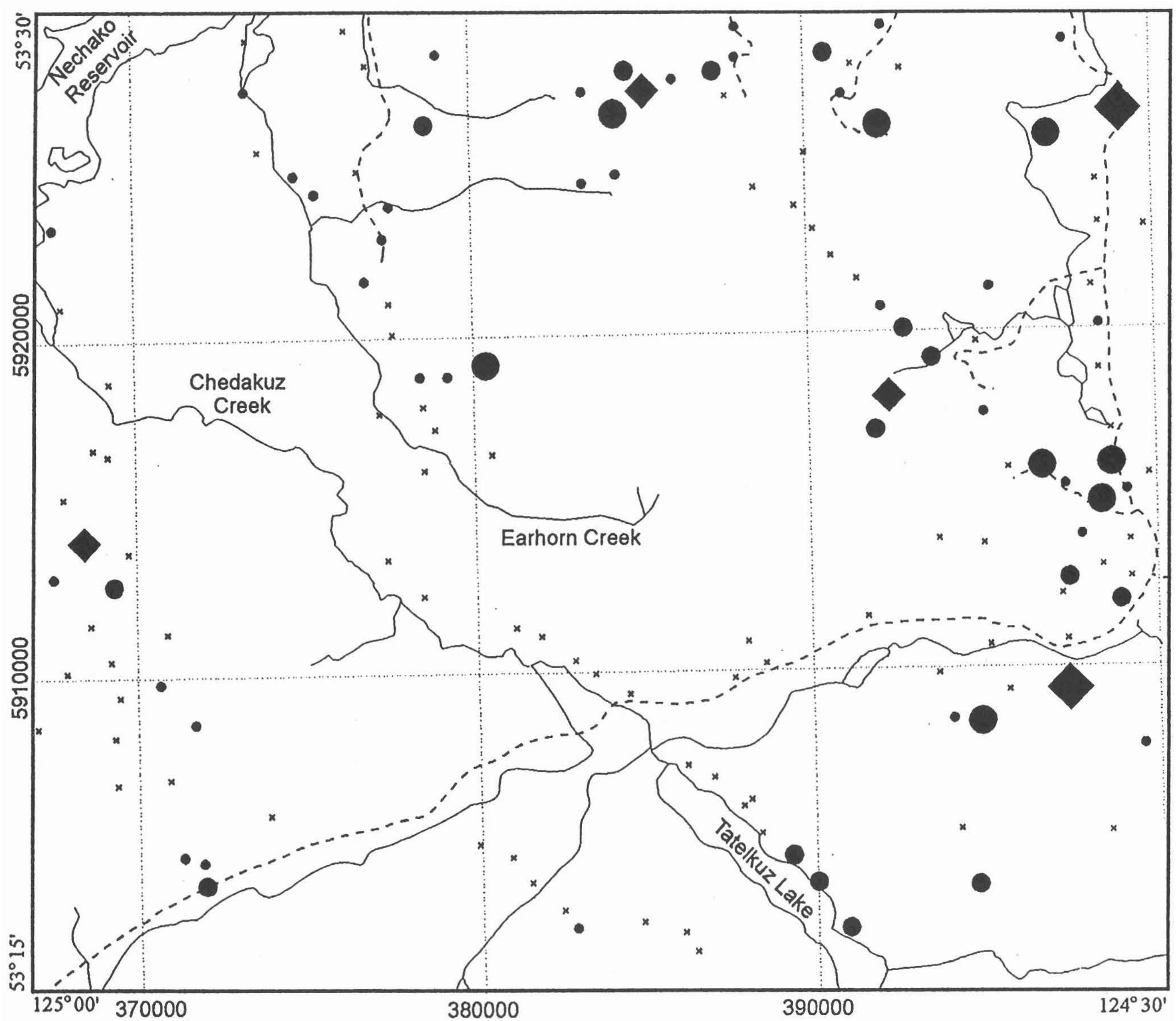
Roads - - - - - -

Cr (ppm)

Concentration	Frequency
42 - 48	n = 3 (2%)
35 - 38	n = 4 (3%)
32 - 34	n = 6 (5%)
28 - 31	n = 23 (15%)
26 - 27	n = 22 (25%)
13 - 25	n = 85 (50%)

Chromium by ICP

Till Geochemistry of the Chedakuz Creek Map Area (93F/07)



0 5 km

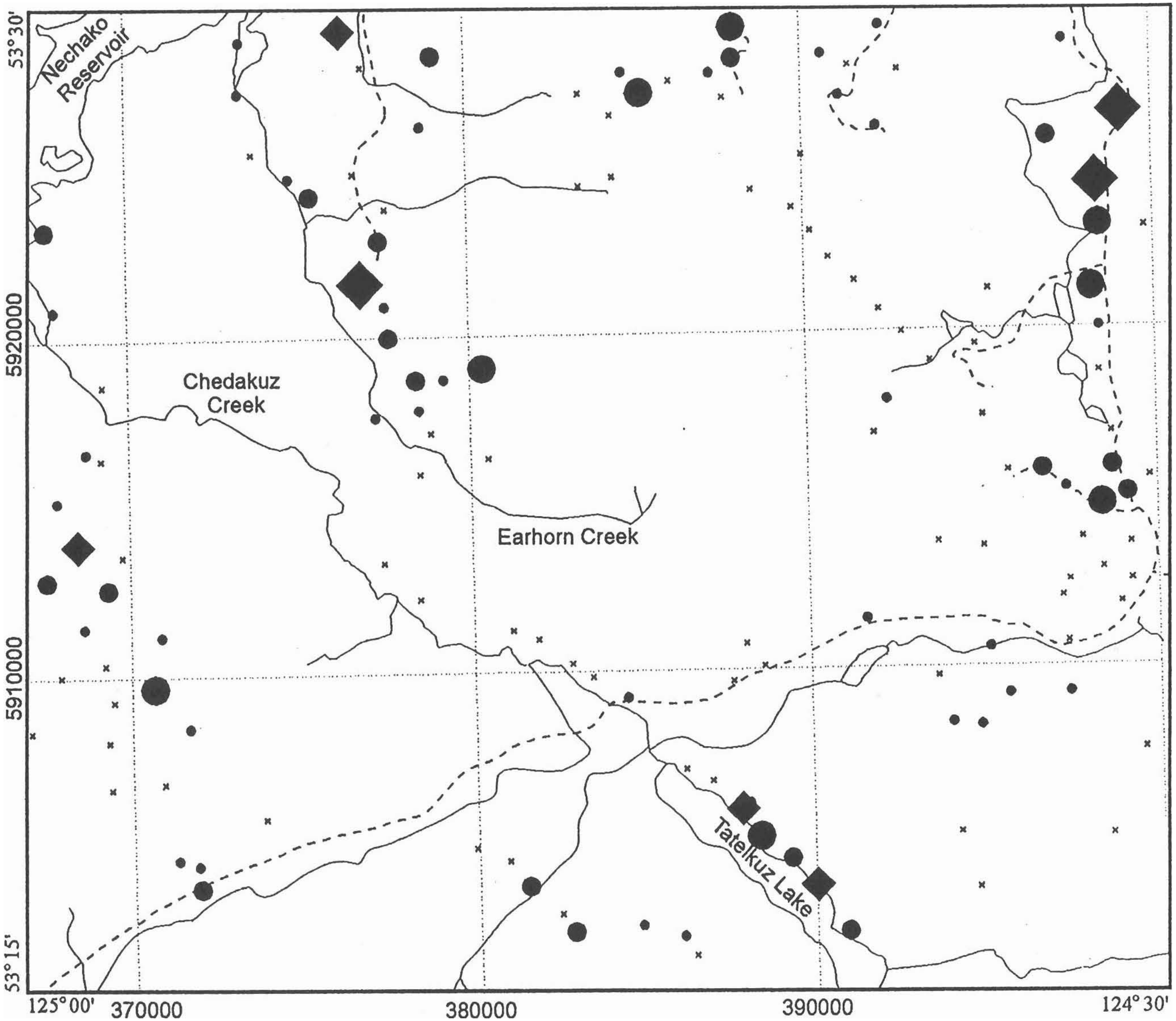
Transverse Mercator Projection

Roads - - - - - -

Co (ppm)

Concentration	Frequency
17 - 21	n = 2 (2%)
15	n = 3 (3%)
14	n = 8 (5%)
13	n = 15 (15%)
11 - 12	n = 34 (25%)
4 - 10	n = 81 (50%)

Cobalt by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

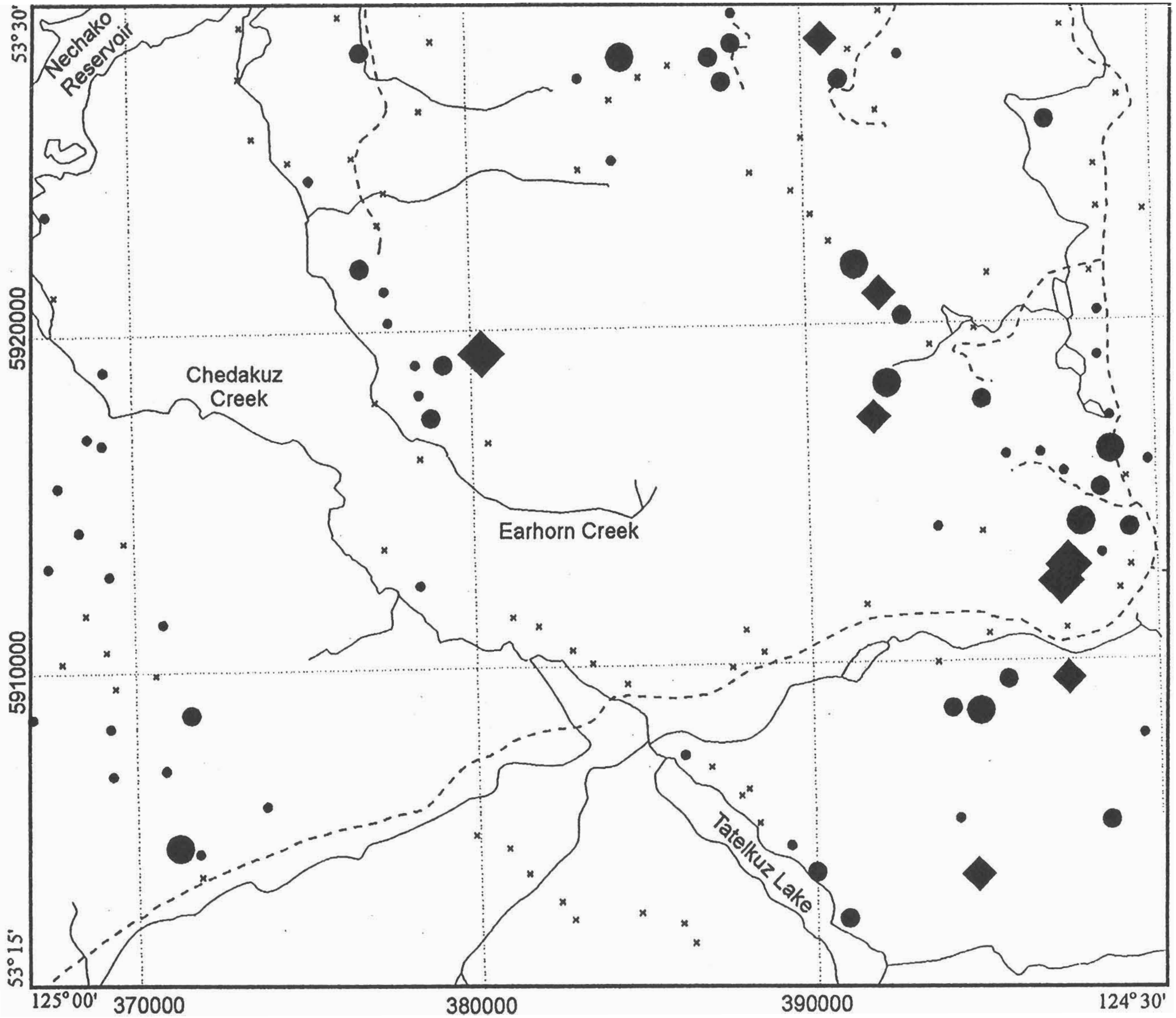
Transverse Mercator Projection

Roads - - - - - -

Ca (%)

Concentration	Frequency
1.75 - 3.14	n = 3 (2%)
1.56 - 1.71	n = 4 (3%)
1.24 - 1.51	n = 8 (5%)
.81 - 1.22	n = 18 (15%)
.65 - .80	n = 36 (25%)
.22 - .64	n = 74 (50%)

Calcium by ICP



Till Geochemistry of the Chedakuz Creek Map Area (93F/07)

0 5 km

Transverse Mercator Projection

Roads - - - - - -

Al (%)

Concentration	Frequency
3.57 - 3.70	n = 3 (2%)
2.35 - 2.59	n = 5 (3%)
2.05 - 2.31	n = 7 (5%)
1.80 - 2.04	n = 19 (15%)
1.56 - 1.79	n = 38 (25%)
.92 - 1.55	n = 71 (50%)

Aluminium by ICP