

GEOLOGICAL SURVEY OF CANADA



OPEN FILE 1205

**TILL GEOCHEMISTRY OF THE BROCHET AREA
NTS 64F, MANITOBA**

**CONTRIBUTION TO THE CANADA/MANITOBA
MINERAL DEVELOPMENT AGREEMENT
1984-1989**

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Ottawa, Canada

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Introduction

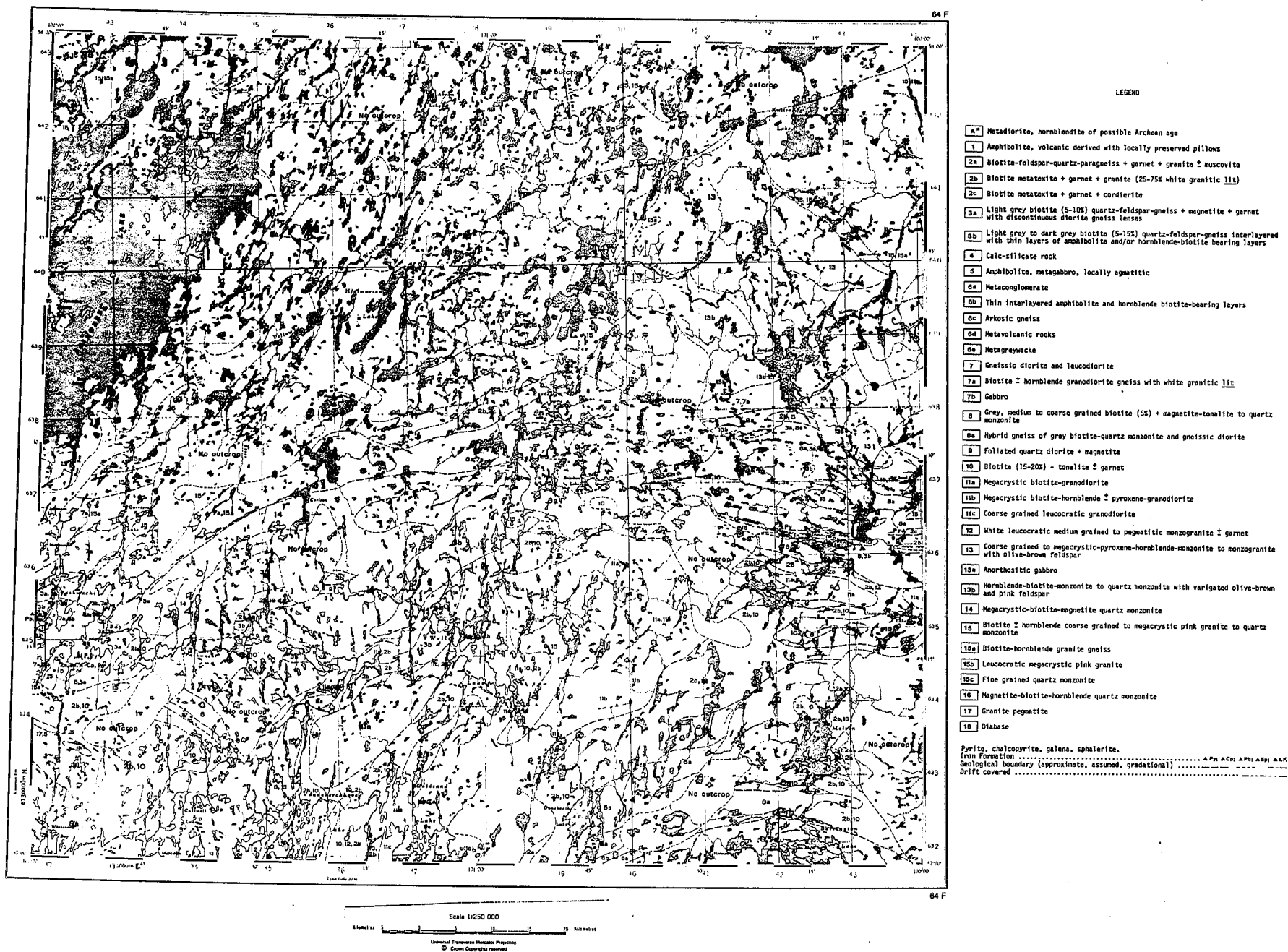
In 1983 the Geological Survey of Canada began a program of systematic till sampling and surficial geological mapping in northwestern Manitoba. This program was undertaken as part of a joint Federal/Provincial Mineral Development Agreement with Manitoba, to be carried out over a period of five years ending in 1989. In this report, the results of trace element analysis in till are presented for the region encompassed by NTS 64F. This sampling was carried out over the 1984 field season by R.N.W. DiLabio and C.A. Kaszycki. The primary objective of the sampling was to map chemical and mineralogical components of the overburden which may be related to bedrock mineralization as an aid to mineral exploration in the area. The data presented here should be interpreted in conjunction with the surficial geology map of the area (Kaszycki et al., in press).

Geological Setting

Bedrock Geology

The bedrock geology of the Brochet area has been mapped by D.C.P. Schledewitz (Manitoba Department of Energy and Mines). His preliminary compilation map is used as the base for presentation of the till geochemistry data and is reproduced as Figure 1.

Figure 1. Bedrock geology of the Brochet area, NTS 64F (after D.C.P. Schledewitz, manuscript map).



The northern half of the area is underlain by various phases of the Chipewyan Batholith: monzonites, monzogranite, and granites. The southern half of the area is underlain by metasediments, gneisses, and granitic rocks of the Southern Indian gneiss belt. In the southeastern corner of the area, small units of amphibolite of the Lynn Lake Greenstone Belt reach the northern end of Barrington Lake.

Very few mineral occurrences are known in the Brochet map area. Around Paskwachi Lake, there are several small base metal showings containing pyrite, chalcopyrite, sphalerite, and galena in gneissic rocks. A few other pyritic occurrences are associated with the LeClair Lake shear zone.

Surficial Geology

Ice flow within the Lynn Lake – Leaf Rapids area (NTS 64 B,C,F,G) was from both Keewatin and Labradorean ice centres at various times during the Wisconsin (Fig. 2). The maximum western extent of Labradorean ice occurred during deglaciation and is marked by a large interlobate moraine which trends north-south through the town of Leaf Rapids. Till to the east of the moraine contains Paleozoic carbonate erratics from Hudson Bay, as well as greywackes of the Omarolluk Formation which outcrop on the Belcher Islands in southeastern Hudson Bay. Striae east of Leaf Rapids record a clockwise rotation of ice flow from approximately 190° (oldest) to approximately 260° (youngest), with prominent directions at 210°, 225°, and 240°, and 260° at various locations within the region. The maximum eastward extent of Keewatin ice is unknown. The earliest ice flow recorded to west of the moraine is approximately 190° to 210°, consistent with the oldest ice flow direction mapped to the east. The youngest striae to the west of the moraine indicate a late glacial shift in ice flow to the southeast at approximately 165°, indicating a zone of convergent ice flow along the Leaf Rapids

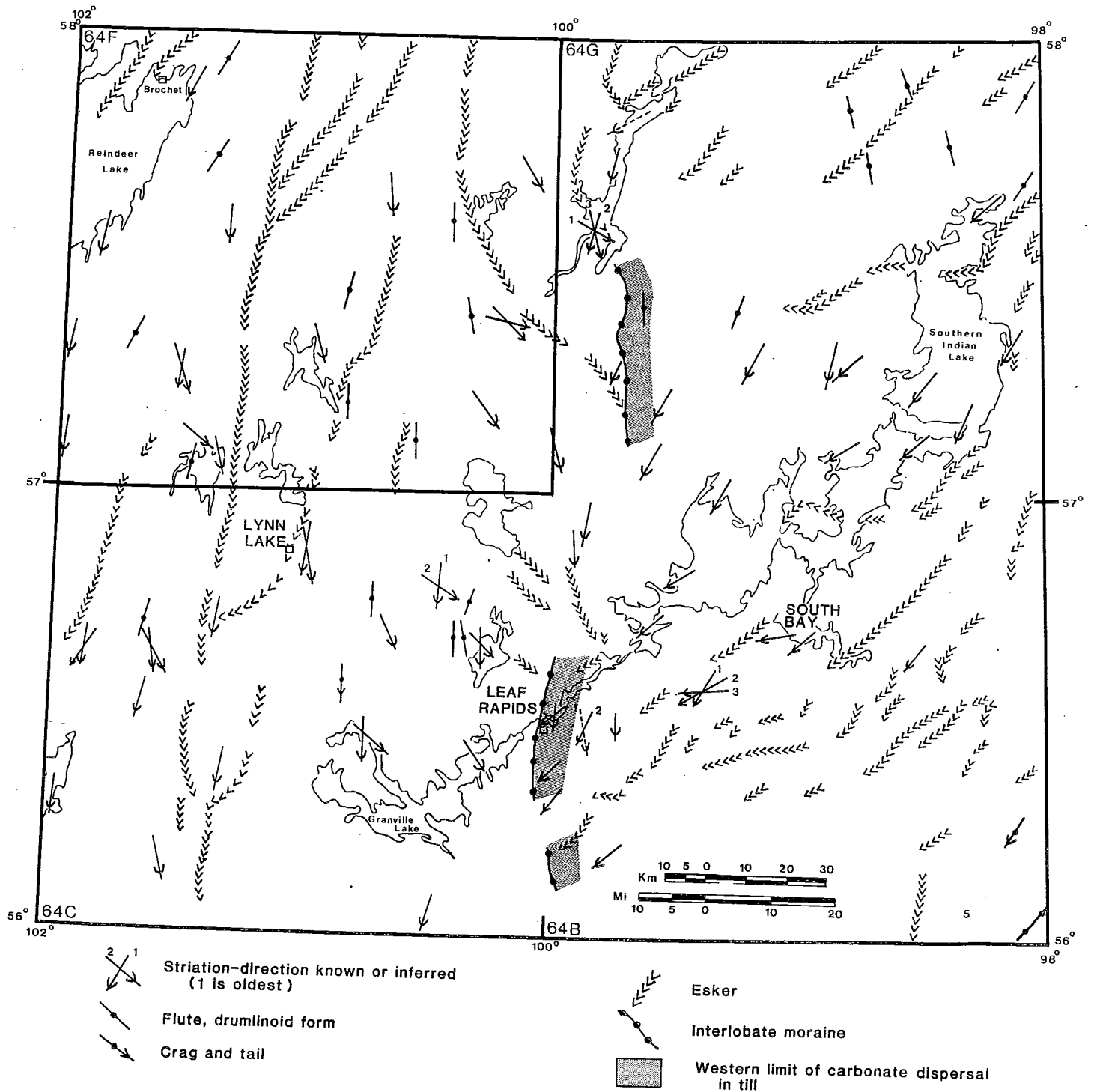


Figure 2. Generalized surficial geology of the Lynn Lake-Leaf Rapids area (NTS 64B, C, F, and G). Outline shows area covered in this report.

interlobate moraine. Eskers adjacent to the moraine exhibit a similar convergent relationship. Glacial dispersal and till geochemistry within the Lynn Lake region (NTS 64C) is influenced solely by ice flow from the Keewatin ice centre, and till in this region contains carbonate erratics only along the west side of the moraine. The orientation of flutes and related depositional features has not been significantly influenced by drawdown along the interlobate moraine. To the west of the moraine, flutes are oriented approximately parallel to the oldest striae direction, suggesting that large scale dispersal of glacial debris is most likely related to the oldest striae within the region. It is unlikely that late glacial deflection of ice flow toward the moraine significantly altered large scale dispersal patterns. For a more detailed interpretation of the surficial geology of the Brochet area, please refer to Kaszycki et al. (in press).

Procedures

Helicopter-supported sampling was carried out at a density of approximately 2-3 samples per 100 km² (1 sample per 30-50 km²). Care was taken to sample the till below the postglacial solum, although some samples were collected in profile from unweathered glacial sediment up through modern soil horizons. In nearly all cases however, samples were collected below soil weathering horizons and represent soil parent material.

In this study, the clay-sized (<2 µm) fraction of all samples was analyzed for trace element composition because; 1) concentrations of trace elements are greater in this fraction than in coarser size fractions because of its high surface area and exchange capacity (Shilts, 1975); 2) it provides a more uniform sampling medium than sample subsplits comprising a wider range in grain size (i.e., <63 µm); 3) it is known to reflect bedrock mineralization because it will adsorb a representative portion of trace elements released during weathering of labile

minerals (Shilts, 1975). Clay separated by centrifugation and decantation was analyzed by Bondar-Clegg and Co. Ltd. for Cu, Pb, Zn, Ni, Cr, Mo, Fe, and Mn, using standard atomic absorption techniques after treatment with a hot ($\text{HNO}_3\text{-HCl}$) leach. Arsenic was analyzed using colourimetric techniques. Data for elements determined in the less than 2 μm fraction, plus sample locations, are presented in map form as well as in a data list. The geological base for the maps is derived from a compilation by D.C.P. Schledewitz, Manitoba Department of Energy and Mines.

The silt plus clay size fraction (<63 μm) of selected samples was also analyzed for Au plus 20 other elements, using neutron activation. This size fraction was chosen because of the large sample size (~10 g) required to obtain reproducible gold results and the difficulty involved in recovering enough clay for gold analysis. The less than 63 μm size fraction was separated by dry sieving and analyzed by Bondar-Clegg and Co. Ltd. for Au, U, Na, Cr, Fe, Co, Ni, As, Se, Sb, Ba, La, Hf, Ta, W, Zn, Mo, Ag, Cd, Ir, Th. In this report only those elements which were present in quantities above detection limit are presented; Au, U, Na, Cr, Fe, Co, Ni, As, Sb, Ba, La, Hf, Ta, W, and Th. U and Au data are also presented in map form. These data are not directly comparable to those presented for the less than 2 μm fraction, due to differences in grain size and analytical technique, however, they do provide additional compositional information within the study region.

Absolute concentrations of Au in the less than 63 μm fraction of till may be significantly influenced by sample inhomogeneity. Gold occurring as silt or clay sized grains, if unevenly distributed throughout the sample, may produce widely variable concentrations in different sample subsplits. This problem is inherent in analyzing for gold at very low concentrations. The results presented here indicate samples in which gold is present but absolute concentrations are not precise. Likewise, samples with gold concentrations below the detection limit (<2 ppb) may contain gold not present in the subsplit analyzed.

The following lists summarize the analytical techniques used for various trace elements and size fractions in this report.

LESS THAN 2 μ m FRACTION OF TILL

Element	Extraction	Method	Detection Limit
Cu	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	1 ppm (blank)
Pb	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	2 ppm (1)
Zn	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	1 ppm (blank)
Mo	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	1 ppm (blank)
Ni	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	2 ppm (1)
Cr	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	2 ppm (1)
Mn	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	1 ppm (blank)
Fe	HNO ³ -HCl hot extraction	Atomic Absorption Spectroscopy	0.1 pct (.05)
As	Nitric Perchloric Digestion	Colourimetric	2 ppm (1)

Bracketed values indicate concentrations assigned to samples with trace element concentrations below detection limit

LESS THAN 63 μ m FRACTION OF TILL

All element concentrations were determined by neutron activation. The following detection limits apply:

Element	Detection Limit	Element	Detection Limit
Na	0.02 pct (.01)	Sb	0.1 ppm (blank)
Cr	20 ppm (10)	Ba	50 ppm (25)
Fe	0.2 pct (.1)	La	2 ppm (1)
Co	5 ppm (2)	Hf	1 ppm (blank)
Ni	20 ppm (10)	Ta	0.5 ppm (.2)
Zn	100 ppm (50)	W	1 ppm (blank)
As	0.5 ppm (2)	Ir	50 ppb (25)
Se	5 ppm (2)	Au	2 ppb (1)
Mo	1 ppm (blank)	Th	0.2 ppm (.1)
Ag	2 ppm (1)	U	0.2 ppm (.1)
Cd	2 ppm (1)		

Bracketed values indicate default concentrations assigned to samples with element compositions below detection limit.

Results

Trace element levels in till are strikingly low (Table 1) in comparison to levels in the Granville Lake area to the south (Kaszycki and DiLabio, 1986a). This is the result of the dominance of the bedrock lithologies in the Brochet area by trace metal-poor granitic and gneissic rocks.

Figure 3 shows areas where till trace element levels are above the 90th percentile for selected elements. Levels above the 90th percentile are not considered truly "anomalous" because of the overall low trace element levels in the

Table 1. Summary statistics for trace elements presented in map format in this report.

STATISTICS NTS 64F

SAMPLES - 224 VARIABLES - 11

VARIABLE NAME	UNITS	ZERO	NON ZERO	MINIMUM	MAXIMUM	ARITH MEAN	ARITH S.D.	GEOM MEAN
CR	PPM	2	222	10.	127.	44.7	18.4	41.1
CU	PPM	2	222	3.	152.	24.5	21.1	19.0
FE	PCT	2	222	.70	6.80	3.047	1.213	2.814
MN	PPM	2	222	46.	1080.	315.5	200.8	265.2
MO	PPM	9	215	1.	37.	2.3	2.7	1.8
NI	PPM	2	222	5.	68.	23.9	10.1	21.9
PB	PPM	2	222	5.	176.	18.2	13.1	16.5
ZN	PPM	2	222	11.	132.	57.1	27.9	50.6
AS	PPM	2	222	1.	23.	3.7	2.1	3.3
AU	PPB	107	117	1.	23.	1.6	2.3	1.2
U	PPM	107	117	2.8	8.2	3.98	.78	3.91

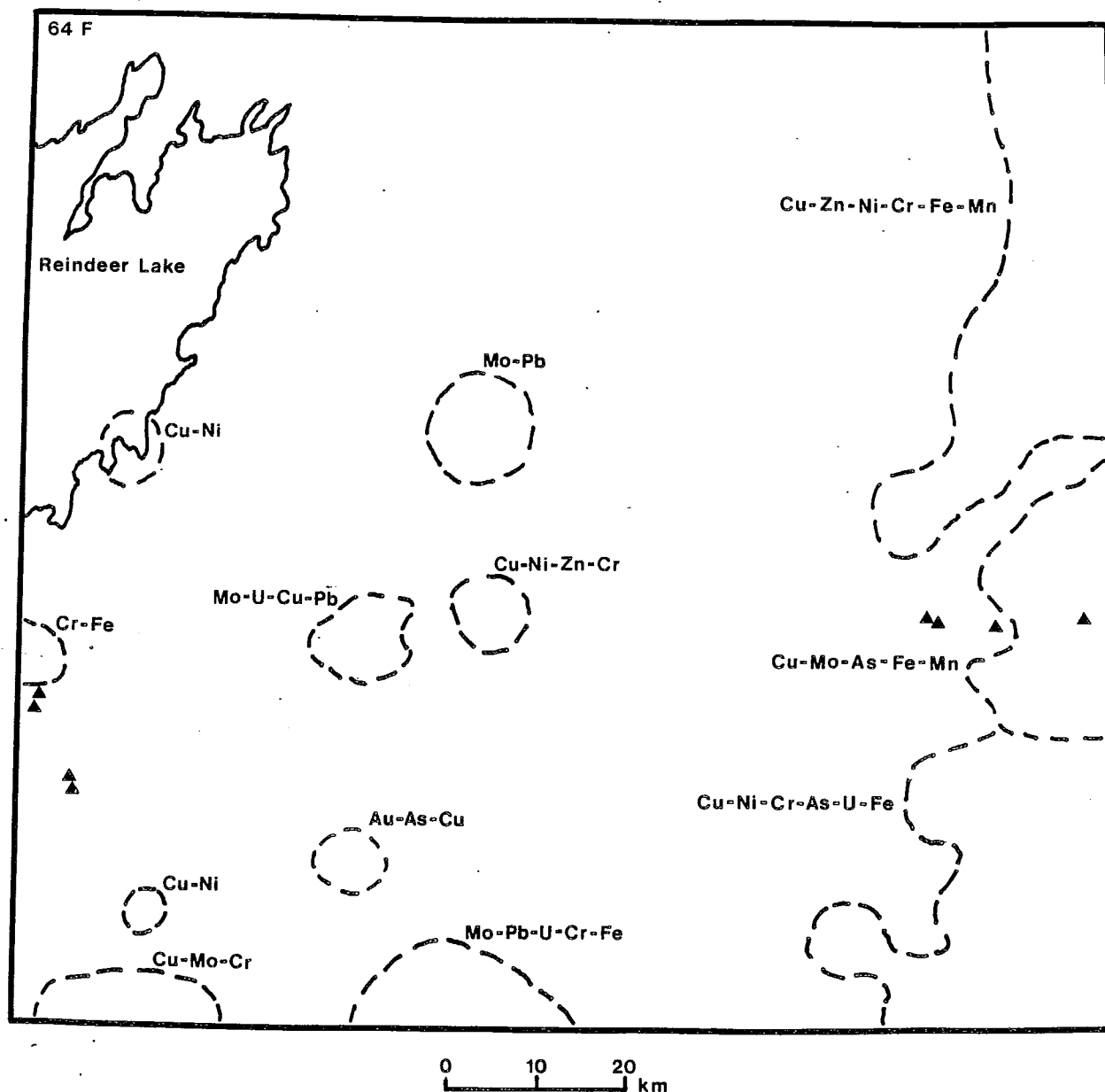


Figure 3. Multi-element "highs" for selected trace elements in till in NTS 64F.

Brochet area; they may simply represent the upper end of a low background population. Interpretations of the data set must consider whether or not relatively high levels are significant in relation to the low absolute levels. The most important feature of Figure 3 is the coincident high for Zn, Cr, Fe, Mn, Ni, Cu, and Pb along the eastern edge of the area. Lithological analyses of till samples and surficial mapping in the adjacent map sheet to the east, Big Sand Lake (NTS 64G), and in the sheet to the southeast, Uhlman Lake (NTS 64B, Kaszycki and DiLabio, 1986b), indicate that the till in 64G and 64B is calcareous and has an eastern provenance related to Hudson lobe ice moving southwestward out of the Hudson Bay basin. In the Granville Lake area (NTS 64C) to the south, calcareous till extends as far west as longitude 100°25' in the northeastern part of the sheet. In the Brochet area, this calcareous till extends as far west as the western edge of the multi-element coincident "high". West of the edge, noncalcareous till transported southwards by Keewatin lobe ice dominates. Each till lithology has its own set of background trace element levels, and they should not be considered together in interpretation of the data.

Examination of the individual maps and of Figure 3 indicates that the sulphide showings near Paskwachi Lake and LeClair Lake are not detectable at the low sampling density used in this survey. Erratically distributed higher levels of Pb, Mo, and U seem to be related to undefined variations in the granitic bedrock units. Levels of most of the elements seem to define background levels for the calcareous and noncalcareous tills. There is too little variation in bedrock lithology to allow detection of local subpopulations.

ACKNOWLEDGEMENTS

D.J. Ellwood of the Resource Geochemistry & Geophysics Division (RGG) developed the computer program (APPMAP) used by R.K. Burns of Terrain Sciences Division to statistically summarize data and produce computer contour maps, which greatly aided interpretation of analytical results. Their advice and efforts are greatly appreciated. Thanks are also extended to I.M. Kettles of Terrain Sciences and P.W. Friske of RGG for enlightening discussions on data presentation and interpretation particularly with respect to gold analyses. Erik Nielsen, Dave Baldwin, Neil Brandson, and Rick Unruh of the Manitoba Department of Energy and Mines generously provided logistical and field support.

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1986b: Surficial geology and till geochemistry, Lynn Lake-Leaf Rapids region, Manitoba; in Current Research, Part B, Paper 86-1B, Geological Survey of Canada, p. 245-256.

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- Surficial geology, Brochet, Manitoba (NTS 64F); Geological Survey of Canada, Open File 1331. (in press)

Shilts, W.W.

1975: Principles of geochemical exploration for sulphide deposits using shallow samples of glacial drift; Canadian Institute of Mining and Metallurgy Bulletin, v. 68, no. 757, p. 73-80.

DATA LIST LEGEND – SAMPLE DESCRIPTION AND LOCATION

(These data are also available on 5 1/4-inch IBM PC-format floppy diskette)

1. Sample Number

A nine character code identifying year, grid and sample number

e.g. 85DDA0006: 85 - year

DDA - field officer ID

0006 - number

2. Sample Location

Universal Transmercator Grid Reference (UTM), includes grid zone, easting and northing

e.g. 14 435000 6314000: 14 - grid zone

435000 - easting

6314000 - northing

3. Sample description

A code to identify the genetic type of sediment as described in the field. The following list of codes applies:

T	till	G	gossan
L	modern lacustrine	N	nearshore sand and gravel
V	glaciolacustrine	M	marine
S	modern fluvial	R	bedrock
F	glaciofluvial	E	eolian
D	diamicton	O	other
P	peat		

4. **Regional Plotting Indicator**

A flag (0 to 1) to identify a sample included in a group of samples that is plotted at a regional scale. "0" indicates that the sample is not plotted at a regional scale, and "1" indicates that it is plotted, and appears on the maps accompanying this report.

5. **Sample Depth**

The depth of the sample from the surface of the sample site. As location of the surface is defined by the sampler, comparison of depths between different data sets should be undertaken with caution. This variable is recorded with two decimal places and measured in meters.

6. **General Rock Type**

The general rock type is the bedrock type as recorded on bedrock geology maps. The codes and descriptions are extracted from a published GSC list (Garrett, 1974; GSC Paper 74-52).

ACIV	acid intrusive	IEXV	intermediate extrusive
AMPB	amphibolite	IGRK	igneous rock
ANDS	andesite	IMIV	intermediate intrusive
BCIV	basic intrusive	MARK	meta-arkose
BEXV	basic extrusive	MGCK	meta-greywacke
BSLT	basalt	MCGL	meta-conglomerate
CLCC	calcsilicate	MRBL	marble
DCIT	dacite	MSDM	meta-sediment
DORT	diorite	MSND	meta-sandstone
GBBR	gabbro	MVCC	meta-volcanic
GNSS	gneiss	NORT	norite

GRDR	granodiorite	PRXD	pyroxene-diorite
GRNT	granite	RYLT	rhyolite
Blank	unknown	TUFF	tuff

7. **Stratigraphic Section Indicator**

A flag (0 or 1) to identify samples collected as part of a series from a stratigraphic section. "0" indicates it is not from a section, and "1" indicates that it is.

DATA LIST LEGEND – TILL GEOCHEMICAL DATA –

<2 μ m SIZE FRACTION

Data are listed in columns across the page for each element reported. The order is as follows:

Sample Cr Mn Fe Ni Cu Zn Mo Pb As
Number

Detection limits and assigned default values are given in the accompanying text.

DATA LIST LEGEND – TILL GEOCHEMICAL DATA –

<63 μ m SIZE FRACTION

Data are listed in columns across the page for each element reported. The order is as follows:

Sample Au U Na Cr Fe Co Ni As Sb Ba La Hf Ta W Th
Number

Detection limits and assigned default values are given in the accompanying text.

DATA LISTS

NTS 64F

TABLE 2 - SAMPLE LOCATION AND DESCRIPTION

BROCHET

NTS 64F

SAMPLE NUMBER	UTM ZONE	EAST	NORTH	PLOT	SEDIMENT TYPE	BED ROCK	DEPTH (M)
84DDA0370	14	350500	6330700	NO	DIAMICTON		.55
84DDA0414	14	358000	6331300	YES	TILL	GRDR	.80
84DDA0415	14	366500	6328500	YES	TILL	QRZD	.50
84DDA0416	14	374300	6328800	YES	TILL	GRDR	.60
84DDA0417	14	384500	6327700	YES	TILL	GRDR	.40
84DDA0418	14	374800	6321000	YES	TILL	GRDR	.60
84DDA0419	14	380900	6320600	YES	TILL	GRDR	.25
84DDA0420	14	389300	6320900	YES	TILL	BGNS	.70
84DDA0421	14	368300	6322700	YES	TILL	GRDR	.50
84DDA0422	14	361400	6321700	YES	TILL	QRZD	.70
84DDA0423	14	353100	6322000	YES	TILL	QRZD	.60
84DDA0424	14	346000	6321700	YES	TILL	QZMZ	.60
84DDA0425	14	334700	6322500	YES	TILL	QZMZ	.50
84DDA0426	14	327100	6322100	YES	TILL	QZMZ	.90
84DDA0427	14	319500	6323200	YES	TILL	BGNS	.60
84DDA0428	14	327700	6330000	YES	TILL	BGNS	.60
84DDA0429	14	337200	6327500	YES	TILL	QZMZ	.60
84DDA0430	14	348200	6331500	YES	TILL	QZMZ	.50
84DDA0435	14	395700	6320700	YES	TILL	BGNS	.50
84DDA0436	14	402500	6321300	YES	TILL	DRGS	.70
84DDA0437	14	411800	6320700	YES	TILL	DRGS	1.00
84DDA0438	14	417200	6320400	YES	TILL	DRGS	.30
84DDA0439	14	427200	6322600	YES	TILL	DRGS	.45
84DDA0440	14	434900	6321500	YES	TILL	BGNS	.50
84DDA0441	14	436300	6329100	YES	TILL		.60
84DDA0442	14	426800	6329800	YES	TILL	BGNS	.30
84DDA0443	14	417100	6328800	YES	TILL	DRGS	.60
84DDA0444	14	399600	6328100	YES	TILL	GRDR	.60
84DDA0445	14	392000	6330600	YES	TILL	BGNS	.70
84DDA0446	14	380100	6331600	YES	TILL	GRDR	.60
84DDA0447	14	371800	6332500	YES	TILL	QRZD	.30
84DDA0448	14	364800	6334300	YES	TILL	QRZD	.60
84DDA0449	14	355100	6335800	YES	TILL	BGNS	.50
84DDA0450	14	347300	6338300	YES	TILL		.60
84DDA0451	14	341000	6337100	YES	TILL	BGNS	.70
84DDA0452	14	332700	6339300	YES	TILL		.50
84DDA0453	14	320500	6337500	YES	TILL	BGNS	.60
84DDA0454	14	319800	6345600	YES	TILL	QZMZ	.90
84DDA0455	14	327800	6341600	NO	NEARSHORE-SND+GRV	BGNS	.80
84DDA0456	14	368900	6338200	YES			
84DDA0457	14	378000	6337700	YES	TILL	GRDR	.70

SAMPLE NUMBER	UTM ZONE	EAST	NORTH	PLOT	SEDIMENT TYPE	BED ROCK	DEPTH (M)
84DDA0458	14	385900	6338000	YES	TILL	BGNS	.70
84DDA0459	14	391700	6335300	YES	TILL	BGNS	.70
84DDA0460	14	401000	6336900	YES	TILL	BGNS	.60
84DDA0461	14	408400	6337200	YES	TILL	MARK	.50
84DDA0462	14	414600	6337700	YES	TILL	QZMZ	.50
84DDA0463	14	422000	6336000	YES	TILL	QZMZ	.50
84DDA0464	14	428000	6337100	YES	TILL	BGNS	.45
84DDA0465	14	438500	6333600	YES	TILL		.40
84DDA0466	14	432700	6336900	YES	TILL		.70
84DDA0467	14	436700	6342100	YES	TILL		.50
84DDA0468	14	410600	6329500	YES	TILL		.80
84DDA0469	14	431400	6342600	YES	TILL		.70
84DDA0470	14	421100	6341500	YES	TILL	QZMZ	.60
84DDA0471	14	413500	6342300	YES	TILL	BGNS	.60
84DDA0472	14	405300	6342200	YES	TILL	BGNS	.80
84DDA0473	14	389300	6343300	YES	TILL	BGNS	.80
84DDA0474	14	380900	6342800	YES	TILL	BGNS	.80
84DDA0475	14	372200	6345500	YES	TILL	BGNS	.70
84DDA0476	14	354500	6347000	YES	TILL	BGNS	.50
84DDA0477	14	346500	6343800	YES	TILL		.60
84DDA0478	14	338100	6343800	YES	TILL		.90
84DDA0479	14	363200	6343200	YES	TILL	BGNS	.30
84DDA0480	14	377100	6350900	YES	TILL	BGNS	.60
84DDA0481	14	368000	6348000	YES	TILL	GRDR	.40
84DDA0482	14	356400	6343000	YES	TILL	BGNS	.70
84DDA0483	14	344200	6347300	YES	TILL	BGNS	.50
84DDA0484	14	334000	6347800	YES	TILL	BGNS	.70
84DDA0485	14	328000	6343900	YES	TILL	BGNS	.50
84DDA0486	14	325800	6349000	YES	TILL	BGNS	.70
84DDA0487	14	334900	6353600	YES	TILL	BGNS	.80
84DDA0488	14	342700	6353000	YES	TILL		.80
84DDA0489	14	351600	6352400	YES	TILL	QZMZ	.70
84DDA0490	14	358400	6352600	YES	TILL	QZMZ	.60
84DDA0491	14	364600	6353400	YES	TILL	QZMZ	.60
84DDA0492	14	372300	6355500	YES	TILL	BGNS	.60
84DDA0493	14	385300	6347900	YES	TILL	BGNS	.60
84DDA0494	14	396900	6342000	YES	TILL	GRDR	.80
84DDA0495	14	394700	6349100	YES	TILL	GRDR	.40
84DDA0496	14	404700	6347300	YES	TILL	GRDR	.60
84DDA0497	14	411000	6349200	YES	TILL		.40
84DDA0498	14	419200	6347900	YES	TILL	BGNS	.40
84DDA0499	14	426900	6348000	NO	TILL	QRZD	.60
84DDA0500	14	436600	6347900	YES	TILL	QRZD	.30
84DDA0501	14	434500	6353100	YES	TILL	BGNS	.50
84DDA0502	14	426500	6352200	YES	TILL	BGNS	.30
84DDA0503	14	416800	6353600	NO	TILL	GRDR	.20
84DDA0504	14	408900	6355100	YES	TILL		.50

SAMPLE NUMBER	UTM ZONE	EAST	NORTH	PLOT	SEDIMENT TYPE	BED ROCK	DEPTH (M)
84DDA0505	14	400700	6353100	YES	TILL	QZMZ	.70
84DDA0506	14	392800	6353800	YES	TILL	QZMZ	.30
84DDA0507	14	382800	6355700	YES	TILL	BGNS	.40
84DDA0508	14	375800	6358600	YES	TILL	BGNS	.80
84DDA0509	14	366100	6359500	YES	TILL	QZMZ	.45
84DDA0510	14	357300	6358800	YES	TILL		.45
84DDA0511	14	349000	6359900	YES	TILL	BGNS	.70
84DDA0512	14	340000	6360300	YES	TILL	QZMZ	.60
84DDA0513	14	333000	6358900	YES	TILL	DRGS	.40
84DDA0514	14	322500	6355900	YES	TILL	DRGS	.40
84DDA0515	14	322500	6361600	YES	TILL	DRGS	.60
84DDA0516	14	329500	6362700	YES	TILL	GRDR	.30
84DDA0517	14	337800	6365000	YES	TILL		.70
84DDA0518	14	345200	6364200	NO	TILL	QZMZ	.20
84DDA0519	14	348400	6364100	NO	TILL	QZMZ	.60
84DDA0520	14	418400	6349300	NO	TILL	BGNS	.40
84DDA0521	14	416100	6353900	YES	TILL	GRDR	.70
84DDA0522	14	436600	6357900	YES	TILL	QZMZ	.70
84DDA0523	14	428300	6358600	YES	TILL	QZMZ	.60
84DDA0524	14	421200	6358600	YES	TILL	BGNS	.40
84DDA0525	14	414600	6359400	YES	TILL		.40
84DDA0526	14	409200	6359000	YES	TILL		.40
84DDA0527	14	403300	6358300	NO	TILL	GRDR	.60
84DDA0528	14	400700	6357500	YES	TILL	GRDR	.50
84DDA0529	14	392800	6359000	YES	TILL	GRDR	.70
84DDA0530	14	383900	6360000	YES	TILL	GRDR	.80
84DDA0531	14	380500	6364250	YES	TILL	BGNS	.40
84DDA0532	14	372200	6364400	YES	TILL	QZMZ	.60
84DDA0533	14	360000	6363100	YES	TILL		.50
84DDA0534	14	354000	6362700	YES	TILL		.70
84DDA0535	14	346100	6363200	YES	TILL	QZMZ	.50
84DDA0536	14	352800	6371000	YES	TILL	DRGS	.40
84DDA0537	14	390000	6364800	YES	TILL	QZMZ	.80
84DDA0538	14	400200	6363300	YES	TILL	QZMZ	.90
84DDA0539	14	409600	6364700	YES	TILL		1.00
84DDA0540	14	418200	6364100	YES	TILL	QZMZ	.50
84DDA0541	14	427800	6362100	YES	TILL	QRZD	.60
84DDA0542	14	433100	6364300	NO	TILL	QZMZ	1.20
84DDA0543	14	437000	6361600	YES	TILL	QZMZ	.60
84DDA0544	14	437500	6368900	YES	TILL	MNZN	.60
84DDA0545	14	430800	6369700	YES	TILL	DRGS	.60
84DDA0546	14	421400	6368900	YES	TILL	QZMZ	.70
84DDA0547	14	411600	6369200	YES	TILL	QZMZ	.40
84DDA0548	14	404300	6370000	YES	TILL	BGNS	.30
84DDA0549	14	394900	6371500	YES	TILL	QZMZ	.30
84DDA0550	14	384500	6370700	YES	TILL	BGNS	.50
84DDA0551	14	378400	6371100	YES	TILL	BGNS	.90

SAMPLE NUMBER	UTM ZONE	EAST	NORTH	PLOT	SEDIMENT TYPE	BED ROCK	DEPTH (M)
84DDA0552	14	371600	6370700	YES	TILL	BGNS	.90
84DDA0553	14	365100	6369700	YES	TILL	QZMZ	.60
84DDA0554	14	358500	6371600	YES	TILL	DRGS	.60
84DDA0555	14	343800	6369300	YES	TILL	DRGS	.40
84DDA0556	14	335000	6368600	YES	TILL	DRGS	.70
84DDA0557	14	326900	6368000	YES	TILL	DRGS	1.20
84DDA0558	14	438500	6373100	YES	TILL	MNZN	.50
84DDA0559	14	429900	6375100	YES	TILL	MNZN	.50
84DDA0560	14	424000	6374100	YES	TILL	BGNS	.80
84DDA0561	14	418200	6373400	YES	TILL	BGNS	.40
84DDA0562	14	411600	6372800	YES	TILL	BGNS	.30
84DDA0563	14	404600	6374200	YES	TILL		.50
84DDA0564	14	389200	6375900	YES	TILL	DRGS	.30
84DDA0565	14	384300	6375900	YES	TILL	BGNS	.30
84DDA0566	14	368500	6374700	YES	TILL	BGNS	.30
84DDA0567	14	360500	6374600	YES	TILL	DRGS	.30
84DDA0568	14	377400	6373600	YES	TILL	BGNS	.50
84DDA0569	14	352900	6378200	YES	TILL		.60
84DDA0570	14	343000	6377100	YES	TILL		.65
84DDA0571	14	333200	6375900	YES	TILL	BGNS	.70
84DDA0572	14	325500	6375900	YES	TILL	GRNT	.50
84DDA0573	14	335300	6384300	YES	TILL		.70
84DDA0574	14	347200	6382700	YES	TILL	GRNT	.50
84DDA0575	14	354100	6384300	YES	TILL		.50
84DDA0576	14	366700	6382800	YES	TILL	BGNS	.70
84DDA0577	14	377700	6381100	YES	TILL	BGNS	.60
84DDA0578	14	385300	6381000	YES	TILL	BGNS	.80
84DDA0579	14	397000	6379300	YES	TILL	BGNS	.50
84DDA0580	14	407700	6379500	YES	TILL		.50
84DDA0581	14	417200	6378600	YES	TILL	BGNS	1.20
84DDA0582	14	426100	6379400	YES	TILL	MNZN	.60
84DDA0583	14	436700	6380300	YES	TILL	MNZN	.30
84DDA0584	14	433900	6388600	YES	TILL	DRGS	.60
84DDA0585	14	425300	6388100	YES	TILL	DRGS	.80
84DDA0586	14	416700	6387000	YES	TILL	MNZN	.65
84DDA0587	14	406800	6388500	YES	TILL		.50
84DDA0588	14	397400	6387500	YES	TILL	DRGS	.60
84DDA0589	14	391100	6387000	YES	TILL	BGNS	.40
84DDA0590	14	382300	6387400	YES	TILL	DRGS	.30
84DDA0591	14	372300	6385700	YES	TILL	DRGS	.30
84DDA0592	14	365600	6392300	YES	TILL	BGNS	.50
84DDA0593	14	353600	6396700	YES	TILL	GRNT	.40
84DDA0594	14	343200	6393400	YES	TILL	GRNT	.50
84DDA0595	14	337300	6395900	YES	TILL	GRNT	.30
84DDA0596	14	344400	6405000	YES	TILL	GRNT	.60
84DDA0597	14	354500	6405100	YES	TILL		.40
84DDA0598	14	364300	6403100	YES	TILL		

SAMPLE NUMBER	UTM ZONE	EAST	NORTH	PLOT	SEDIMENT TYPE	BED ROCK	DEPTH (M)
84DDA0599	14	434500	6394700	YES	TILL	DRGS	.60
84DDA0600	14	425000	6393900	YES	TILL	GRNT	.50
84DDA0601	14	414000	6394800	YES	TILL	QZMZ	.60
84DDA0602	14	394200	6394200	YES	TILL	DRGS	.45
84DDA0603	14	384200	6394500	YES	TILL	GRNT	.40
84DDA0604	14	376000	6395100	YES	TILL	GRNT	.45
84DDA0605	14	375300	6405400	YES	TILL	GRNT	.55
84DDA0606	14	355500	6414100	YES	TILL		.65
84DDA0607	14	365800	6415500	YES	TILL		.60
84DDA0608	14	374800	6413800	YES	TILL		.50
84DDA0609	14	326900	6381100	YES	TILL	GRNT	.50
84DDA0610	14	321900	6394500	YES	TILL	GRNT	.80
84DDA0611	14	337300	6407900	YES	TILL	GRNT	.80
84DDA0612	14	323700	6418700	YES	TILL	GRNT	.80
84DDA0613	14	334900	6417300	YES	TILL	GRNT	.40
84DDA0614	14	342200	6414100	YES	TILL	GRNT	.50
84DDA0615	14	385400	6414600	YES	TILL		.60
84DDA0616	14	383200	6406800	YES	TILL	GRNT	.40
84DDA0617	14	392500	6403400	YES	TILL	GRNT	.40
84DDA0618	14	436000	6404500	YES	TILL	GRNT	.50
84DDA0619	14	425800	6405600	YES	TILL	MNZN	.50
84DDA0620	14	414700	6403800	YES	TILL	GRNT	.50
84DDA0621	14	406000	6405100	YES	TILL	MNZN	.30
84DDA0622	14	405100	6414300	YES	TILL		.30
84DDA0623	14	393800	6414900	YES	TILL		.30
84DDA0624	14	365600	6426500	YES	TILL		.30
84DDA0625	14	354800	6427000	YES	TILL	GRNT	.30
84DDA0626	14	347600	6427400	YES	TILL	GRNT	.50
84DDA0627	14	336100	6428300	YES	TILL	GRNT	.30
84DDA0628	14	327400	6427700	YES	TILL	GRNT	.30
84DDA0633	14	412500	6414400	YES	TILL	MNZN	.70
84DDA0634	14	423800	6414400	YES	TILL	GRNT	.50
84DDA0635	14	435800	6415700	YES	TILL	GRNT	.80
84DDA0636	14	436400	6422600	YES	TILL	GRNT	.80
84DDA0637	14	424500	6425500	YES	TILL		.70
84DDA0638	14	415500	6424400	YES	TILL		.50
84DDA0639	14	404200	6424500	YES	TILL	GRNT	.40
84DDA0640	14	394200	6426700	YES	TILL		.50
84DDA0641	14	384500	6424700	YES	TILL	GRNT	.50
84DDA0642	14	376300	6423500	YES	TILL	GRNT	.50
84KDA0001	14	322000	6330500	YES	TILL		.40
84KDA0002	14	327600	6332600	YES	TILL		2.00
84KDA0003	14	328500	6333300	YES	TILL		.50
84KDA0004	14	330500	6333700	YES	TILL		.30
84KDA0005	14	332600	6332900	YES	TILL		.30
84KDA0006	14	341600	6329300	YES	TILL		.50
84KDA0007	14	342800	6329180	YES	TILL		

SAMPLE NUMBER	UTM ZONE	EAST	NORTH	PLOT	SEDIMENT TYPE	BED ROCK	DEPTH (M)
84KDA0008	14	357000	6328100	YES	TILL		1.00
84KDA0009	14	356200	6328600	YES	TILL		.50
84KDA0010	14	353700	6329000	YES	TILL		.30
84KDA0011	14	351200	6328800	YES	TILL		.20

TABLE 3 - GEOCHEMICAL DATA - LESS THAN 2 MICRON FRACTION

BROCHET

NTS 64F

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	NI PPM	CR PPM	MO PPM	AS PPM	FE PCT	MN PPM	AG PPM
84DDA0370										
84DDA0414										
84DDA0415										
84DDA0416	24	19	77	28	56	3	4	3.90	275	
84DDA0417	6	42	23	9	20	2	2	1.60	70	
84DDA0418	28	18	54	27	50	5	5	4.80	225	
84DDA0419	15	39	34	14	30	4	1	1.10	46	
84DDA0420	27	21	80	28	48	3	6	3.80	280	
84DDA0421	100	28	54	38	108	9	5	6.70	140	
84DDA0422	13	41	36	18	28	2	2	1.80	200	
84DDA0423	21	16	43	22	36	3	5	2.40	188	
84DDA0424	19	16	34	18	34	3	3	2.00	200	
84DDA0425	152	16	88	32	80	4	3	5.50	322	
84DDA0426	110	14	56	33	46	5	3	4.00	270	
84DDA0427	35	19	52	34	77	3	5	3.10	182	
84DDA0428	16	18	31	22	53	3	5	2.50	120	
84DDA0429	13	11	33	18	53	4	4	4.00	120	
84DDA0430	13	16	30	20	41	2	4	2.60	148	
84DDA0435	22	16	54	26	40	2	3	3.00	245	
84DDA0436	27	14	54	27	45	2	4	2.90	250	
84DDA0437	18	14	82	32	57	1	4	3.70	310	
84DDA0438	23	18	88	37	75	1	4	4.60	365	
84DDA0439	28	10	70	40	78	1	2	3.50	240	
84DDA0440	118	22	104	68	83	5	6	5.60	380	
84DDA0441	50	18	106	40	65	1	7	4.40	380	
84DDA0442	35	18	68	26	62	5	6	6.80	250	
84DDA0443	50	14	97	35	66	1	3	4.10	450	
84DDA0444	10	12	40	18	33	2	4	2.30	157	
84DDA0445	6	8	20	12	27	1	3	1.40	360	
84DDA0446	19	14	48	22	34	1	3	2.90	230	
84DDA0447	16	12	72	18	48	2	3	3.00	235	
84DDA0448	12	15	38	18	32	1	4	2.10	146	
84DDA0449	60	17	58	25	47	3	9	3.00	230	
84DDA0450	15	12	30	14	30	1	3	2.20	135	
84DDA0451	34	13	63	28	42	2	4	2.20	240	
84DDA0452	12	14	53	20	43	2	6	2.40	285	
84DDA0453	20	17	54	25	48	3	5	2.60	260	
84DDA0454	20	10	74	26	43	1	2	2.20	300	
84DDA0455	13	38	40	16	72	7	14	9.60	390	
84DDA0456	8	34	43	17	30	2	3	2.00	200	
84DDA0457	36	18	80	32	67	3	5	4.80	325	

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	NI PPM	CR PPM	MO PPM	AS PPM	FE PCT	MN PPM	AG PPM
84DDA0458	8	14	33	17	28	1	4	1.90	200	
84DDA0459	6	28	28	16	30	5	4	3.60	110	
84DDA0460	21	18	43	15	30	1	2	3.00	305	
84DDA0461	27	14	87	28	48	2	2	3.60	550	
84DDA0462	28	14	66	27	52	2	3	3.60	215	
84DDA0463	34	13	64	30	56	3	3	4.50	320	
84DDA0464	72	16	94	40	77	5	6	5.40	280	
84DDA0465	38	16	124	44	91	3	6	5.10	400	
84DDA0466	40	20	77	30	77	4	9	6.50	360	
84DDA0467	25	20	116	48	66	3	9	4.50	570	
84DDA0468	76	14	80	46	68	4	4	4.10	220	
84DDA0469	34	20	104	46	72	4	8	4.40	370	
84DDA0470	86	19	74	48	68	5	6	4.60	250	
84DDA0471	28	17	70	27	60	3	5	4.50	230	
84DDA0472	22	20	26	24	34	4	3	3.10	92	
84DDA0473	8	16	27	12	31	2	5	3.10	103	
84DDA0474	9	22	22	12	60	3	5	5.40	77	
84DDA0475	17	20	70	34	60	3	5	3.40	315	
84DDA0476	15	16	52	27	80	3	2	2.50	150	
84DDA0477	6	16	30	24	39	3	5	3.50	112	
84DDA0478	6	6	26	10	24	2	1	1.80	147	
84DDA0479	18	28	68	24	48	4	5	6.40	366	
84DDA0480	8	12	34	18	38	2	3	2.60	180	
84DDA0481	8	20	38	22	47	4	4	3.10	180	
84DDA0482	15	28	70	24	52	2	5	3.50	290	
84DDA0483	8	13	20	12	39	3	4	2.10	97	
84DDA0484	10	14	42	18	42	2	2	2.50	152	
84DDA0485	16	10	48	20	30	1	2	1.80	445	
84DDA0486	16	19	34	27	62	3	3	2.70	1000	
84DDA0487	12	28	26	16	32	2	5	2.40	196	
84DDA0488	18	15	40	22	47	2	2	2.60	260	
84DDA0489	6	23	18	10	26	1	3	1.70	140	
84DDA0490	30	14	56	24	46	2	5	3.20	220	
84DDA0491	12	18	46	16	40	2	6	3.60	176	
84DDA0492	27	24	55	20	44	2	5	3.30	195	
84DDA0493	25	12	70	28	55	1	2	2.40	280	
84DDA0494	20	14	74	20	42		2	3.20	270	
84DDA0495	10	14	47	16	34	1	3	2.10	400	
84DDA0496	9	76	31	10	24		1	1.50	177	
84DDA0497	16	14	67	25	50	1	5	2.50	270	
84DDA0498										
84DDA0499	60	16	100	40	89	2	6	4.60	360	
84DDA0500	24	20	108	36	72	1	6	3.90	850	
84DDA0501	30	22	104	33	60	2	6	4.00	940	
84DDA0502	44	16	109	32	76	3	2	5.20	450	
84DDA0503										
84DDA0504	22	12	40	20	56	2	2	3.50	130	

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	NI PPM	CR PPM	MO PPM	AS PPM	FE PCT	MN PPM	AG PPM
84DDA0505	19	28	21	13	52	3	5	4.60	120	
84DDA0506	10	13	42	16	30	1	4	2.00	195	
84DDA0507	16	12	69	20	48	1	2	3.40	400	
84DDA0508	12	14	28	16	60	4	4	2.60	120	
84DDA0509	18	12	48	16	25	1	1	1.60	320	
84DDA0510	76	29	30	20	48	37	2	3.70	60	
84DDA0511	18	16	58	22	40	1	6	2.40	470	
84DDA0512	23	18	38	15	37	1	2	2.50	210	
84DDA0513	20	24	42	21	49	3	7	3.20	150	
84DDA0514	27	16	78	25	52	2	3	3.40	380	
84DDA0515	26	20	54	36	92	2	6	5.20	400	
84DDA0516	14	13	40	15	24	1	2	1.40	180	
84DDA0517	12	24	34	16	28	1	2	2.00	200	
84DDA0518										
84DDA0519										
84DDA0520	18	24	40	20	60	2	5	2.50	145	
84DDA0521	30	17	82	32	58	1	3	2.50	430	
84DDA0522	48	15	70	30	87	3	4	4.60	250	
84DDA0523	52	14	115	38	73	3	2	4.60	680	
84DDA0524	38	30	74	25	68	2	4	4.20	340	
84DDA0525	16	24	54	32	48	2	3	3.00	340	
84DDA0526	16	176	30	20	52	2	6	3.20	100	
84DDA0527										
84DDA0528	20	16	40	32	72	4	6	3.20	176	
84DDA0529	10	12	38	15	29	1	4	2.00	300	
84DDA0530	11	14	50	22	38	1	4	2.50	215	
84DDA0531	14	10	31	15	33	2	2	2.50	175	
84DDA0532	78	24	120	47	127	4	6	5.30	600	
84DDA0533	10	10	20	12	25	2	2	1.10	64	
84DDA0534	34	12	92	28	46	3	2	3.80	340	
84DDA0535	18	16	52	22	40	2	4	2.20	200	
84DDA0536	17	20	33	23	36	2	3	1.60	200	
84DDA0537	13	12	27	13	23	2	2	1.80	260	
84DDA0538	21	16	68	20	52	1	2	3.40	500	
84DDA0539	22	10	50	22	30	1	2	2.70	240	
84DDA0540	20	14	42	20	48	3	3	2.30	200	
84DDA0541	40	17	80	30	53	4	4	3.70	560	
84DDA0542										
84DDA0543	30	20	74	26	55	3	6	5.20	510	
84DDA0544	53	26	126	34	65	3	23	5.60	880	
84DDA0545	100	22	96	32	54	5	7	4.80	440	
84DDA0546	27	11	56	33	52	1	2	2.50	360	
84DDA0547	24	16	86	34	66	1	4	4.00	360	
84DDA0548	22	23	72	28	63	3	5	4.80	240	
84DDA0549	7	10	32	17	50	2	4	2.20	135	
84DDA0550	14	16	56	20	42	3	4	3.00	310	
84DDA0551	15	14	58	24	46	2	3	3.00	320	

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	NI PPM	CR PPM	MO PPM	AS PPM	FE PCT	MN PPM	AG PPM
84DDA0552	25	13	57	23	36	3	3	2.50	275	
84DDA0553	13	19	21	12	31	3	3	2.20	157	
84DDA0554	12	20	40	23	37	2	8	2.10	340	
84DDA0555	14	22	44	18	22	1	2	1.60	350	
84DDA0556	20	20	42	18	24	1	2	1.70	360	
84DDA0557	31	14	60	29	41	1	2	3.40	500	
84DDA0558	23	22	120	35	60	2	8	4.60	320	
84DDA0559	20	16	93	34	67	3	4	4.60	390	
84DDA0560	40	50	78	35	72	5	8	4.60	450	
84DDA0561	48	16	78	40	66	2	3	2.70	450	
84DDA0562	28	21	76	32	48	1	4	3.70	420	
84DDA0563	52	24	50	24	58	5	6	4.90	152	
84DDA0564	25	16	56	24	44	2	5	3.20	200	
84DDA0565	14	15	58	24	47	3	5	3.40	220	
84DDA0566	8	12	26	10	22	1	2	1.60	142	
84DDA0567	8	15	22	16	46	4	5	1.80	180	
84DDA0568	17	12	48	18	31	2	2	2.30	250	
84DDA0569	10	10	31	18	26	1	2	1.50	180	
84DDA0570	10	15	42	17	28	1	2	2.80	300	
84DDA0571	22	13	34	14	32	1	3	2.30	320	
84DDA0572	24	12	76	28	37	1	3	3.00	350	
84DDA0573	26	10	56	21	32		2	2.70	220	
84DDA0574	15	10	48	18	27		1	2.30	360	
84DDA0575	23	14	75	22	25	1	2	2.30	470	
84DDA0576	25	16	78	30	50	3	4	4.20	280	
84DDA0577	21	15	90	34	46	1	1	2.40	340	
84DDA0578	22	20	76	28	48	1	4	3.20	580	
84DDA0579	24	18	64	20	42	2	4	3.30	330	
84DDA0580	7	12	30	16	27	1	2	2.00	160	
84DDA0581	18	20	45	38	70	2	2	3.30	440	
84DDA0582	29	18	110	41	44	2	3	3.70	630	
84DDA0583	18	18	85	30	52	1	4	4.40	260	
84DDA0584	46	20	108	58	76	1	7	4.60	530	
84DDA0585	30	20	110	35	50	1	4	4.00	960	
84DDA0586	12	12	44	22	33	1	4	2.20	370	
84DDA0587	10	16	40	24	38	1	4	2.00	390	
84DDA0588	12	16	60	24	41	2	2	2.10	320	
84DDA0589	8	10	28	15	23	1	2	1.40	160	
84DDA0590	3	20	11	6	10	1	5	.70	72	
84DDA0591	7	54	30	12	38	4	5	4.60	103	
84DDA0592	20	16	65	24	30	1	5	2.60	1080	
84DDA0593	17	19	60	24	38	1	4	2.30	260	
84DDA0594	23	12	36	14	44	1	3	3.20	157	
84DDA0595	12	22	24	17	31	1	3	2.00	680	
84DDA0596	20	8	38	16	22		2	1.70	192	
84DDA0597	23	13	27	18	45	2	2	3.20	120	
84DDA0598	12	14	47	18	28	1	3	2.60	250	

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	NI PPM	CR PPM	MO PPM	AS PPM	FE PCT	MN PPM	AG PPM
84DDA0599	50	21	128	48	60	1	5	5.10	770	
84DDA0600	17	20	107	34	38	2	4	4.20	460	
84DDA0601	12	14	42	20	28	1	2	2.30	300	
84DDA0602	8	15	30	14	23	2	3	2.00	147	
84DDA0603	8	14	40	18	22	1	3	2.40	400	
84DDA0604	8	17	28	13	32	2	5	2.40	140	
84DDA0605	14	14	31	16	27	1	3	2.70	168	
84DDA0606	16	16	32	16	29	1	4	2.30	380	
84DDA0607	10	18	24	14	33	1	5	2.40	170	
84DDA0608	12	12	31	12	16	1	2	1.40	200	
84DDA0609	58	20	70	42	62	1	3	4.20	290	
84DDA0610	7	5	19	7	10		1	1.00	92	
84DDA0611	26	16	72	32	46	1	2	3.40	640	
84DDA0612	30	14	57	22	28	1	2	2.60	250	
84DDA0613	8	30	46	18	30	1	1	2.00	185	
84DDA0614	8	15	33	10	15	1	1	1.50	920	
84DDA0615	5	8	16	6	14	1	3	1.70	95	
84DDA0616	14	16	60	21	30	2	3	2.60	440	
84DDA0617	8	12	32	14	16	1	2	1.40	200	
84DDA0618	52	21	132	40	60	2	5	5.40	720	
84DDA0619	20	18	84	28	40	3	5	3.70	400	
84DDA0620	6	16	27	14	27	2	2	1.70	138	
84DDA0621	6	16	15	5	20	3	4	1.60	100	
84DDA0622	8	13	24	18	48	1	4	1.90	132	
84DDA0623	5	12	26	12	19	1	2	1.50	185	
84DDA0624	23	20	76	30	52	1	4	3.60	500	
84DDA0625	13	10	44	18	35	1	2	2.00	250	
84DDA0626	15	16	52	16	30	1	5	2.90	1080	
84DDA0627	26	16	107	28	62	2	3	3.80	360	
84DDA0628	9	10	40	10	24	1	1	1.80	140	
84DDA0633	6	8	22	12	41	3	2	2.00	110	
84DDA0634	16	18	48	18	38	2	5	3.10	190	
84DDA0635	28	23	120	28	56	3	6	4.80	640	
84DDA0636	32	24	126	30	48	2	5	5.00	960	
84DDA0637	15	24	58	26	47	2	5	2.60	480	
84DDA0638	11	16	34	16	52	3	3	2.10	225	
84DDA0639	14	12	40	14	26	2	4	1.80	155	
84DDA0640	13	20	30	12	26	2	5	1.60	220	
84DDA0641	10	14	22	10	18	1	2	1.20	160	
84DDA0642	13	22	40	14	24	1	2	1.80	240	
84KDA0001	56	12	82	35	47	1	2	2.30	410	
84KDA0002	26	21	68	26	45	2	5	3.60	780	
84KDA0003	34	16	68	34	46	1	2	2.10	360	
84KDA0004	20	12	51	20	24	1	1	1.80	335	
84KDA0005	92	14	120	52	62		3	4.10	420	
84KDA0006	30	15	52	28	36	1	2	2.00	365	
84KDA0007	20	10	60	19	28	1	2	1.90	360	

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	NI PPM	CR PPM	MO PPM	AS PPM	FE PCT	MN PPM	AG PPM
84KDA0008	16	18	40	16	28	1	2	2.30	430	
84KDA0009	19	15	53	18	28	1	2	2.00	470	
84KDA0010	58	17	109	34	36	1	3	3.00	380	
84KDA0011	60	23	96	30	38	3	3	3.00	1000	

TABLE 4 - GEOCHEMICAL DATA - LESS THAN 63 MICRON FRACTION

BROCHET

NTS 64F

SAMPLE NUMBER	AU PPB	U PPM	TH PPM	NA PCT	CR PPM	FE PCT	CO PPM	NI PPM	ZN PPM	AS PPM	SE PPM
84DDA0370											
84DDA0414	1	26.1	3.8	2.52	25	1.5	2	10	50	.2	2
84DDA0415	1	27.7	4.5	2.76	22	1.6	2	10	50	.2	2
84DDA0416	1	23.2	3.6	2.37	35	1.5	2	10	50	.6	2
84DDA0417	1	22.3	3.5	2.41	25	1.1	2	10	50	.2	2
84DDA0418	3	30.8	5.3	2.66	31	1.6	2	10	50	.6	2
84DDA0419	1	24.5	4.3	2.09	27	.9	2	10	50	.2	2
84DDA0420	1	25.6	3.8	2.43	28	1.8	2	10	50	.6	2
84DDA0421	1	30.0	5.7	2.43	42	2.1	2	10	50	.6	2
84DDA0422	1	29.5	4.4	2.55	26	1.6	2	10	50	.2	2
84DDA0423	1	24.4	3.8	2.59	25	1.6	2	10	50	.2	2
84DDA0424	1	20.3	3.5	2.58	32	1.4	2	10	50	.2	2
84DDA0425	1	23.2	4.5	2.50	42	1.7	2	10	50	.2	2
84DDA0426	1	20.9	4.1	2.50	26	1.5	2	10	50	.2	2
84DDA0427	5	23.1	4.4	2.00	29	1.3	2	10	50	.5	2
84DDA0428	1	22.7	3.7	2.32	25	1.3	2	10	50	.2	2
84DDA0429	1	23.1	3.7	2.52	22	1.3	2	10	50	.2	2
84DDA0430	1	26.1	4.2	2.50	29	1.7	2	10	50	.5	2
84DDA0435	1	21.5	3.4	2.55	10	1.8	2	10	50	.2	2
84DDA0436	1	22.8	3.9	2.79	29	2.1	2	10	50	.2	2
84DDA0437	1	22.3	3.4	2.17	44	2.1	5	10	50	.2	2
84DDA0438	1	30.4	4.9	2.56	50	2.6	6	10	50	.2	2
84DDA0439	1	24.1	4.3	2.46	61	3.0	7	10	50	.7	2
84DDA0440	1	41.6	8.2	2.41	62	3.4	9	10	50	.9	2
84DDA0441	1	25.6	3.5	1.80	76	3.7	8	10	50	3.8	2
84DDA0442	1	20.0	3.5	2.28	56	3.1	2	10	50	.8	2
84DDA0443	1	25.4	3.9	2.51	43	2.5	6	10	50	.2	2
84DDA0444	1	25.3	3.7	2.57	29	2.0	5	10	50	.2	2
84DDA0445	1	27.6	4.1	2.62	35	1.6	5	10	50	.2	2
84DDA0446	1	23.5	3.9	2.52	33	1.6	2	10	50	.8	2
84DDA0447	1	24.7	4.4	2.36	30	1.3	2	10	50	.7	2
84DDA0448	1	26.9	3.9	2.45	10	1.4	2	10	50	.2	2
84DDA0449	23	33.1	4.6	2.43	35	1.6	2	10	50	.5	2
84DDA0450	1	22.4	3.6	2.46	25	1.3	2	10	50	.2	2
84DDA0451	1	21.4	3.5	2.36	30	1.4	2	10	50	.5	2
84DDA0452	1	21.1	3.3	2.32	24	1.4	2	10	50	.6	2
84DDA0453	1	23.9	3.6	2.49	38	1.6	2	10	50	.2	2
84DDA0454	1	21.3	3.5	2.53	23	1.3	2	10	50	.2	2
84DDA0455	12	42.0	5.5	1.90	78	4.7	2	10	50	4.3	2
84DDA0456	1	24.5	3.8	2.49	23	1.4	2	10	50	.2	2
84DDA0457	1	25.2	4.2	2.40	32	1.9	2	10	50	.2	2

SAMPLE NUMBER	AU PPB	U PPM	TH PPM	NA PCT	CR PPM	FE PCT	CO PPM	NI PPM	ZN PPM	AS PPM	SE PPM
84DDA0458	1	23.9	3.7	2.67	20	1.6	2	10	50	.6	2
84DDA0459	1	26.5	3.7	2.38	32	1.7	2	10	50	.8	2
84DDA0460	1	28.1	4.2	2.62	28	2.1	6	10	50	.9	2
84DDA0461	1	24.1	3.5	2.80	39	2.6	6	10	50	.2	2
84DDA0462	1	25.2	3.6	2.56	23	2.5	2	10	50	.2	2
84DDA0463	3	21.9	3.7	2.55	37	2.1	2	10	50	.2	2
84DDA0464	1	24.6	5.1	2.34	50	2.8	7	10	50	.2	2
84DDA0465	1	21.2	3.8	2.00	68	3.1	10	10	50	1.5	2
84DDA0466	1	25.8	5.5	2.04	51	3.0	6	10	50	1.0	2
84DDA0467	1	20.9	3.2	2.23	41	2.5	8	10	50	1.5	2
84DDA0468	1	26.4	3.9	2.26	44	2.6	6	10	50	.8	2
84DDA0469	1	26.7	4.1	2.53	32	2.7	7	10	50	.7	2
84DDA0470	1	29.4	4.8	2.85	41	3.0	6	10	50	.8	2
84DDA0471	1	21.4	3.0	2.47	33	2.4	2	10	50	.2	2
84DDA0472	1	23.0	3.3	2.50	28	2.5	2	10	50	.2	2
84DDA0473	1	25.5	3.8	2.70	30	1.8	2	10	50	.2	2
84DDA0474	1	24.9	3.9	2.54	28	1.4	2	10	50	.7	2
84DDA0475	1	18.0	2.9	2.49	27	1.6	2	10	50	1.0	2
84DDA0476	1	28.3	4.1	2.41	26	1.1	2	10	50	.2	2
84DDA0477	1	21.6	3.4	2.49	31	1.7	2	10	50	.7	2
84DDA0478	1	23.4	3.4	2.45	25	1.5	2	10	50	.7	2
84DDA0479	1	23.9	3.5	2.40	33	1.8	2	10	50	.2	2
84DDA0480	3	22.9	3.5	2.50	29	1.7	2	10	50	.2	2
84DDA0481	1	36.6	4.9	2.40	34	2.1	2	10	50	.6	2
84DDA0482	1	22.2	3.4	2.44	31	1.6	2	10	50	.2	2
84DDA0483	1	23.5	3.5	2.37	21	1.5	2	10	50	.2	2
84DDA0484	1	23.8	3.8	2.34	26	1.3	2	10	50	.2	2
84DDA0485	4	21.2	3.4	2.29	32	1.4	2	10	50	.8	2
84DDA0486	1	20.9	3.3	2.46	25	1.5	2	10	50	.8	2
84DDA0487	1	22.7	3.4	2.40	25	1.3	2	10	50	.2	2
84DDA0488	3	24.2	5.7	2.40	20	1.4	2	10	50	.5	2
84DDA0489	3	29.0	4.2	2.44	28	1.6	2	10	50	.2	2
84DDA0490	1	30.0	4.4	2.57	10	1.7	2	10	50	.5	2
84DDA0491	7	24.0	3.4	2.42	26	1.5	2	10	50	.5	2
84DDA0492	1	23.9	4.0	2.38	24	1.6	2	10	50	.6	2
84DDA0493	6	26.9	4.3	2.58	10	1.6	2	10	50	.8	2
84DDA0494	1	23.4	3.4	2.20	32	1.7	2	10	50	.6	2
84DDA0495	1	29.4	4.0	2.41	10	1.8	2	10	50	.7	2
84DDA0496	1	18.0	2.8	2.55	10	2.1	2	10	50	.2	2
84DDA0497	1	21.4	3.2	2.30	53	3.4	9	10	50	.5	2
84DDA0498											
84DDA0499	1	20.3	3.0	2.56	20	2.6	2	10	50	.2	2
84DDA0500	4	21.8	3.4	2.27	49	2.6	8	10	50	1.2	2
84DDA0501	1	24.6	4.1	2.44	46	3.2	9	10	50	1.2	2
84DDA0502	3	20.6	2.9	2.22	51	3.3	8	22	50	.2	2
84DDA0503											
84DDA0504	1	23.2	3.5	2.42	30	2.0	2	10	50	.2	2

[illegible]

[illegible]

SAMPLE NUMBER	AU PPB	U PPM	TH PPM	NA PCT	CR PPM	FE PCT	CO PPM	NI PPM	ZN PPM	AS PPM	SE PPM
84DDA0599											
84DDA0600											
84DDA0601											
84DDA0602											
84DDA0603											
84DDA0604											
84DDA0605											
84DDA0606											
84DDA0607											
84DDA0608											
84DDA0609											
84DDA0610											
84DDA0611											
84DDA0612											
84DDA0613											
84DDA0614											
84DDA0615											
84DDA0616											
84DDA0617											
84DDA0618											
84DDA0619											
84DDA0620											
84DDA0621											
84DDA0622											
84DDA0623											
84DDA0624											
84DDA0625											
84DDA0626											
84DDA0627											
84DDA0628											
84DDA0633											
84DDA0634											
84DDA0635											
84DDA0636											
84DDA0637											
84DDA0638											
84DDA0639											
84DDA0640											
84DDA0641											
84DDA0642											
84KDA0001	1	20.1	3.6	2.52	47	1.3	2	10	50	.2	2
84KDA0002	1	27.3	4.2	2.54	31	1.6	2	10	50	.2	2
84KDA0003	1	22.2	3.7	2.13	10	1.2	2	10	50	.2	2
84KDA0004	1	31.5	5.3	3.06	36	1.9	2	10	50	.2	2
84KDA0005	1	22.5	4.1	2.48	26	1.4	2	10	50	.7	2
84KDA0006	1	41.9	6.1	2.62	27	2.1	2	10	50	.2	2
84KDA0007	1	24.0	3.6	2.38	35	1.4	2	10	50	.2	2

SAMPLE NUMBER	AU PPB	U PPM	TH PPM	NA PCT	CR PPM	FE PCT	CO PPM	NI PPM	ZN PPM	AS PPM	SE PPM
84KDA0008	1	25.0	3.8	2.41	28	1.5	2	10	50	.5	2
84KDA0009	1	30.3	4.4	2.56	23	1.5	2	10	50	.2	2
84KDA0010	4	31.2	5.1	2.55	23	1.8	2	10	50	.2	2
84KDA0011	3	31.4	4.8	2.78	33	1.9	2	10	50	.2	2

TABLE 5 - GEOCHEMICAL DATA - LESS THAN 63 MICRON FRACTION

BROCHET

NTS 64F

SAMPLE NUMBER	MO PPM	AG PPM	CD PPM	SB PPM	BA PPM	LA PPM	HF PPM	TA PPM	W PPM	IR PPB
84DDA0370										
84DDA0414		1	1	.1	810	59	16	1.0		25
84DDA0415		1	1	.1	930	65	18	.8		25
84DDA0416		1	1		800	55	14	.8		25
84DDA0417		1	1		830	49	16	.9		25
84DDA0418		1	1	.1	910	75	19	1.1		25
84DDA0419		1	1	.1	750	55	17	1.0		25
84DDA0420		1	1		890	62	16	.9		25
84DDA0421		1	1		840	74	17	.7		25
84DDA0422		1	1		830	69	19	1.0		25
84DDA0423		1	1		860	57	17	.9		25
84DDA0424		1	1		870	51	16	.7		25
84DDA0425		1	2		820	57	16	.7		25
84DDA0426		1	1	.1	840	51	15	.9		25
84DDA0427		1	1		750	48	15	.8	1	25
84DDA0428		1	1		840	49	16	.8		25
84DDA0429		1	1	.1	860	54	16	1.1		25
84DDA0430		1	1		870	59	18	.9		25
84DDA0435		1	1		980	54	15	.8		25
84DDA0436		1	1	.3	1000	60	17	.8		25
84DDA0437		1	1		850	56	15	1.0		25
84DDA0438		1	1		910	85	18	.9		25
84DDA0439		1	1	.2	1000	70	15	1.1		25
84DDA0440		1	1		960	120	16	.7		25
84DDA0441		1	1	.3	800	89	11	1.3	2	25
84DDA0442		1	1	.1	900	52	11	.8		25
84DDA0443		1	1		1000	81	14	1.0		25
84DDA0444		1	1		960	60	18	.8		25
84DDA0445		1	1		890	64	18	.9		25
84DDA0446		1	1	.1	890	57	16	1.1		25
84DDA0447		1	1		880	54	15	.7		25
84DDA0448		1	1	.1	860	60	16	.7		25
84DDA0449		1	2		780	71	20	1.2	1	25
84DDA0450		1	1		840	49	15	.9	1	25
84DDA0451		1	1		840	49	15	.7		25
84DDA0452		1	1		770	47	15	.8		25
84DDA0453		1	1		870	52	18	.9		25
84DDA0454		1	1	.1	840	52	16	1.0		25
84DDA0455		1	2	.2	640	78	25	1.4	1	25
84DDA0456		1	1		780	52	16	.9	1	25
84DDA0457		1	1		860	66	16	1.0		25

SAMPLE NUMBER	MO PPM	AG PPM	CD PPM	SB PPM	BA PPM	LA PPM	HF PPM	TA PPM	W PPM	IR PPB
84DDA0458		1	1		910	56	18	1.0		25
84DDA0459		1	1		780	58	16	.7		25
84DDA0460		1	1	.1	1000	80	19	1.1		25
84DDA0461		1	1		1100	64	18	1.0		25
84DDA0462		1	1		1000	66	17	.9		25
84DDA0463		1	1		950	63	15	.9		25
84DDA0464		1	1		910	68	14	.9		25
84DDA0465		1	4	.1	810	57	13	1.2		25
84DDA0466		1	1		820	61	16	1.2	2	25
84DDA0467		1	1	.1	870	52	15	1.1		25
84DDA0468		1	1	.1	850	67	15	.9	2	25
84DDA0469		1	1		930	66	19	.9		25
84DDA0470		1	1		1100	77	19	1.2		25
84DDA0471		1	1		960	56	16	1.0	1	25
84DDA0472		1	1		950	55	19	.9		25
84DDA0473		1	1		940	57	17	1.0	2	25
84DDA0474		1	1	.1	820	56	17	.8		25
84DDA0475		1	1		820	40	13	.9		25
84DDA0476		1	1		750	64	16	.9		25
84DDA0477		1	1		830	49	15	.8	1	25
84DDA0478		1	1		800	55	16	1.0		25
84DDA0479		1	1	.1	830	54	14	1.2		25
84DDA0480		1	1		790	51	15	.8		25
84DDA0481		1	1		720	78	23	.8		25
84DDA0482		1	2	.1	790	49	13	.9	3	25
84DDA0483		1	1		800	51	15	.8	1	25
84DDA0484		1	3		800	54	16	.8		25
84DDA0485		1	1	.2	860	46	14	.7		25
84DDA0486		1	2		860	49	15	.8		25
84DDA0487		1	1		750	48	16	.8		25
84DDA0488		1	1	.1	810	63	14	1.1		25
84DDA0489		1	1	.1	760	64	19	1.0		25
84DDA0490		1	1		820	65	18	1.1	2	25
84DDA0491		1	1	.1	760	51	15	.9		25
84DDA0492		1	1		780	58	16	.8		25
84DDA0493		1	1		850	61	19	.8		25
84DDA0494		1	1		880	56	14	.9	1	25
84DDA0495		1	1		850	64	18	1.0		25
84DDA0496		1	1		890	48	15	.8		25
84DDA0497		1	1		900	59	13	1.0		25
84DDA0498										
84DDA0499		1	1		1100	51	18	1.0		25
84DDA0500		1	1	.1	890	72	14	1.1	2	25
84DDA0501		1	1		960	66	19	1.2		25
84DDA0502		1	1		1000	63	10	1.2		25
84DDA0503										
84DDA0504		1	1		960	65	18	1.1		25

[illegible]

[illegible]

SAMPLE NUMBER	MO PPM	AG PPM	CD PPM	SB PPM	BA PPM	LA PPM	HF PPM	TA PPM	W PPM	IR PPB
84DDA0599										
84DDA0600										
84DDA0601										
84DDA0602										
84DDA0603										
84DDA0604										
84DDA0605										
84DDA0606										
84DDA0607										
84DDA0608										
84DDA0609										
84DDA0610										
84DDA0611										
84DDA0612										
84DDA0613										
84DDA0614										
84DDA0615										
84DDA0616										
84DDA0617										
84DDA0618										
84DDA0619										
84DDA0620										
84DDA0621										
84DDA0622										
84DDA0623										
84DDA0624										
84DDA0625										
84DDA0626										
84DDA0627										
84DDA0628										
84DDA0633										
84DDA0634										
84DDA0635										
84DDA0636										
84DDA0637										
84DDA0638										
84DDA0639										
84DDA0640										
84DDA0641										
84DDA0642										
84KDA0001		1	1							25
84KDA0002		1	1							25
84KDA0003		1	1							25
84KDA0004		1	1	.2	100	7	2	1.2		25
84KDA0005		1	1							25
84KDA0006		1	1							25
84KDA0007		1	1	.1	80	5	1	1.0		25

SAMPLE NUMBER	MO PPM	AG PPM	CD PPM	SB PPM	BA PPM	LA PPM	HF PPM	TA PPM	W PPM	IR PPB
84KDA0008		1	1	.1	76	6	1	.9	1	25
84KDA0009		1	1							25
84KDA0010		1	1							25
84KDA0011		1	1							25

O.F. 1205. Till geochemistry, Brochet, Manitoba (64 F);
1:250 000; R.N.W. DiLabio, C.A. Kaszycki, 37p -

Cu, Pb, Zn, Mo, Ni, Cr, Mn, Fe, As, Au, U (maps, data/
cartes, données); Na, Co, Se, Ag, Cd, Sb, Ba, La, Hf,
Ta, W, Ir, Th (data/données).

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Price/Prix: \$ 37.00

An IBM-PC compatible diskette of digital data is available
from GSC Ottawa for \$25.00. Une disquette contenant les
données sous forme numérique est disponible à la CGC à Ottawa,
pour la somme de 25\$.

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