MAP NO.: 105 G 9	**ASSESSMENT REPORT** X **PROSPECTUS** **CONFIDENTIAL** X **OPEN FILE**	**DOCUMENT NO:** 093006 **MINING DISTRICT:** WATSON LAKE **TYPE OF WORK:** GEOCHEMICAL

REPORT FILED UNDER: JAN MARTENSSON

DATE PERFORMED: OCTOBER, 1991 | **DATE FILED:** FEBRUARY 24, 1992

LOCATION: **LAT.:** 61°32 | **AREA:** FRANCES LAKE AREA

LONG.: 130°24'W | **VALUE $:** 1,200

CLAIM NAME & NO.: ARM 9-12 YB33538-YB33541

WORK DONE BY: PAUL RAMAEKERS

WORK DONE FOR: JAN MARTENSSON

DATE TO GOOD STANDING:

REMARKS: 105G112 DESOTO FACTOR ANALYSIS OF SOIL GEOCHEMICAL DATA. CU, ZN, P, AS, V ARE DERIVED FROM THE EASTERN PORTION OF THE PROPERTY WHICH IS UNDERLAIN BY BROWN QUARTZITE. HG, SB, AG, BA DER IVED FROM THE WESTERN PORTION OF THE PROPERTY UNDERLAIN BY PHYLLITE BOGIRON HIGH IN P, FE AND V. AG AND BA POSSIBLE REMOBILITED FROM PHYLLITE BY EPITHERMAL ACTION. CU AND ZN FROM QUARTZITE OR FAULT CONTACTS ON THE QUARTZITE. POSSIBLE VMS SOURCE INDICATED FROM THE ELEMENT ASSOCIATION.

Indian and Northern Affairs Canada / Affaires indiennes et du Nord Canada

M.R. file no.
R.M.M.R. file no.
Date forwarded 18 Feb 92.

TRANSMITTAL FORM

OFFICE OF THE REGIONAL MANAGER MINERAL RIGHTS FEB 24 1992 WHITEHORSE YUKON TERRITORY

From ▶ Mining Recorder at: Watson Lake

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT	Name		
☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT	Name		Lease no.
☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE	Name		Lease no.
☐ SECURITY DEPOSIT			
☐ FINANCIAL ABILITY			
☐ ASSIGNMENT OF PLACER LEASE NO.	From	To	
☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT.	Owner		
☐ DIAMOND DRILL LOGS	Claims		Claim sheet no.
☑ QUARTZ ASSESSMENT REPORT	Claims: Arm 9 to 12 YB33538 to YB33541		Claim sheet no.: 105-G-09.
	Type of report: GC	Submitted by: Ampex Mining	
	Cls. work performed on: ARM 9 to 12		$ req. for ren. application: 1200.00.

Signature

Date returned

REPLY ACTION

093049

Signature

802-6027-26 (6-86)

JAN MARTENSSON
ARM CLAIMS PROPERTY, YUKON, NTS 105G/09
ARM CLAIMS NO. 9, 10, 11, and 12
FACTOR ANALYSYS OF SOIL GEOCHEMICAL DATA

PAUL RAMAEKERS OCTOBER 29, 1991

Paul Ramaekers

Paul Ramaekers, Ph.D. F.G.A.C. October 29, 1991

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 1,200.

D J Ouellette

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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ARM CLAIMS NO. 9, 10, 11, and 12
NTS 105G/09
FACTOR ANALYSIS OF SOIL GEOCHEMICAL DATA

1. SUMMARY

The factor analysis of the soil samples indicates the presence of two element suites in the ARM claims area.

A suite of volatiles (Hg, Sb), Ag, and Ba is present in the black phyllites to the west, southeast and south of the study area.

Copper, Zn, P, As and V are derived from the eastern part of the area underlain by the quartzites. These elements are concentrated in the limonites of the bogiron deposit in the creek forming a transported gossan.

The source of the Ag and Ba in the phyllites may be remobilized material from epithermal or less likely sedex type deposits in the phyllites or remobilized from deposits of this type along faults in the phyllites.

The immediated source of the Cu and Zn appears to be the quartzite unit or faults along its edge to the east (i.e. uphill) of the valley hosting the bogiron. The element association indicates that a volcanogenic massive sulphide source is possible. The volcanics of the Anvil-Campbell suite 1 km to the northeast would be the likely source of the transported gossan if this is the case.

2. RECOMMENDATIONS

Further mapping of the quartzites should be undertaken, especially along faults to the northeast and east of the creek hosting the bog iron deposit on the ARM claims.

The mapping should be accompanied by soil sampling, and should go well into the basalts to the north and east of the ARM claims.

Mapping of the phyllites to the west and south of the bogiron deposit should be carried out, paying particular attention to evidence of sedex deposits.

3. INTRODUCTION

3.1 Location of the Property

The ARM claims 9-12 (YB33538-YB33541) are located in NTS 105G/09, Yukon. They were staked by Jan Martensson on August 21, 1990, and recorded August 31, 1990. They form a contiguous block with ARM claims 1-8 lying to the southwest. The location is given in Figure 1.

3.2 Purpose of this Study

The ARM claims were staked to cover a limonitic bog-iron deposit in a creekbed occupying a faultzone. The upper reaches of this valley are underlain by black phyllites to the west and southeast, brown quartzites to the north and close to the eastern boundary of the claims, and chloritic phyllite further to the east and northeast. Contacts are not exposed, but are probably faults. The attitude of the faults is not known, as the valley bottoms are poorly exposed. Anomalous base and precious metal values were encountered in the bogiron deposit. The source of these anomalies is at present unknown. It is the purpose of this study to help locate the source of the metal that formed the anomalous stream sediment and soil samples found in this transported gossan.

4. DATA

The geochemical analyses of 41 soil samples were provided by Mr. Martensson together with a location map. The samples had been analysed for Mo, Cu, Pb, Zn, Ag, Ni, Fe, As, U, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Au, and Hg. The details may be found on Table 1.

Of these elements U, Cd, Bi, W, and Cr were not used in the analysis. The values for U, Cd, Bi, and W were nearly invariant and low and would not have contributed to understanding the element distribution on and near the property. Cr was not used because with coarse clastic samples Cr values depend more on the hardness of the sample than on the samples' original Cr content. This is due to contamination from the Cr-steel used in the ball crusher in most geochemical labs.

The location of the samples was digitized from the original field notes and field map and given in UTM coordinates in Table 1.

The samples were analysed by ICP and AA methods after sample digestion using appropriate methods for the different elements. The analytical work was carried out by ACME Analytical Laboratories Ltd. in Vancouver, B.C.

The location of the samples is given in Figure 2, which provides the location at a 1:20000 scale using the 1 km square UTM grid of the National Topographic Series 1:50000 scale maps as reference.

5. FACTOR ANALYSIS

5.1 Method

The data was analysed using Principal Component analysis with Varimax rotation of the loadings matrix.

Latent roots with eigenvalues of over 1.0 were extracted. This provided seven factors and was a good cutoff because the eigenvalue for factor 8 is only 0.587.

The rotated loadings, factor score coefficients and factor scores were saved. The rotated loadings and score coefficients are given in Figure 12. The factor scores for each sample are given graphically for each factor in Figures 3 - 11. The scale for the factor score coefficients is also given on Figure 12.

5.2 Results

The reproducibility of factor analysis results depends in part on the sample size relative the number of variables. In this case there were 25 variables and 41 samples. Part of the reason why some of the elements were not used in this study is to reduce the number of variables and hence increase the reliability of the results. Also, the relatively large eigenvalues of the seven extracted factors (particularly the first five) suggest that the results are meaningful despite the small sample size.

5.2.1. Factor 1 Positive: Hg, Ag, Sb, Ba, Sr, Mo (Figure 3)

Factor 1 shows high factor scores only in the western part of the study area underlain by black phyllites (Figure 3). The factor loadings indicate a strong association of volatile Hg and Sb with Ag, Ba, Sr, and Mo. The high values for Hg, Sb with Ag and Ba may indicate the presence of faults with epithermal mineralization, or possibly sedex type mineralization.

5.2.2 Factor 2 Positive: Mg, Mn, Ni, Al, Co, Ca, Zn, Cu, Ti, Th (Figure 4)

Factor 2 Positive has its highest scores in the eastern part of the study area underlain by brown quartzites. The suite of elements showing high correlation in the factor loadings suggest the presence of a black gossan association. A Cu-Zn association is present, in marked contrast to Factor 1. It suggests the possibility that the sandstones (at least early in their history much more porous than the phyllites) acted as a conduit, or perhaps at some place, the host to mineralization.

5.2.3 Factor 3 Positive: V, Fe, P, Co (Figure 5)

This suite of elements probably represents soil phosphates and vanadates. It is present erratically in small amounts, but in large amounts (4% P, 24% Fe, .1% V) in the bogiron deposit - Sample 53228.

5.2.4 Factor 4 Positive: As, Cu, Ca, P, Zn (Figure 6)

Factor 4P represents an As, apatite, Cu-Zn association. It is present in the transported gossan (sample 53228) but only slightly less so in the area underlain by the brown quartzite to the eastand northeast, but NOT to the west. This distribution suggests a source for the Cu and Zn to the east, along the quartzite or along one of the faults bordering the quartzite.

5.2.5 Factor 5 Positive: La, Pb, Th, Au (Figure 7)

High values for factor 5P occur erratically, largely in the eastern part of the study area. Possibly this association reflects a heavy mineral association.

5.2.6 Factor 6 Positive: B, Au, Th, Ni (Figure 8)

Factor 6P has a similar distribution to factor 5P. The B-Au association is particularly strong. The reason for this is not clear.

5.2.7 Factor 7 Positive: K (Figure 9)

Factor 7P scores are erratically distributed; they largely show the distribution of K.

5.2.8 Factor 6 Negative: Zn, Pb, Sb, Al (Figure 10)

Factor scores for factor 7N show that the Zn, Pb, Sb, Al association is prominent largely in the eastern part of the study area, overlying the quartzites, more or less similar to the distribution of factor 4P (As,Cu,Zn). Interpretation of this factor is difficult, because lower than average B or Au values will contribute to decreasing the factor score and hence will appear to increase the strength of the Zn, Pb, Sb, Al association.

5.2.9 Factor 4 Negative: Al, Ti, Th, Sb, Mo, Mg, Ag (Figure 11)

Like factor 6N this factor is difficult to interpret because it is bipolar, and lower than average As, Cu, or Ca values would increase the strength of the factor 4N association. This group of elements is not an association with an obvious geochemical significance; nor does its distribution show much that makes geological sense. It is quite possible then, that this association is an artifact due to small sample size.

5.3 Interpretation

Factor 1P indicates a strong link between Hg, Ag, and Sb and the black shales found in the eastern part of the study area. Possibly there is a link to epithermal mineralization, or less likely to sedex type mineralization.

Factor 2P probably shows that Cu and Zn are scavenged from the quartzites in the eastern part of the study area in black gossan type minerals.

Factor 3P shows that the bogiron deposit has accumulated considerable amounts of V, P, and Fe, and that this suite is also found in much smaller amounts and erratically in the quartzites and less so in the phyllites.

Factor 4P indicates that the source of the Cu, Zn and P in the bogiron probably lies to the east and northeast. Whether the ultimate source is the quartzites themselves, or whether the quartzites or their bounding faults were just the conduits for metals is not determined.

Factor 6 Negative shows that Cu and Zn are probably derived from the east and northeast. There is some uncertainty in the interpretation of this factor due to its bipolar nature.

Factors 5P and 6P show erratic Au, B and heavy mineral distribution, predominantly to the east. Factor 7 shows erratic K distribution. Factor 4N also shows an erratic distribution of an element association that has no obvious geological interpretation. It is quite possible that these factors are the result of chance, due to the small sample size.

6. CONCLUSION

Two main patterns emerge from the factor analysis of the soil samples:
1: a suite of volatiles (Hg, Sb), Ag, and Ba is present in the black phyllites to the west, southeast and south of the study area, and

2: a Cu, Zn, P, As and V suite is present in the eastern part of the area underlain by the quartzites. These elements are concentrated in the limonites of the bogiron deposit in the creek.

The source of the Ag and Ba in the phyllites may be remobilized material from epithermal or less likely sedex type deposits in the phyllites or remobilized along faults in the phyllites.

The immediated source of the Cu and Zn appears to be the quartzite unit or faults along its edge to the east (i.e. uphill) of the valley hosting the bogiron. The element association indicates that a volcanogenic massive sulphide source is possible. The volcanics of the Anvil-Campbell suite 1 km to the northeast would be the likely source of the transported gossan if this is the case.

CERTIFIED STATEMENT OF COSTS

Analysis of Soil Sample Geochemical Data
This study took 3 days of work and involved:
- Plotting and digitizing of sample data
- Evaluation of the reliability of samples
- Factor analysis of the cleaned data
- Plotting of the results
- Report writing

Cost at $ 400.00/day . . $ 1200.00

Paul Ramaekers

STATEMENT OF QUALIFICATIONS

I, Paul Ramaekers, of Calgary, Alberta do hereby certify that:

1. I am a graduate of the University of Toronto in Geological Sciences in 1967 (B. Sc. hon.).

2. I received a Doctorate in Philosophy in Geology from the University of Toronto in 1975.

3. I have been practicing as a geologist since 1974; as a Special Lecturer at the University of Regina in 1974; as a Senior Research Geologist at the Saskatchewan Geological Survey from 1975 to 1981; as Senior Sedimentary Geologist in the Research Division of the Saskatchewan Mining Development Corporation from 1981 to 1985; and as a self-employed geologist from 1985 to the present.

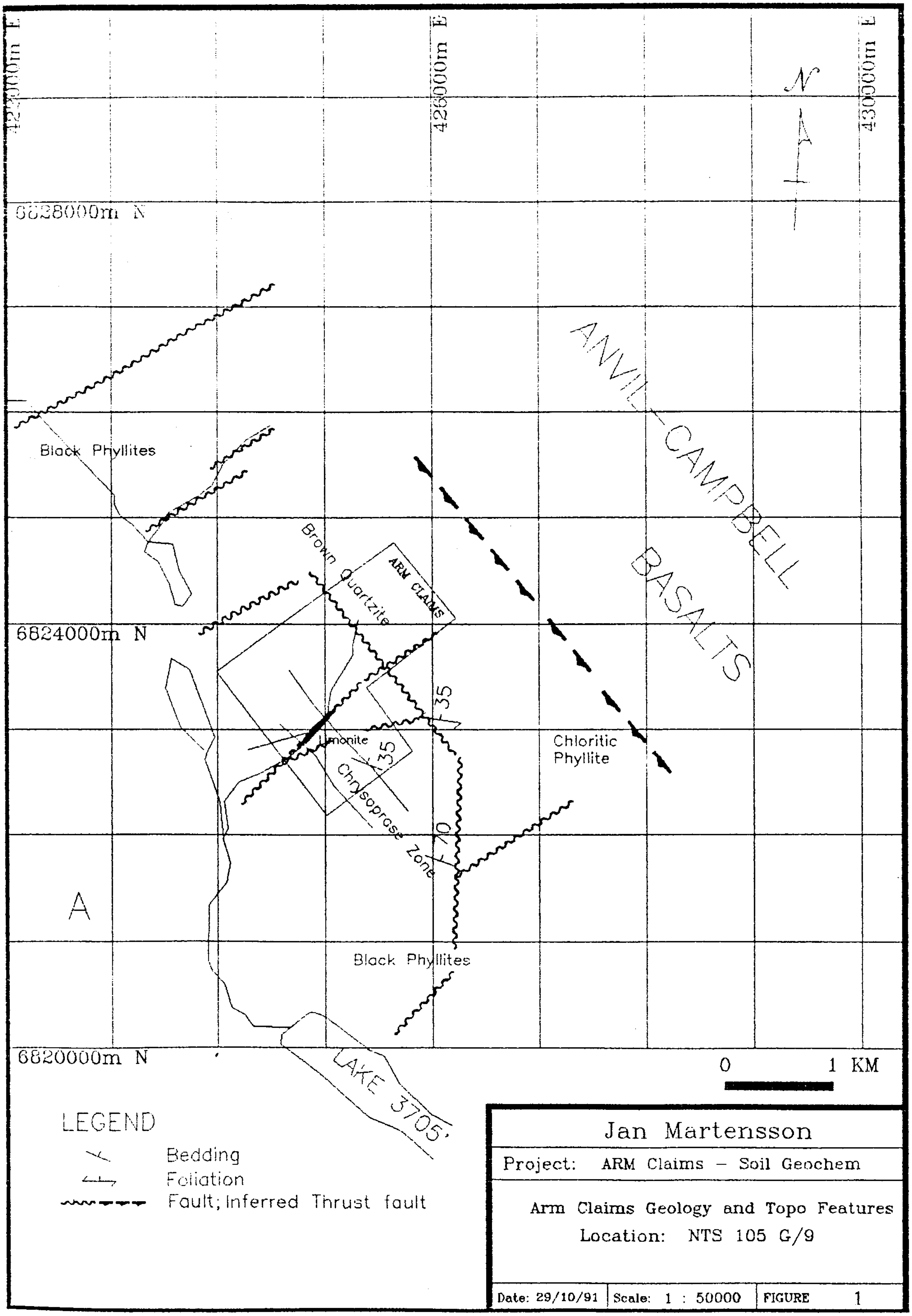
4. I have conducted field work on the ARM claims property in 1989.

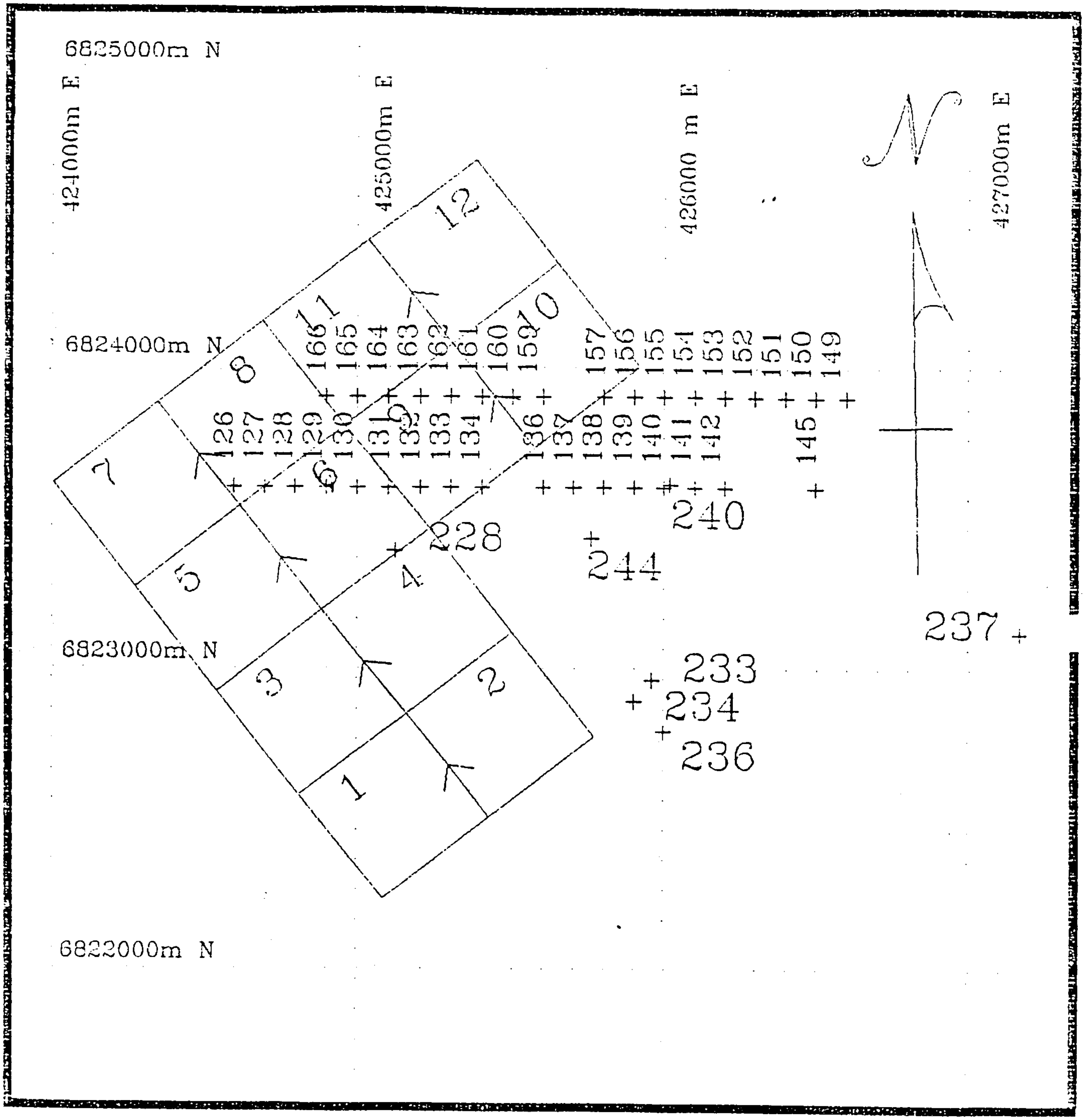
5. I am a Fellow of the Geological Association of Canada and a member of the Society of Economic Paleontologists and Mineralogists.

Dated at Calgary, Alberta, this 30th day of October, 1991.

Paul Ramaekers

Paul Ramaekers, B. Sc.(hon.), Ph.D. F.G.A.C.


426000m E
430000m E
N
6828000m N
6824000m N
6820000m N
ANVIL - CAMPBELL
BASALTS
Black Phyllites
Brown Quartzite
ARM CLAIMS
35
Limonite
35
Chrysoprase Zone
70
Chloritic
Phyllite
A
Black Phyllites
LAKE 3705'
0
1 KM
LEGEND
Bedding
Foliation
Fault; Inferred Thrust fault
Jan Martensson
Project: ARM Claims – Soil Geochem
Arm Claims Geology and Topo Features
Location: NTS 105 G/9
Date: 29/10/91
Scale: 1 : 50000
FIGURE 1

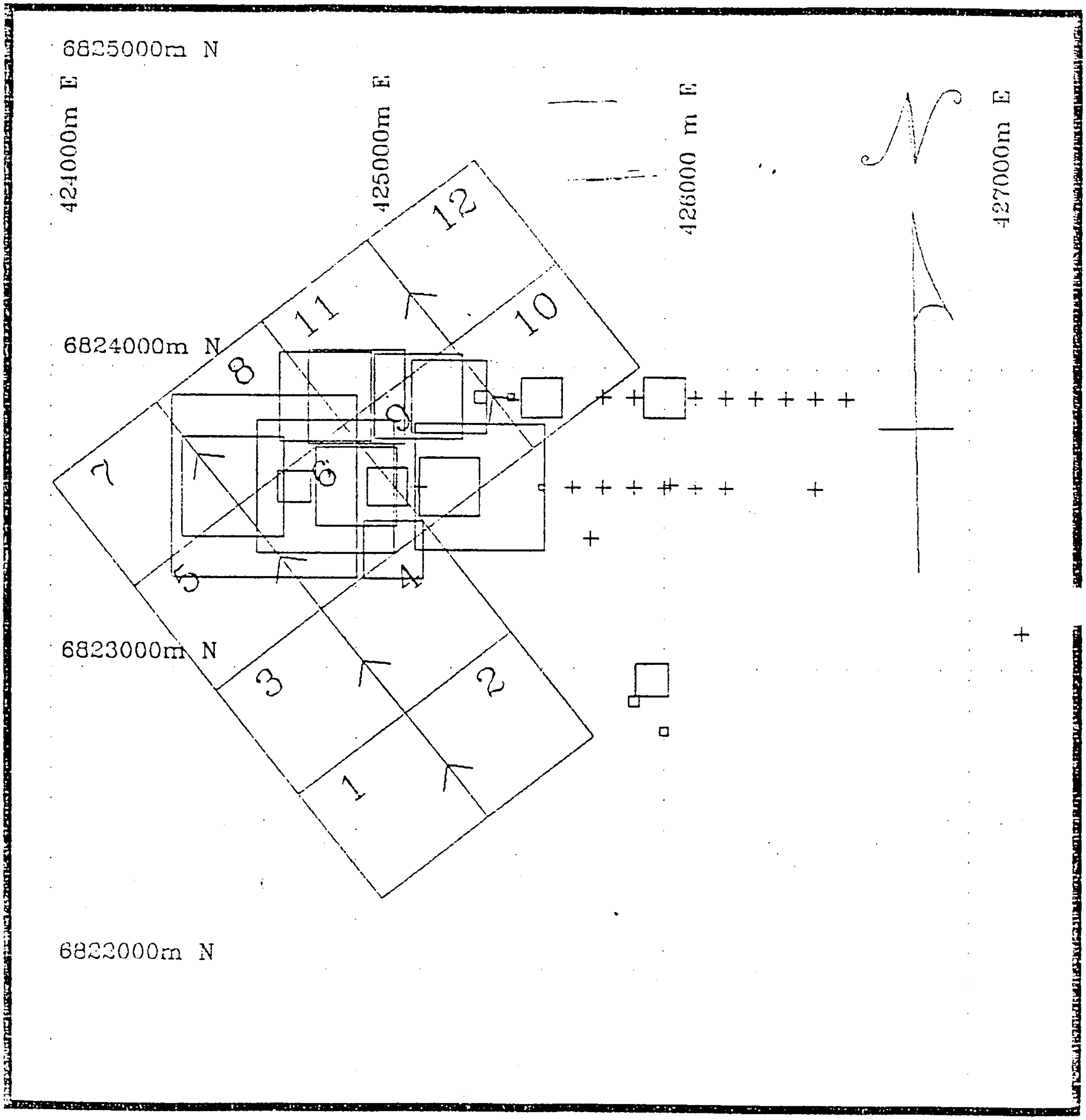


ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Sample Locations.

Prefix sample numbers by '53' to obtain the assay numbers. FIG. 2

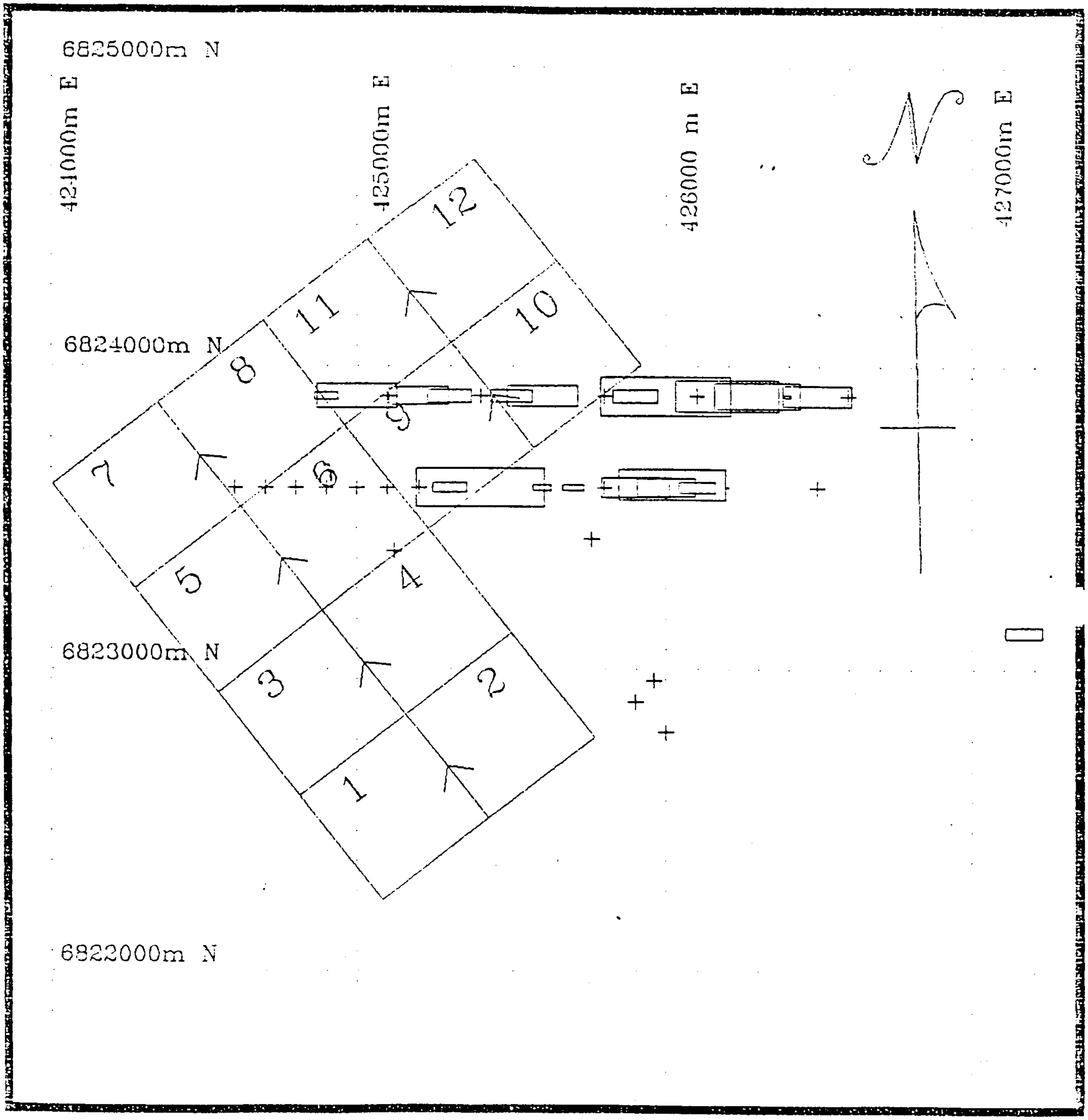


ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 1 positive

FIG. 3



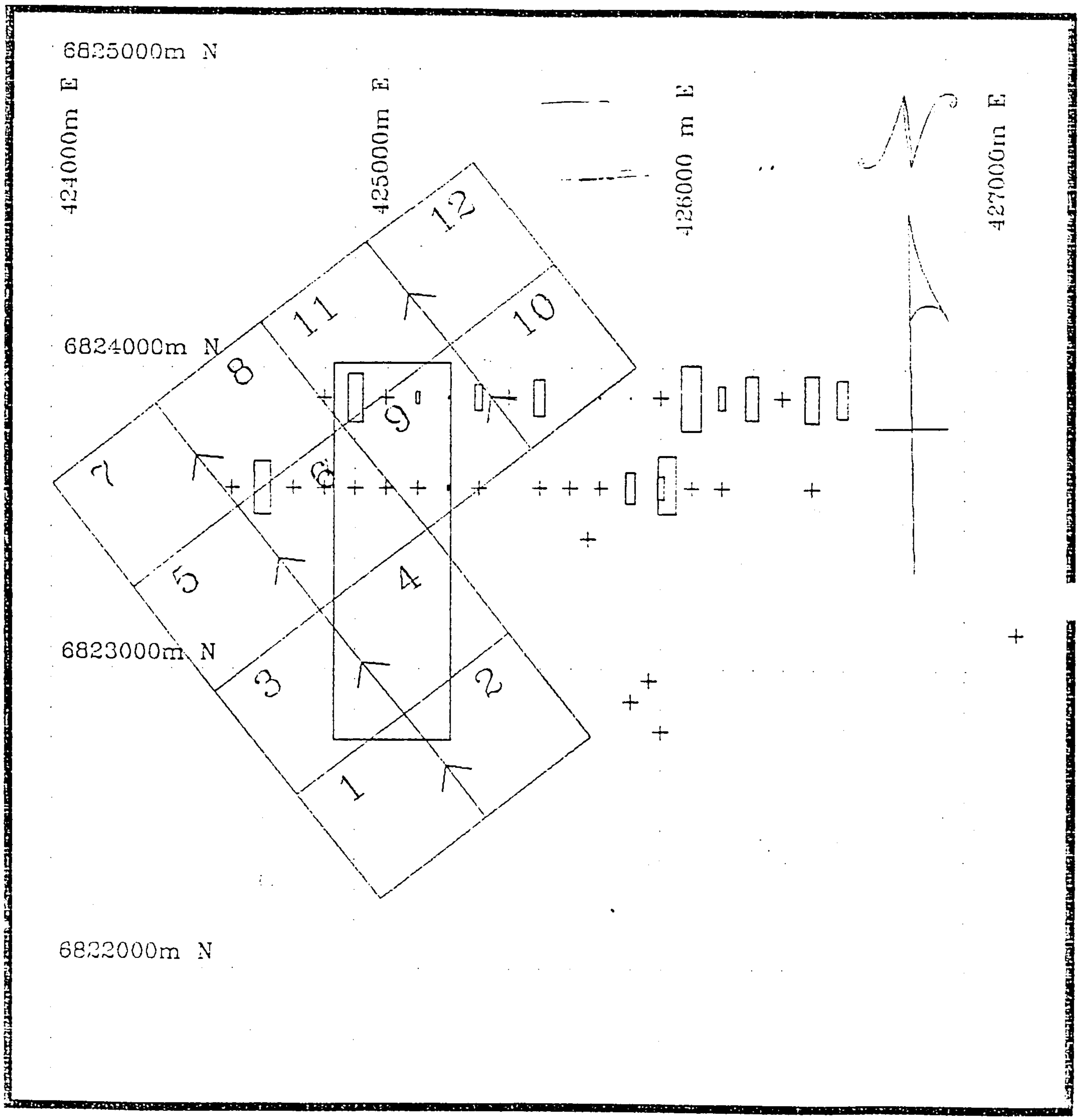
ARM CLAIMS

SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 2 Positive

FIG 7

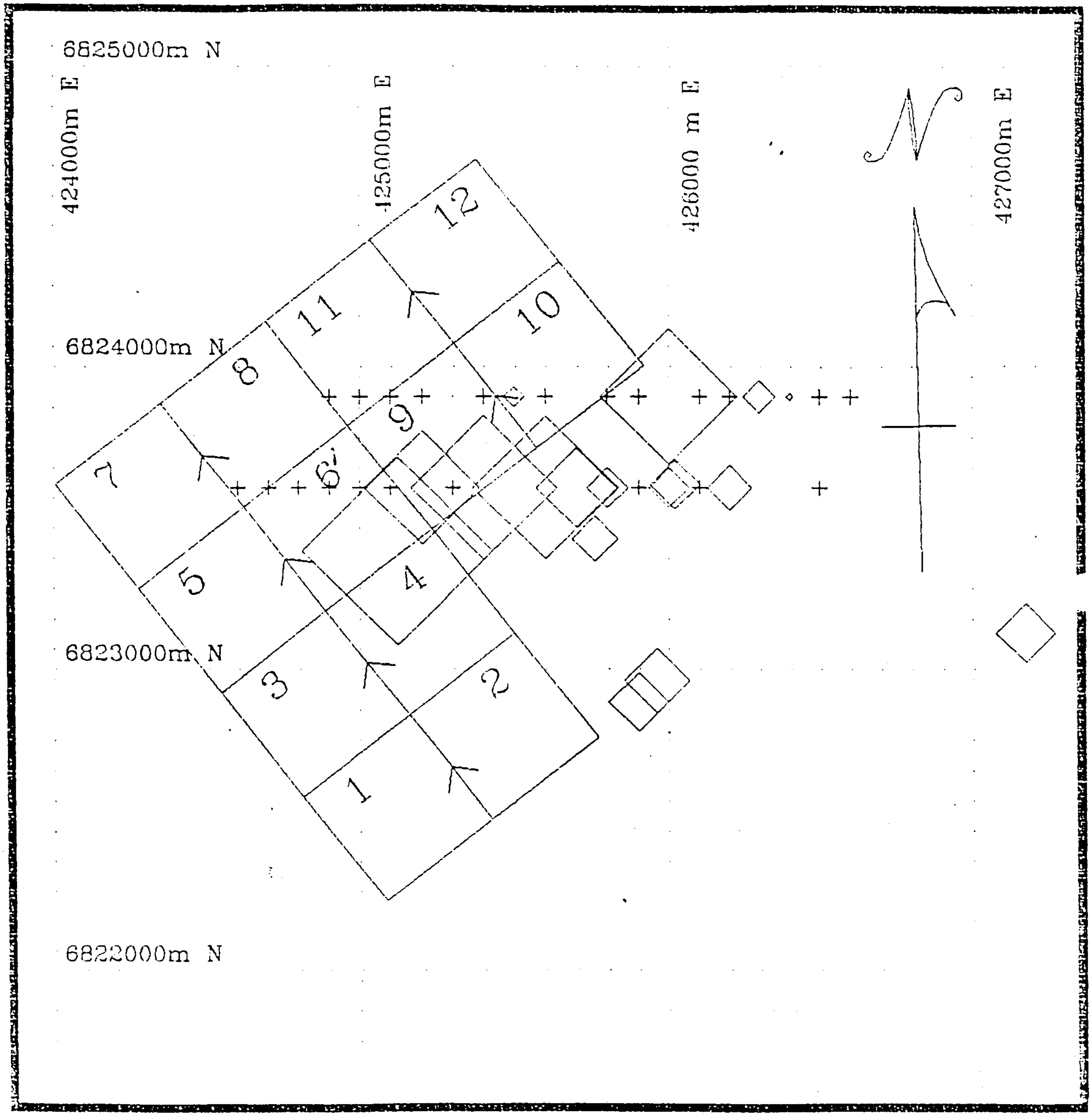


ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 3 Positive

FIG 5

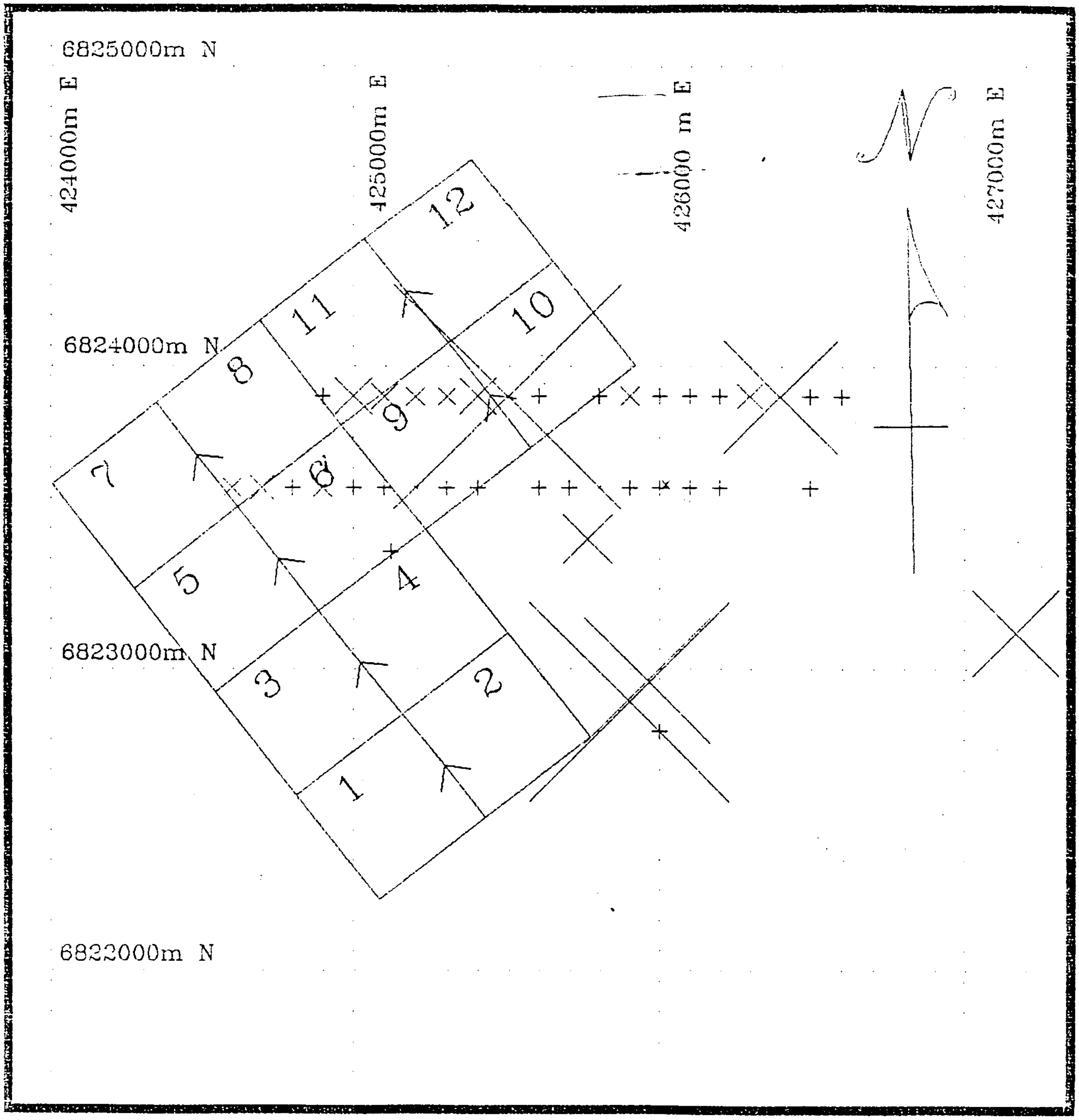


ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 4 Positive

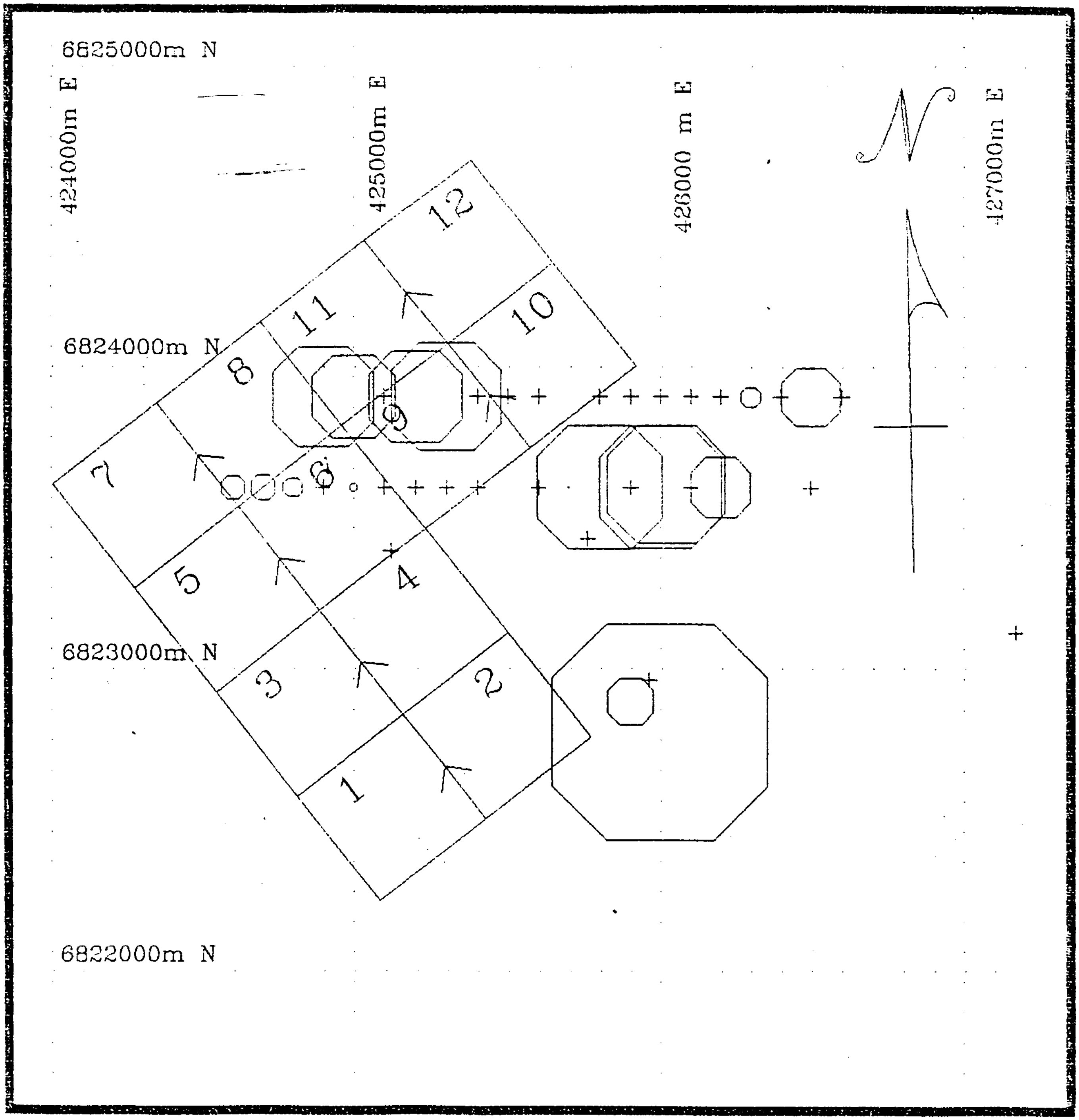
Fig 6



ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

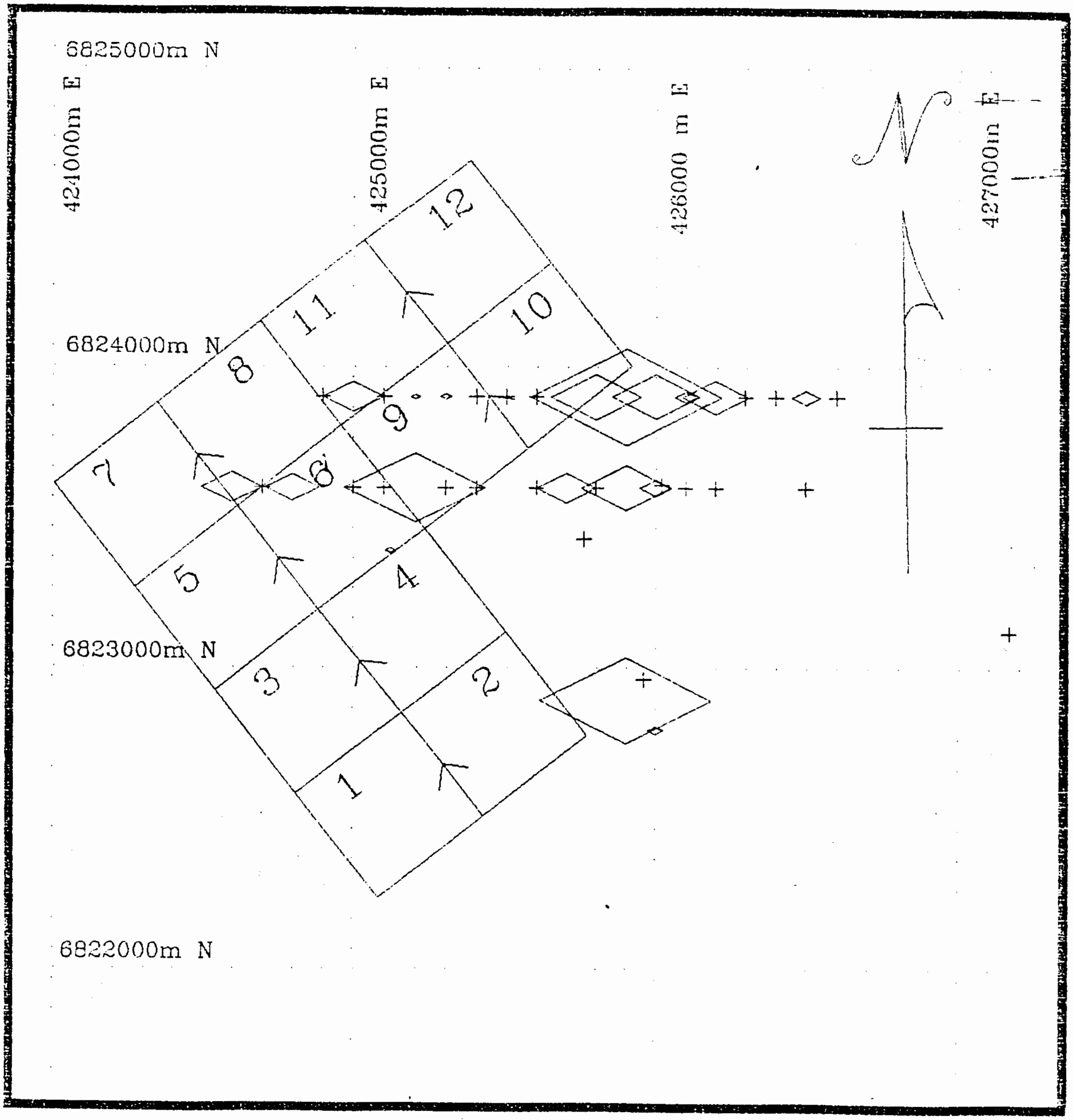
Plot of Factor Scores: Factor 5 Positive FIG 7



ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

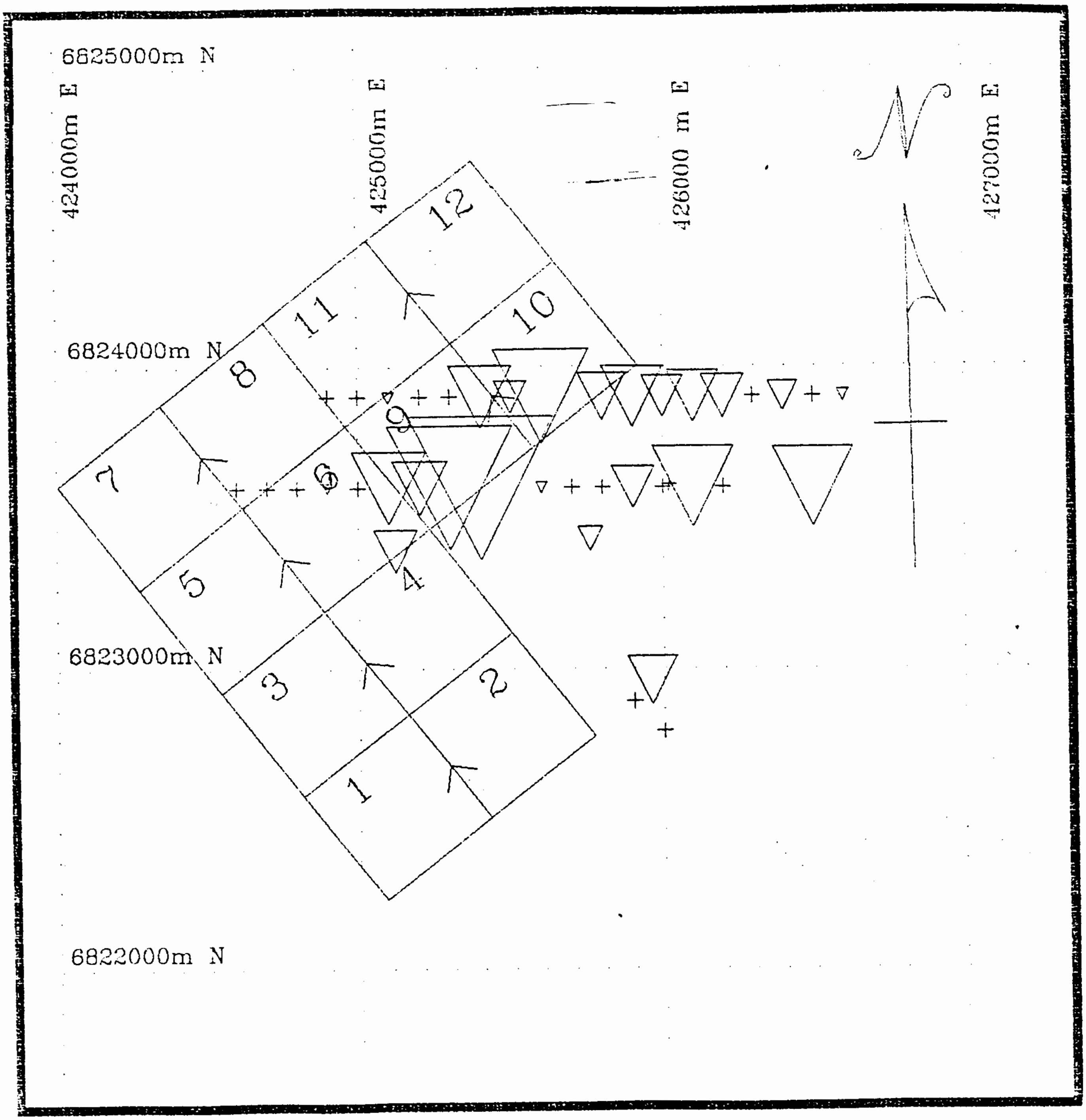
Plot of Factor Scores: Factor 6 Positive FIG 8



ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 7 Positive FIG 9



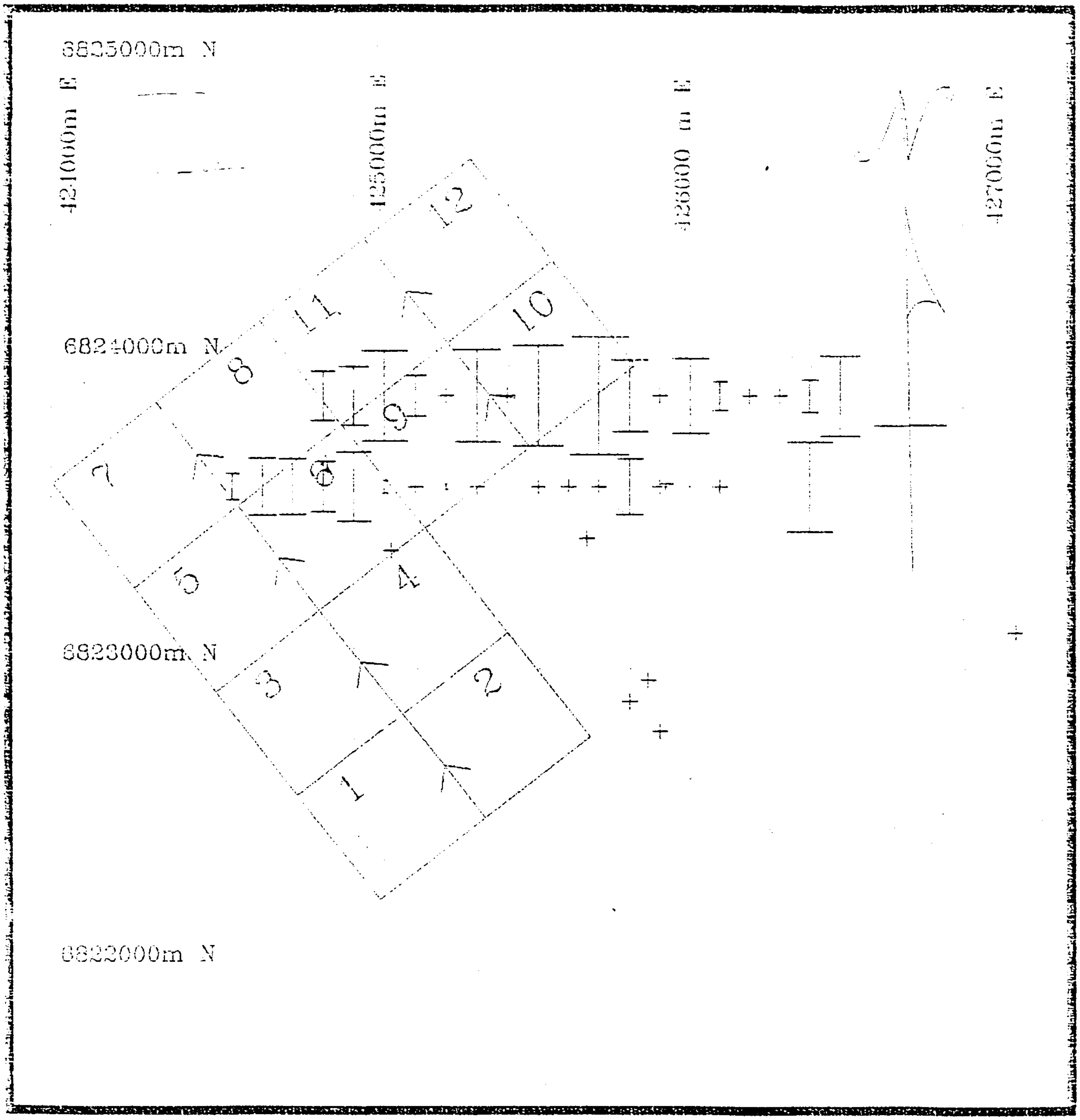
ARM CLAIMS

SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 6 Negative

FIG 10



ARM CLAIMS SCALE: 1 : 20000

Dotted Reference Lines are UTM Grid Lines

Plot of Factor Scores: Factor 4 Negative

Fig. 11

FACTOR LOADINGS & FACTOR SCORE COEFFICIENTS

FACT 1 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
HG :	0.908	SB :	0.247
AG :	0.882	HG :	0.232
SB :	0.844	AG :	0.229
BA :	0.836	BA :	0.172
SR :	0.822	SR :	0.150
MO :	0.782	AL :	0.137
P :	0.493	MO :	0.124
PB :	0.299	NI :	0.084
V :	0.199	P :	0.053
AU :	0.188	CA :	0.049
B :	0.162	ZN :	0.037
K :	0.135	MG :	0.030
TH :	0.122	CU :	0.028
CU :	0.117	MN :	0.025
AS :	0.102	V :	0.015
NI :	-0.029	PB :	0.013
ZN :	−0.034	CO :	0.002
LA :	−0.068	TH :	−0.031
FE :	−0.108	AU :	−0.034
AL :	−0.131	B :	−0.035
CO :	−0.270	K :	−0.035
CA :	−0.272	AS :	−0.061
MN :	−0.351	FE :	−0.070
MG :	−0.358	TI :	−0.075
TI :	−0.633	LA :	−0.119

FACT 2 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
MG :	0.874	AL :	0.234
MN :	0.844	CA :	0.196
NI :	0.800	MG :	0.173
AL :	0.793	NI :	0.170
CO :	0.792	MN :	0.165
CA :	0.779	CO :	0.148
ZN :	0.638	SB :	0.122
CU :	0.618	CU :	0.119
TI :	0.480	HG :	0.117
TH :	0.220	ZN :	0.110
LA :	0.196	AG :	0.077
FE :	0.142	TI :	0.051
AU :	0.142	BA :	0.046
SB :	0.044	SR :	0.024
B :	0.033	P :	0.004
K :	0.011	FE :	−0.001
AS :	−0.020	V :	−0.007
HG :	−0.038	AS :	−0.026
PB :	−0.059	B :	−0.027
V :	−0.200	K :	−0.027
BA :	−0.204	TH :	−0.034
P :	−0.247	MO :	−0.039
SR :	−0.286	AU :	−0.044
AG :	−0.305	PB :	−0.071
MO :	−0.492	LA :	−0.101

FACT 3 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
FE :	0.913	V :	0.342
V :	0.910	FE :	0.332
P :	0.566	CO :	0.197
CO :	0.467	P :	0.152
TH :	0.288	TH :	0.149
MO :	0.262	TI :	0.120
AS :	0.257	MO :	0.098
CU :	0.199	AL :	0.064
TI :	0.177	AS :	0.054
AL :	0.136	SB :	0.043
SB :	0.131	CU :	0.036
K :	0.115	B :	0.014
BA :	0.039	MG :	0.007
AG :	0.005	PB :	0.002
HG :	0.000	MN :	−0.004
PB :	−0.047	BA :	−0.005
MG :	−0.054	AU :	−0.010
SR :	−0.064	LA :	−0.026
B :	−0.083	HG :	−0.037
MN :	−0.087	AG :	−0.038
LA :	−0.097	K :	−0.053
AU :	−0.188	SR :	−0.086
ZN :	−0.210	NI :	−0.088
CA :	−0.221	CA :	−0.123
NI :	−0.292	ZN :	−0.129

FACT 4 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
AS :	0.799	AS :	0.397
CU :	0.554	CU :	0.242
P :	0.477	CA :	0.196
CA :	0.324	P :	0.186
ZN :	0.289	ZN :	0.133
SR :	0.262	SR :	0.087
FE :	0.250	FE :	0.070
BA :	0.201	AU :	0.067
AU :	0.188	LA :	0.052
LA :	0.147	BA :	0.031
HG :	0.110	MN :	0.027
MN :	0.057	B :	0.017
CO :	0.040	K :	−0.004
B :	0.022	HG :	−0.017
PB :	0.012	CO :	−0.020
V :	0.008	PB :	−0.061
K :	−0.027	V :	−0.067
AG :	−0.087	NI :	−0.069
SB :	−0.108	AG :	−0.104
NI :	−0.110	MG :	−0.104
MO :	−0.128	MO :	−0.144
MG :	−0.208	SB :	−0.162
TH :	−0.236	TH :	−0.185
AL :	−0.325	AL :	−0.197
TI :	−0.491	TI :	−0.228

FACT 4 NEGATIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
AS :	0.799	AS :	0.397
CU :	0.554	CU :	0.242
P :	0.477	CA :	0.196
CA :	0.324	P :	0.186
ZN :	0.289	ZN :	0.133
SR :	0.262	SR :	0.087
FE :	0.250	FE :	0.070
BA :	0.201	AU :	0.067
AU :	0.188	LA :	0.052
LA :	0.147	BA :	0.031
HG :	0.110	MN :	0.027
MN :	0.057	B :	0.017
CO :	0.040	K :	−0.004
B :	0.022	HG :	−0.017
PB :	0.012	CO :	−0.020
V :	0.008	PB :	−0.061
K :	−0.027	V :	−0.067
AG :	−0.087	NI :	−0.069
SB :	−0.108	AG :	−0.104
NI :	−0.110	MG :	−0.104
MO :	−0.128	MO :	−0.144
MG :	−0.208	SB :	−0.162
TH :	−0.236	TH :	−0.185
AL :	−0.325	AL :	−0.197
TI :	−0.491	TI :	−0.228

FACT 5 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
LA :	0.858	PB :	0.393
PB :	0.812	LA :	0.384
TH :	0.630	TH :	0.245
AU :	0.505	AU :	0.150
ZN :	0.502	ZN :	0.143
CU :	0.320	SB :	0.063
SB :	0.288	MO :	0.058
NI :	0.269	FE :	0.051
MN :	0.151	CU :	0.015
CO :	0.141	MN :	−0.007
MO :	0.130	CO :	−0.012
BA :	0.119	TI :	−0.015
K :	0.119	NI :	−0.017
MG :	0.093	K :	−0.020
FE :	0.071	AS :	−0.021
SR :	0.066	BA :	−0.025
AS :	0.040	V :	−0.028
HG :	0.038	MG :	−0.051
B :	−0.029	SR :	−0.055
AL :	−0.047	P :	−0.065
TI :	−0.077	AL :	−0.090
P :	−0.085	HG :	−0.103
AG :	−0.136	B :	−0.124
CA :	−0.137	AG :	−0.125
V :	−0.152	CA :	−0.172

FACT 6 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
B :	0.884	B :	0.597
AU :	0.615	AU :	0.358
TH :	0.309	TH :	0.146
NI :	0.303	NI :	0.110
BA :	0.178	TI :	0.077
HG :	0.175	CO :	0.071
MG :	0.151	AS :	0.071
LA :	0.147	MG :	0.062
CU :	0.121	BA :	0.055
CO :	0.111	HG :	0.030
SR :	0.099	MO :	0.026
MO :	0.084	V :	0.019
AS :	0.074	CU :	0.017
TI :	0.052	LA :	0.008
K :	0.048	MN :	−0.004
MN :	0.046	SR :	−0.008
AG :	0.022	FE :	−0.011
SB :	−0.063	K :	−0.025
CA :	−0.066	P :	−0.033
P :	−0.074	AG :	−0.044
V :	−0.082	CA :	−0.080
FE :	−0.104	AL :	−0.135
AL :	−0.146	SB :	−0.143
PB :	−0.150	PB :	−0.199
ZN :	−0.235	ZN :	−0.273

FACT 6 NEGATIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
B :	0.884	B :	0.597
AU :	0.615	AU :	0.358
TH :	0.309	TH :	0.146
NI :	0.303	NI :	0.110
BA :	0.178	TI :	0.077
HG :	0.175	CO :	0.071
MG :	0.151	AS :	0.071
LA :	0.147	MG :	0.062
CU :	0.121	BA :	0.055
CO :	0.111	HG :	0.030
SR :	0.099	MO :	0.026
MO :	0.084	V :	0.019
AS :	0.074	CU :	0.017
TI :	0.052	LA :	0.008
K :	0.048	MN :	−0.004
MN :	0.046	SR :	−0.008
AG :	0.022	FE :	−0.011
SB :	−0.063	K :	−0.025
CA :	−0.066	P :	−0.033
P :	−0.074	AG :	−0.044
V :	−0.082	CA :	−0.080
FE :	−0.104	AL :	−0.135
AL :	−0.146	SB :	−0.143
PB :	−0.150	PB :	−0.199
ZN :	−0.235	ZN :	−0.273

FACT 7 POSITIVE

LOADINGS arslsp.dat arslvw.dat		FSCORE COEF arslsp.dat arslvc.dat	
K :	0.940	K :	0.804
TH :	0.225	SR :	0.153
SR :	0.209	ZN :	0.143
LA :	0.193	LA :	0.121
ZN :	0.170	TH :	0.087
P :	0.122	AG :	0.063
AG :	0.116	CA :	0.059
CU :	0.113	B :	0.055
B :	0.107	P :	0.052
FE :	0.097	TI :	0.048
HG :	0.086	CU :	0.045
TI :	0.069	MG :	0.028
MG :	0.057	HG :	0.015
NI :	0.049	NI :	0.015
MO :	0.033	FE :	−0.003
V :	0.026	AL :	−0.045
CA :	0.021	MO :	−0.048
CO :	0.020	CO :	−0.057
AL :	−0.009	AS :	−0.066
BA :	−0.051	V :	−0.069
AS :	−0.064	BA :	−0.103
SB :	−0.083	SB :	−0.163
PB :	−0.117	PB :	−0.163
AU :	−0.183	MN :	−0.181
MN :	−0.195	AU :	−0.214

Scale for Factor Scores

= 2.0 = 1.0 = 0.5

\+ Scores of other polarity

Map & Data Analysis by P. Ramaekers

Ramaekers Geological Consulting

Project: ARM CLAIMS – SOIL GEOCHEM

Factor Analysis of Soil Geochemical Data

N = 41

Date: August 12, 1991

PROJECT : ARM CLAIMS – SOIL GEOCHEM

093006

093006

10/31/91 ARM CLAIMS - SOIL GEOCHEMICAL DATA

RAW DATA OF ARM CLAIMS SOIL SAMPLES

N = 41

NTS	SAMPLE	ZONE	EASTING	NORTHING	LITHOLOGY	SMP TYPE	MO ppm	CU ppm	PB ppm	ZN ppm	AG ppm	NI ppm	CO ppm	MN ppm	FE --%--	AS ppm	U m
105G09	53126	9	424600	6823600	PHYLL	soil	14	32	31	81	2.1	26	5	110	2.06	33	5
105G09	53127	9	424700	6823600	PHYLL	soil	32	30	42	66	5.3	16	5	68	2.11	34	5
105G09	52128	9	424800	6823600	PHYLL	soil	8	14	22	47	1.3	12	4	99	1.37	14	5
105G09	53129	9	424900	6823600	PHYLL	soil	14	29	24	60	1.5	22	5	127	1.59	20	5
105G09	53130	9	425000	6823600	PHYLL	soil	7	22	24	63	2.7	29	7	163	2.08	31	
105G09	53131	9	425100	6823600	PHYLL	soil	3	18	13	39	1.0	8	3	146	1.13	22	
105G09	53132	9	425200	6823600	PHYLL	soil	3	39	26	59	.6	13	3	57	1.90	65	5
105G09	53133	9	425300	6823600	PHYLL	soil	7	34	30	108	.6	30	9	371	3.03	32	5
105G09	53134	9	425400	6823600	PHYLL	soil	2	50	29	275	1.1	29	7	883	2.02	44	5
105G09	53136	9	425600	6823600	SS	soil	1	30	13	90	.5	19	5	174	1.51	224	5
105G09	53137	9	425700	6823600	SS	soil	1	27	17	103	.2	23	9	351	2.29	193	5
105G09	53138	9	425800	6823600	SS	soil	1	28	16	81	.1	31	8	329	2.18	94	5
105G09	53139	9	425900	6823600	SS	soil	1	34	18	79	.1	28	15	580	3.03	16	5
105G09	53140	9	426000	6823600	SS	soil	1	53	12	99	.1	35	13	604	2.99	40	5
105G09	53141	9	426100	6823600	SS	soil	1	33	23	82	.1	29	10	476	2.37	26	
105G09	53142	9	426200	6823600	SS	soil	2	31	23	103	.1	31	9	369	2.24	37	5
105G09	53145	9	426500	6823600	SS	soil	1	14	17	55	.1	13	5	169	1.80	7	5
105G09	53149	9	426600	6823900	SS	soil	1	22	20	86	.1	18	10	366	3.15	14	5
105G09	53150	9	426500	6823900	SS	soil	1	47	20	82	.1	35	15	682	3.29	23	5
105G09	53151	9	426400	6823900	SS	soil	1	39	46	91	.1	33	11	527	2.44	26	5
105G09	53152	9	426300	6823900	SS	soil	1	47	20	102	.1	36	19	910	3.14	52	5
105G09	53153	9	426200	6823900	SS	soil	1	42	16	141	.1	30	15	548	3.25	12	5
105G09	53154	9	426100	6823900	SS	soil	2	18	16	74	.1	14	8	329	3.07	25	
105G09	53155	9	426000	6823900	SS	soil	1	68	17	147	.4	43	10	499	2.37	136	
105G09	53156	9	425900	6823900	SS	soil	2	28	16	134	.2	40	10	260	2.50	13	5
105G09	53157	9	425800	6823900	SS	soil	2	19	18	73	.3	15	6	164	2.13	20	5
105G09	53159	9	425600	6823900	SS	soil	3	25	21	109	1.4	22	10	326	3.32	19	5
105G09	53160	9	425500	6823900	SS	soil	3	57	58	213	.1	33	10	673	2.42	46	5
105G09	53161	9	425400	6823900	PHYLL	soil	6	18	24	79	1.1	20	7	223	2.83	38	5
105G09	53162	9	425300	6823900	PHYLL	soil	6	39	23	95	.9	41	9	398	2.21	61	5
105G09	53163	9	425200	6823900	PHYLL	soil	6	41	25	82	.8	51	10	385	2.26	40	5
105G09	53164	9	425100	6823900	PHYLL	soil	5	12	24	44	.9	13	3	90	1.75	27	
105G09	53165	9	425000	6823900	PHYLL	soil	7	44	32	97	1.2	53	14	419	2.84	43	
105G09	53166	9	424900	6823900	PHYLL	soil	7	37	17	63	.9	31	8	241	1.81	22	5
105G09	53228	9	425120	6823390	LIM	soil	27	46	17	42	1.4	3	11	50	24.67	482	7
105G09	53233	9	425960	6822960	PHYLL	soil	4	37	29	126	.4	20	6	226	1.62	76	5
105G09	53234	9	425900	6822890	PHYLL	soil	7	30	51	151	.9	14	4	85	2.45	38	5
105G09	53236	9	426000	6822790	PHYLL	soil	5	18	12	37	1.1	18	4	163	1.24	16	5
105G09	53237	9	427170	6823120	PHYLL	soil	1	53	34	106	.1	32	12	872	2.88	60	5
105G09	53240	9	426020	6823610	PHYLL	soil	1	55	23	102	.1	48	18	870	3.90	58	
105G09	53244	9	425760	6823430	PHYLL	soil	5	18	25	72	.1	14	4	191	1.83	61	

SAMPLE	T pm	SR ppm	CD pm	SB pm	BI pm	V -ppm	CA -%--	P --%--	LA pm	CR pm	MG -%--	BA -ppm	TI -%--	B pm	AL -%--	NA -%--	K -%--	W m	AU pb	HG ppb
53126	5	135	1	5	2	64	.07	.100	18	27	.21	601	.02	4	1.00	.01	.10	1	14	180
53127	4	202	1	15	2	127	.06	.210	20	34	.15	1434	.02	8	1.02	.01	.07	1	7	240
52128	2	116	1	2	2	54	.06	.092	19	19	.17	1314	.04	4	.63	.01	.08	1	2	70
53129	6	137	1	10	3	55	.08	.134	20	23	.22	1090	.02	2	.76	.01	.08	1	12	240
53130	1	73	1	5	2	45	.06	.073	21	34	.34	485	.03	3	1.10	.01	.07	1	6	130
53131		37	1	4	3	26	.04	.105	10	15	.08	335	.01	2	.81	.01	.04	1	1	70
53132	1	65	1	3	2	36	.05	.109	18	11	.08	356	.01	2	.44	.01	.13	1	4	30
53133	1	56	1	7	2	56	.11	.077	19	34	.38	376	.03	2	.96	.01	.07	1	1	50
53134	1	122	2	5	2	28	.95	.156	22	20	.40	750	.01	2	1.26	.01	.06	1	6	200
53136	1	56	1	2	2	25	.41	.069	16	20	.31	470	.02	5	1.16	.01	.05	1	1	70
53137	3	40	1	2	2	36	.34	.033	21	32	.53	259	.05	4	1.25	.01	.08	1	2	20
53138	5	16	1	3	2	34	.22	.054	26	31	.62	189	.06	9	1.09	.01	.06	1	11	20
53139	7	23	1	2	2	43	.31	.045	27	36	.84	320	.15	2	1.59	.01	.09	1	1	30
53140		21	1	2	3	39	.31	.058	29	35	.74	221	.12	7	1.30	.01	.07	1	12	20
53141		12	1	2	2	47	.17	.050	15	44	.51	222	.06	2	1.26	.01	.07	1	1	30
53142	1	15	1	2	2	36	.25	.035	18	35	.47	244	.05	7.	.87	.01	.05	1	8	20
53145	1	13	1	2	3	53	.18	.035	14	24	.29	168	.07	2	1.26	.01	.05	1	1	30
53149	3	13	1	2	2	64	.09	.025	17	31	.48	173	.11	3	1.33	.01	.07	1	3	20
53150	4	14	1	2	2	56	.19	.032	22	40	.72	290	.13	6	1.64	.01	.08	1	3	30
53151	5	20	1	2	2	36	.27	.054	26	32	.58	203	.08	2	1.03	.01	.05	1	9	10
53152	6	20	1	2	3	44	.37	.058	24	39	.80	277	.13	2	1.35	.01	.05	1	11	30
53153	7	33	1	3	2	47	.51	.064	22	40	.93	208	.14	2	1.51	.01	.08	1	4	40
53154	3	11	1	2	2	71	.08	.055	16	30	.37	73	.21	2	1.04	.01	.07	1	1	20
53155	2	80	1	4	3	35	.86	.084	24	37	.72	370	.04	2	1.53	.01	.10	1	11	100
53156	9	15	2	3	2	40	.26	.084	26	40	.93	94	.10	2	1.35	.01	.13	1	2	20
53157	4	13	1	4	2	49	.09	.024	19	25	.40	219	.11	3	1.40	.01	.10	1	1	40
53159	5	33	1	4	3	52	.17	.044	12	34	.51	277	.11	2	1.56	.01	.06	1	1	50
53160	16	21	1	7	2	27	.16	.052	43	20	.54	529	.04	3	.98	.01	.06	1	14	110
53161	5	24	1	5	2	51	.06	.030	22	29	.33	425	.04	2	1.26	.01	.06	1	2	30
53162	7	73	1	7	2	44	.11	.092	24	31	.42	523	.03	10	1.14	.01	.08	1	14	130
53163	8	80	1	6	2	48	.09	.067	23	43	.51	606	.04	7	1.29	.01	.08	1	11	190
53164	3	55	1	4	2	55	.06	.043	22	25	.21	389	.04	2	1.11	.01	.04	2	10	30
53165	9	57	1	6	2	57	.06	.082	23	52	.62	578	.03	9	1.91	.01	.11	1	10	180
53166	6	65	1	7	2	49	.10	.055	22	31	.38	942	.03	7	.93	.01	.06	1	8	170
53228	4	115	1	5	2	1098	.04	4.152	14	19	.05	1065	.01	2	.55	.01	.08	1	1	150
53233	15	57	1	7	2	22	.13	.060	31	12	.16	697	.01	2	.57	.01	.05	1	5	80
53234	13	249	1	3	2	29	.04	.098	53	13	.13	711	.01	9	.53	.01	.12	1	10	140
53236	2	64	1	2	2	24	.12	.056	11	17	.20	520	.03	16	.32	.01	.07	1	13	150
53237	3	15	1	3	2	33	.16	.046	25	26	.51	322	.06	2	.97	.01	.06	1	21	50
53240	5	22	1	3	2	55	.34	.073	23	66	1.18	302	.05	9	1.56	.01	.05	1	17	40
53244	1	34	1	2	2	44	.04	.046	23	17	.13	230	.02	2	.67	.01	.05	1	8	30