

**RECONNAISSANCE MINERAL AND GEOCHEMICAL SURVEY
WITH EMPHASIS ON NORTHERN ALBERTA**

REPORT FOR THE END FISCAL YEAR 1992-93

MDA PROJECT NUMBER: M92-04-006

Alberta Research Council Open File Report 1993-16

Prepared by

Mark M. Fenton and John G. Pawlowicz

Environmental Research and Engineering Department,
Alberta Research Council
PO Box 8330
Edmonton, Alberta
T6H 5X2

10 June, 1993

TABLE OF CONTENTS

	page
LIST OF FIGURES	iii
LIST OF TABLES	iv
INTRODUCTION	1
SAMPLE COLLECTION AND ANALYSIS	1
DATA RECEIVED	2
INDICATOR MINERAL GEOCHEMISTRY	2
MINERAL CONCENTRATION DATA	2
DUPLICATE SAMPLES	4
MINERAL IDENTIFICATION APPROACH	4
Results	4
Preliminary approach	5
GEOCHEMISTRY TILL MATRIX	6
MULTIPLE SAMPLES FROM THE SAME SECTION	7
WET SEIVING vs DRY SEIVING	7
COMPARISON OF AA and ICP ANALYSES	12
TILL MATRIX GEOCHEMISTRY	13
REFERENCES	16
APPENDIX A: DATA FROM ELECTRON PROBE ANALYSES FOR MINERAL GRAINS FROM TILL	53
APPENDIX B: GEOCHEMICAL DATA OF TILL MATRIX (<.063mm)	235

LIST OF FIGURES

		page
Figure 1.1.	Location of the till sample sites.	17
Figure 2.1.	Location and weight in kilograms of the till samples collected.	18
Figure 2.2.	Weight percent distribution within each sample fraction.	19
Figure 2.3.	Flow chart for till mineralogical analysis.	20
Figure 2.4a.	Weight percent of the magnetic mineral fraction from the <0.9 to >0.25 mm separate. Weight percent is of the total till sample weight.	21
Figure 2.4b.	Weight percent of the magstream middle mineral fraction from the < 0.9 to >0.25 mm separate. Weight percent is of the total till sample weight.	22
Figure 2.4c.	Weight percent of the magstream heavy mineral fraction from the < 0.9 to >0.25 mm separate. Weight percent is of the total till sample weight.	23
Figure 2.5.	Sample scatterplots showing distribution of major mineral groups. Data primarily from Mitchell (1986).	24
Figure 2.6a.	Scatterplots showing ilmenite field with all ilmenite analyses shown as / and unknowns as .	25
Figure 2.6b.	Zoom in of ilmenite target area with the different types of ilmenite grains identified and the unknown grains in bold symbol .	25
Figure 3.1.	Comparison of data from AA and ICP analyses for subsample pairs from the same site.	26
Figure 3.2.	Comparison of AA and ICP analyses on a number of sample pairs of till matrix.	27
Figure 3.3.	Histograms showing the range for specific elements in the till matrix.	28
Figures 3.4a to 3.4w.	Contour maps showing the variations in concentration of each element.	29 to 51

LIST OF TABLES

		page
Table 2.1.	Sample locations and basic laboratory data.	3
Table 2.2.	Data from the two sample sets collected about 100 m apart on the same exposure.	5
Table 2.3.	Tentative identification of indicator minerals from first subset of probe data received from the laboratory. Note the entire data set including the grains is included in the Appendix A.	6
Table 3.1.	Comparison of chemical analyses of four samples taken from the same till section.	8
Table 3.2.	Data from chemical analyses of sample pairs each of which was analysed by either wet or dry sieving techniques.	9
Table 3.3.	Results of chemical analyses of the same till matrix samples using AA and ICP techniques.	13
Table 3.4.	Summary of geochemical analyses of the till matrix using AA or ICP.	15

INTRODUCTION

The overall objectives of the project, partially funded under the Canada-Alberta Agreement on Mineral Development, were to determine: the regional variations to be expected in the texture, indicator minerals and geochemistry of till in order to assist exploration by industry for diamondiferous kimberlite and lamproite, gold placers, and other minerals; and the provenance of at least the surface till in northern Alberta. Phase 1 (1992-93) focused on an orientation survey.

The primary purposes of this report are:

- 1) To release to industry the mineralogical and geochemical data received from the laboratories during phase 1 on the project (year 1; 1992-93).
- 2) To provide brief and preliminary comments on the acquisition and analysis of this data.

SAMPLE COLLECTION AND ANALYSIS

Thirty four sample pairs (26 kg for each mineralogical analysis and 3 kg for each geochemical analysis) were collected by truck north of 54° N during the summer of 1992. The samples were collected from road accessible sites (Figure 1.1). Duplicate samples were collected from each of two sites where the exposed section was large enough to separate the samples by at least 100 m. At each site the sample was taken from below the top of the C soil horizon. Approximately one quarter of the sites were collected from road cuts or other naturally exposed sections; the remainder by digging a sampling pit.

The 26 kg mineralogical samples were disaggregated, and the heavy mineral fraction of the sand recovered using procedures developed at the Saskatchewan Research Council (ARC). Eleven of the most likely indicator grains were picked out from each sample and sent for mounting and analysis by probe. The electron probe analyses were done through a subcontract from SRC to CANMET.

The <0.063 mm fraction was recovered from the set of 3 kg samples for geochemical analysis. Subsamples of each sample were run by both Atomic absorption (AA) and Inductively coupled plasma (ICP) methods following partial digestion using aqua-regia. The AA "analytical package" included analyses for fluorine, cadmium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, silver, vanadium, and zinc, plus loss on ignition (LOI). ICP was used to analyse for: aluminum, antimony, arsenic, barium, boron, beryllium, bismuth, cadmium, calcium, chromium, cobalt, copper, gold, iron, lanthanum, lead, magnesium, manganese, mercury,

molybdenum, nickel, phosphorus, potassium, silver, sodium, strontium, titanium, tungsten, uranium, vanadium and zinc.

The procedures used for heavy mineral recovery and the chemical elements measured were the same as those selected by Dr. Thorleifson for the complementary Geological Survey of Canada MDA project on till mineralogy and geochemistry in the southern half of Alberta. The same laboratories were being used by both Geological Survey of Canada (GSC) and Alberta Research Council (ARC).

DATA RECEIVED

Three data sets were produced during Phase 1. These are: i) sample location, ii) geochemistry of probed mineral grains, and iii) geochemistry of the silt and clay fraction (<0.063 mm) of the till matrix. The probe data and geochemical data are presented in Appendices A and B respectively of this report.

INDICATOR MINERAL GEOCHEMISTRY

MINERAL CONCENTRATION DATA

The mean weight of the samples as collected without drying is 25.9 kg (Table 2.1; Figure 2.1). The samples were actually collected on a volume basis; i.e. enough sediment to fill a 5 gallon (22.3 litre) pail. Sample size varied from 19.9 to 30.2 kg. Each sample was processed to separate the till into a number of size and weight fractions (Table 2.1, Figures 2.1 to 2.4). Initially each sample was screened and split into a >1.7 mm and a <1.7 mm fraction (Figure 2.3). The coarse fraction (>1.7 mm) formed about 3 % of the sample and the <1.7 mm the remaining 97% of the sample (Table 2.1). The weight percent of the <1.7 mm fraction varied from 93.4% to 99.4%.

The <1.7 mm fraction was passed over a shaker table to yield a light and a heavy fraction (Figure 2.3). The light fraction was retabbed and the resulting heavy fraction combined with that from the first tabling. The magnetic minerals were removed from this heavy fraction. The "mag free" fraction is then screened and the <0.9 to >0.25 mm fraction from this process sent to the magstream separator. This yielded the Middle Fraction (specific gravity about 3.0 to 4.1) and a >4.1 S.G. fraction. The second fraction is passed through a Franz Isodynamic separator to yield a paramagnetic and nonmagnetic+slightly magnetic fraction. This second fraction is referred to as the

Longitude	Latitude	Samp #	Wt (kg)	>1.7 (kg)	>1.7 %	<1.7 (kg)	<1.7 (%)	Magnetics (g)	Magnetics (%)	Mid. Frac.(g)	Mid %	Heavies (g)	Heavy %
115.045494	55.655777	1	26.75	0.23	0.86	26.52	99.14	64.23	0.240	ToSmal	0.0000	0.74	0.00277
115.311295	56.241127	2	29.10	1.23	4.23	27.87	95.77	3.88	0.013	3.45	0.0119	3.05	0.01048
115.104530	57.128601	3	30.20	0.24	0.79	29.96	99.21	39.17	0.130	ToSmal	0.0000	0.40	0.00132
115.392570	57.388626	4	28.10	1.07	3.81	27.03	96.19	3.27	0.012	3.63	0.0129	2.34	0.00833
115.552650	57.855755	5	27.70	0.88	3.18	26.82	96.82	16.23	0.059	4.55	0.0164	1.00	0.00361
116.482430	58.542141	6	26.70	0.77	2.88	25.93	97.12	2.68	0.010	2.82	0.0106	1.91	0.00715
114.554718	58.589458	7	24.80	1.23	4.96	23.57	95.04	4.09	0.016	4.80	0.0194	3.23	0.01302
115.496025	58.556770	8	28.10	0.59	2.10	27.51	97.90	42.49	0.151	0.62	0.0022	0.33	0.00117
116.74	60.10	9	27.30	1.10	4.03	26.20	95.97	6.61	0.024	5.68	0.0208	2.55	0.00934
117.482651	58.907486	10	21.90	1.41	6.44	20.49	93.56	2.82	0.013	5.88	0.0268	1.93	0.00881
119.435425	58.494476	11	19.90	0.81	4.07	19.09	95.93	1.80	0.009	2.78	0.0140	1.47	0.00739
117.922272	58.573204	12	21.75	1.15	5.29	20.60	94.71	11.87	0.055	6.69	0.0308	2.76	0.01269
117.470474	57.573986	13	26.45	1.19	4.50	25.26	95.50	3.59	0.014	5.84	0.0221	2.70	0.01021
117.542633	57.226784	14	25.15	0.37	1.47	24.78	98.53	21.99	0.087	5.61	0.0223	1.17	0.00465
117.626968	56.930439	15	20.45	0.61	2.98	19.84	97.02	2.95	0.014	8.01	0.0392	2.01	0.00983
117.797569	56.479240	16	24.65	0.46	1.87	24.19	98.13	1.60	0.006	4.70	0.0191	1.96	0.00795
117.902939	56.179350	17	26.15	0.81	3.10	25.34	96.90	1.73	0.007	7.83	0.0299	1.70	0.00650
119.869659	56.300076	18	25.35	1.67	6.59	23.68	93.41	2.08	0.008	10.31	0.0407	2.05	0.00809
117.902939	56.179341	19	23.70	1.39	5.86	22.31	94.14	2.20	0.009	8.82	0.0372	2.14	0.00903
116.914932	56.379333	20	30.20	1.20	3.97	29.00	96.03	2.12	0.007	4.98	0.0165	3.92	0.01298
118.050995	55.685005	21	23.40	0.37	1.58	23.03	98.42	0.89	0.004	4.52	0.0193	1.33	0.00568
119.880760	55.257896	22	24.35	1.03	4.23	23.32	95.77	1.31	0.005	5.00	0.0205	0.89	0.00366
117.177483	55.179489	23	27.75	0.59	2.13	27.16	97.87	2.47	0.009	5.45	0.0196	2.15	0.00775
111.057915	57.249889	24	26.85	0.60	2.23	26.25	97.77	1.47	0.005	2.89	0.0108	2.03	0.00756
111.403374	57.249889	25	27.35	0.53	1.94	26.82	98.06	1.73	0.006	2.13	0.0078	2.08	0.00761
110.861938	55.799088	26	24.30	0.59	2.43	23.71	97.57	0.88	0.004	2.42	0.0100	1.96	0.00807
110.903915	56.246296	27	27.40	0.32	1.17	27.08	98.83	35.96	0.131	3.54	0.0129	3.91	0.01427
111.877754	56.077339	28	27.90	0.17	0.61	27.73	99.39	44.86	0.161	ToSmal	0.0000	0.59	0.00211
112.187798	55.797279	29	23.40	0.83	3.55	22.57	96.45	1.31	0.006	2.43	0.0104	2.63	0.01124
111.666733	55.009575	30	26.55	0.40	1.51	26.15	98.49	31.57	0.119	12.41	0.0467	9.31	0.03507
111.647591	55.038666	31	27.30	1.14	4.18	26.16	95.82	5.41	0.020	5.82	0.0213	8.45	0.03095
110.329117	54.422314	32	28.10	1.63	5.80	26.47	94.20	7.54	0.027	5.52	0.0196	7.18	0.02555
110.329117	54.422309	33	24.00	0.97	4.04	23.03	95.96	7.79	0.032	10.38	0.0433	19.30	0.08042
116.234718	54.977757	34	27.90	0.34	1.22	27.56	98.78	48.13	0.173	ToSmal	0.0000	0.05	0.00018
		Mean	25.91	0.82	3.2	25.09	96.8	12.60	0.047	5.32	0.0186	2.98	0.01160
		Standard Deviation	2.56	0.42	1.7	2.65	1.68	17.29	0.063	2.68	0.0125	3.56	0.01430
		Minimum	19.90	0.17	0.6	19.09	93.4	0.88	0.004	0.62	0.0000	0.05	0.00018
		Maximum	30.20	1.67	7	29.96	99.4	64.23	0.240	12.41	0.0470	19.30	0.08040

Table 2.1. Sample locations and basic laboratory data.

Heavy Fraction (Figure 2.3).

The entire separation process yields five fractions which are weighted: 1) > 1.7 mm fraction, 2) <1.7mm fraction, 3) magnetic fraction, 4) middle fraction, and 5) the heavy fraction. These weights are shown in Table 2.1.

The magnetic minerals (Table 2.1, Figures 2.2 and 2.4a) form about 0.05 wt % of the total sample or about 13 grams of each 26 kg sample. The range is 0.004 to 0.24 % (0.88 to 64.2 grams).

The middle fraction (Table 2.1, Figures 2.2 and 2.4b) forms about 0.02% of the sample or about 5 grams of each 26 kg sample. The range is 0.000 to 0.470% (0 to 12.41 grams). The zero value samples (Table 2.1) are those in which the initial sample was too small for two runs on the magstream separator. The sample was run one time at 270 speed to separate the light fraction.

The heavy fraction (Table 2.1, Figures 2.2 and 2.4c) forms about 0.01% of the sample or about 3 grams of each 26 kg sample. The range is 0.00018 to 0.08042 % (0.05 to 19.3 grams). The highest concentrations of heavy minerals is in the samples from the southeastern portion of the area (Figure 2.4c)

DUPLICATE SAMPLES

Two samples were collected about 100 m apart at each of two sites where there was an extensive exposure; one from a site west of Peace River and the other from near Grand Centre in the southeastern portion of the study area (Figure 2.3). The two samples from Peace River are almost identical in all aspects (Table 2.2). The two Grand Centre samples show distinct differences in both the middle and heavy mineral fraction. With the second sample having twice as much of both fractions; 0.0196% vs 0.0433% for the middle fraction, and 0.025% vs 0.080% for the heavy fraction.

MINERAL IDENTIFICATION APPROACH

Results

At the time this report was written probe analyses for most of the sites had just been received. Rather than delay the release of the report to allow time for data analyses the authors have chosen rather to include just the basic analytical data, as received from the laboratory. These data are

Sample#	Wt (kg)	>1.7 %	<1.7 (%)	Mag %	Mid %	Heavy %
Peace River						
17	26.15	3.10	96.90	0.007	0.0299	0.00650
19	23.70	5.86	94.14	0.009	0.0372	0.00903
Grand Centre						
32	28.10	5.80	94.20	0.027	0.0196	0.02555
33	24.00	4.04	95.96	0.032	0.0433	0.08042

Table 2.2. Data from the two sample sets collected about 100m apart on the same exposure.

placed in the Appendix A. The few analyses received comparatively early were analysed using the preliminary approach discussed below.

Preliminary Approach

Dialogue with the members of the Mineral Exploration Industry indicated there was, for the members new to kimberlite and/or lamproite (K/L) exploration, some uncertainty as to how to interpret the data received from the electron probe analysis. This was particularly true when the geochemical data was from a grain whose mineralogy had not been identified. All of the probe data received by the authors was labelled "Mineralogy Unknown" for example. Another aspect was the time required to inspect each set of probe data and decide which mineral group the grain belonged (garnet, ilmenite, etc.) and if the grain was likely a K/L grain for that mineral group (this was very time consuming if a large number of grains were being analyzed).

The authors developed a preliminary prototype quick grain classification approach which showed, by inspection of the data posted on the computer screen, if a particular grain was likely or unlikely from a K/L source thus quickly focusing in on the small percentage of grains from each sample that were indicator minerals. This is done by the visual inspection of the position of each grain plotted on geochemical scatter charts with respect to the position of known kimberlite/lamproite grains. The program used is Data Desk by Data Description Inc. One of the particular advantages of this program is that any point on a plot can be "clicked on" to select it and the grain identification number is then automatically displayed.

This approach is preliminary and needs to have more of the existing literature data on K/L grains incorporated into the data set. The database of geochemical analyses of known K/L grains is presently a minimal one compiled primarily from data on kimberlite mineralogy published in

Mitchell (1986). Data on lamproite geochemistry has yet to be added to the database.

The following text and figures provide examples of the early test runs using data from a few of the mineral grains which had been received earlier. The starting place of the classification assumes the person receives the electron probe analyses from an unknown heavy mineral grain.

The first step involved obtaining the geochemical analyses in digital form. Next was the geochemistry for each grain in the data set is posted to allow the selection of the grains whose composition were similar to known K/L mineral groups (such as garnet or ilmenite (Figure 2.5). The visual inspection quickly allows the user to determine if a particular grain falls within, is marginal to, or is "somewhat farther out" from the known range of geochemistry for a particular mineral.

Next the program operator focused on the grains that fall within specific mineral group (Figure 2.6) and determined where they lie within the subgroup. Figure 2.6 provides an example of first determining whether an unknown grain lies within the ilmenite field. Then determining if it lies within the field of those varieties of ilmenite found within kimberlites.

The only analyses compared to the Mitchell (1986) data set using the approach discussed above were a few that were received relatively early. The results are shown in Table 2.3.

Site	Mineral
NAT92-3	Chrome poor garnet
NAT92-5	Spinel
NAT92-5	Ilmenite?
NAT92-8	Ilmenite
NAT92-23	Chrome rich garnet
NAT92-24	Ilmenite?
NAT92-26	Ilmenite?
NAT92-30	Spinel??

Table 2.3. Tentative identification of indicator minerals from first subset of probe data received from the laboratory. Note the entire data set, including these samples, is shown in Appendix A.

GEOCHEMISTRY TILL MATRIX

The <0.063 mm fraction was recovered from a set of smaller samples and was submitted for geochemical analysis. All samples were run by ICP while subsamples of some of the samples

were prepared and run by both Atomic absorption (AA) and Inductively coupled plasma (ICP) methods. Digestion was partial using aqua-regia. The AA "analytical package" included analyses for fluorine, cadmium, cobalt, copper, iron, lead, manganese, molybdenum, mercury, nickel, silver, vanadium, and zinc, plus loss on ignition (LOI). ICP was used to analyse for aluminum, antimony, arsenic, barium, beryllium, bismuth, cadmium, calcium, chromium, cobalt, copper, gallium, iron, lanthanum, lead, magnesium, manganese, mercury, molybdenum, nickel, phosphorus, potassium, scandium, silver, sodium, strontium, thallium, titanium, tungsten, uranium, vanadium, and zinc.

MULTIPLE SAMPLES FROM THE SAME SECTION

The first preliminary test involved the collection and analysis of four samples from the same section. These samples were collected approximately 10 m apart along a horizontal line about 2 m from the base of a large (~10 m high) roadcut. All are of unoxidized till and the section itself appeared massive.

The results of the analyses showed that generally, the between sample variability is low for the majority of the elements. The standard deviation is less than 5% of the average for calcium, cobalt, chromium, copper, fluorine, iron, lanthanum, magnesium, nickel, phosphorus, and zinc. Elements in which there is more difference (standard deviation greater than 15% of the average) include arsenic, barium, sodium, and lead with arsenic being the highest (Table 3.1).

WET SEIVING vs DRY SEIVING

Prior to sample preparation, a second preliminary test was conducted on a selection of till samples from four sites expected to have the greatest potential for difference in chemical composition. These sets were then disaggregated using both wet and dry techniques. The remainder of the samples were analysed only by the dry sieving technique.

The dry separation method involved lightly crushing the <2 mm fraction from each dried till sample, then sieving this material to recover the <0.063 mm fraction. The wet separation involved soaking the <2 mm fraction from each till sample, wet sieving this material, recovering the <0.063 mm fraction, and drying it.

The results of the chemical analyses of the two sets of samples is shown in Table 3.2. The analyses can be grouped into two types: those in which the dry processed sample yields more of a

Four samples same till section. (/A = AA sample, /I = ICP sample)																					
Site sample #	Ag/A	Ag/I	Al/I	As/I	B/I	Ba/I	Be/I	Bi/I	Ca/I	Cd/A	Cd/I	Co/A	Co/I	Cr/I	Cu/A	Cu/I	F/A	Fe/A	Fe/I	Hg/A	La/I
	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppb	ppm
NAT92-31A	<0.2	0.5	0.89	4	N/A	260	1	<3	1.73	0.3	<1	12.0	11	16	33.0	27	540	1.9	2.13	50.0	19
NAT92-31B	0.2	0.5	0.89	2	N/A	193	1	<3	1.66	0.2	<1	11.0	11	16	32.0	27	520	1.9	2.10	50.0	19
NAT92-31C	0.2	0.5	0.90	3	N/A	179	1	<3	1.72	0.3	<1	11.0	11	17	30.0	29	520	1.9	2.10	60.0	19
NAT92-31D	<0.2	0.4	0.93	4	N/A	175	1	<3	1.75	0.3	<1	12.0	11	17	32.0	28	540	1.9	2.14	60.0	20
Average	0.2	0.48	0.9	3.25	N/A	202	1	<3	1.72	0.28	<1	12	11	16.5	31.8	27.8	530	1.9	2.12	55	19.3
Standard Deviation	0	0.05	0.02	0.96	N/A	39.6	0		0.04	0.05		0.6	0	0.58	1.26	0.96	12	0	0.02	5.8	0.5
N	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Max	0.2	0.5	0.93	4	N/A	260	1	<3	1.75	0.3	<1	12	11	17	33	29	540	1.9	2.14	60	20
Min	<0.2	0.4	0.89	2	N/A	175	1	0	1.66	0.2	0	11	11	16	30	27	520	1.9	2.1	60	20
Std Dev As % of Av	0	10.5	2.1	29.5		19.6	0		2.26	18.2		5	0	3.5	3.96	3.45	2.2	0	0.97	10	2.6
Site sample #	LOI/A	Mg/I	Mn/A	Mn/I	Mo/A	Mo/I	Na/I	Ni/A	Ni/I	P/I	Pb/A	Pb/I	Sb/I	Si/I	Sr/I	Ti/I	V/A	V/I	W/I	Zn/A	Zn/I/
	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
NAT92-31A	4.2	1.03	425	570	<2	<1	0.02	31.0	29	0.08	9.0	11	<2	0.01	51	<0.01	32.0	20	<2	81.0	85
NAT92-31B	4.1	1.01	384	508	<2	<1	0.01	29.0	28	0.08	10.0	9	<2	0.01	45	<0.01	29.0	19	<2	81.0	83
NAT92-31C	4.6	1.07	425	494	<2	<1	0.02	31.0	27	0.08	11.0	9	<2	0.01	56	<0.01	27.0	20	<2	82.0	83
NAT92-31D	4.5	1.1	464	496	<2	<1	0.02	32.0	28	0.08	13.0	8	<2	0.01	58	<0.01	26.0	21	<2	84.0	84
Average	4.35	1.05	425	517	<2	<1	0.02	30.8	28	0.08	10.8	9.3	<2	0.01	52.5	<0.01	29	20	<2	82	83.8
Standard Deviation	0.24	0.04	33	35.9			0	1.26	0.82	0	1.71	1.3		0	5.8		2.6	0.82		1.4	0.96
N	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	4	4	4	4	4
Max	4.6	1.1	464	570	<2	<1	0.02	32	29	0.08	13	11	<2	0.01	58	<0.01	32	21	<2	84	85
Min	4.6	1.01	384	494	<2	<1	0.01	29	27	0.08	9	8	0	0.01	45	0	26	19	0	81	83
Std Dev As % of Av	5.47	3.83	7.69	6.94			28.6	4.09	2.92	0	15.9	14		0	11.1		9.3	4.08		1.7	1.14

Table 3.1. Comparison of chemical analyses of four samples taken from the same till section.

	l = ICP	d = dry		wet-d = wet - dry									
Sample #	Subsample	Ag/l	Ag/wet-d	Al/l	Al/wet-d	As/l	As/wet-d	Au/l	B/l	B/wet-d	Ba/l	Ba/wet-d	Be/l
		ppm		%		ppm		ppm	ppm		ppm		ppm
NAT92-6	6.1/wet	0.4	-0.1	1.24	-0.07	5	-3	<3	34	4	282	-6	1.1
NAT92-6	6.2/dry	0.5		1.31		8		<3	30		288		1.2
NAT92-18	18.1/wet	0.3	0.1	0.97	-0.04	15	0	<3	29	-7	311	37	1.1
NAT92-18	18.2/dry	0.2		1.01		15		<3	36		274		1.1
NAT92-25	25.1/wet	0.1	-0.1	0.53	-0.15	<3		<3	18	-4	51	-6	0.7
NAT92-25	25.2/dry	0.2		0.68		<3		<3	22		57		0.9
NAT92-32	32.1/wet	0.4	-0.1	0.94	-0.05	8	1	<3	13	0	164	-16	1.2
NAT92-32	32.2/dry	0.5		0.99		7		<3	13		180		1.3
Sample #	Subsample	Be/l	Be/wet-d	Bi/l	Ca/l	Ca/wet-d	Cd/l	Cd/wet-d	Co/l	Co/wet-d	Cr/l	Cr/wet-d	
		ppm		ppm	%		ppm		ppm		ppm		
NAT92-6	6.1/wet	1.1	-0.1	<3	2.54	0.26	1	0	9	1	18	-1	
NAT92-6	6.2/dry	1.2		<3	2.28		1		8		19		
NAT92-18	18.1/wet	1.1	0	<3	0.85	0.02	1	0	13	1	15	0	
NAT92-18	18.2/dry	1.1		<3	0.83		1		12		15		
NAT92-25	25.1/wet	0.7	-0.2	<3	2.51	-0.29	<1		5	-2	9	-2	
NAT92-25	25.2/dry	0.9		<3	2.8		<1		7		11		
NAT92-32	32.1/wet	1.2	-0.1	<3	2.17	-0.12	1	0	12	-2	19	-2	
NAT92-32	32.2/dry	1.3		<3	2.29		1		14		21		

Table 3.2. Data from chemical analyses of sample pairs each of which was analysed by either wet or dry sieving techniques.

		l = ICP		d = dry		wet-d = wet - dry							
Sample #	Subsample	Cu/l	Cu/wet-d	Fe/l	Fe/wet-d	Hg/l	La/l	La/wet-d	Mg/l	Mg/wet-d	Mn/l	Mn/wet-d	
		ppm		%		ppm	ppm		%		ppm		
NAT92-6	6.1/wet	33	-1	2.13	-0.09	<3	21	-1	0.94	0.04	238	22	
NAT92-6	6.2/dry	34		2.22		<3	22		0.9		216		
NAT92-18	18.1/wet	34	-1	2.72	-0.11	<3	14	0	0.61	0.01	263	26	
NAT92-18	18.2/dry	35		2.83		<3	14		0.6		237		
NAT92-25	25.1/wet	13	-3	1.12	-0.2	<3	11	-3	0.78	-0.06	169	-82	
NAT92-25	25.2/dry	16		1.32		<3	14		0.84		251		
NAT92-32	32.1/wet	32	-2	2.15	-0.12	<3	26	-1	1.07	-0.07	468	-116	
NAT92-32	32.2/dry	34		2.27		<3	27		1.14		584		
Sample #	Subsample	Mo/l	Na/l	Na/wet-d	Ni/l	Ni/wet-d	P/l	P/wet-d	Pb/l	Pb/wet-d	Sb/l	Si/l	Si/wet-d
		ppm	%		ppm		%		ppm		ppm	%	
NAT92-6	6.1/wet	<1	0.06	0	28	0	0.1	0	13	-3	2	0.01	0
NAT92-6	6.2/dry	<1	0.06		28		0.1		16		2	0.01	
NAT92-18	18.1/wet	1	0.04	-0.01	32	-1	0.08	0	15	-7	2	0.01	0
NAT92-18	18.2/dry	1	0.05		33		0.08		22		2	0.01	
NAT92-25	25.1/wet	<1	0.04	-0.08	13	-5	0.03	0	7	-12	2	0.01	0
NAT92-25	25.2/dry	<1	0.12		18		0.03		19		2	0.01	
NAT92-32	32.1/wet	1	0.04	-0.04	25	-6	0.08	-0.01	16	-3	2	0.01	0
NAT92-32	32.2/dry	1	0.08		31		0.09		19		2	0.01	

Table 3.2 (continued). Data from chemical analyses of sample pairs each of which was analysed by either wet or dry sieving techniques.

	I = ICP	d = dry		wet-d = wet - dry						
Sample #	Subsample	Sr/l	Sr/wet-d	Ti/l	Ti/wet-d	V/l	V/wet-d	W/l	Zn/l	Zn/wet-d
		ppm		%		ppm		ppm	ppm	
NAT92-6	6.1/wet	89	1	0.01	0.01	24	- 1	<2	88	- 3
NAT92-6	6.2/dry	88		0		25		<2	91	
NAT92-18	18.1/wet	57	- 1	0	0	23	- 1	3	124	- 6
NAT92-18	18.2/dry	58		0		24		2	130	
NAT92-25	25.1/wet	30	- 5	0.01	0	17	- 8	<2	34	3
NAT92-25	25.2/dry	35		0.01		25		<2	31	
NAT92-32	32.1/wet	34	- 2	0.01	0	23	- 3	2	90	- 3
NAT92-32	32.2/dry	36		0.01		26		<2	93	

Table 3.2 (concluded). Data from chemical analyses of sample pairs each of which was analysed by either wet or dry sieving techniques.

particular element than the wet processed sample, and those in which the higher proportion of the element may be either in the wet or the dry processed sample.

Elements showing higher concentrations in the dry sieved fraction are: copper, lead, zinc, silver, nickel, iron, strontium, vanadium, lanthanum, chromium, aluminum sodium, and beryllium.

COMPARISON OF AA and ICP ANALYSES

Subsamples of some of the samples were prepared and run by both AA and ICP methods. The comparisons of the data are shown in Table 3.3, and Figures 3.1 and 3.2. The results from the ICP analyses were subtracted from the results of the AA analyses. The results of AA analyses tended to be higher than the ICP as denoted by negative values in the histograms for molybdenum, copper, nickel and vanadium (Figure 3.1). For manganese, iron and cadmium, the AA results were lower than for ICP.. There is a good correlation between the data from AA and ICP analyses of cobalt, copper, iron, manganese, nickel, and zinc (Figure 3.2). There is a greater dispersion of data for lead and vanadium. The unusual plots for cadmium, molybdenum, and silver are the result of either the AA or ICP analyses furnishing only a few values; for example, the ICP values for cadmium is always 1 (Table 3.3). The values for AA and ICP, and their differences were plotted on maps of northern Alberta. These maps are not included in this report because there was little difference between, for a particular element, the regional trends shown by AA and by ICP data.

TILL MATRIX GEOCHEMISTRY

Appendix B shows the results of the chemical analyses of the samples by either AA or ICP methods. Table 3.4 presents a summary of the variability within each element. Figure 3.3 shows the range of each element analysed. (Only one set of data for each element was chosen for this presentation, with the data from AA being chosen over those from ICP; ICP was used only where there was no AA data.).

Although this was only the preliminary phase of this survey and a much larger data set will be created over the next two years, maps were prepared to show the regional variations in the concentration for each element (Figures 3.4a to 3.4w). Again only one data set was chosen for each element. These preliminary maps were prepared using a Macintosh computer contouring program MCadContour by ASC, to facilitate the comparatively rapid production of the entire suite of maps. Although the program allows the geologist to modify the plots this was not done due to

Comparison AA & ICP analyses (A = samples analysed by AA, I = samples analysed by ICP)																		
Site Name #	Samp#	Ag/A	Ag/I	AgI-AgA	Cd/A	Cd/I	CdI-CdA	Co/A	Co/I	CoI-CoA	Cu/A	Cu/I	CuI-CuA	Fe/A	Fe/I	FeI-FeA	Hg/A	Hg/I
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	ppb	ppm
NAT92-1	1	<0.2	<0.1	nd	<0.2	<1	nd	5.0	4.0	-1.0	30.0	22.0	-8.0	2.0	2.18	0.2	80.0	nd
NAT92-2	2	0.3	0.5	0.2	0.3	<1	nd	9.0	9.0	0.0	31.0	23.0	-8.0	2.2	2.20	0.0	80.0	nd
NAT92-3	3	0.2	0.4	0.2	0.3	<1	nd	5.0	5.0	0.0	28.0	22.0	-6.0	1.9	2.10	0.2	80.0	nd
NAT92-4	4	0.2	0.6	0.4	0.3	<1	nd	9.0	9.0	0.0	35.0	26.0	-9.0	2.3	2.29	0.0	90.0	nd
NAT92-5	5	0.2	0.5	0.3	0.2	<1	nd	5.0	6.0	1.0	35.0	28.0	-7.0	2.1	2.61	0.5	110.0	nd
NAT92-6	6	0.2	0.8	0.6	0.3	<1	nd	9.0	10.0	1.0	38.0	31.0	-7.0	1.9	2.16	0.3	100.0	nd
NAT92-7	7	0.2	0.5	0.3	0.2	<1	nd	6.0	7.0	1.0	25.0	19.0	-6.0	1.7	1.86	0.2	50.0	nd
NAT92-8	8	<0.2	0.7	nd	0.2	<1	nd	8.0	8.0	0.0	30.0	27.0	-3.0	1.8	2.03	0.2	60.0	nd
NAT92-9	9	0.2	0.1	-0.1	0.3	<1	nd	9.0	8.0	-1.0	30.0	27.0	-3.0	1.5	2.04	0.5	40.0	nd
NAT92-10	10	0.3	0.6	0.3	0.4	<1	nd	8.0	8.0	0.0	44.0	36.0	-8.0	2.1	2.26	0.2	120.0	nd
NAT92-11	11	0.2	0.6	0.4	0.7	1.0	0.3	13.0	13.0	0.0	37.0	32.0	-5.0	2.2	2.52	0.3	80.0	nd
NAT92-12	12	0.2	0.7	0.5	0.4	1.0	0.6	11.0	13.0	2.0	38.0	32.0	-6.0	2.3	2.51	0.2	80.0	nd
NAT92-13	13	0.3	0.8	0.5	0.4	1.0	0.6	10.0	12.0	2.0	38.0	34.0	-4.0	2.5	2.67	0.2	110.0	nd
NAT92-14	14	0.2	0.6	0.4	0.5	1.0	0.5	12.0	14.0	2.0	39.0	34.0	-5.0	2.7	3.06	0.4	120.0	nd
NAT92-15	15	0.2	0.6	0.4	0.4	1.0	0.6	11.0	13.0	2.0	36.0	31.0	-5.0	2.0	2.18	0.2	110.0	nd
NAT92-16	16	0.3	0.6	0.3	0.5	1.0	0.5	11.0	13.0	2.0	39.0	36.0	-3.0	2.2	2.62	0.4	110.0	nd
NAT92-17	17	0.2	0.5	0.3	0.5	1.0	0.5	9.0	11.0	2.0	35.0	31.0	-4.0	2.3	2.72	0.4	120.0	nd
NAT92-18	18	0.2	0.4	0.2	0.4	1.0	0.6	14.0	16.0	2.0	37.0	32.0	-5.0	2.2	2.71	0.5	80.0	nd
NAT92-19	19	0.2	0.4	0.2	0.3	<1	nd	9.0	12.0	3.0	38.0	30.0	-8.0	2.5	2.86	0.4	120.0	nd
NAT92-20	20	0.3	0.7	0.4	0.3	<1	nd	6.0	6.0	0.0	39.0	33.0	-6.0	2.0	2.18	0.2	110.0	nd
NAT92-21	21	0.2	0.4	0.2	0.3	1.0	0.7	10.0	12.0	2.0	36.0	29.0	-7.0	2.4	2.76	0.4	100.0	nd
NAT92-22	22	0.3	0.6	0.3	0.4	1.0	0.6	14.0	15.0	1.0	41.0	36.0	-5.0	2.3	2.38	0.1	100.0	nd
NAT92-23	23	0.2	0.6	0.4	0.4	<1	nd	12.0	13.0	1.0	36.0	30.0	-6.0	2.2	2.45	0.3	80.0	nd
NAT92-24	24	0.2	0.7	0.5	0.3	1.0	0.7	9.0	12.0	3.0	32.0	25.0	-7.0	2.2	2.33	0.1	70.0	nd
NAT92-25	25	0.2	0.2	0.0	0.2	<1	nd	3.0	3.0	0.0	12.0	12.0	0.0	0.9	0.92	0.1	30.0	nd
NAT92-26	26	0.2	<0.1	nd	0.2	<1	nd	7.0	7.0	0.0	18.0	14.0	-4.0	1.6	1.85	0.3	50.0	nd
NAT92-27	27	0.2	0.4	0.2	0.3	<1	nd	10.0	9.0	-1.0	26.0	19.0	-7.0	2.0	2.02	0.0	50.0	nd
NAT92-28	28	0.2	<0.1	nd	<0.2	<1	nd	6.0	4.0	-2.0	28.0	22.0	-6.0	1.4	1.76	0.4	70.0	nd
NAT92-29	29	0.2	0.3	0.1	0.3	<1	nd	9.0	8.0	-1.0	27.0	24.0	-3.0	2.2	2.37	0.2	70.0	nd
NAT92-30	30	<0.2	0.3	nd	0.2	<1	nd	9.0	9.0	0.0	29.0	25.0	-4.0	2.0	1.99	0.0	60.0	nd
NAT92-31A	31	0.2	0.5	0.3	0.3	<1	nd	11.5	11.0	-0.5	31.8	27.8	-4.0	1.9	2.12	0.2	55.0	nd
NAT92-32	32	0.2	0.4	0.2	0.3	<1	nd	9.0	8.0	-1.0	30.0	23.0	-7.0	1.7	1.71	0.0	50.0	nd
NAT92-33	33	<0.2	0.5	nd	0.4	<1	nd	8.0	6.0	-2.0	25.0	23.0	-2.0	1.3	1.43	0.1	40.0	nd
Average		0.22	0.52	0.30	0.34	1.00	0.56	8.98	9.52	0.53	32.54	27.14	-5.39	2.01	2.24	0.22	81.06	
Standard Dev.		0.04	0.17	0.16	0.11	0.00	0.11	2.64	3.39	1.36	6.72	6.09	2.03	0.38	0.43	0.15	26.92	
N		29	30	27	31	11	11	33	33	33	33	33	33	33	33	33	33	
Max.		0.3	0.8	0.6	0.7	1.0	0.7	14.0	16.0	3.0	44.0	36.0	0.0	2.7	3.1	0.5	120.0	
Min.		0.2	0.1	-0.1	0.2	1.0	0.3	3.0	3.0	-2.0	12.0	12.0	-9.0	0.9	0.9	0.0	30.0	
St Dev/Av %		5.35	3.10	1.90	3.02		5.03	3.40	2.80	0.39	4.84	4.46	-2.66	5.29	5.19	1.46	3.01	

Table 3.3. Results of geochemical analyses of the same till matrix samples using AA and ICP.

Comparison AA & ICP analyses (A = samples analysed by AA, I = samples analysed by ICP)																			
Site Name #	Samp#	Mn/A	Mn/I	MnI-MnA	Mo/A	Mo/I	Mol-MoA	Ni/A	Ni/I	Nil-NiA	Pb/A	Pb/I	PbI-PbA	V/A	V/I	VI-VA	Zn/A	Zn/I	ZnI-ZnA
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
NAT92-1	1	131.0	177.0	46.0	<2.0	<1	nd	22.0	19.0	-3.0	10.0	10.0	0.0	26.0	16.0	-10.0	60.0	51.0	-9.0
NAT92-2	2	318.0	347.0	29.0	2.0	<1	nd	27.0	22.0	-5.0	12.0	9.0	-3.0	25.0	15.0	-10.0	84.0	77.0	-7.0
NAT92-3	3	134.0	161.0	27.0	2.0	1.0	-1.0	20.0	17.0	-3.0	10.0	9.0	-1.0	23.0	13.0	-10.0	85.0	80.0	-5.0
NAT92-4	4	235.0	264.0	29.0	2.0	<1	nd	29.0	24.0	-5.0	14.0	11.0	-3.0	29.0	17.0	-12.0	92.0	86.0	-6.0
NAT92-5	5	68.0	110.0	42.0	2.0	1.0	-1.0	26.0	25.0	-1.0	15.0	15.0	0.0	24.0	17.0	-7.0	89.0	87.0	-2.0
NAT92-6	6	241.0	274.0	33.0	<2.0	<1	nd	30.0	26.0	-4.0	12.0	9.0	-3.0	34.0	22.0	-12.0	82.0	80.0	-2.0
NAT92-7	7	259.0	282.0	23.0	<2.0	<1	nd	20.0	15.0	-5.0	8.0	10.0	2.0	21.0	13.0	-8.0	48.0	47.0	-1.0
NAT92-8	8	247.0	262.0	15.0	2.0	<1	nd	25.0	19.0	-6.0	10.0	13.0	3.0	34.0	18.0	-16.0	65.0	63.0	-2.0
NAT92-9	9	390.0	412.0	22.0	3.0	<1	nd	29.0	20.0	-9.0	11.0	9.0	-2.0	26.0	11.0	-15.0	71.0	67.0	-4.0
NAT92-10	10	187.0	219.0	32.0	3.0	1.0	-2.0	31.0	27.0	-4.0	15.0	10.0	-5.0	24.0	16.0	-8.0	119.0	114.0	-5.0
NAT92-11	11	337.0	404.0	67.0	3.0	2.0	-1.0	46.0	45.0	-1.0	15.0	12.0	-3.0	22.0	15.0	-7.0	136.0	141.0	5.0
NAT92-12	12	353.0	433.0	80.0	2.0	<1	nd	37.0	34.0	-3.0	14.0	12.0	-2.0	23.0	17.0	-6.0	110.0	113.0	3.0
NAT92-13	13	291.0	354.0	63.0	2.0	1.0	-1.0	34.0	32.0	-2.0	15.0	14.0	-1.0	25.0	17.0	-8.0	124.0	122.0	-2.0
NAT92-14	14	338.0	469.0	131.0	2.0	1.0	-1.0	40.0	40.0	0.0	16.0	17.0	1.0	24.0	19.0	-5.0	132.0	138.0	6.0
NAT92-15	15	221.0	293.0	72.0	<2.0	<1	nd	32.0	30.0	-2.0	14.0	14.0	0.0	21.0	17.0	-4.0	110.0	111.0	1.0
NAT92-16	16	335.0	436.0	101.0	<2.0	<1	nd	37.0	37.0	0.0	15.0	14.0	-1.0	26.0	20.0	-6.0	121.0	125.0	4.0
NAT92-17	17	205.0	278.0	73.0	<2.0	<1	nd	30.0	30.0	0.0	14.0	13.0	-1.0	29.0	20.0	-9.0	124.0	129.0	5.0
NAT92-18	18	297.0	417.0	120.0	2.0	<1	nd	41.0	40.0	-1.0	16.0	16.0	0.0	27.0	21.0	-6.0	115.0	121.0	6.0
NAT92-19	19	223.0	327.0	104.0	2.0	<1	nd	35.0	32.0	-3.0	15.0	15.0	0.0	28.0	22.0	-6.0	122.0	122.0	0.0
NAT92-20	20	203.0	235.0	32.0	2.0	<1	nd	25.0	20.0	-5.0	11.0	9.0	-2.0	29.0	16.0	-13.0	94.0	91.0	-3.0
NAT92-21	21	163.0	234.0	71.0	2.0	2.0	0.0	36.0	33.0	-3.0	14.0	11.0	-3.0	34.0	25.0	-9.0	121.0	124.0	3.0
NAT92-22	22	635.0	680.0	45.0	<2.0	<1	nd	43.0	38.0	-5.0	15.0	11.0	-4.0	29.0	20.0	-9.0	90.0	91.0	1.0
NAT92-23	23	368.0	451.0	83.0	2.0	<1	nd	38.0	35.0	-3.0	14.0	14.0	0.0	25.0	19.0	-6.0	99.0	102.0	3.0
NAT92-24	24	286.0	348.0	62.0	2.0	<1	nd	26.0	24.0	-2.0	13.0	12.0	-1.0	26.0	18.0	-8.0	89.0	92.0	3.0
NAT92-25	25	125.0	147.0	22.0	<2.0	<1	nd	10.0	8.0	-2.0	6.0	5.0	-1.0	17.0	12.0	-5.0	14.0	18.0	4.0
NAT92-26	26	225.0	346.0	121.0	<2.0	<1	nd	14.0	13.0	-1.0	10.0	9.0	-1.0	14.0	10.0	-4.0	59.0	58.0	-1.0
NAT92-27	27	377.0	423.0	46.0	<2.0	<1	nd	24.0	20.0	-4.0	11.0	9.0	-2.0	23.0	14.0	-9.0	63.0	62.0	-1.0
NAT92-28	28	67.0	111.0	44.0	<2.0	<1	nd	17.0	15.0	-2.0	13.0	13.0	0.0	23.0	19.0	-4.0	54.0	51.0	-3.0
NAT92-29	29	145.0	199.0	54.0	3.0	1.0	-2.0	22.0	20.0	-2.0	13.0	13.0	0.0	19.0	16.0	-3.0	83.0	89.0	6.0
NAT92-30	30	360.0	399.0	39.0	<2.0	<1	nd	28.0	24.0	-4.0	12.0	9.0	-3.0	23.0	17.0	-6.0	70.0	70.0	0.0
NAT92-31A	31	424.5	517.0	92.5	<2.0	<1	nd	30.8	28.0	-2.8	10.8	9.3	-1.5	28.5	20.0	-8.5	82.0	83.8	1.8
NAT92-32	32	388.0	440.0	52.0	2.0	<1	nd	22.0	20.0	-2.0	12.0	7.0	-5.0	25.0	18.0	-7.0	65.0	64.0	-1.0
NAT92-33	33	397.0	448.0	51.0	<2.0	<1	nd	23.0	18.0	-5.0	9.0	7.0	-2.0	26.0	17.0	-9.0	60.0	59.0	-1.0
Average		271.92	330.21	58.29	2.21	1.25	-1.13	28.78	25.76	-3.02	12.57	11.22	-1.35	25.23	17.18	-8.05	88.85	88.75	-0.10
Standard Dev.		118.24	127.72	31.51	0.42	0.46	0.64	8.37	8.85	1.96	2.46	2.81	1.80	4.40	3.27	3.09	28.53	30.14	3.96
N		33	33	33	19	8	8	33	33	33	33	33	33	33	33	33	33	33	33
Max.		635.0	680.0	131.0	3.0	2.0	0.0	46.0	45.0	0.0	16.0	17.0	3.0	34.0	25.0	-3.0	136.0	141.0	6.0
Min.		67.0	110.0	15.0	2.0	1.0	-2.0	10.0	8.0	-9.0	6.0	5.0	-5.0	14.0	10.0	-16.0	14.0	18.0	-7.0
St Dev/Av %		2.30	2.59	1.85	5.28	2.70	-1.76	3.44	2.91	-1.54	5.12	3.99	-0.75	5.73	5.25	-2.61	3.11	2.94	-0.02

Table 3.3 (concluded). Results of geochemical analyses of the same till matrix samples using AA and ICP.

Summary all samples. (A = samples analysed by AA, I = samples analysed by ICP)							
Element		Average	Standard Dev.	N	Max.	Min.	Std Dev/Av
			Deviation				as %
Ag/A	ppm	0.22	0.04	29	0.3	0.2	18.7
Ag/I	ppm	0.52	0.17	30	0.8	0.1	32.3
Al/I	%	0.75	0.16	33	1.1	0.4	20.8
As/I	ppm	8.27	3.90	31	17.0	2.0	47.1
Au/I	ppm	nd					
B/I	ppm	n/a					
Ba/I	ppm	266.87	129.31	33	663.0	39.0	48.5
Be/I	ppm	1.00	0.00	23	1.0	1.0	0.0
Bi/I	ppm	6.00		1	6.0	6.0	0.0
Ca/I	%	1.96	1.47	33	7.6	0.2	75.0
Cd/A	ppm	0.34	0.11	31	0.7	0.2	33.1
Cd/I	ppm	1.00	0.00	11	1.0	1.0	0.0
Co/A	ppm	8.98	2.64	33	14.0	3.0	29.4
Co/I	ppm	9.52	3.39	33	16.0	3.0	35.7
Cr/I	ppm	12.38	2.56	33	17.0	7.0	20.7
Cu/A	ppm	32.54	6.72	33	44.0	12.0	20.6
Cu/I	ppm	27.14	6.09	33	36.0	12.0	22.4
F/A	ppm	563.94	100.71	33	780.0	260.0	17.9
Fe/A	%	2.01	0.38	33	2.7	0.9	18.9
Fe/I	%	2.24	0.43	33	3.1	0.9	19.3
Hg/A	ppb	81.06	26.92	33	120.0	30.0	33.2
Hg/I	ppm	nd					
La/I	ppm	17.55	3.13	33	25.0	11.0	17.8
LOI/A	%	4.49	0.94	33	6.6	2.6	21.0
Mg/I	%	0.75	0.36	33	1.8	0.2	48.3
Mn/A	ppm	271.92	118.24	33	635.0	67.0	43.5
Mn/I	ppm	330.21	127.72	33	680.0	110.0	38.7
Mo/A	ppm	2.21	0.42	19	3.0	2.0	18.9
Mo/I	ppm	1.25	0.46	8	2.0	1.0	37.0
Na/I	%	0.02	0.02	33	0.1	0.0	93.3
Ni/A	ppm	28.78	8.37	33	46.0	10.0	29.1
Ni/I	ppm	25.76	8.85	33	45.0	8.0	34.4
P/I	%	0.07	0.02	33	0.1	0.0	25.5
Pb/A	ppm	12.57	2.46	33	16.0	6.0	19.5
Pb/I	ppm	11.22	2.81	33	17.0	5.0	25.0
Sb/I	ppm	<2			2.0	<2	
Si/I	%	0.01	0.00	33	0.0	0.0	0.0
Sr/I	ppm	55.14	23.20	33	121.0	19.0	42.1
Ti/I	%	0.01	0.00	3	<0.01	0.0	0.0
U/I	ppm	n/a					
V/A	ppm	25.23	4.40	33	34.0	14.0	17.5
V/I	ppm	17.18	3.27	33	25.0	10.0	19.1
W/I	ppm	<2		30	<2	<2	
Zn/A	ppm	88.85	28.53	33	136.0	14.0	32.1
Zn/I	ppm	88.75	30.14	33	141.0	18.0	34.0

Table 3.4. Summary of geochemical analyses of till matrix using AA or ICP.

the small and preliminary nature of the data set.

A number of elements showed a similar pattern of increasing concentrations toward the west. These elements included arsenic, cadmium, cobalt, copper, fluorine, iron, lead, nickel, and zinc, and also LOI. Elements whose concentrations indicate slightly greater concentrations along a broad north-south band between 115° and 118° are : mercury, sodium, silver, and vanadium. Aluminum, barium, calcium, chromium, manganese, magnesium, molybdenum, lanthanum, and strontium show either a more complex pattern or limited data that will be better defined when the larger data set is complete.

REFERENCES

Mitchell, R.H., 1986. Kimberlites, mineralogy, geochemistry and petrology. Plenum Press, New York, 442 p.

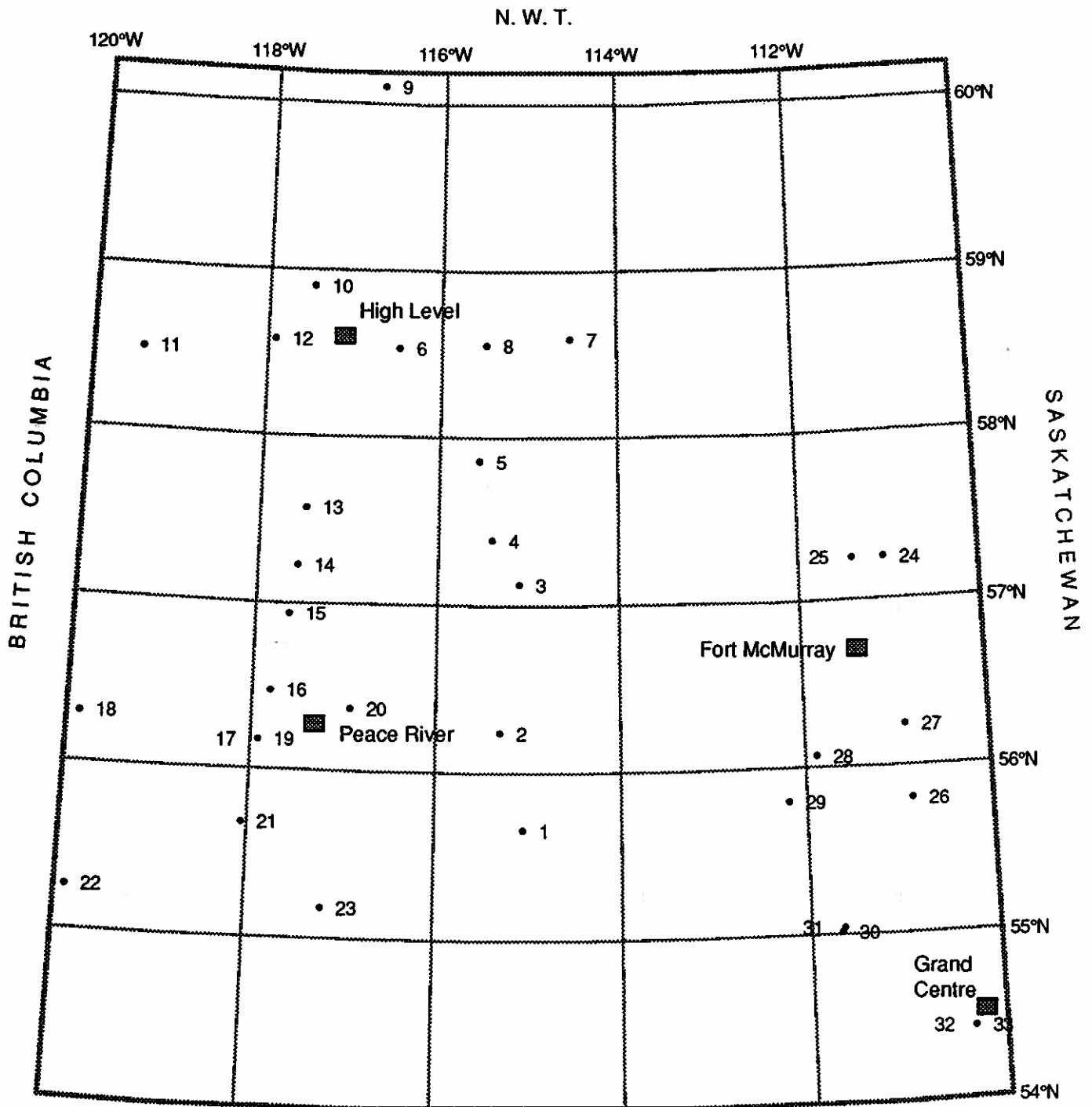


Figure 1.1. Location of the till sample sites.

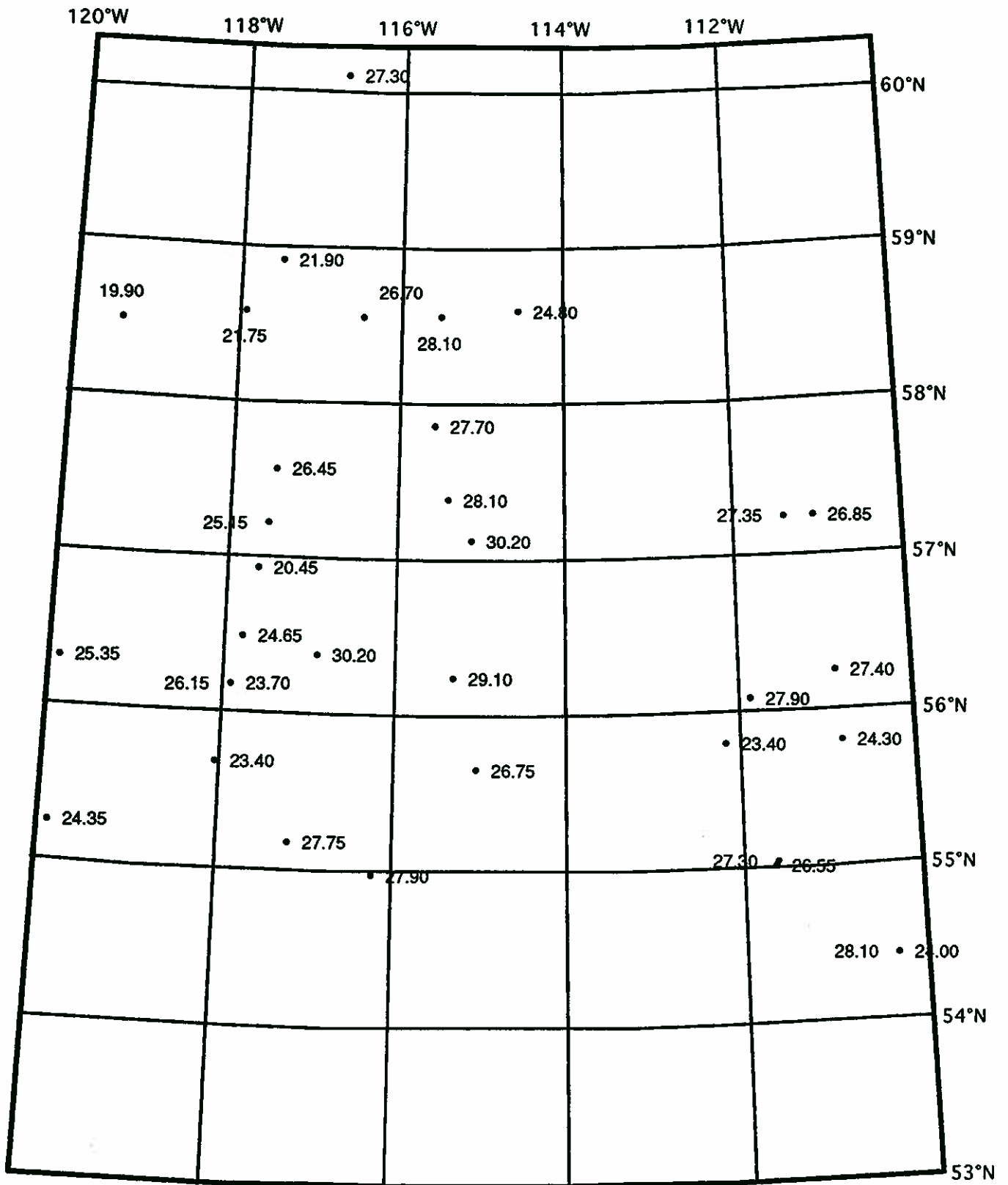


Figure 2.1. Location and weight in kilograms of the till samples collected.

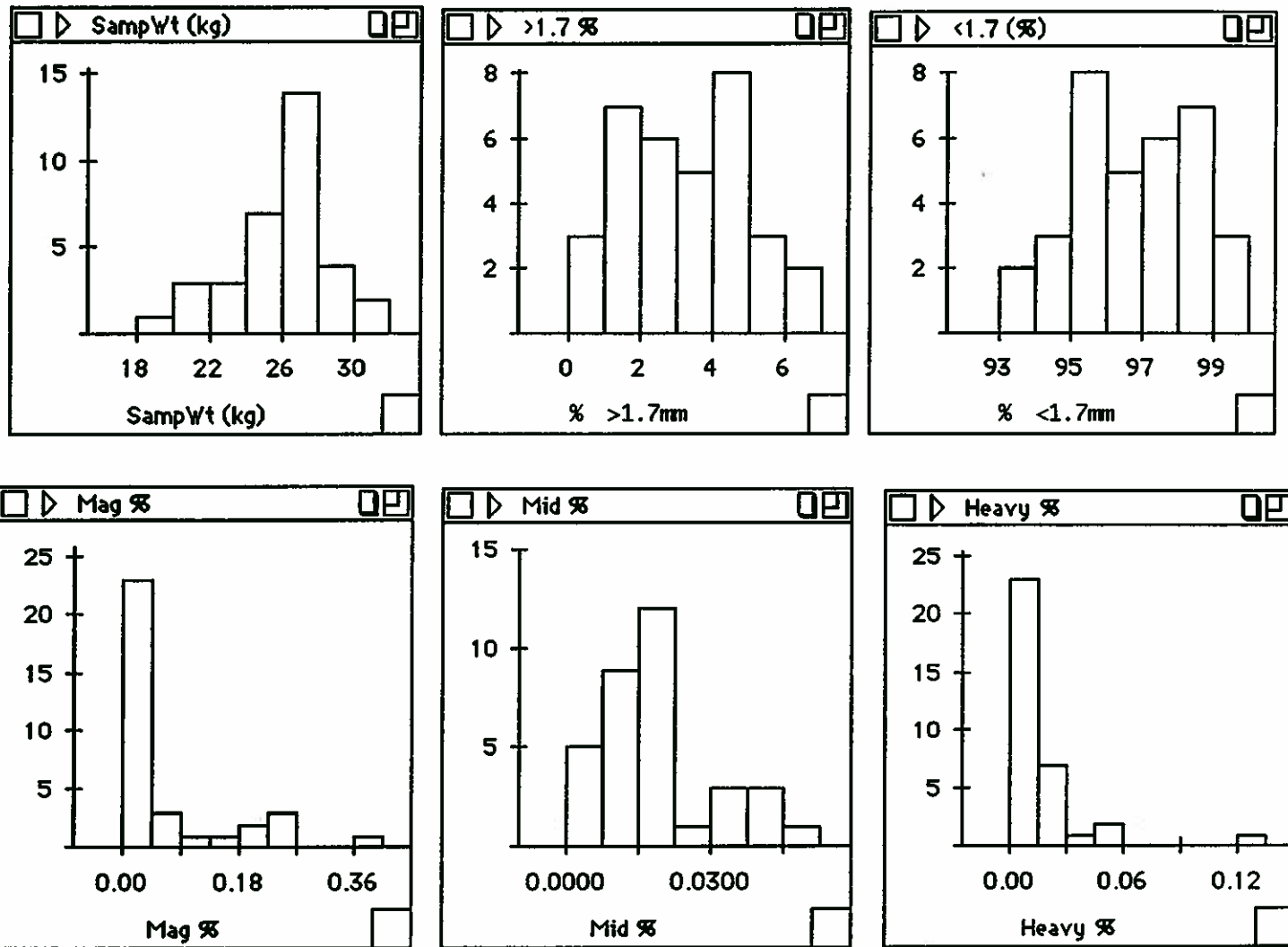


Figure 2.2. Weight percent distribution within each sample fraction.

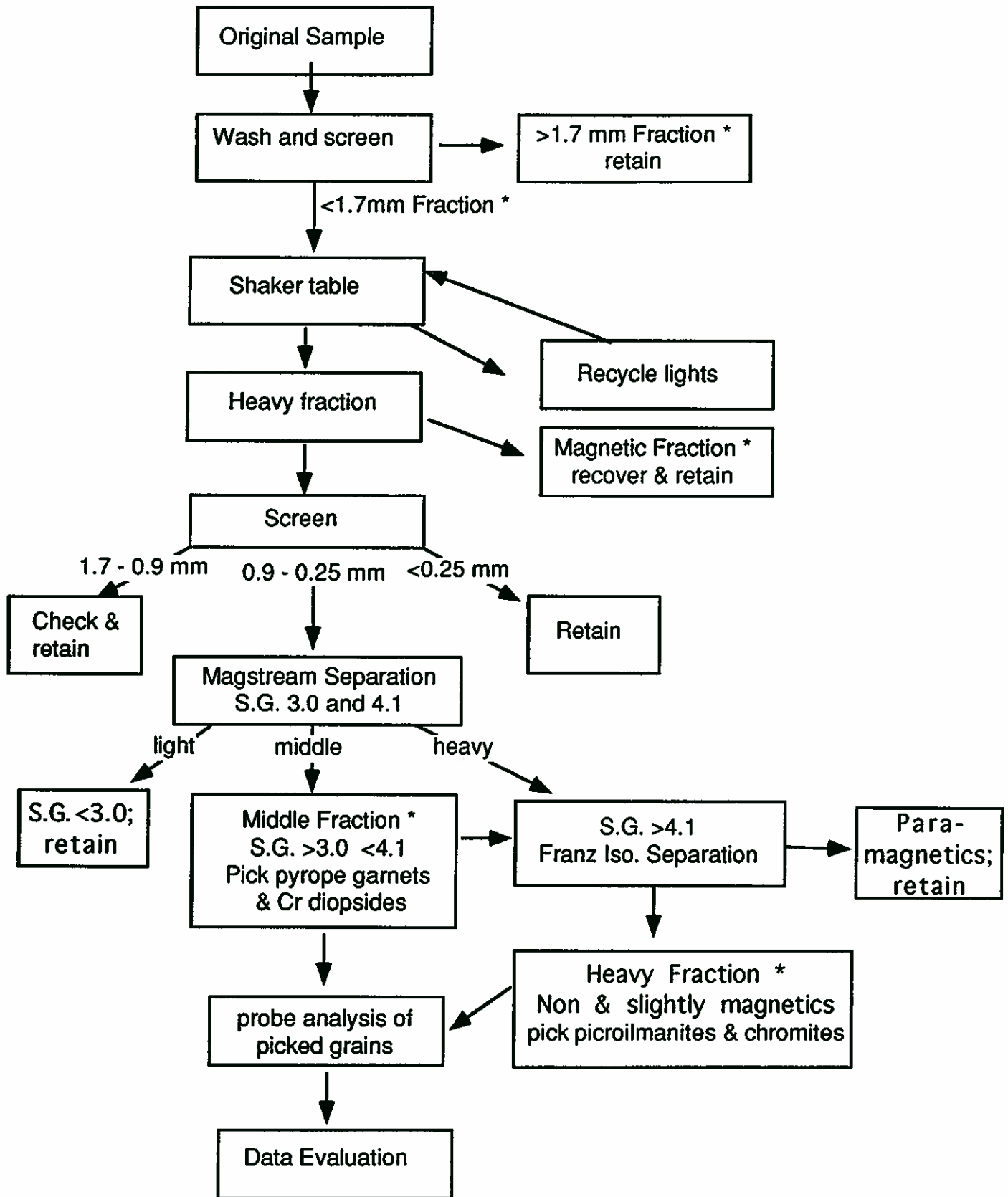


Figure 2.3. Flow chart for till mineralogical analysis. * = fractions weighed and referred to in other tables and figures.

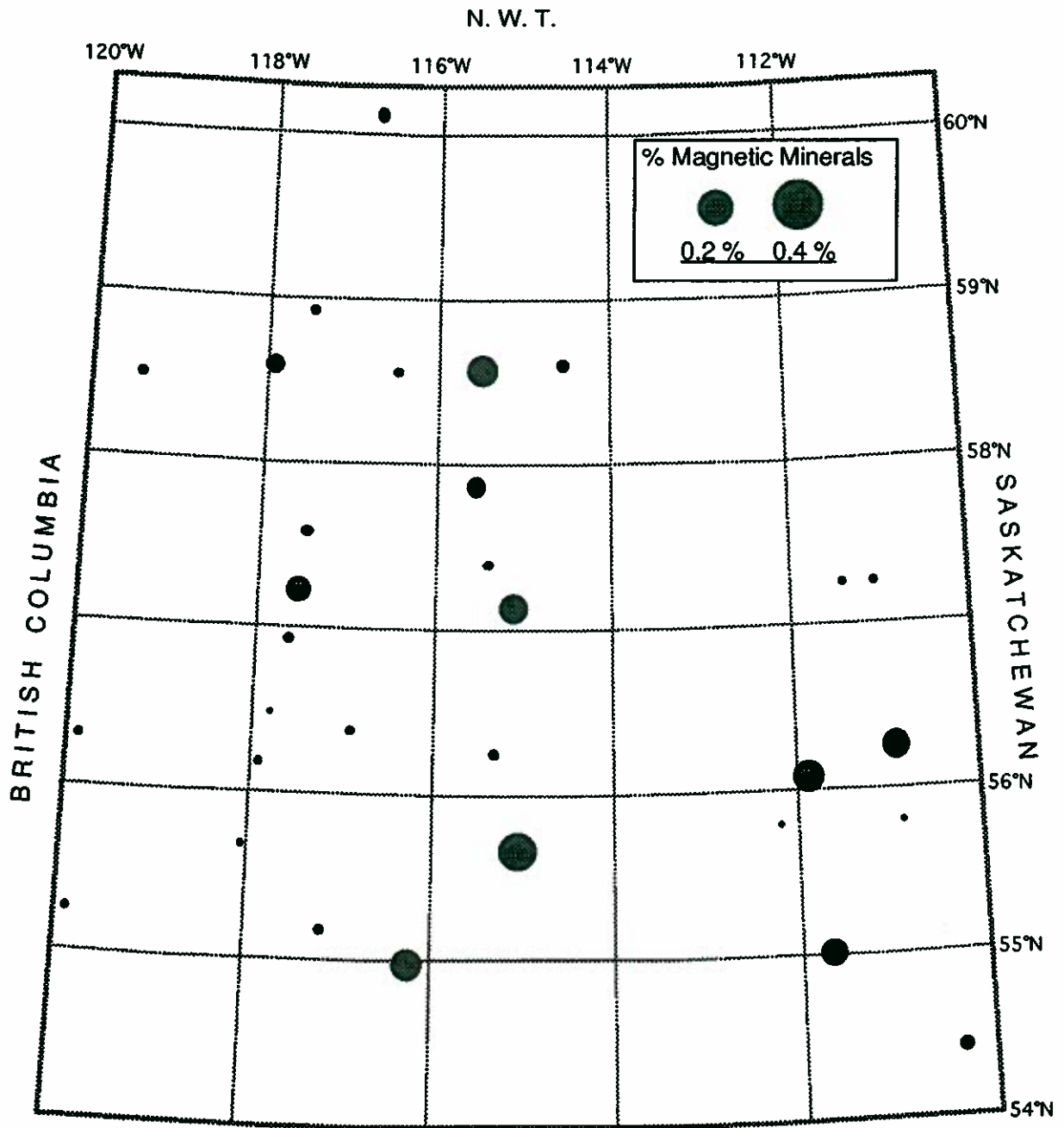


Figure 2.4a. Weight percent of the magnetic mineral fraction from the < 0.9 to >0.25 mm separate. Weight percent is of the total till sample weight.

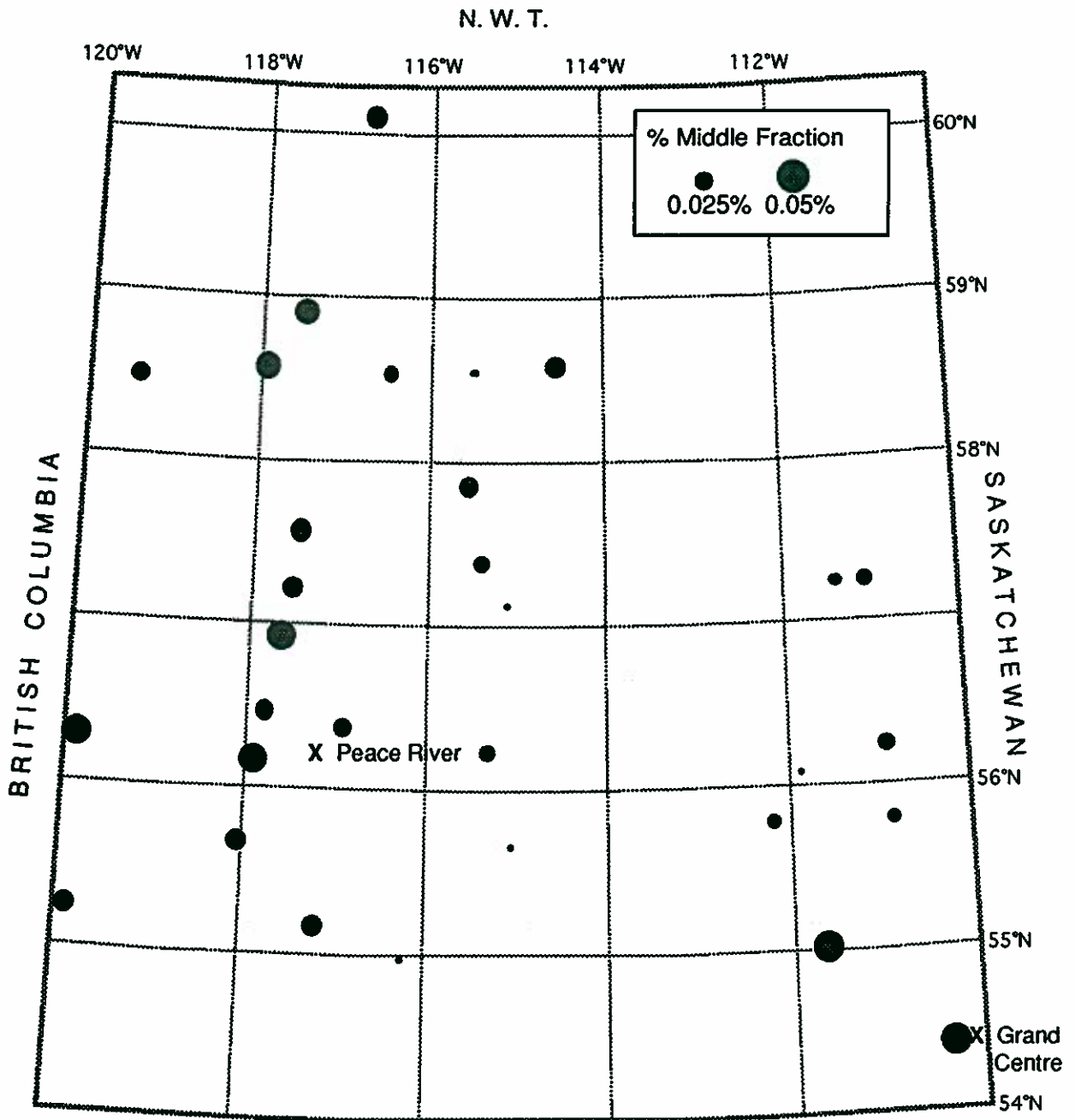


Figure 2.4b. Weight percent of the magstream middle mineral fraction from the < 0.9 to > 0.25 mm separate. Weight percent is of the total till sample weight.

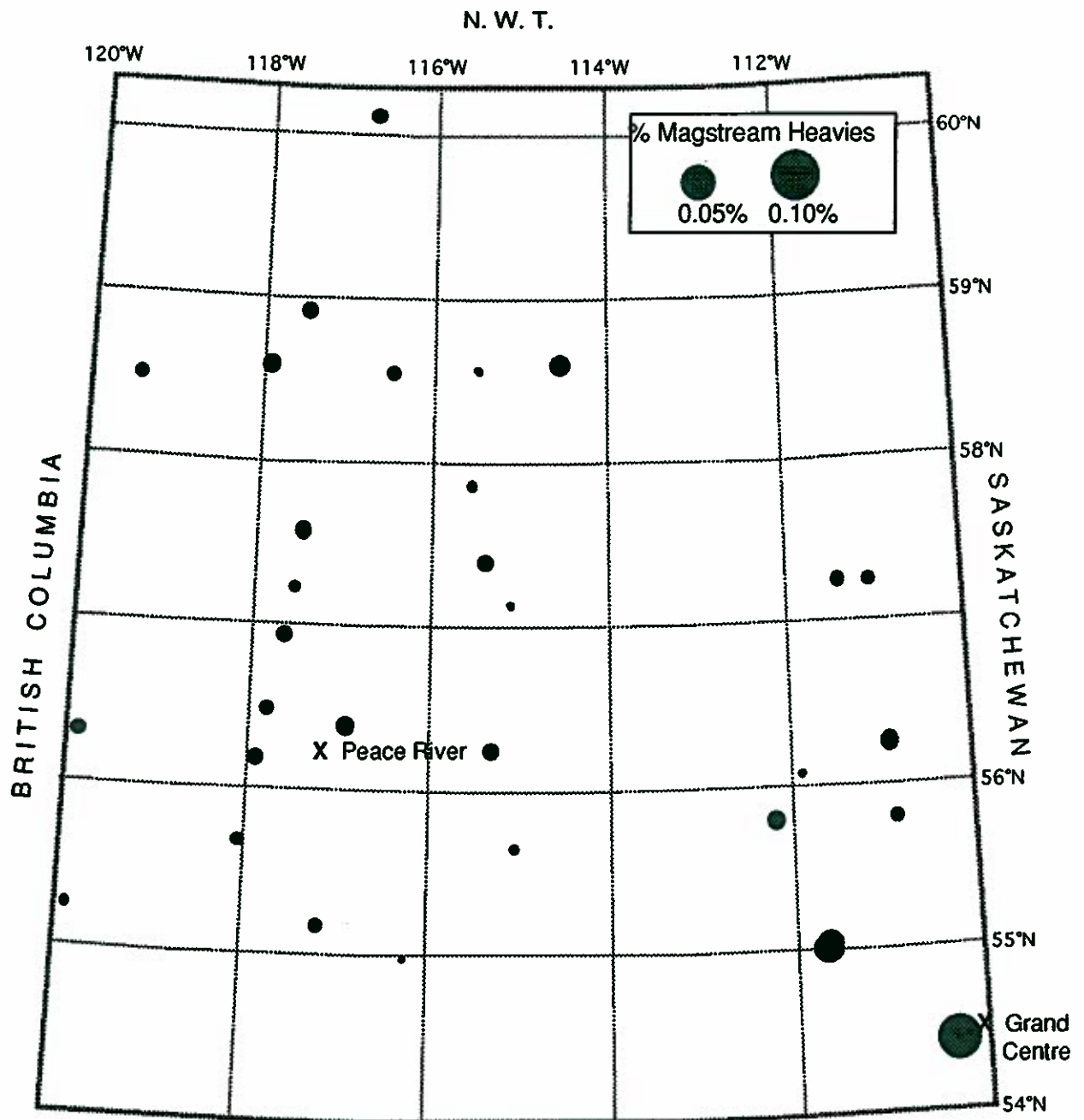


Figure 2.4c. Weight percent of the magstream heavy mineral fraction from the < 0.9 to >0.25 mm separate. Weight percent is of the total till sample weight.

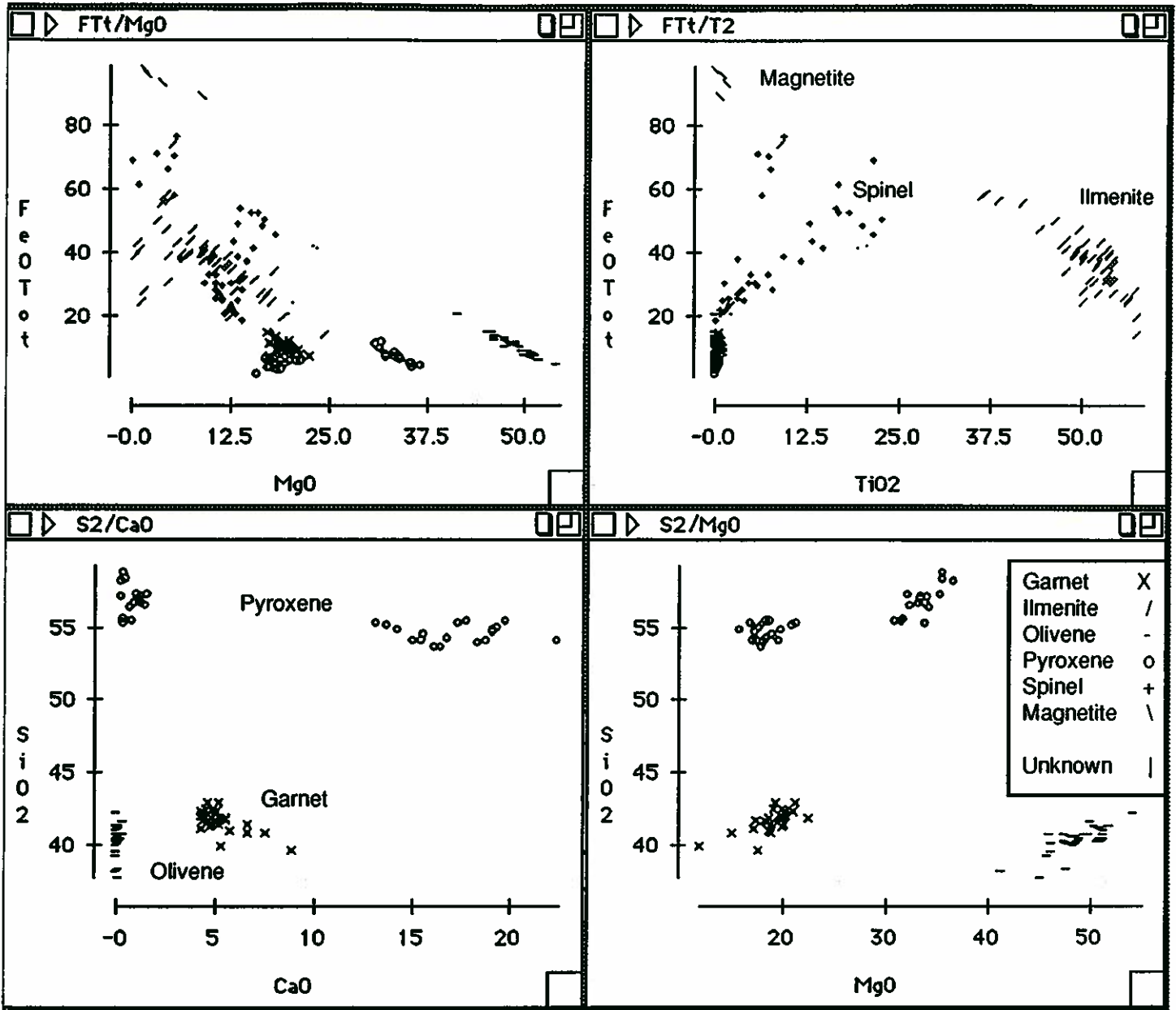


Figure 2.5 Sample scatterplots showing distribution of major mineral groups. Data primarily from Mitchell (1986).

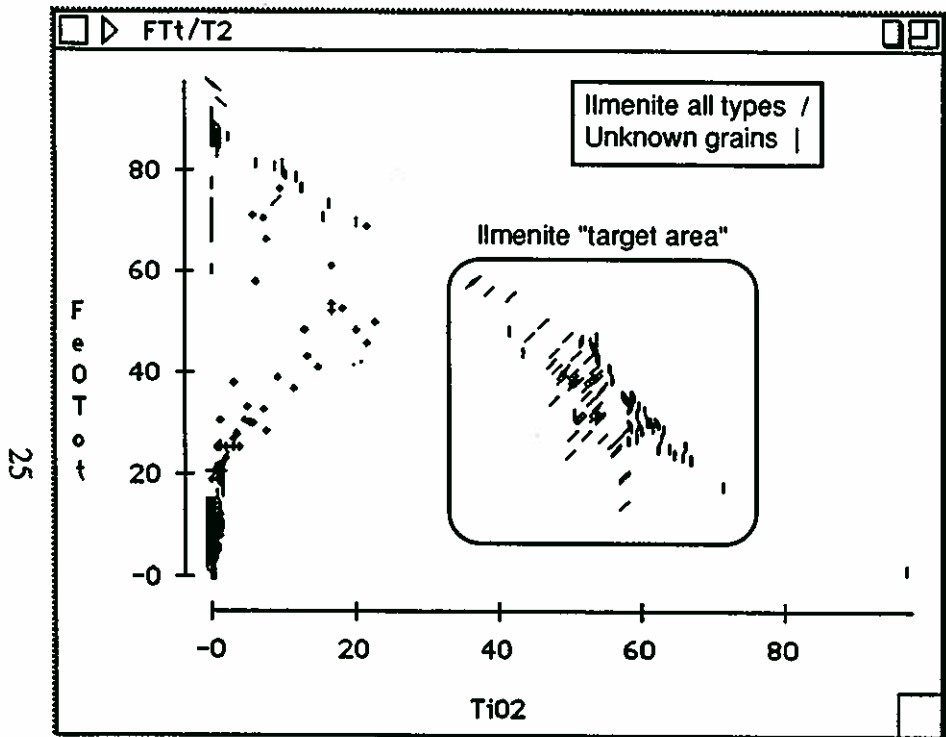


Figure 2.6a. Scatterplot showing ilmenite field with all ilmenite analyses shown as / and unknowns as |

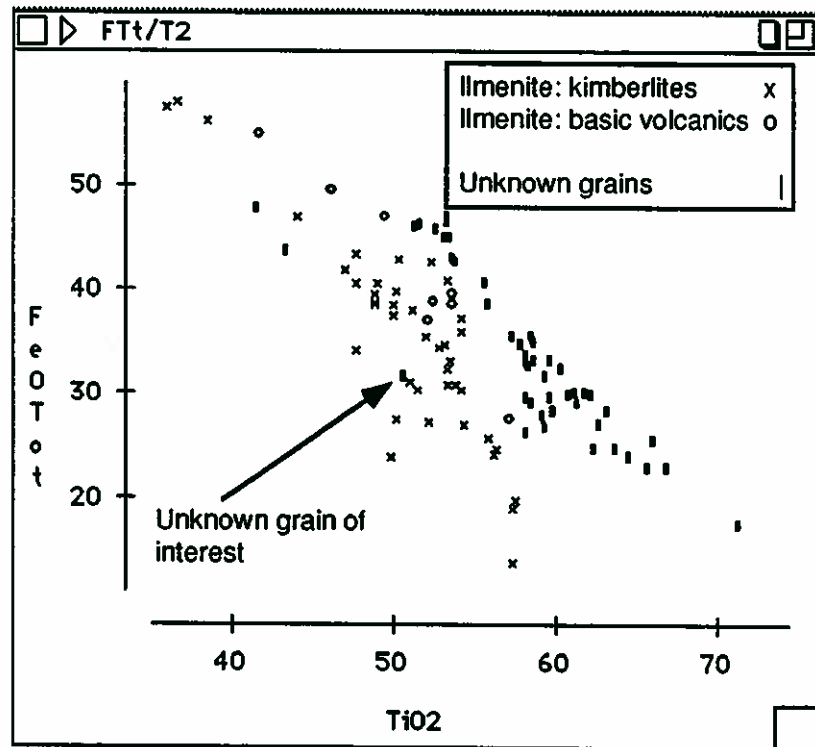


Figure 2.6b. Zoom in of ilmenite target area with the different types of ilmenite grains identified and the unknown grains in bold symbol |.

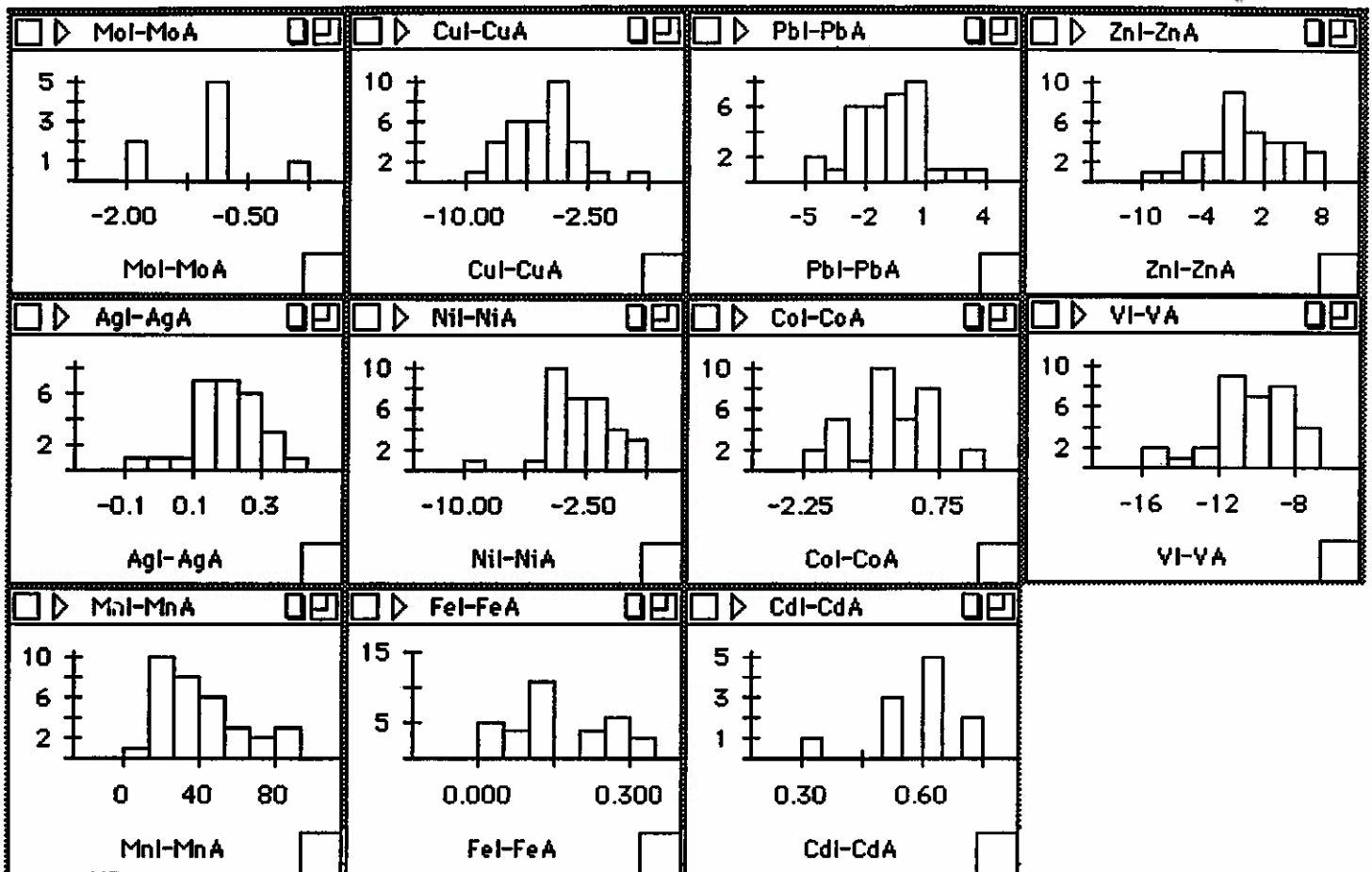


Figure 3.1. Comparison of data from AA and ICP analyses for subsample pairs from the same sites. (MnI-MnA =manganese value form ICP - manganese value form AA)

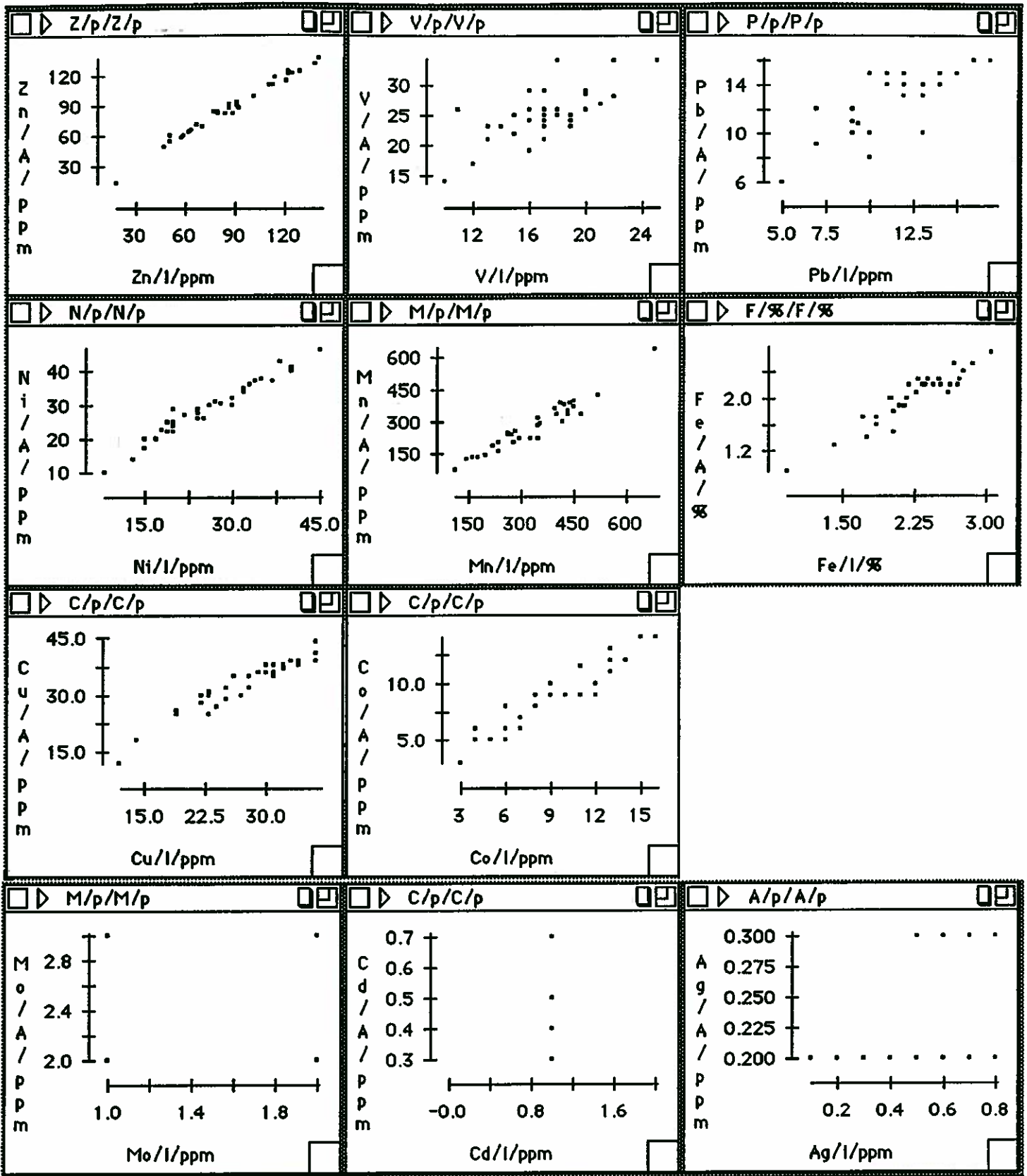


Figure 3.2. Comparison of AA and ICP analyses on a number of sample pairs till matrix.

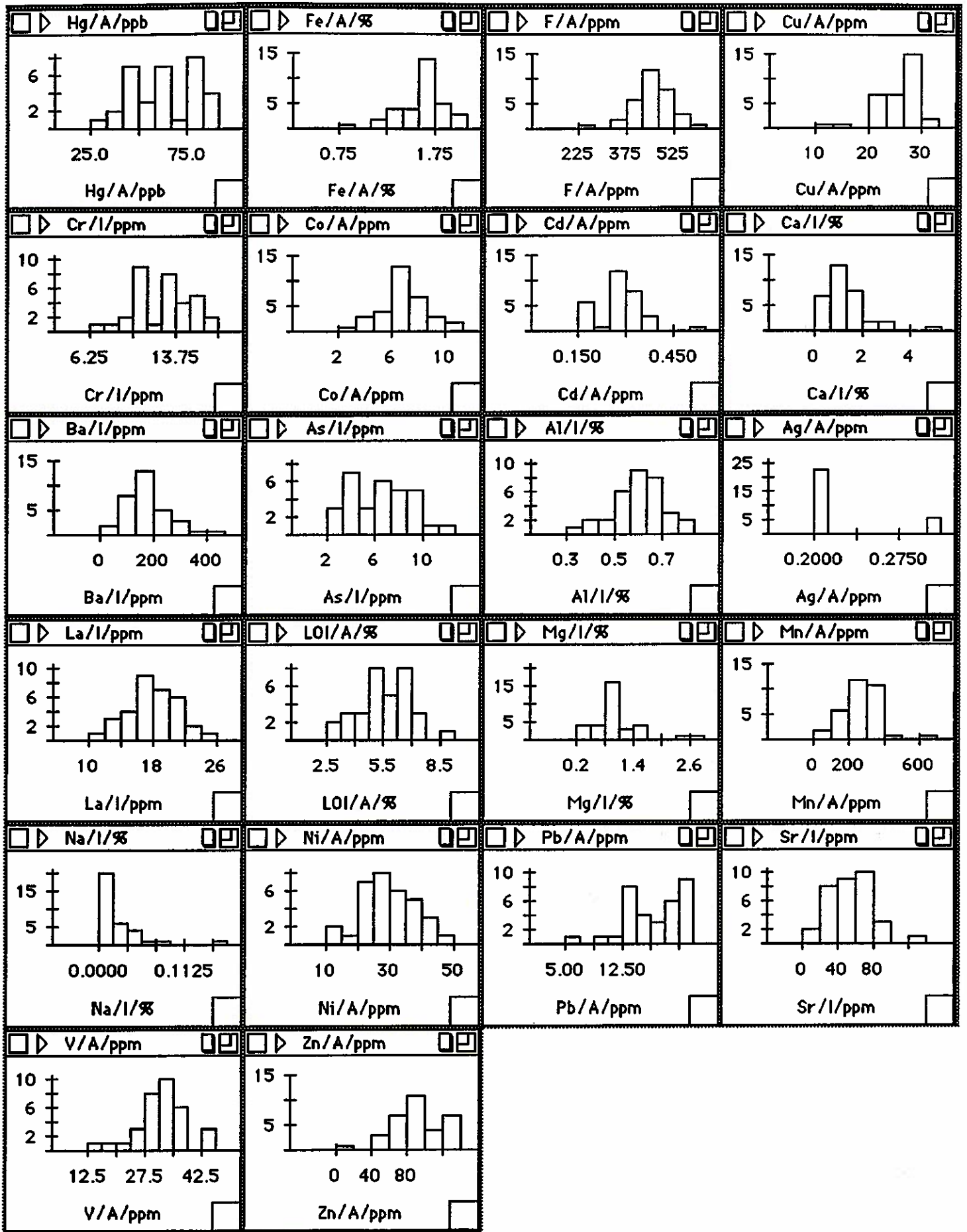


Figure 3.3. Histograms showing range for specific elements in till matrix

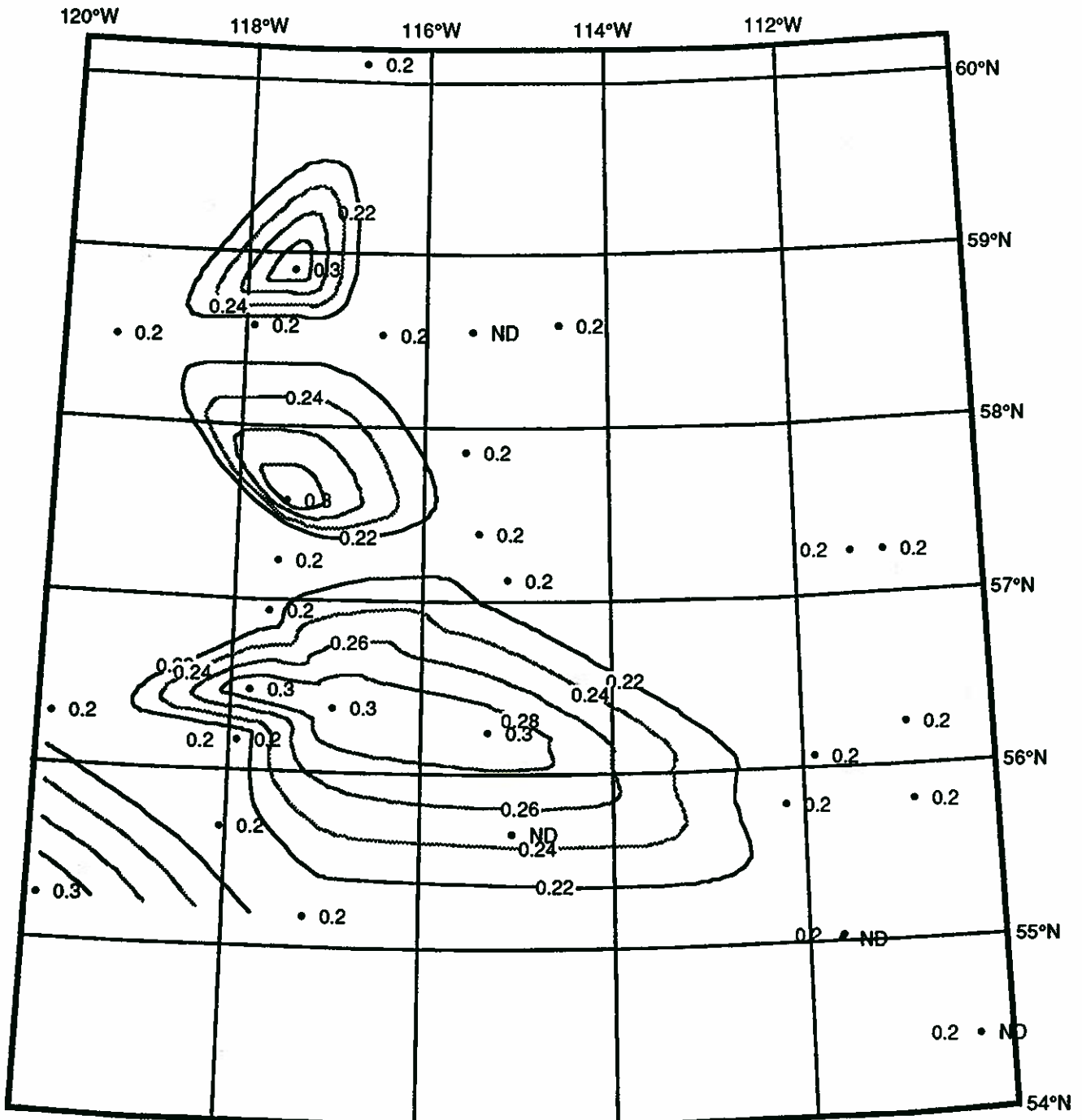


Figure 3.4a. Concentration of silver (Ag) in ppm. Analyses by AA.

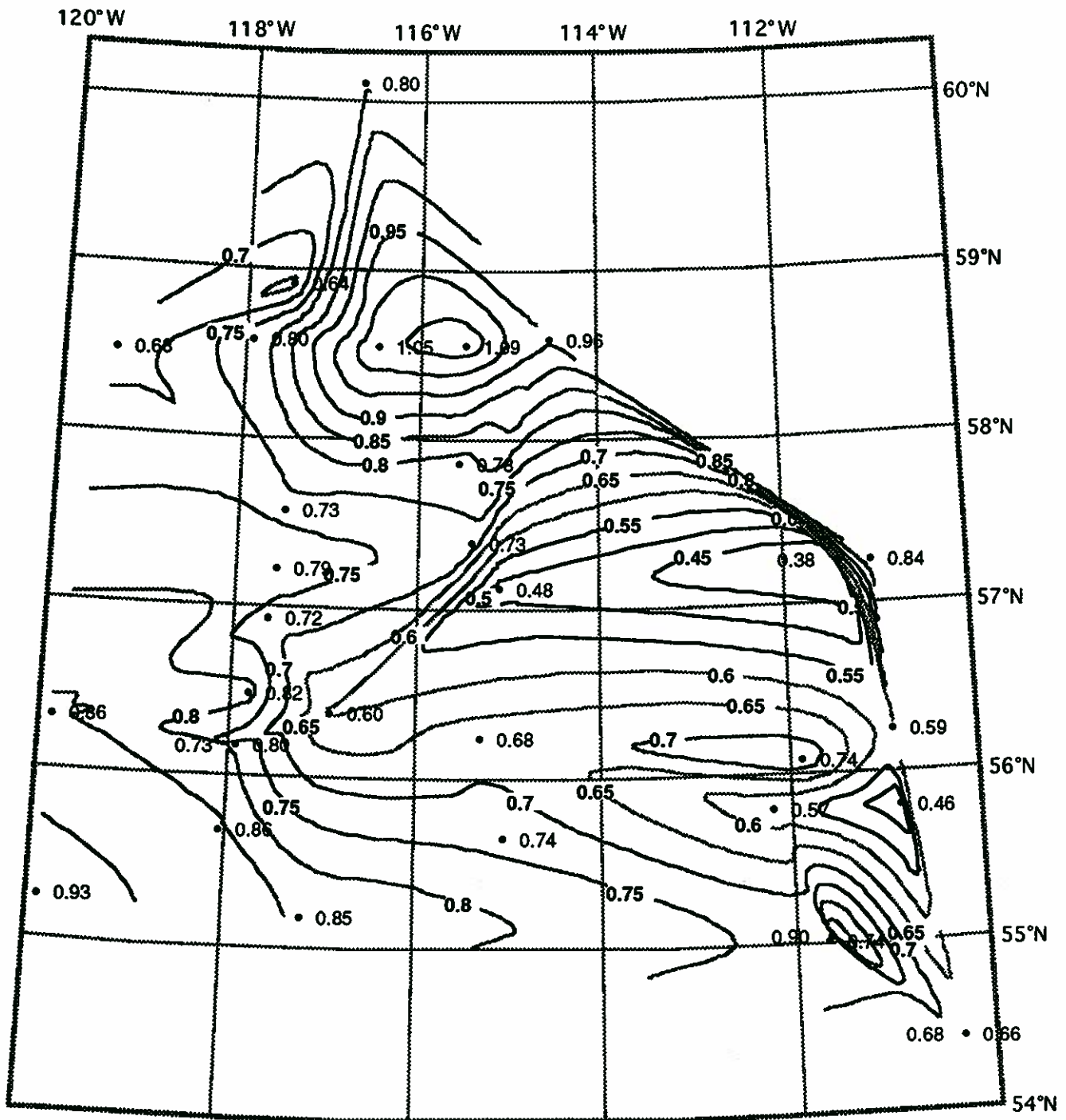


Figure 3.4b. Concentration of aluminum in percent. Analyses by ICP.

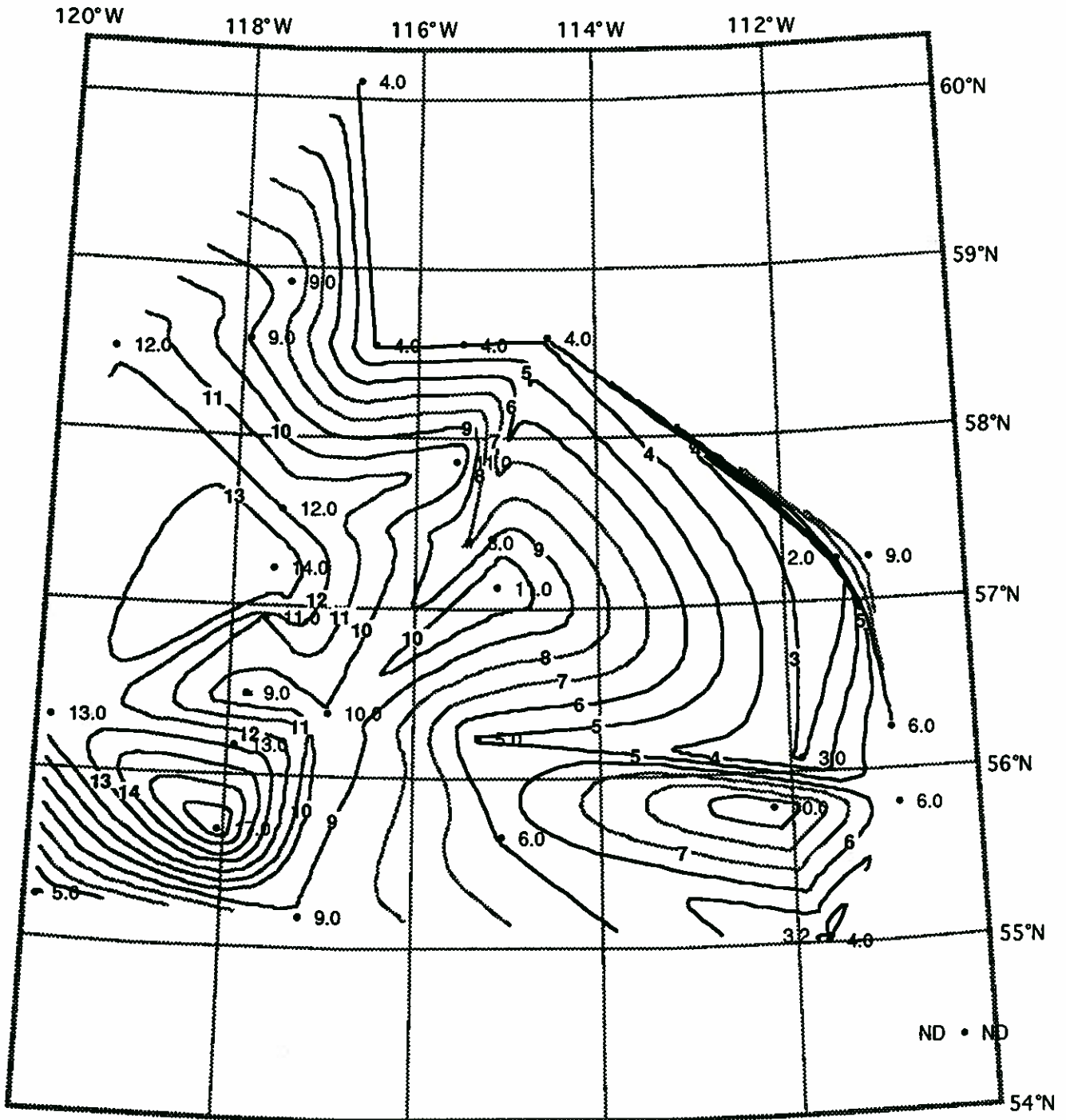


Figure 3.4c. Concentration of arsenic in ppm. Analyses by AA.

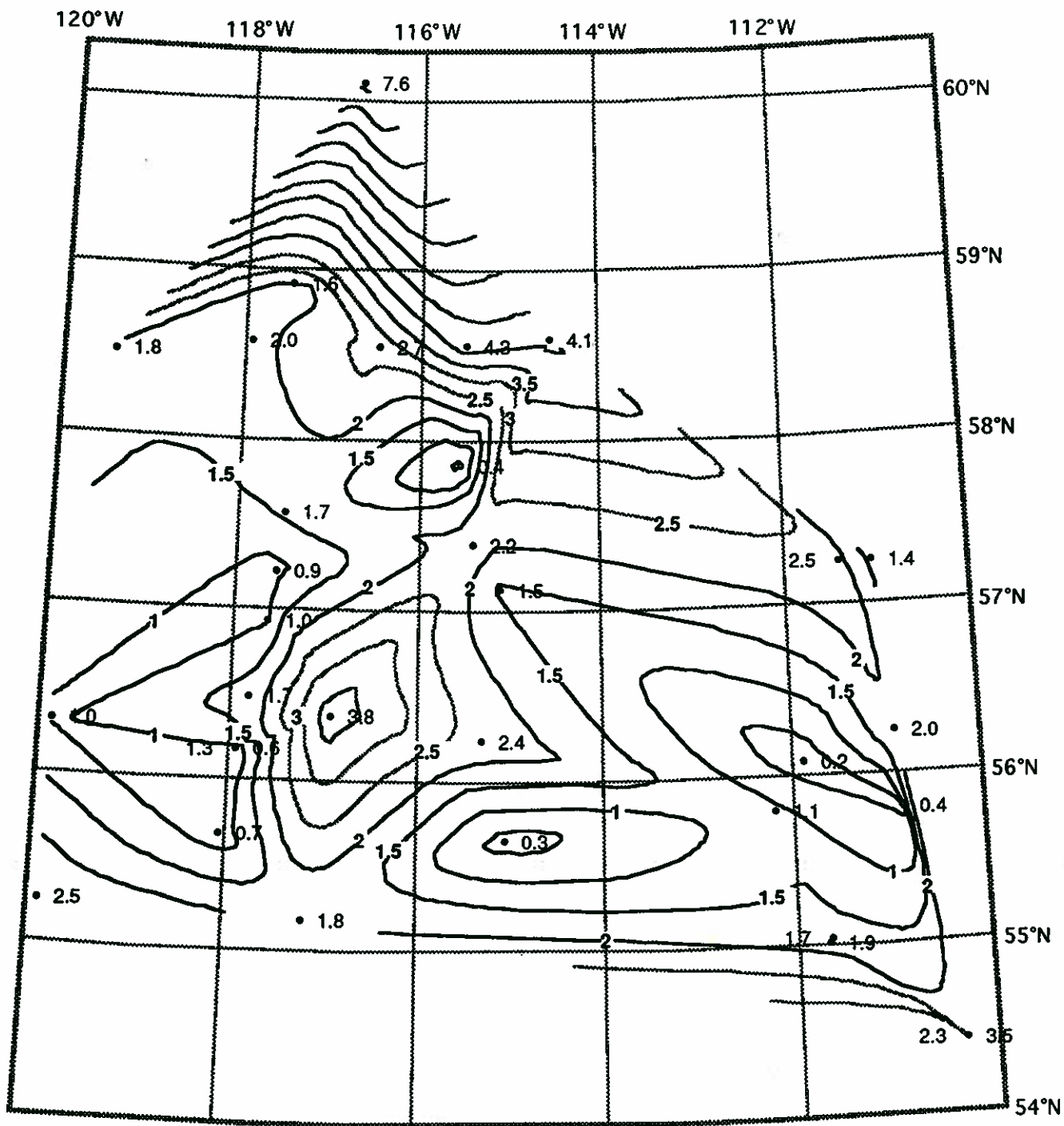


Figure 3.4e. Concentration of calcium in ppm. Analyses by ICP.

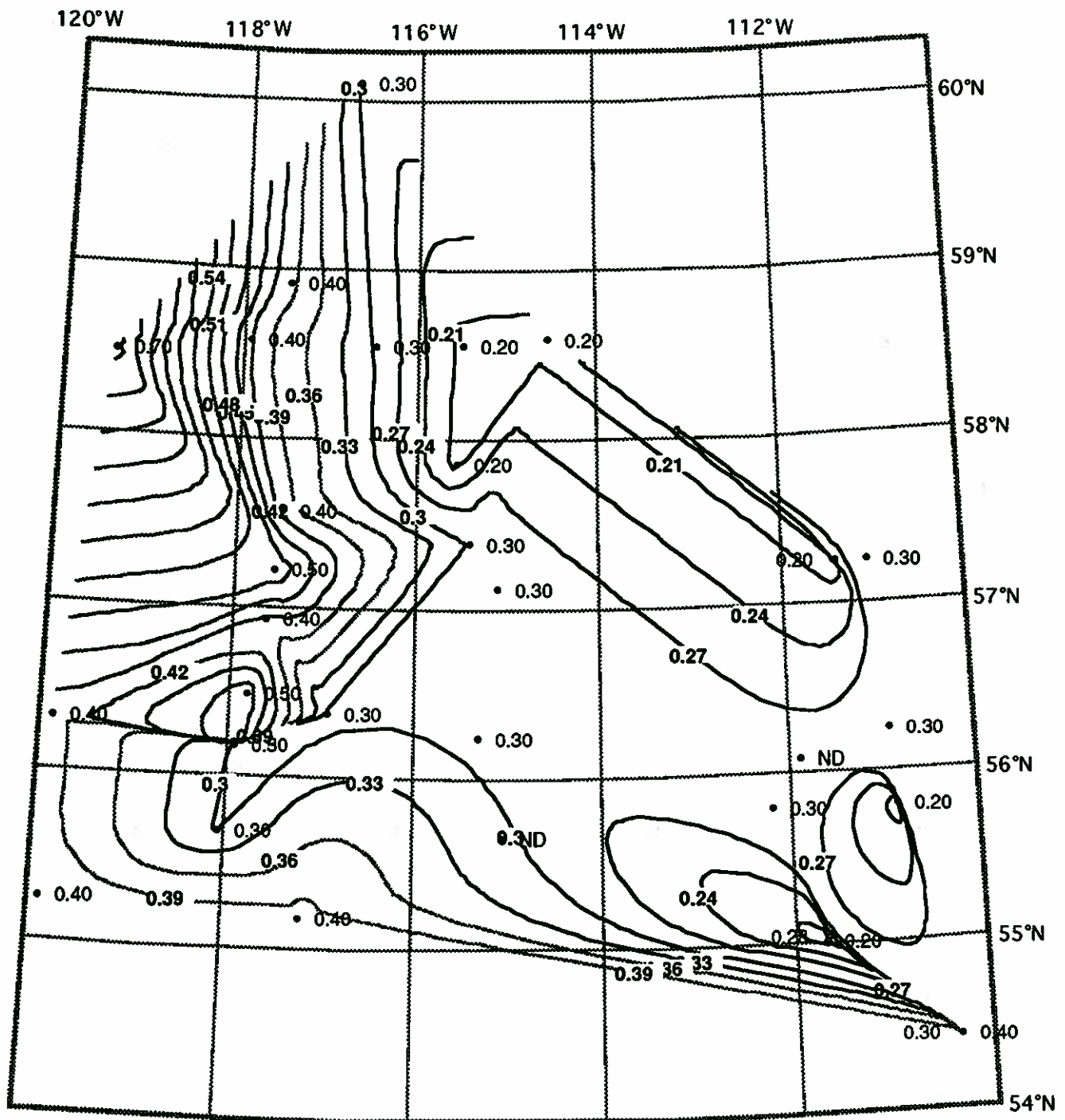


Figure 3.4f. Concentration of cadmium in ppm. Analyses by AA.

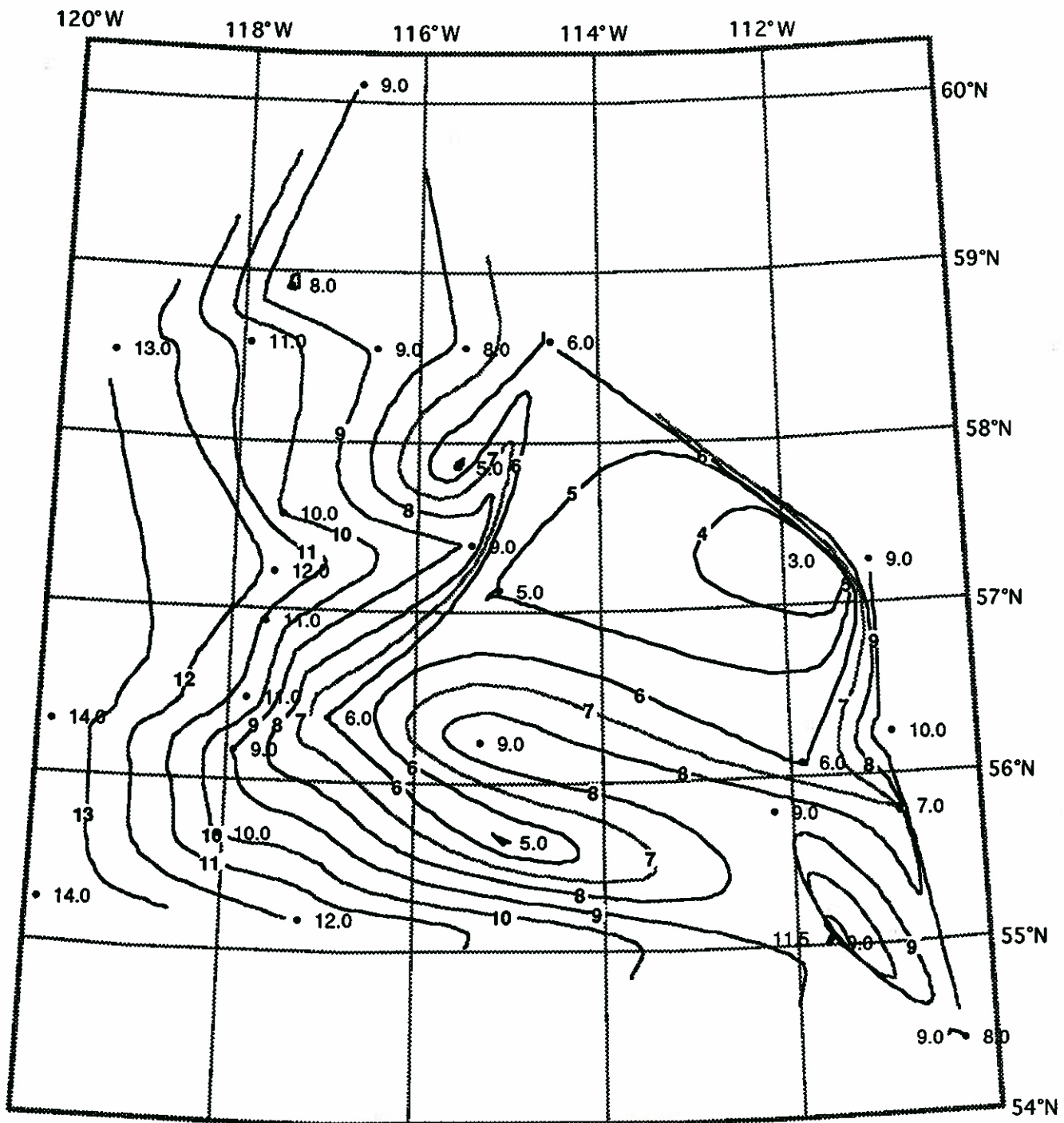


Figure 3.4g. Concentration of cobalt in ppm. Analyses by AA.

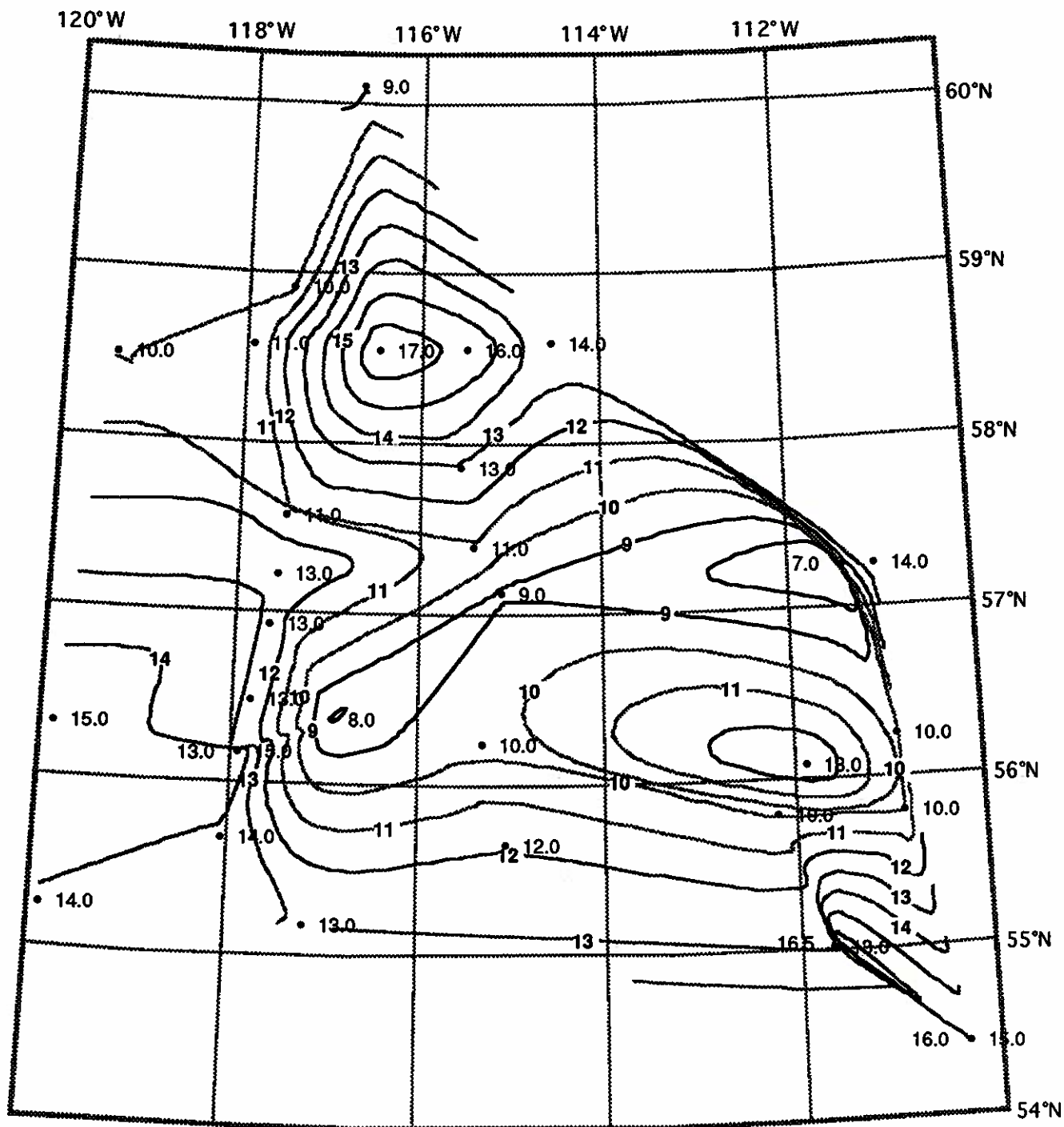


Figure 3.4h. Concentration of chromium in ppm. Analyses by AA.

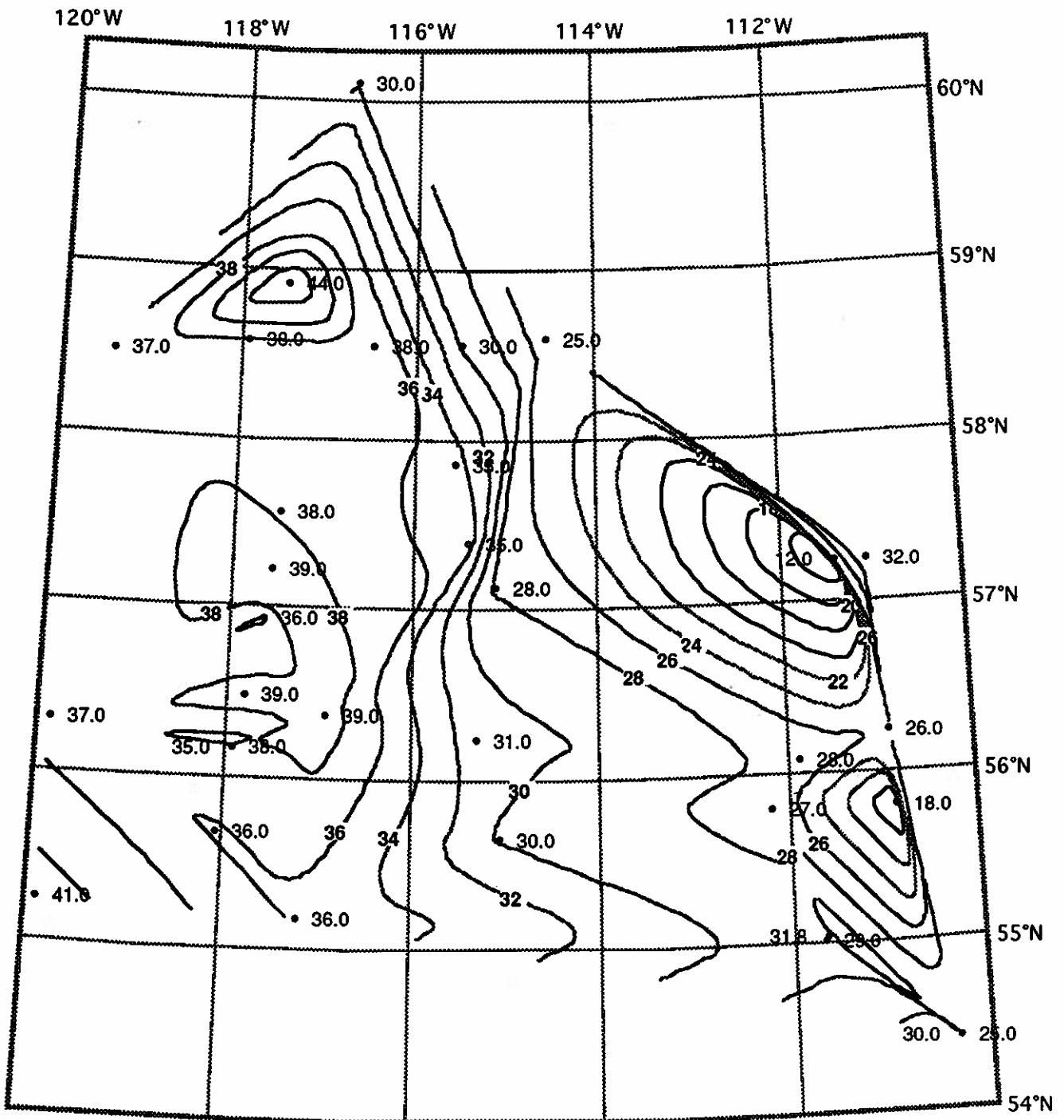


Figure 3.4i. Concentration of copper in ppm. Analyses by AA.

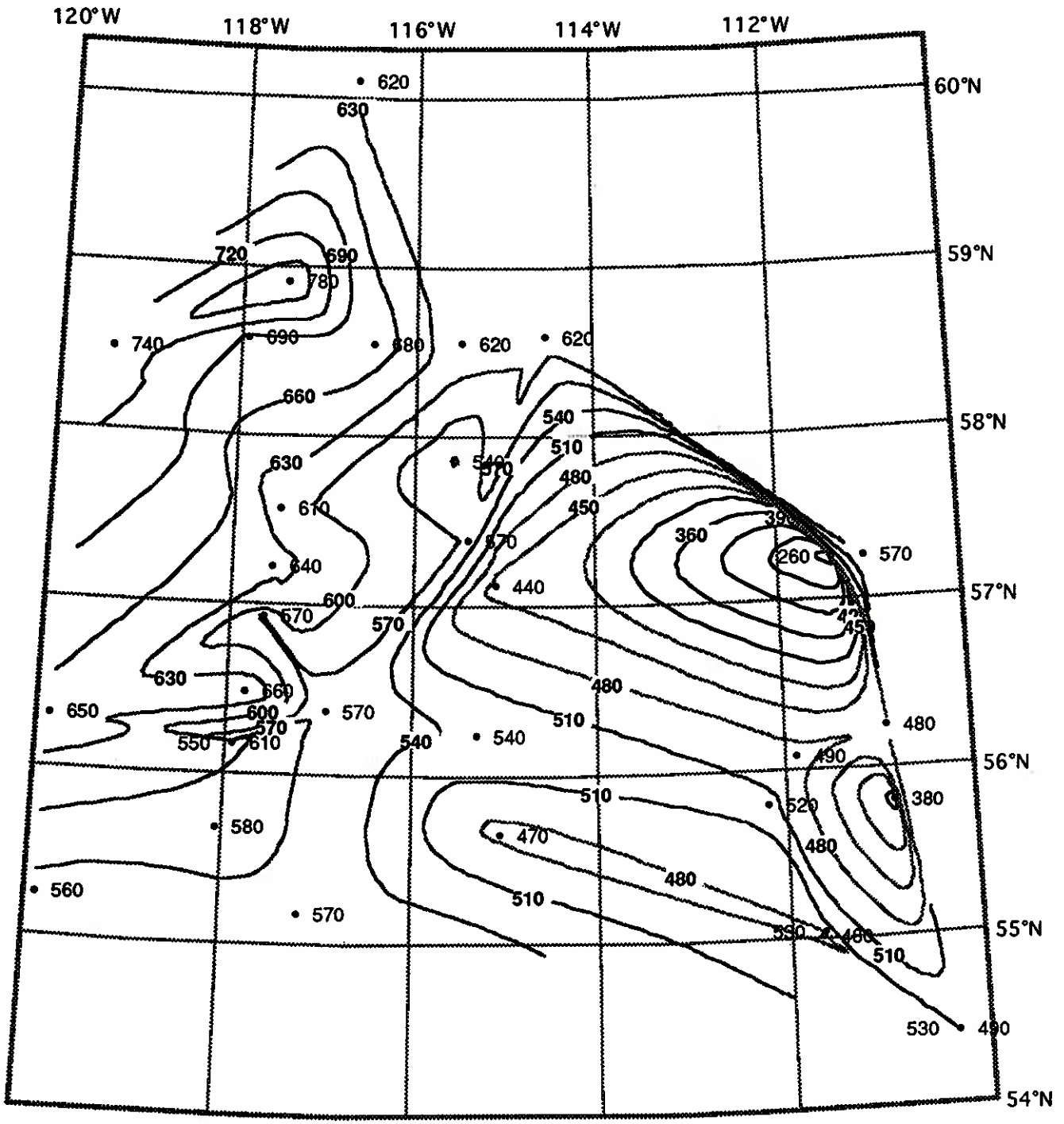


Figure 3.4j. Concentration of fluorine in ppm. Analyses by AA.

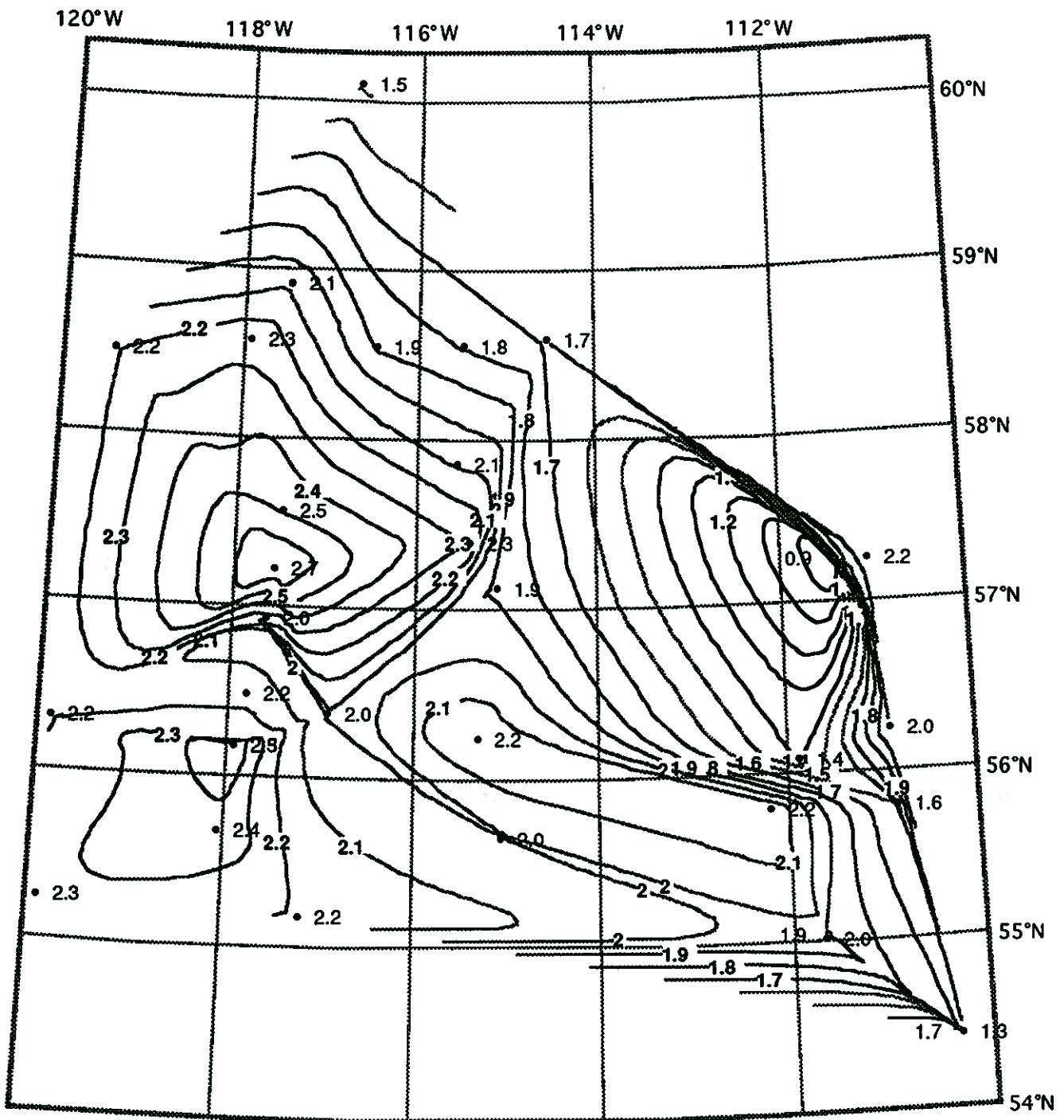


Figure 3.4k. Concentration of iron in percent. Analyses by ICP.

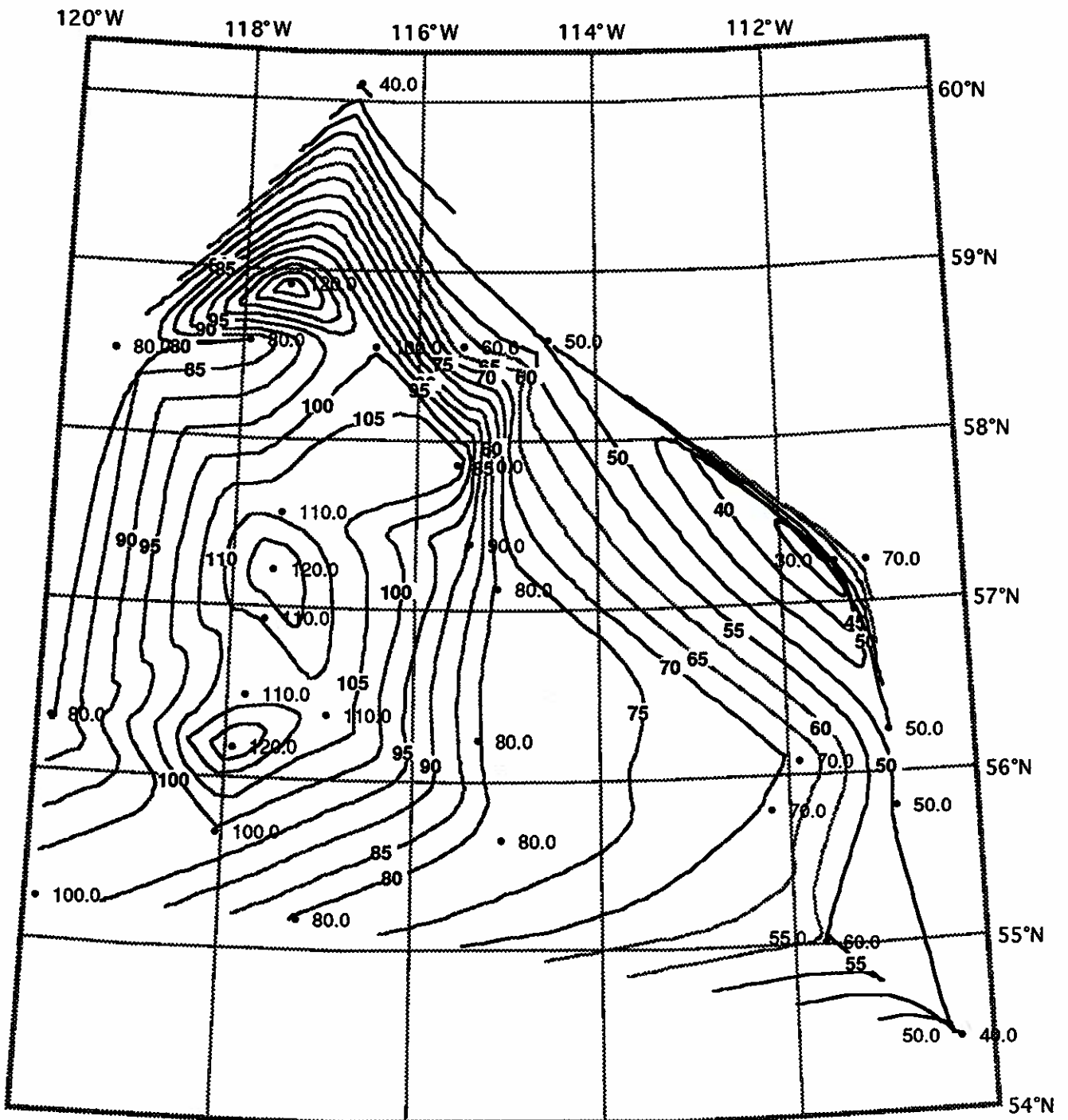


Figure 3.4I. Concentration of mercury in ppb. Analyses by AA.

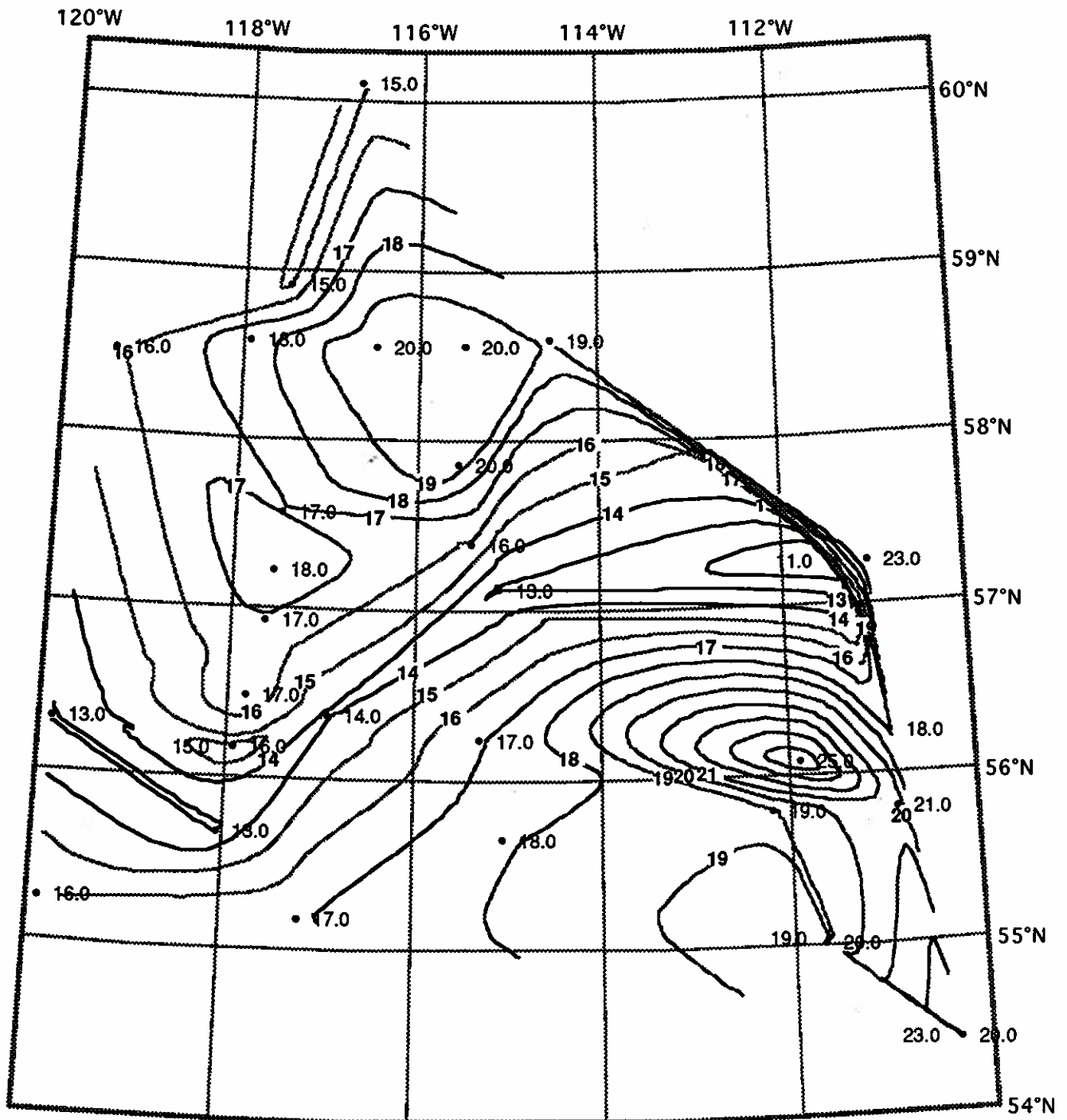


Figure 3.4m. Concentration of lanthanum in ppm. Analyses by ICP.

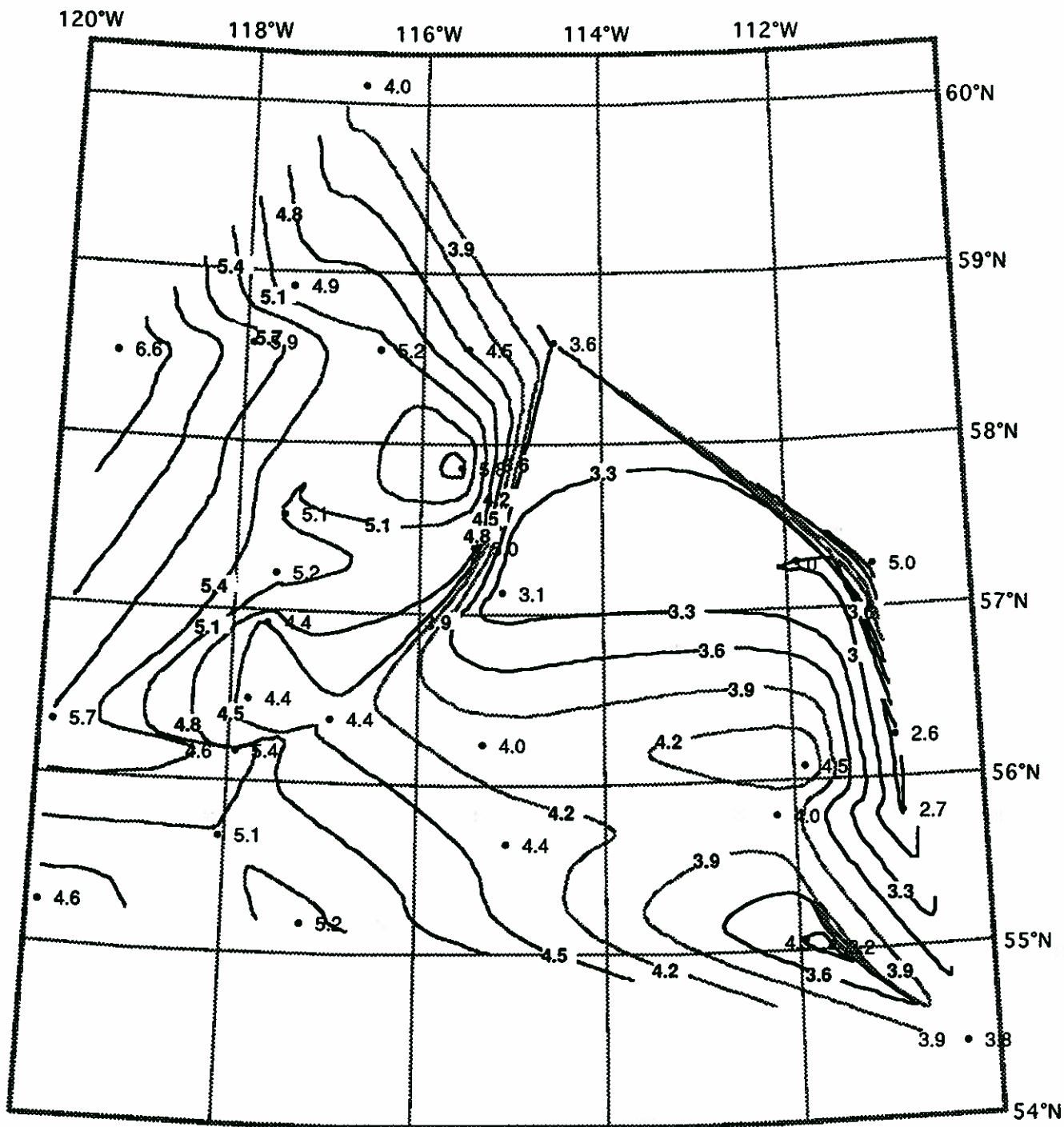


Figure 3.4n. Concentration of loss on ignition in percent. Analyses by AA.

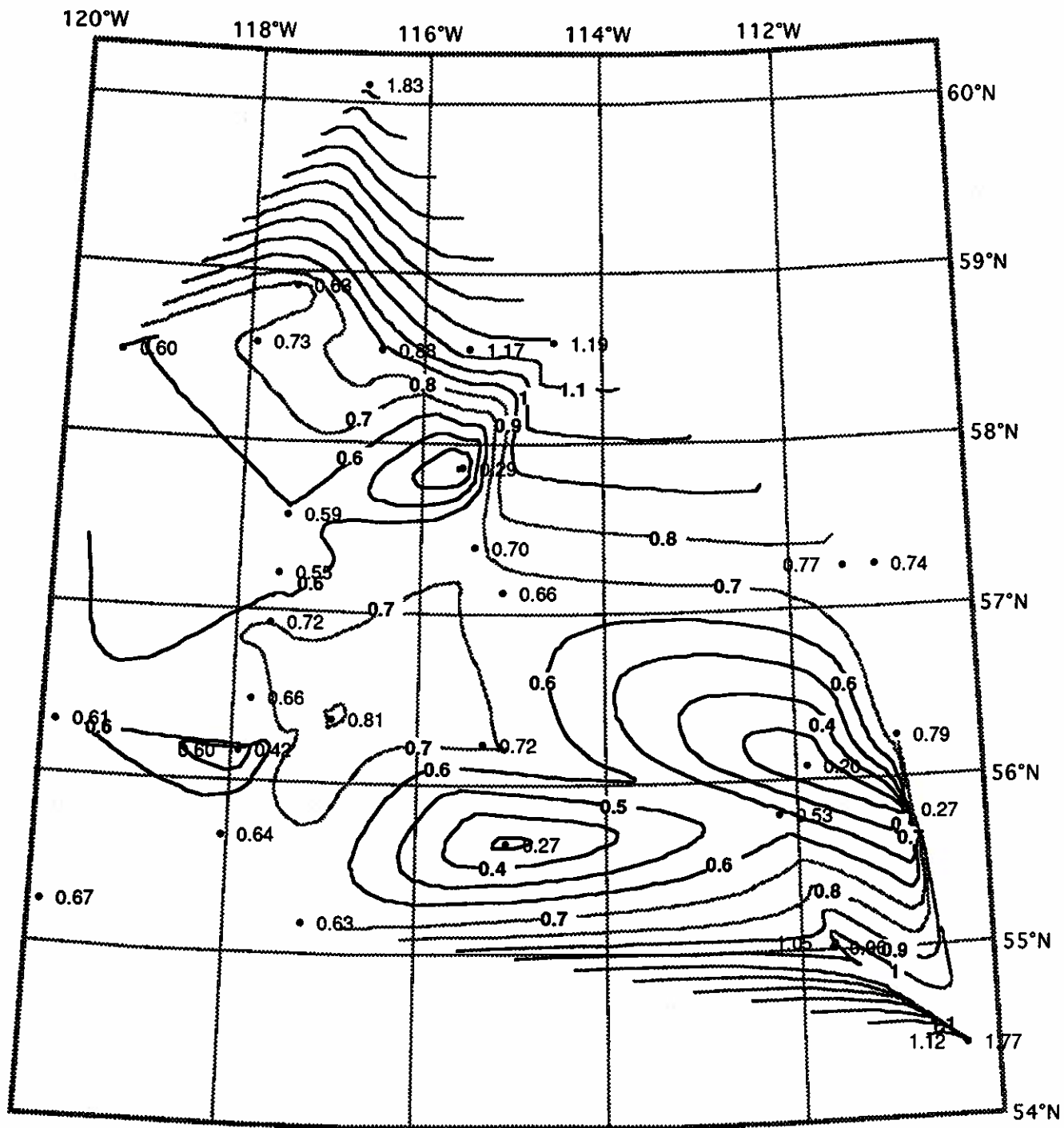


Figure 3.4o. Concentration of magnesium in ppm. Analyses by AA.

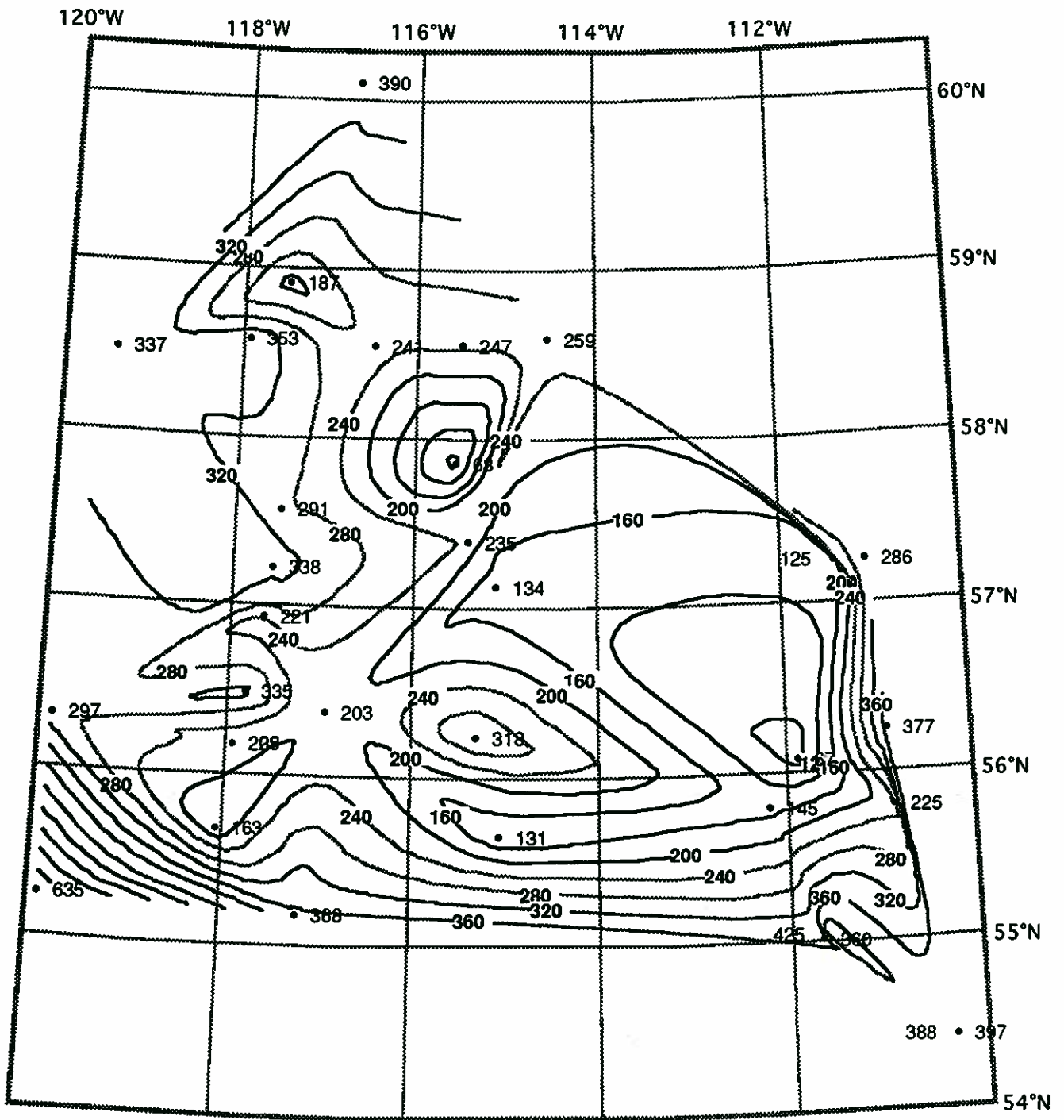


Figure 3.4p. Concentration of manganese in ppm. Analyses by AA.

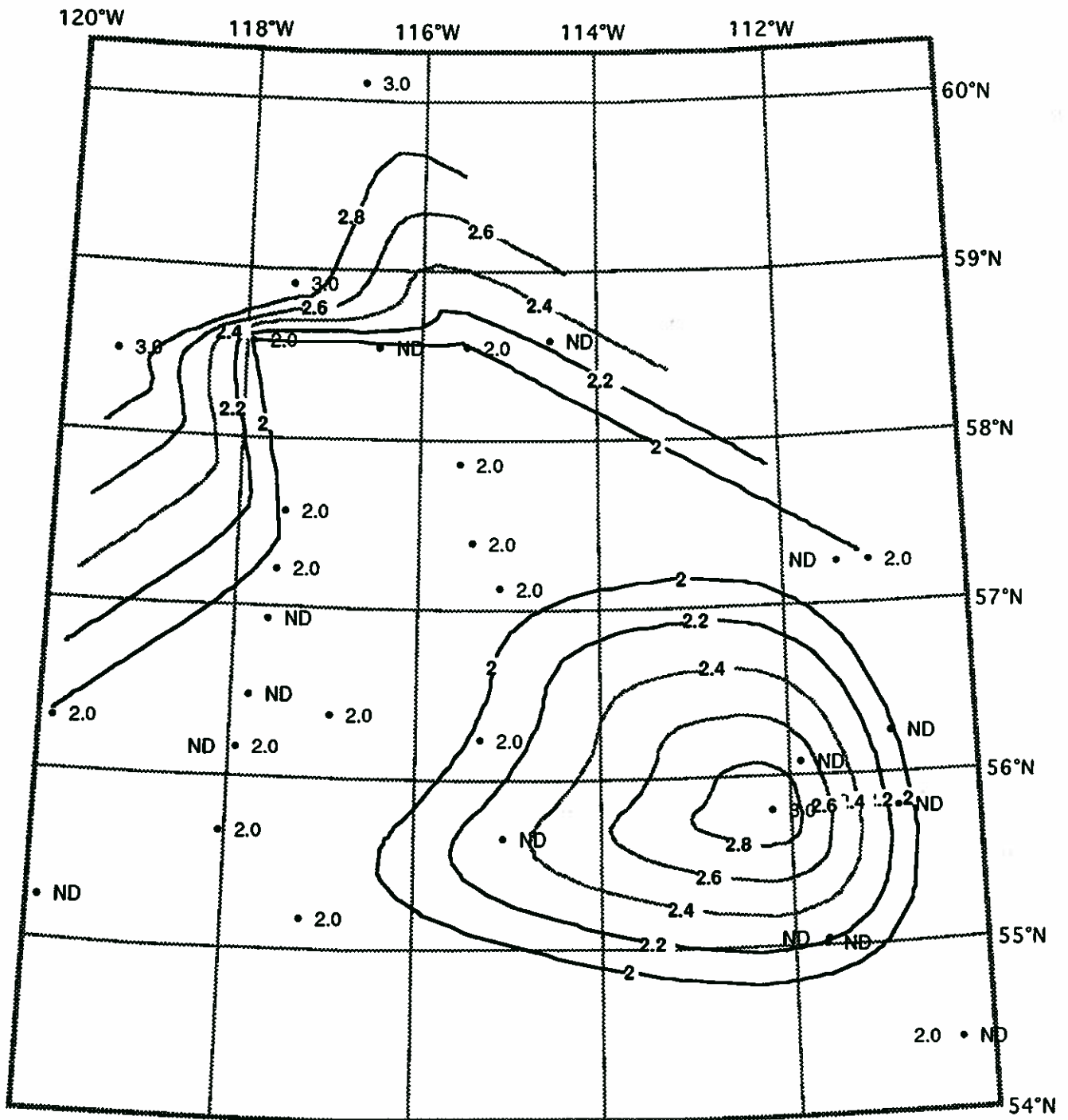


Figure 3.4q. Concentration of molybdenum in ppm. Analyses by AA.

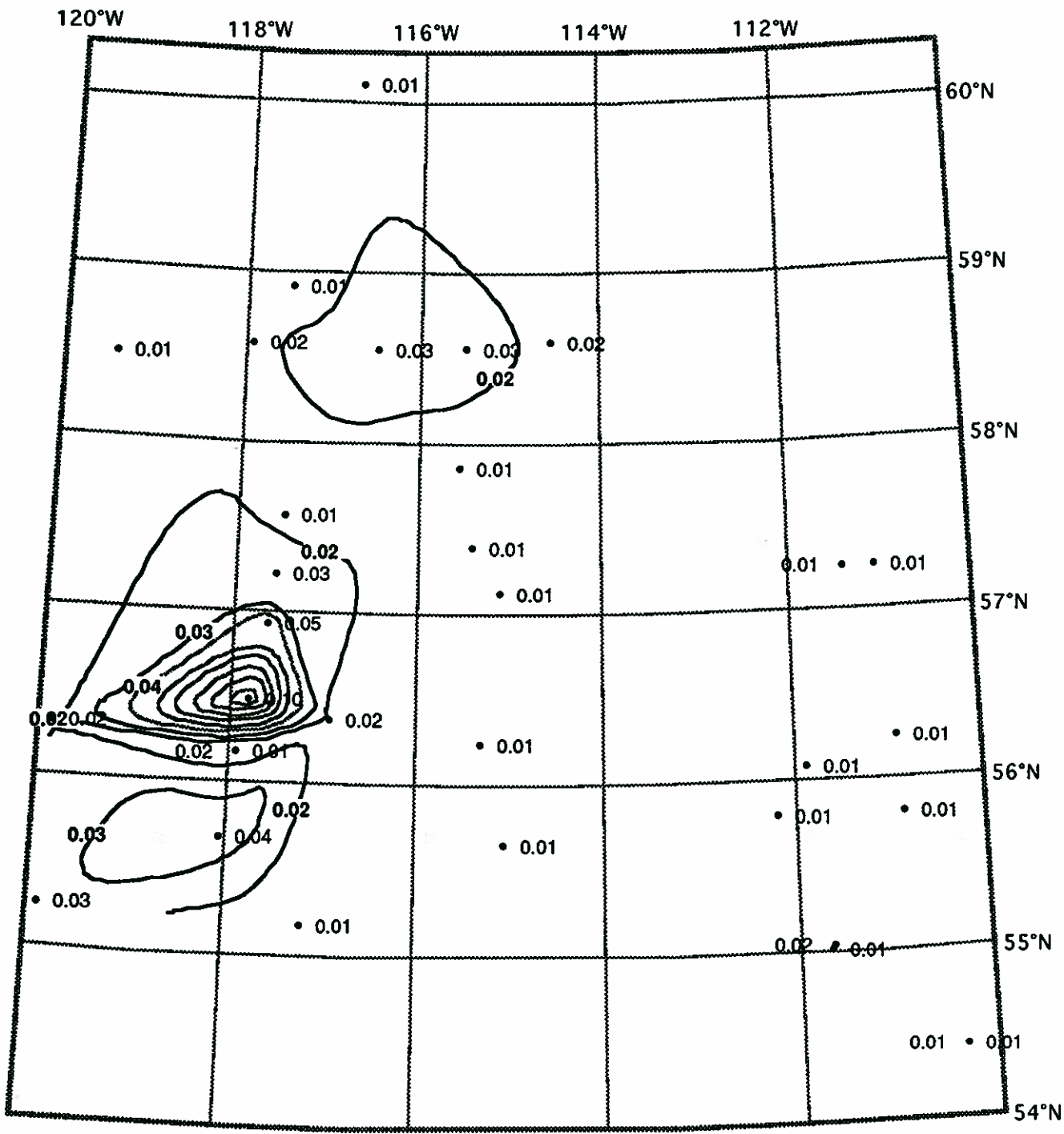


Figure 3.4r. Concentration of sodium in percent. Analyses by ICP.

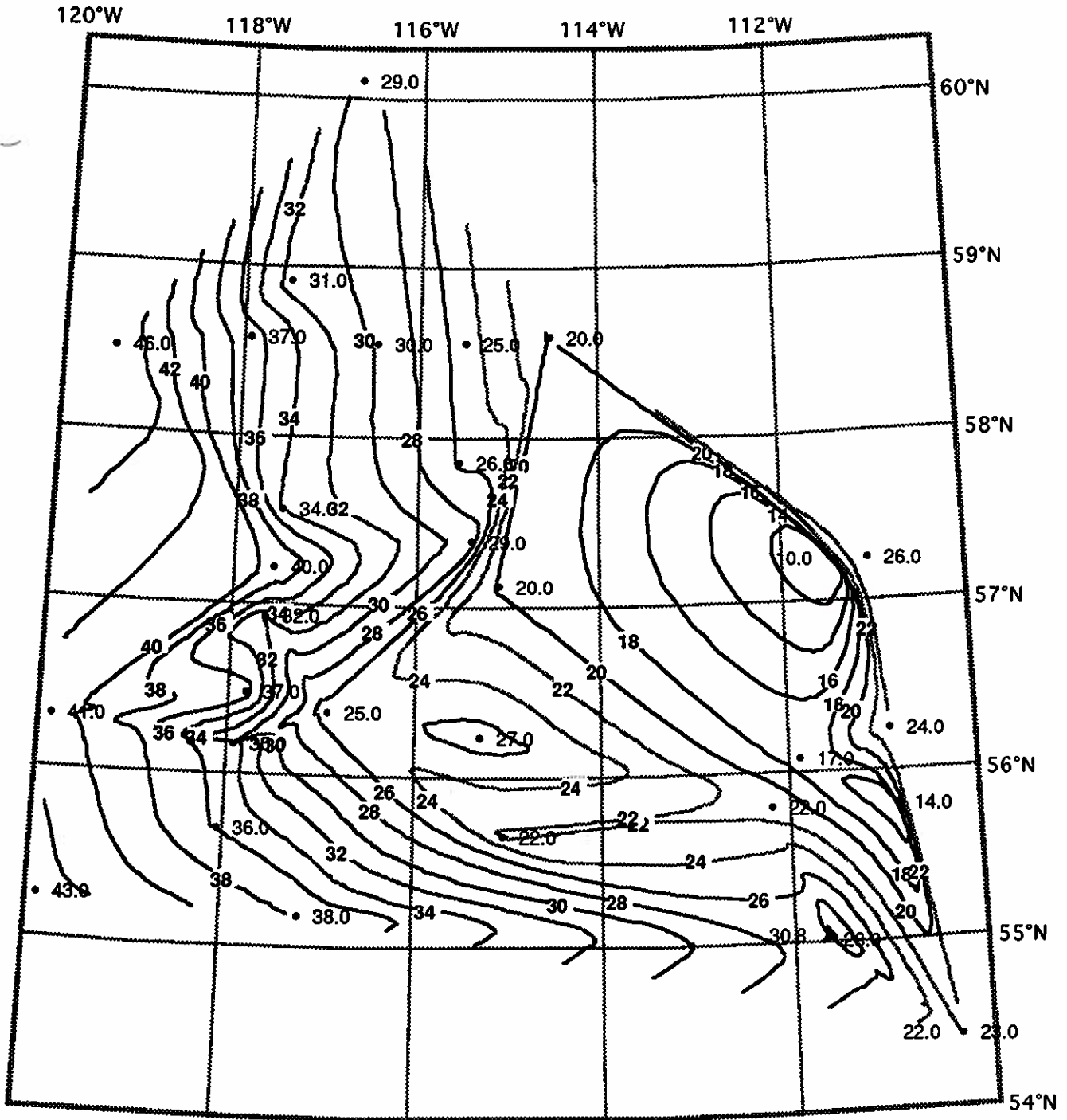


Figure 3.4s. Concentration of nickel in ppm. Analyses by AA.

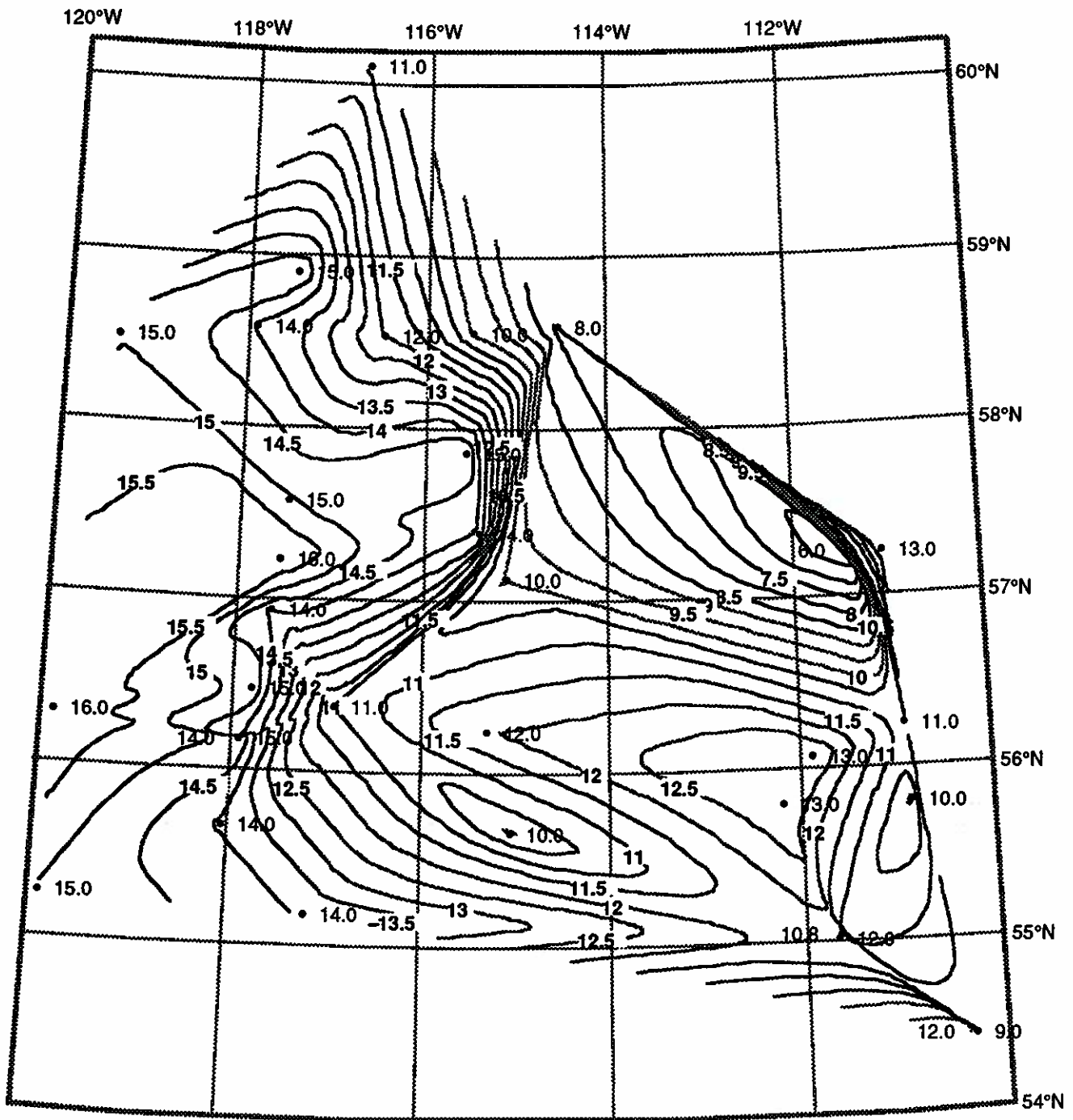


Figure 3.4t. Concentration of lead in ppm. Analyses by AA.

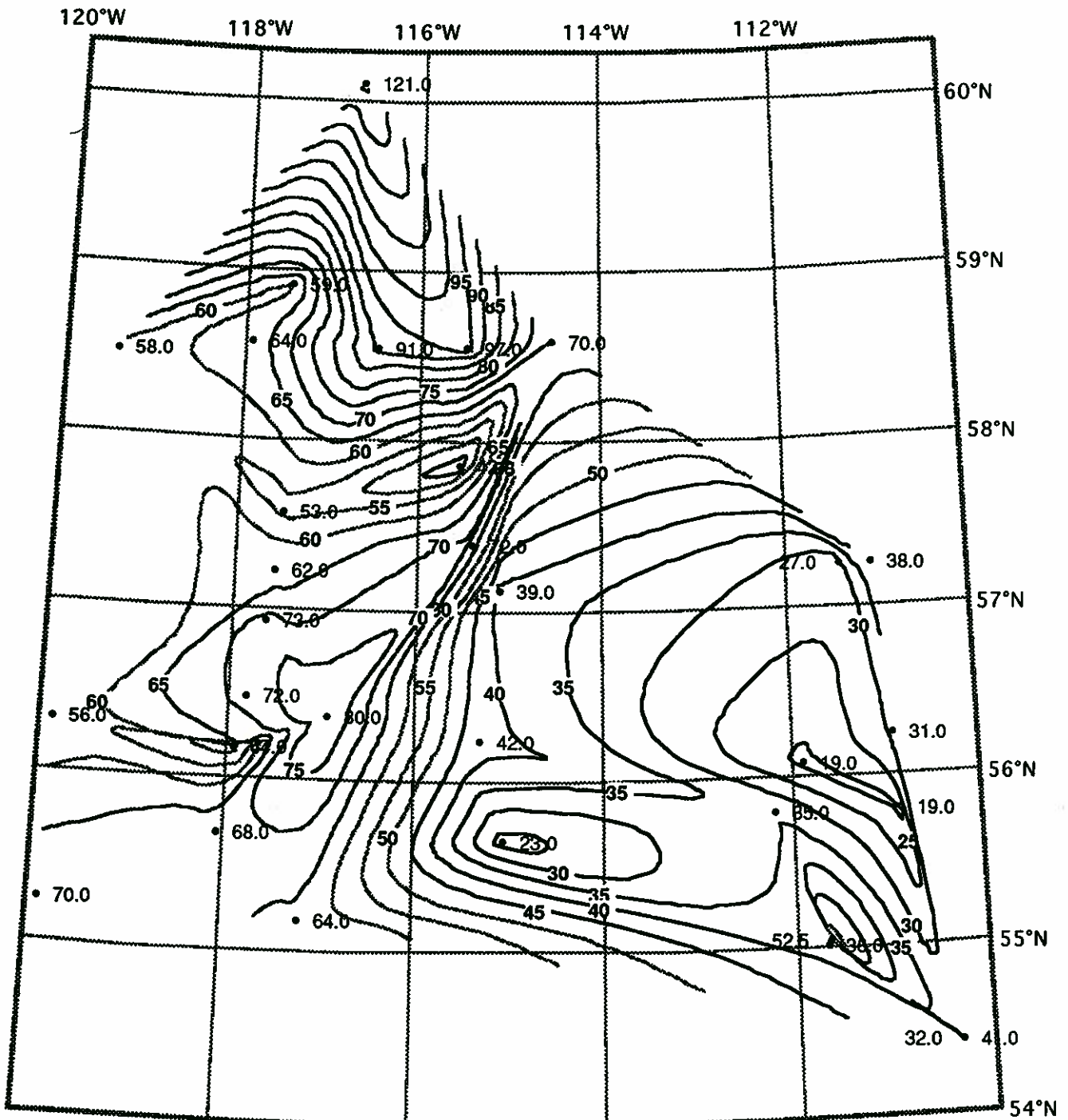


Figure 3.4u. Concentration of strontium in ppm. Analyses by ICP.

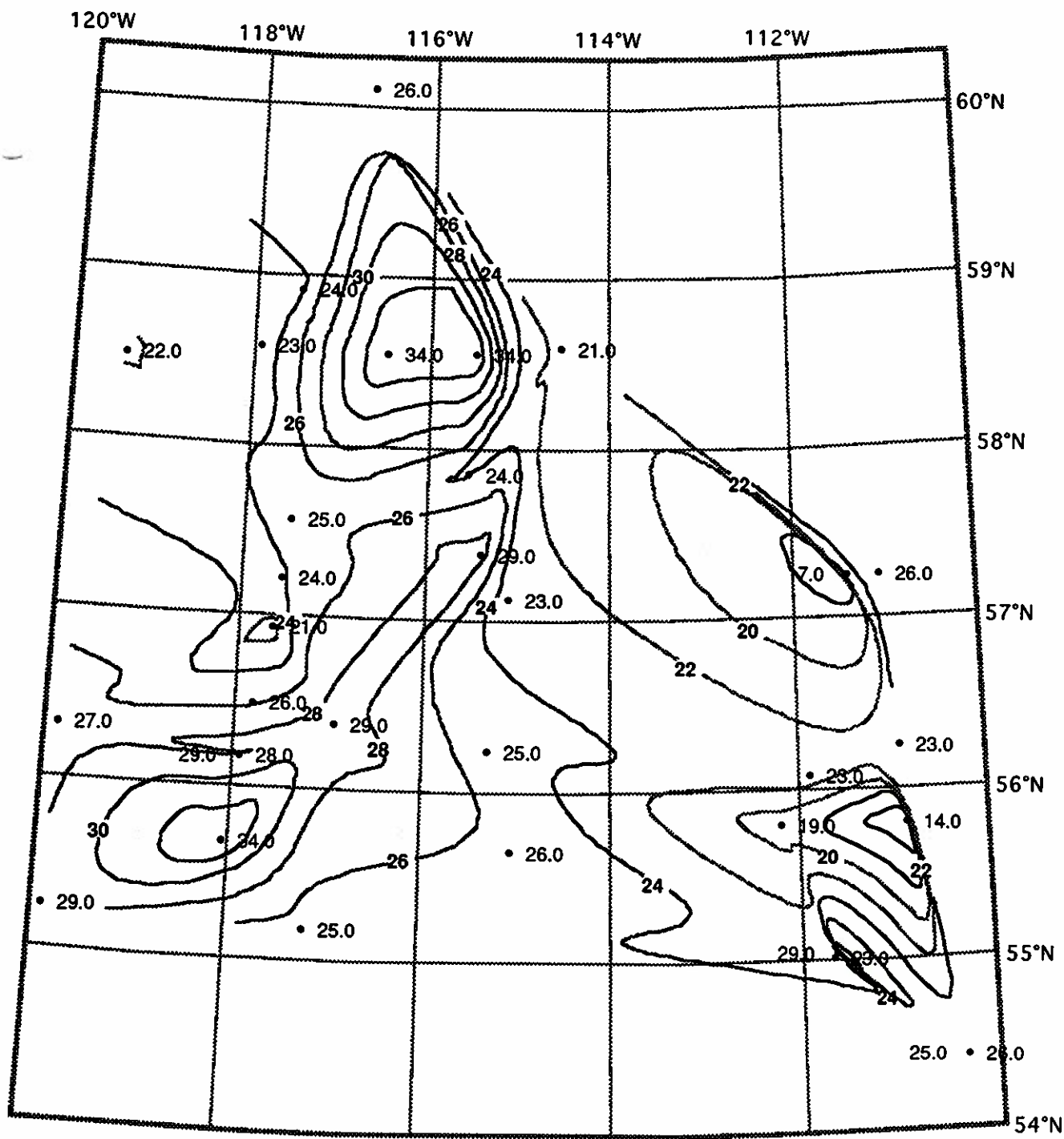


Figure 3.4v. Concentration of vanadium in ppm. Analyses by AA.

APPENDIX A

**DATA FROM ELECTRON PROBE ANALYSES
FOR MINERAL GRAINS FROM TILL**

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 13 Comment : 1/1
 Stage : X= 28.529 Y= 37.109 Z= 10.699
 Dated on Mar 18 17:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.993E-08	118.0	24.5	19.5	1.71
2 Mg	107.930	1.993E-08	-4.2	21.1	17.4	100.00 ?
3 Ca	107.963	1.993E-08	3.3	15.5	12.9	26.97
4 Al	91.004	1.993E-08	54.3	65.6	40.9	4.39
5 Si	77.720	1.993E-08	27197.9	203.9	95.8	0.44
6 Na	129.948	1.993E-08	-1.1	12.9	9.4	100.00 ?
7 Ti	88.392	1.993E-08	-1.4	30.1	22.7	100.00 ?
8 Cr	158.287	1.993E-08	-0.5	13.7	12.3	100.00 ?
9 Mn	145.184	1.993E-08	-4.2	20.2	18.3	100.00 ?
10 Zn	98.703	1.993E-08	-2.9	51.4	44.5	100.00 ?
11 K	120.232	1.993E-08	-1.0	9.8	12.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.897	0.0918	0.818	1.0976	1.0916	1.0055	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.017	0.0022	0.015	1.1267	1.0352	1.0579	1.0288
Al2O3	0.200	0.0288	0.250	0.7996	1.0131	0.8163	0.9669
SiO2	97.590	11.9314	111.371	0.8763	1.0114	0.8654	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	98.704	12.0542	112.453	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 14 Comment : 1/2
 Stage : X= 69.246 Y= 79.252 Z= 10.491
 Dated on Mar 19 11:52 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.137E-08	2559.8	31.2	32.2	0.45
2 Mg	107.942	2.137E-08	1556.3	31.9	16.7	0.46
3 Ca	107.967	2.137E-08	2592.7	22.4	18.4	0.45
4 Al	91.015	2.137E-08	2353.1	83.2	38.3	0.47
5 Si	77.725	2.137E-08	10216.7	139.2	73.7	0.45
6 Na	129.960	2.137E-08	111.1	10.5	7.3	1.62
7 Ti	88.424	2.137E-08	279.2	43.8	33.0	1.10
8 Cr	158.287	2.137E-08	1.5	19.3	17.8	67.72 ?
9 Mn	145.203	2.137E-08	36.7	29.0	22.7	4.10
10 Zn	98.703	2.137E-08	-1.9	64.2	54.7	100.00 ?
11 K	120.226	2.137E-08	180.6	13.7	85.3	1.71

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	18.016	2.3519	16.692	1.0793	1.0647	1.0137	1.0000
MgO	10.920	2.5409	7.803	1.3994	0.9910	1.3992	1.0093
CaO	11.600	1.9401	10.775	1.0765	1.0117	1.0396	1.0235
Al2O3	10.599	1.9501	10.083	1.0512	0.9910	1.0705	0.9909
SiO2	43.527	6.7942	38.852	1.1203	0.9893	1.1317	1.0006
Na2O	1.252	0.3790	1.171	1.0692	1.0760	0.9975	0.9961
TiO2	1.444	0.1696	1.251	1.1543	1.0668	1.0516	1.0290
Cr2O3	0.013	0.0016	0.012	1.0509	1.0460	1.0277	0.9776
MnO	0.273	0.0362	0.265	1.0317	1.0688	0.9652	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.866	0.1725	0.895	0.9673	0.9890	0.9950	0.9831
Total	98.510	16.3361	87.801	Total O =	24.0	Iteration =	5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 15 Comment : 1/3
 Stage : X= 68.534 Y= 79.365 Z= 10.499
 Dated on Mar 19 12:11 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.145E-08	2741.3	32.7	28.6	0.45
2 Mg	107.942	2.145E-08	1473.5	28.4	17.8	0.46
3 Ca	107.967	2.145E-08	2592.1	23.0	19.4	0.45
4 Al	91.015	2.145E-08	2234.7	87.1	36.6	0.47
5 Si	77.725	2.145E-08	10178.0	140.3	79.1	0.45
6 Na	129.960	2.145E-08	97.7	11.2	8.4	1.75
7 Ti	88.424	2.145E-08	238.4	40.5	32.9	1.20
8 Cr	158.287	2.145E-08	-3.2	19.7	16.7	100.00 ?
9 Mn	145.203	2.145E-08	71.4	28.5	23.7	2.48
10 Zn	98.703	2.145E-08	1.7	72.8	53.8	142.27 ?
11 K	120.226	2.145E-08	227.0	14.0	97.2	1.52

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	19.195	2.5305	17.810	1.0778	1.0634	1.0136	1.0000
MgO	10.434	2.4517	7.361	1.4175	0.9899	1.4187	1.0094
CaO	11.548	1.9504	10.733	1.0759	1.0106	1.0404	1.0233
Al2O3	10.077	1.8723	9.540	1.0563	0.9899	1.0768	0.9910
SiO2	43.191	6.8082	38.560	1.1201	0.9882	1.1328	1.0006
Na2O	1.118	0.3417	1.026	1.0894	1.0748	1.0173	0.9963
TiO2	1.226	0.1454	1.064	1.1520	1.0655	1.0519	1.0278
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.530	0.0707	0.514	1.0303	1.0675	0.9651	1.0000
ZnO	0.013	0.0015	0.012	1.1262	1.1119	1.0129	1.0000
K2O	1.083	0.2178	1.121	0.9660	0.9878	0.9948	0.9830
Total	98.415	16.3901	87.740	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 16 Comment : 1/4
 Stage : X= 69.781 Y= 80.243 Z= 10.487
 Dated on Mar 19 12:17 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.146E-08	3002.8	33.2	31.5	0.45
2 Mg	107.942	2.146E-08	1160.9	30.3	15.9	0.47
3 Ca	107.967	2.146E-08	2503.7	23.1	17.5	0.45
4 Al	91.015	2.146E-08	2550.8	84.8	38.7	0.46
5 Si	77.725	2.146E-08	9723.4	147.1	83.4	0.45
6 Na	129.960	2.146E-08	111.1	9.5	8.4	1.62
7 Ti	88.424	2.146E-08	304.3	41.3	30.3	1.03
8 Cr	158.287	2.146E-08	-1.2	20.2	17.3	100.00 ?
9 Mn	145.203	2.146E-08	66.8	28.6	22.7	2.59
10 Zn	98.703	2.146E-08	0.1	67.4	57.4	2691.95 ?
11 K	120.226	2.146E-08	306.2	13.1	94.9	1.21

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	20.973	2.8025	19.499	1.0756	1.0609	1.0138	1.0000
MgO	8.385	1.9971	5.796	1.4466	0.9878	1.4508	1.0094
CaO	11.132	1.9058	10.362	1.0743	1.0084	1.0417	1.0227
Al2O3	11.467	2.1596	10.884	1.0536	0.9878	1.0758	0.9914
SiO2	41.507	6.6318	36.821	1.1273	0.9862	1.1424	1.0006
Na2O	1.301	0.4032	1.166	1.1163	1.0726	1.0443	0.9966
TiO2	1.559	0.1873	1.358	1.1477	1.0632	1.0517	1.0265
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.495	0.0669	0.481	1.0282	1.0651	0.9654	1.0000
ZnO	0.001	0.0001	0.001	1.1249	1.1091	1.0142	1.0000
K2O	1.457	0.2969	1.512	0.9636	0.9857	0.9942	0.9832
Total	98.277	16.4512	87.880	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 17 Comment : 1/5
 Stage : X= 69.296 Y= 80.323 Z= 10.492
 Dated on Mar 19 12:24 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.147E-08	981.5	25.5	23.7	0.52
2 Mg	107.942	2.147E-08	1220.9	26.4	15.2	0.46
3 Ca	107.967	2.147E-08	228.3	18.7	14.9	1.12
4 Al	91.015	2.147E-08	7897.4	162.3	37.0	0.45
5 Si	77.725	2.147E-08	7862.1	106.1	57.2	0.45
6 Na	129.960	2.147E-08	177.8	10.8	8.6	1.25
7 Ti	88.424	2.147E-08	157.6	34.1	25.7	1.50
8 Cr	158.287	2.147E-08	2.8	15.7	13.6	31.47
9 Mn	145.203	2.147E-08	3.0	20.7	18.2	33.57 ?
10 Zn	98.703	2.147E-08	1.3	51.6	45.9	151.27 ?
11 K	120.226	2.147E-08	-2.9	10.1	35.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	6.886	0.9287	6.371	1.0810	1.0753	1.0053	1.0000
MgO	7.336	1.7635	6.093	1.2040	0.9989	1.2009	1.0037
CaO	1.035	0.1788	0.944	1.0959	1.0204	1.0466	1.0261
Al2O3	31.393	5.9670	33.682	0.9321	0.9989	0.9409	0.9917
SiO2	36.338	5.8597	29.758	1.2211	0.9972	1.2231	1.0011
Na2O	1.626	0.5083	1.866	0.8712	1.0846	0.8081	0.9939
TiO2	0.807	0.0978	0.703	1.1473	1.0763	1.0293	1.0356
Cr2O3	0.026	0.0033	0.024	1.0647	1.0558	1.0137	0.9948
MnO	0.023	0.0031	0.022	1.0306	1.0792	0.9550	1.0000
ZnO	0.010	0.0012	0.009	1.1280	1.1262	1.0016	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	85.480	15.3114	79.472	Total O =	24.0	Iteration =	6

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 18 Comment : 1/6
 Stage : X= 28.450 Y= 38.234 Z= 10.697
 Dated on Mar 18 17:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.002E-08	9723.6	46.0	40.8	0.45
2 Mg	107.930	2.002E-08	26.3	21.8	15.6	4.80
3 Ca	107.963	2.002E-08	28.1	27.7	21.1	4.98
4 Al	91.004	2.002E-08	215.0	61.9	38.2	1.42
5 Si	77.720	2.002E-08	365.1	126.4	84.0	1.32
6 Na	129.948	2.002E-08	-4.6	11.1	13.0	100.00 ?
7 Ti	88.392	2.002E-08	1.5	50.9	41.0	118.22 ?
8 Cr	158.287	2.002E-08	-3.9	24.6	23.1	100.00 ?
9 Mn	145.184	2.002E-08	203.4	37.0	26.3	1.29
10 Zn	98.703	2.002E-08	1.2	81.7	71.0	241.94 ?
11 K	120.232	2.002E-08	-123.1	16.2	295.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	66.562	20.8920	67.064	0.9925	0.9909	1.0016	1.0000
MgO	0.323	0.1805	0.139	2.3231	0.9294	2.4639	1.0145
CaO	0.124	0.0499	0.126	0.9828	0.9469	1.0342	1.0036
Al2O3	1.404	0.6209	0.984	1.4260	0.9295	1.5347	0.9996
SiO2	1.957	0.7346	1.488	1.3154	0.9280	1.4158	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.007	0.0020	0.007	0.9682	0.9969	1.0204	0.9518
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.480	0.4704	1.563	0.9466	0.9959	0.9505	1.0000
ZnO	0.009	0.0026	0.009	1.0890	1.0300	1.0573	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	71.866	22.9529	71.381	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 19 Comment : 1/7
 Stage : X= 27.974 Y= 38.842 Z= 10.697
 Dated on Mar 18 17:54 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	8734.1	41.0	42.1	0.45
2 Mg	107.930	2.003E-08	90.2	20.7	14.0	1.96
3 Ca	107.963	2.003E-08	132.9	27.2	22.0	1.61
4 Al	91.004	2.003E-08	225.4	59.5	34.9	1.35
5 Si	77.720	2.003E-08	740.8	117.8	87.2	0.76
6 Na	129.948	2.003E-08	-2.9	8.1	12.6	100.00 ?
7 Ti	88.392	2.003E-08	7.4	49.4	45.8	25.78
8 Cr	158.287	2.003E-08	-4.6	26.5	22.7	100.00 ?
9 Mn	145.184	2.003E-08	655.2	33.2	27.5	0.65
10 Zn	98.703	2.003E-08	12.9	80.8	68.4	21.62
11 K	120.232	2.003E-08	-130.3	17.1	288.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	60.027	17.9740	60.210	0.9970	0.9950	1.0021	0.9999
MgO	1.077	0.5746	0.476	2.2625	0.9327	2.3913	1.0144
CaO	0.588	0.2257	0.596	0.9869	0.9504	1.0339	1.0043
Al2O3	1.449	0.6113	1.032	1.4043	0.9329	1.5065	0.9992
SiO2	3.926	1.4057	3.018	1.3008	0.9313	1.3952	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.034	0.0092	0.035	0.9767	1.0007	1.0217	0.9553
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	4.785	1.4513	5.032	0.9509	0.9999	0.9511	0.9999
ZnO	0.104	0.0275	0.095	1.0908	1.0346	1.0543	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	71.990	22.2794	70.494	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 20 Comment : 1/8
 Stage : X= 69.001 Y= 81.302 Z= 10.495
 Dated on Mar 19 13:22 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.145E-08	1580.8	33.3	26.8	0.46
2 Mg	107.942	2.145E-08	2633.7	34.3	18.3	0.45
3 Ca	107.967	2.145E-08	2659.4	21.5	17.6	0.45
4 Al	91.015	2.145E-08	1840.9	76.2	32.0	0.47
5 Si	77.725	2.145E-08	11247.6	138.5	71.8	0.45
6 Na	129.960	2.145E-08	105.6	9.8	9.1	1.67
7 Ti	88.424	2.145E-08	78.7	37.3	30.3	2.53
8 Cr	158.287	2.145E-08	30.3	17.9	16.5	4.20
9 Mn	145.203	2.145E-08	37.0	25.6	20.4	3.90
10 Zn	98.703	2.145E-08	-2.3	58.8	55.9	100.00 ?
11 K	120.226	2.145E-08	95.8	13.0	55.5	2.32

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	11.163	1.4099	10.270	1.0869	1.0727	1.0133	1.0000
MgO	17.032	3.8346	13.156	1.2947	0.9975	1.2863	1.0091
CaO	11.953	1.9343	11.012	1.0855	1.0187	1.0388	1.0258
Al2O3	8.259	1.4702	7.859	1.0509	0.9975	1.0644	0.9898
SiO2	47.134	7.1184	42.613	1.1061	0.9959	1.1100	1.0006
Na2O	1.071	0.3136	1.109	0.9660	1.0831	0.8965	0.9949
TiO2	0.411	0.0466	0.351	1.1687	1.0743	1.0522	1.0339
Cr2O3	0.275	0.0329	0.257	1.0724	1.0535	1.0264	0.9917
MnO	0.277	0.0354	0.266	1.0382	1.0767	0.9643	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.462	0.0889	0.473	0.9759	0.9957	0.9963	0.9838
Total	98.037	16.2847	87.365	Total O =	24.0	Iteration =	5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 21 Comment : 1/9
 Stage : X= 26.983 Y= 38.272 Z= 10.700
 Dated on Mar 18 18:05 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.005E-08	1700.9	25.5	23.4	0.46
2 Mg	107.930	2.005E-08	390.9	20.0	13.5	0.83
3 Ca	107.963	2.005E-08	19.4	18.2	13.0	5.80
4 Al	91.004	2.005E-08	7569.9	153.5	33.3	0.45
5 Si	77.720	2.005E-08	7044.6	105.7	57.7	0.45
6 Na	129.948	2.005E-08	153.7	9.3	8.4	1.35
7 Ti	88.392	2.005E-08	20.2	33.0	26.7	7.27
8 Cr	158.287	2.005E-08	-1.8	15.4	13.2	100.00 ?
9 Mn	145.184	2.005E-08	8.4	20.7	17.4	12.77
10 Zn	98.703	2.005E-08	8.2	51.5	47.1	24.02
11 K	120.232	2.005E-08	-19.1	11.1	57.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	12.571	1.7493	11.713	1.0732	1.0693	1.0038	0.9999
MgO	2.674	0.6632	2.061	1.2973	0.9940	1.3001	1.0039
CaO	0.095	0.0169	0.087	1.0905	1.0152	1.0479	1.0250
Al2O3	32.349	6.3441	34.608	0.9347	0.9940	0.9479	0.9921
SiO2	35.278	5.8695	28.674	1.2303	0.9923	1.2384	1.0011
Na2O	1.679	0.5415	1.744	0.9627	1.0793	0.8964	0.9951
TiO2	0.108	0.0135	0.095	1.1314	1.0707	1.0273	1.0286
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.066	0.0093	0.065	1.0230	1.0733	0.9532	0.9999
ZnO	0.068	0.0084	0.060	1.1257	1.1193	1.0058	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 84.888 15.2157 79.107 Total O = 24.0 Iteration = 6

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 22 Comment : 1/10
 Stage : X= 26.598 Y= 38.313 Z= 10.700
 Dated on Mar 18 18:11 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.005E-08	1241.9	25.1	22.6	0.46
2 Mg	107.930	2.005E-08	636.0	23.9	15.0	0.65
3 Ca	107.963	2.005E-08	63.4	16.0	12.3	2.39
4 Al	91.004	2.005E-08	7924.6	149.2	36.0	0.45
5 Si	77.720	2.005E-08	7166.3	97.3	56.4	0.45
6 Na	129.948	2.005E-08	164.6	8.4	7.5	1.29
7 Ti	88.392	2.005E-08	30.4	33.7	25.4	5.08
8 Cr	158.287	2.005E-08	-4.0	13.8	14.2	100.00 ?
9 Mn	145.184	2.005E-08	1.8	19.6	16.8	54.28 ?
10 Zn	98.703	2.005E-08	14.8	45.2	40.1	12.19
11 K	120.232	2.005E-08	-13.4	10.3	41.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	9.211	1.2578	8.552	1.0770	1.0729	1.0041	0.9997
MgO	4.164	1.0136	3.353	1.2419	0.9969	1.2417	1.0033
CaO	0.311	0.0544	0.284	1.0950	1.0183	1.0480	1.0260
Al2O3	33.368	6.4217	36.230	0.9210	0.9969	0.9315	0.9919
SiO2	35.881	5.8583	29.169	1.2301	0.9952	1.2346	1.0011
Na2O	1.693	0.5361	1.867	0.9068	1.0825	0.8423	0.9945
TiO2	0.164	0.0201	0.144	1.1402	1.0740	1.0280	1.0327
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.014	0.0020	0.014	1.0266	1.0768	0.9536	0.9998
ZnO	0.123	0.0149	0.109	1.1269	1.1234	1.0031	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 84.929 15.1788 79.722 Total O = 24.0 Iteration = 6

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 23 Comment : 1/11
 Stage : X= 68.089 Y= 80.924 Z= 10.502
 Dated on Mar 19 13:39 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.150E-08	2337.4	32.3	28.5	0.45
2 Mg	107.942	2.150E-08	1772.4	30.3	17.7	0.46
3 Ca	107.967	2.150E-08	2592.6	23.4	17.6	0.45
4 Al	91.015	2.150E-08	2177.4	76.6	34.6	0.47
5 Si	77.725	2.150E-08	10487.9	155.4	79.9	0.45
6 Na	129.960	2.150E-08	115.7	10.5	8.1	1.58
7 Ti	88.424	2.150E-08	283.0	41.3	33.0	1.08
8 Cr	158.287	2.150E-08	2.0	20.1	15.8	47.51 ?
9 Mn	145.203	2.150E-08	35.5	27.0	21.9	4.12
10 Zn	98.703	2.150E-08	-2.8	64.6	60.9	100.00 ?
11 K	120.226	2.150E-08	214.6	13.4	77.6	1.45

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	16.379	2.1324	15.150	1.0811	1.0663	1.0139	1.0000
MgO	12.167	2.8235	8.833	1.3775	0.9923	1.3754	1.0093
CaO	11.557	1.9277	10.710	1.0791	1.0131	1.0403	1.0239
Al2O3	9.747	1.7885	9.273	1.0511	0.9923	1.0693	0.9906
SiO2	44.199	6.8804	39.642	1.1150	0.9907	1.1248	1.0006
Na2O	1.269	0.3830	1.212	1.0465	1.0774	0.9753	0.9959
TiO2	1.459	0.1709	1.261	1.1578	1.0683	1.0520	1.0303
Cr2O3	0.018	0.0023	0.017	1.0563	1.0475	1.0279	0.9810
MnO	0.264	0.0348	0.255	1.0334	1.0704	0.9654	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	1.024	0.2034	1.057	0.9688	0.9903	0.9949	0.9833
Total	98.083	16.3466	87.412	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 1 Comment : 2/1
 Stage : X= 26.101 Y= 80.520 Z= 10.827
 Dated on Mar 17 18:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.180E-08	-2.6	24.5	20.6	100.00 ?
2 Mg	107.937	2.180E-08	5738.4	52.3	19.8	0.45
3 Ca	107.987	2.180E-08	-2.3	16.6	13.0	100.00 ?
4 Al	90.993	2.180E-08	17299.2	299.9	41.1	0.45
5 Si	77.711	2.180E-08	12.8	69.2	45.3	17.82
6 Na	129.948	2.180E-08	-4.0	10.4	7.6	100.00 ?
7 Ti	88.392	2.180E-08	-3.2	32.0	24.5	100.00 ?
8 Cr	158.287	2.180E-08	-0.8	15.4	11.3	100.00 ?
9 Mn	145.184	2.180E-08	15.5	22.6	16.4	10.65
10 Zn	98.703	2.180E-08	-4.4	49.8	44.1	100.00 ?
11 K	120.235	2.180E-08	-2.1	10.7	8.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MgO	28.357	5.9549	28.315	1.0015	0.9999	1.0016	1.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	72.313	12.0072	72.397	0.9988	0.9999	0.9990	1.0000
SiO2	0.074	0.0104	0.048	1.5494	0.9983	1.5503	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.113	0.0134	0.109	1.0286	1.0814	0.9512	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.857	17.9860	100.870	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 2 Comment : 2/2 host
 Stage : X= 70.388 Y= 78.836 Z= 10.582
 Dated on Mar 17 15:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.026E-08	3147.0	40.1	33.1	0.45
2 Mg	107.937	2.026E-08	6.3	21.5	15.8	16.46
3 Ca	107.987	2.026E-08	45.4	28.7	20.6	3.43
4 Al	90.993	2.026E-08	81.3	53.3	39.2	2.85
5 Si	77.711	2.026E-08	221.3	120.3	82.4	1.95
6 Na	129.948	2.026E-08	-3.3	12.4	9.3	100.00 ?
7 Ti	88.392	2.026E-08	13551.5	59.7	44.5	0.45
8 Cr	158.287	2.026E-08	-3.0	21.6	19.4	100.00 ?
9 Mn	145.184	2.026E-08	190.8	32.8	25.8	1.85
10 Zn	98.703	2.026E-08	0.7	78.1	70.5	377.53 ?
11 K	120.235	2.026E-08	-20.0	17.2	97.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K(%)	ZAF	Z	A	F
FeO	22.921	3.7609	21.448	1.0687	1.0091	1.0591	1.0000
MgO	0.061	0.0178	0.034	1.8078	0.9433	1.8887	1.0147
CaO	0.186	0.0391	0.205	0.9071	0.9618	0.9963	0.9466
Al2O3	0.425	0.0983	0.366	1.1619	0.9433	1.2325	0.9993
SiO2	0.990	0.1942	0.890	1.1122	0.9418	1.1809	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	65.728	9.6982	63.279	1.0387	1.0133	0.9984	1.0267
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.498	0.2490	1.448	1.0343	1.0136	1.0204	1.0000
ZnO	0.006	0.0008	0.005	1.0878	1.0518	1.0343	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.815	14.0584	87.675	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 3 Comment : 2/2 inclusion
 Stage : X= 70.553 Y= 78.808 Z= 10.580
 Dated on Mar 17 15:16 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.024E-08	20.9	23.5	19.7	6.06
2 Mg	107.937	2.024E-08	-6.4	20.3	17.5	100.00 ?
3 Ca	107.987	2.024E-08	-1.8	15.9	12.7	100.00 ?
4 Al	90.993	2.024E-08	-6.7	65.7	42.7	100.00 ?
5 Si	77.711	2.024E-08	28550.7	205.7	108.2	0.44
6 Na	129.948	2.024E-08	-4.4	12.6	11.1	100.00 ?
7 Ti	88.392	2.024E-08	66.9	32.1	24.2	2.67
8 Cr	158.287	2.024E-08	-4.6	15.8	13.3	100.00 ?
9 Mn	145.184	2.024E-08	-8.8	20.6	17.0	100.00 ?
10 Zn	98.703	2.024E-08	-3.1	51.9	49.3	100.00 ?
11 K	120.235	2.024E-08	-4.4	10.4	8.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K(%)	ZAF	Z	A	F
FeO	0.157	0.0156	0.143	1.0984	1.0921	1.0058	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	100.219	11.9592	114.967	0.8717	1.0119	0.8605	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.368	0.0330	0.313	1.1773	1.0926	1.0326	1.0435
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.744	12.0078	115.422	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 4 Comment : 2/3
 Stage : X= 69.520 Y= 79.025 Z= 10.583
 Dated on Mar 17 15:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.024E-08	4586.5	39.0	36.9	0.45
2 Mg	107.937	2.024E-08	9.1	21.2	15.7	11.85
3 Ca	107.987	2.024E-08	10.1	29.4	20.3	12.33
4 Al	90.993	2.024E-08	31.3	58.3	39.1	6.74
5 Si	77.711	2.024E-08	26.0	119.3	78.7	14.03
6 Na	129.948	2.024E-08	-4.4	10.2	8.6	100.00 ?
7 Ti	88.392	2.024E-08	12363.2	56.4	45.9	0.45
8 Cr	158.287	2.024E-08	3.2	23.0	20.5	33.26
9 Mn	145.184	2.024E-08	49.5	32.8	28.2	4.75
10 Zn	98.703	2.024E-08	-2.6	81.2	73.9	100.00 ?
11 K	120.235	2.024E-08	-65.4	17.6	143.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.112	5.6133	31.290	1.0582	1.0055	1.0524	1.0000
MgO	0.091	0.0275	0.048	1.8904	0.9405	1.9807	1.0149
CaO	0.042	0.0091	0.046	0.9166	0.9588	1.0005	0.9555
Al2O3	0.170	0.0406	0.141	1.2040	0.9405	1.2807	0.9996
SiO2	0.120	0.0242	0.105	1.1409	0.9390	1.2148	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.586	9.0836	57.787	1.0311	1.0100	1.0005	1.0204
Cr2O3	0.031	0.0049	0.029	1.0542	0.9892	1.0918	0.9761
MnO	0.385	0.0661	0.376	1.0226	1.0102	1.0123	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.537	14.8694	89.822	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 5 Comment : 2/4
 Stage : X= 69.068 Y= 79.418 Z= 10.583
 Dated on Mar 17 15:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.023E-08	13096.0	53.8	53.4	0.45
2 Mg	107.937	2.023E-08	-3.4	21.4	15.3	100.00 ?
3 Ca	107.987	2.023E-08	-3.8	35.0	27.6	100.00 ?
4 Al	90.993	2.023E-08	13.6	58.2	39.7	14.81
5 Si	77.711	2.023E-08	28.1	144.3	89.6	15.12
6 Na	129.948	2.023E-08	-4.7	10.5	8.8	100.00 ?
7 Ti	88.392	2.023E-08	85.1	64.0	50.9	3.09
8 Cr	158.287	2.023E-08	-0.4	29.4	26.4	100.00 ?
9 Mn	145.184	2.023E-08	17.7	40.4	34.2	12.13
10 Zn	98.703	2.023E-08	-3.4	92.8	84.1	100.00 ?
11 K	120.235	2.023E-08	-165.2	20.0	340.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.296	23.6358	89.386	0.9878	0.9861	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.089	0.0335	0.061	1.4511	0.9255	1.5680	1.0000
SiO2	0.149	0.0478	0.113	1.3205	0.9239	1.4276	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.382	0.0919	0.398	0.9596	0.9923	1.0196	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.127	0.0344	0.135	0.9422	0.9912	0.9506	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.043	23.8435	90.093	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 6 Comment : 2/5
 Stage : X= 68.273 Y= 79.442 Z= 10.583
 Dated on Mar 17 15:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.022E-08	4082.2	41.7	35.6	0.45
2 Mg	107.937	2.022E-08	33.2	21.6	17.0	4.04
3 Ca	107.987	2.022E-08	35.9	30.3	22.8	4.23
4 Al	90.993	2.022E-08	39.7	54.7	35.9	5.20
5 Si	77.711	2.022E-08	112.7	117.6	77.1	3.45
6 Na	129.948	2.022E-08	-2.4	10.7	9.2	100.00 ?
7 Ti	88.392	2.022E-08	12026.1	57.8	43.9	0.45
8 Cr	158.287	2.022E-08	4.1	21.6	20.3	26.47
9 Mn	145.184	2.022E-08	54.9	35.4	24.8	4.37
10 Zn	98.703	2.022E-08	-5.2	80.9	74.5	100.00 ?
11 K	120.235	2.022E-08	-47.7	18.0	112.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.574	5.1752	27.877	1.0609	1.0068	1.0537	1.0000
MgO	0.330	0.1029	0.177	1.8682	0.9416	1.9552	1.0148
CaO	0.149	0.0334	0.163	0.9158	0.9600	0.9998	0.9542
Al2O3	0.214	0.0528	0.179	1.1951	0.9416	1.2698	0.9995
SiO2	0.515	0.1079	0.454	1.1349	0.9400	1.2071	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.173	9.1540	56.267	1.0339	1.0113	1.0003	1.0220
Cr2O3	0.039	0.0064	0.036	1.0608	0.9905	1.0939	0.9791
MnO	0.428	0.0759	0.418	1.0254	1.0114	1.0138	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.422	14.7085	85.571	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 7 Comment : 2/6
 Stage : X= 70.188 Y= 79.228 Z= 10.583
 Dated on Mar 17 15:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.023E-08	13021.5	53.3	48.8	0.45
2 Mg	107.937	2.023E-08	-5.2	23.8	16.6	100.00 ?
3 Ca	107.987	2.023E-08	-1.3	31.2	26.4	100.00 ?
4 Al	90.993	2.023E-08	16.2	60.2	42.5	12.97
5 Si	77.711	2.023E-08	30.4	138.6	85.6	13.48
6 Na	129.948	2.023E-08	-2.0	10.3	8.7	100.00 ?
7 Ti	88.392	2.023E-08	12.5	66.6	48.4	18.12
8 Cr	158.287	2.023E-08	-2.1	31.3	27.9	100.00 ?
9 Mn	145.184	2.023E-08	12.8	42.6	31.8	16.31
10 Zn	98.703	2.023E-08	13.3	92.9	80.6	23.92
11 K	120.235	2.023E-08	-172.0	21.3	352.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.755	23.7567	88.878	0.9874	0.9860	1.0015	0.9999
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.106	0.0405	0.073	1.4530	0.9254	1.5702	1.0000
SiO2	0.162	0.0525	0.123	1.3220	0.9239	1.4293	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.056	0.0137	0.059	0.9592	0.9923	1.0198	0.9479
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.092	0.0251	0.097	0.9418	0.9911	0.9503	0.9999
ZnO	0.105	0.0252	0.097	1.0862	1.0244	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.276	23.9136	89.327	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 8 Comment : 2/7
 Stage : X= 69.796 Y= 79.425 Z= 10.583
 Dated on Mar 17 15:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.022E-08	4461.1	39.0	38.4	0.45
2 Mg	107.937	2.022E-08	1.8	21.2	15.3	55.89 ?
3 Ca	107.987	2.022E-08	14.0	29.2	22.8	9.34
4 Al	90.993	2.022E-08	22.3	55.8	39.6	9.07
5 Si	77.711	2.022E-08	29.0	134.7	82.2	13.73
6 Na	129.948	2.022E-08	-2.0	10.5	8.5	100.00 ?
7 Ti	88.392	2.022E-08	12515.2	62.0	45.2	0.45
8 Cr	158.287	2.022E-08	-0.3	24.8	20.8	100.00 ?
9 Mn	145.184	2.022E-08	78.1	27.6	26.2	3.29
10 Zn	98.703	2.022E-08	5.0	77.4	72.7	55.71 ?
11 K	120.235	2.022E-08	-64.2	17.0	141.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.260	5.4439	30.465	1.0589	1.0056	1.0531	1.0000
MgO	0.018	0.0053	0.009	1.8855	0.9405	1.9754	1.0149
CaO	0.058	0.0125	0.063	0.9154	0.9589	1.0001	0.9546
Al2O3	0.121	0.0288	0.101	1.2008	0.9406	1.2772	0.9996
SiO2	0.133	0.0269	0.117	1.1382	0.9390	1.2119	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.401	9.1658	58.555	1.0315	1.0101	1.0003	1.0209
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.608	0.1040	0.594	1.0234	1.0102	1.0131	1.0000
ZnO	0.039	0.0059	0.036	1.0873	1.0477	1.0378	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.638	14.7930	89.941	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 9 Comment : 2/8
 Stage : X= 69.365 Y= 79.504 Z= 10.583
 Dated on Mar 17 15:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.022E-08	4149.9	41.0	35.4	0.45
2 Mg	107.937	2.022E-08	99.2	21.0	15.7	1.86
3 Ca	107.987	2.022E-08	12.0	28.1	23.0	10.65
4 Al	90.993	2.022E-08	24.2	52.9	38.7	8.15
5 Si	77.711	2.022E-08	26.4	118.6	83.6	14.01
6 Na	129.948	2.022E-08	-1.1	9.1	8.1	100.00 ?
7 Ti	88.392	2.022E-08	12629.8	56.5	45.2	0.45
8 Cr	158.287	2.022E-08	20.7	23.4	20.3	6.14
9 Mn	145.184	2.022E-08	90.1	33.0	26.8	3.04
10 Zn	98.703	2.022E-08	-0.3	79.6	71.1	100.00 ?
11 K	120.235	2.022E-08	-59.6	17.4	131.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.080	5.0376	28.339	1.0615	1.0070	1.0541	1.0000
MgO	0.982	0.2932	0.528	1.8621	0.9417	1.9485	1.0149
CaO	0.050	0.0106	0.054	0.9149	0.9601	0.9994	0.9535
Al2O3	0.131	0.0309	0.109	1.1978	0.9417	1.2725	0.9996
SiO2	0.121	0.0242	0.107	1.1361	0.9401	1.2083	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.081	9.1988	59.092	1.0337	1.0114	0.9999	1.0222
Cr2O3	0.197	0.0312	0.185	1.0624	0.9906	1.0942	0.9802
MnO	0.703	0.1193	0.686	1.0258	1.0116	1.0140	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.345	14.7459	89.099	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 10 Comment : 2/9
 Stage : X= 69.663 Y= 80.061 Z= 10.583
 Dated on Mar 17 15:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.023E-08	12908.3	56.6	55.1	0.45
2 Mg	107.937	2.023E-08	-5.0	23.6	16.4	100.00 ?
3 Ca	107.987	2.023E-08	-6.6	34.4	28.8	100.00 ?
4 Al	90.993	2.023E-08	25.4	56.2	38.1	7.99
5 Si	77.711	2.023E-08	39.8	141.4	84.2	10.48
6 Na	129.948	2.023E-08	-5.4	12.0	8.8	100.00 ?
7 Ti	88.392	2.023E-08	37.7	63.1	51.4	6.32
8 Cr	158.287	2.023E-08	0.2	29.4	25.1	485.02 ?
9 Mn	145.184	2.023E-08	21.4	43.4	33.8	10.37
10 Zn	98.703	2.023E-08	-5.3	95.0	90.5	100.00 ?
11 K	120.235	2.023E-08	-164.2	18.5	339.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.022	23.6416	88.105	0.9877	0.9862	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.166	0.0636	0.114	1.4511	0.9255	1.5678	1.0000
SiO2	0.212	0.0687	0.160	1.3211	0.9240	1.4281	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.169	0.0414	0.176	0.9595	0.9924	1.0197	0.9481
Cr2O3	0.002	0.0004	0.002	0.7679	0.9712	1.0073	0.7850
MnO	0.153	0.0422	0.163	0.9421	0.9912	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.724	23.8579	88.721	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 11 Comment : 2/10
 Stage : X= 69.036 Y= 79.701 Z= 10.583
 Dated on Mar 17 15:59 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.024E-08	13051.8	50.7	53.2	0.45
2 Mg	107.937	2.024E-08	-1.8	21.7	16.8	100.00 ?
3 Ca	107.987	2.024E-08	-2.0	33.0	26.0	100.00 ?
4 Al	90.993	2.024E-08	27.3	58.4	42.0	7.78
5 Si	77.711	2.024E-08	46.6	130.8	91.1	8.76
6 Na	129.948	2.024E-08	-4.5	11.1	7.9	100.00 ?
7 Ti	88.392	2.024E-08	61.6	58.7	48.1	3.89
8 Cr	158.287	2.024E-08	-0.5	32.1	23.9	100.00 ?
9 Mn	145.184	2.024E-08	4.3	38.2	33.2	45.26 ?
10 Zn	98.703	2.024E-08	-7.7	98.4	82.1	100.00 ?
11 K	120.235	2.024E-08	-194.8	22.5	397.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.965	23.5980	89.041	0.9879	0.9863	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.179	0.0676	0.123	1.4505	0.9256	1.5671	1.0000
SiO2	0.248	0.0794	0.187	1.3208	0.9241	1.4276	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.277	0.0667	0.288	0.9599	0.9925	1.0197	0.9485
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.031	0.0084	0.033	0.9423	0.9914	0.9505	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.700	23.8201	89.672	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 12 Comment : 2/11
 Stage : X= 68.446 Y= 79.805 Z= 10.583
 Dated on Mar 17 16:04 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.028E-08	13538.7	52.9	50.3	0.45
2 Mg	107.937	2.028E-08	-3.7	21.6	15.8	100.00 ?
3 Ca	107.987	2.028E-08	-1.1	31.7	25.6	100.00 ?
4 Al	90.993	2.028E-08	30.1	60.2	39.6	7.12
5 Si	77.711	2.028E-08	25.5	135.5	78.4	15.45
6 Na	129.948	2.028E-08	-4.8	10.8	8.8	100.00 ?
7 Ti	88.392	2.028E-08	32.3	62.4	48.0	7.12
8 Cr	158.287	2.028E-08	3.8	29.6	27.9	34.01 ?
9 Mn	145.184	2.028E-08	-1.5	47.8	35.2	100.00 ?
10 Zn	98.703	2.028E-08	-7.1	103.4	85.9	100.00 ?
11 K	120.235	2.028E-08	-164.1	19.4	338.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	91.042	23.7297	92.180	0.9877	0.9861	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.197	0.0723	0.136	1.4517	0.9255	1.5686	1.0000
SiO2	0.136	0.0423	0.103	1.3217	0.9240	1.4288	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.145	0.0339	0.151	0.9594	0.9924	1.0197	0.9481
Cr2O3	0.026	0.0064	0.034	0.7674	0.9711	1.0073	0.7845
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 91.546 23.8845 92.603 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 24 Comment : 3/1
 Stage : X= 63.764 Y= 78.581 Z= 10.531
 Dated on Mar 19 13:45 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.153E-08	1889.1	33.2	27.2	0.46
2 Mg	107.942	2.153E-08	2209.0	30.7	18.4	0.45
3 Ca	107.967	2.153E-08	2638.4	22.8	18.2	0.45
4 Al	91.015	2.153E-08	2199.1	84.9	33.9	0.47
5 Si	77.725	2.153E-08	11117.6	140.0	71.5	0.45
6 Na	129.960	2.153E-08	102.5	12.2	7.8	1.71
7 Ti	88.424	2.153E-08	103.5	38.7	29.3	2.07
8 Cr	158.287	2.153E-08	27.4	19.0	16.3	4.58
9 Mn	145.203	2.153E-08	33.6	23.9	19.0	4.12
10 Zn	98.703	2.153E-08	0.5	60.0	54.0	412.57 ?
11 K	120.226	2.153E-08	66.9	13.5	67.7	3.39

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	13.260	1.6794	12.227	1.0845	1.0705	1.0131	1.0000
MgO	14.559	3.2866	10.994	1.3243	0.9957	1.3182	1.0089
CaO	11.782	1.9118	10.884	1.0825	1.0168	1.0385	1.0252
Al2O3	9.766	1.7431	9.353	1.0441	0.9957	1.0592	0.9900
SiO2	46.625	7.0605	41.963	1.1111	0.9941	1.1169	1.0006
Na2O	1.069	0.3138	1.073	0.9963	1.0812	0.9258	0.9953
TiO2	0.536	0.0611	0.461	1.1638	1.0722	1.0515	1.0323
Cr2O3	0.246	0.0294	0.231	1.0651	1.0515	1.0262	0.9871
MnO	0.249	0.0320	0.241	1.0360	1.0746	0.9641	1.0000
ZnO	0.004	0.0005	0.004	1.1295	1.1200	1.0084	1.0000
K2O	0.321	0.0620	0.329	0.9744	0.9939	0.9967	0.9837

Total 98.417 16.1800 87.758 Total O = 24.0 Iteration = 5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 25 Comment : 3/2
 Stage : X= 20.477 Y= 36.581 Z= 10.694
 Dated on Mar 18 18:28 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	13044.0	53.7	48.0	0.45
2 Mg	107.930	2.005E-08	-2.4	23.8	16.0	100.00 ?
3 Ca	107.963	2.005E-08	-4.4	32.6	26.3	100.00 ?
4 Al	91.004	2.005E-08	7.9	58.6	40.5	25.09
5 Si	77.720	2.005E-08	9.4	146.5	84.7	44.32 ?
6 Na	129.948	2.005E-08	-2.5	11.4	8.7	100.00 ?
7 Ti	88.392	2.005E-08	14.7	58.8	46.8	14.46
8 Cr	158.287	2.005E-08	2.0	29.4	26.7	63.56 ?
9 Mn	145.184	2.005E-08	23.9	37.9	34.2	7.00
10 Zn	98.703	2.005E-08	-1.7	88.7	79.7	100.00 ?
11 K	120.232	2.005E-08	-180.4	19.6	371.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.686	23.8530	89.831	0.9873	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.053	0.0200	0.036	1.4532	0.9252	1.5706	1.0000
SiO2	0.051	0.0163	0.038	1.3217	0.9237	1.4292	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.066	0.0161	0.069	0.9586	0.9921	1.0197	0.9476
Cr2O3	0.014	0.0034	0.018	0.7663	0.9708	1.0071	0.7838
MnO	0.173	0.0471	0.184	0.9416	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.043	23.9559	90.176	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 26 Comment : 3/3
 Stage : X= 61.877 Y= 78.332 Z= 10.543
 Dated on Mar 19 13:51 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.156E-08	2243.1	31.9	27.7	0.45
2 Mg	107.942	2.156E-08	1648.6	31.3	17.4	0.46
3 Ca	107.967	2.156E-08	2618.6	20.3	18.3	0.45
4 Al	91.015	2.156E-08	3048.7	91.9	36.5	0.46
5 Si	77.725	2.156E-08	10156.2	139.3	73.3	0.45
6 Na	129.960	2.156E-08	105.6	10.9	8.0	1.67
7 Ti	88.424	2.156E-08	155.6	40.8	28.0	1.57
8 Cr	158.287	2.156E-08	-0.9	19.7	17.1	100.00 ?
9 Mn	145.203	2.156E-08	35.9	22.9	20.4	3.92
10 Zn	98.703	2.156E-08	-3.7	63.7	58.6	100.00 ?
11 K	120.226	2.156E-08	181.9	13.3	68.0	1.56

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	15.676	2.0256	14.498	1.0812	1.0671	1.0133	1.0000
MgO	11.145	2.5668	8.193	1.3602	0.9928	1.3582	1.0087
CaO	11.654	1.9293	10.787	1.0804	1.0138	1.0402	1.0245
Al2O3	13.385	2.4375	12.948	1.0337	0.9929	1.0507	0.9909
SiO2	43.188	6.6725	38.281	1.1282	0.9912	1.1375	1.0006
Na2O	1.138	0.3410	1.103	1.0321	1.0780	0.9614	0.9958
TiO2	0.802	0.0931	0.691	1.1593	1.0689	1.0522	1.0308
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.265	0.0347	0.257	1.0334	1.0712	0.9647	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.868	0.1710	0.894	0.9704	0.9909	0.9957	0.9835
Total	98.121	16.2716	87.654	Total O = 24.0		Iteration = 5	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 27 Comment : 3/4
 Stage : X= 63.766 Y= 79.139 Z= 10.531
 Dated on Mar 19 13:56 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.156E-08	2604.7	33.8	29.7	0.45
2 Mg	107.942	2.156E-08	1625.7	29.5	16.7	0.46
3 Ca	107.967	2.156E-08	2602.7	21.9	17.7	0.45
4 Al	91.015	2.156E-08	2350.5	92.1	37.5	0.47
5 Si	77.725	2.156E-08	10301.7	138.0	71.6	0.45
6 Na	129.960	2.156E-08	102.8	10.4	9.0	1.70
7 Ti	88.424	2.156E-08	188.6	40.6	32.4	1.40
8 Cr	158.287	2.156E-08	-3.2	18.6	17.7	100.00 ?
9 Mn	145.203	2.156E-08	45.4	27.4	21.8	3.41
10 Zn	98.703	2.156E-08	2.2	60.2	50.5	97.30 ?
11 K	120.226	2.156E-08	138.7	13.4	79.3	2.03

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	18.164	2.3757	16.836	1.0789	1.0650	1.0131	1.0000
MgO	11.299	2.6339	8.079	1.3984	0.9912	1.3980	1.0093
CaO	11.543	1.9342	10.722	1.0766	1.0120	1.0392	1.0238
Al2O3	10.526	1.9402	9.983	1.0544	0.9912	1.0735	0.9909
SiO2	43.586	6.8161	38.830	1.1225	0.9896	1.1336	1.0006
Na2O	1.149	0.3484	1.074	1.0695	1.0762	0.9977	0.9961
TiO2	0.967	0.1137	0.838	1.1538	1.0670	1.0513	1.0287
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.335	0.0444	0.325	1.0312	1.0691	0.9645	1.0000
ZnO	0.017	0.0020	0.015	1.1270	1.1137	1.0119	1.0000
K2O	0.660	0.1317	0.682	0.9683	0.9892	0.9956	0.9832

Total 98.246 16.3401 87.383 Total O = 24.0 Iteration = 5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 28 Comment : 3/5
 Stage : X= 21.339 Y= 37.630 Z= 10.695
 Dated on Mar 18 18:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	13109.6	51.9	48.9	0.45
2 Mg	107.930	2.005E-08	-1.7	22.2	16.1	100.00 ?
3 Ca	107.963	2.005E-08	-5.2	32.7	27.8	100.00 ?
4 Al	91.004	2.005E-08	11.0	61.7	41.3	18.86
5 Si	77.720	2.005E-08	5.6	136.7	87.2	71.50 ?
6 Na	129.948	2.005E-08	-2.7	12.0	8.4	100.00 ?
7 Ti	88.392	2.005E-08	19.1	55.4	46.3	10.91
8 Cr	158.287	2.005E-08	6.6	28.3	23.6	18.75
9 Mn	145.184	2.005E-08	22.8	37.8	31.6	7.15
10 Zn	98.703	2.005E-08	-1.0	102.4	74.6	100.00 ?
11 K	120.232	2.005E-08	-175.2	20.0	360.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.138	23.8359	90.282	0.9873	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.073	0.0276	0.050	1.4530	0.9252	1.5704	1.0000
SiO2	0.030	0.0096	0.023	1.3217	0.9237	1.4292	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.087	0.0208	0.090	0.9587	0.9921	1.0197	0.9477
Cr2O3	0.045	0.0115	0.059	0.7667	0.9708	1.0072	0.7841
MnO	0.165	0.0446	0.175	0.9416	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 89.538 23.9500 90.680 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 29 Comment : 3/6
 Stage : X= 63.016 Y= 79.403 Z= 10.536
 Dated on Mar 19 14:02 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.156E-08	177.9	25.9	23.4	1.34
2 Mg	107.942	2.156E-08	279.9	24.1	16.2	1.01
3 Ca	107.967	2.156E-08	-2.2	17.6	16.8	100.00 ?
4 Al	91.015	2.156E-08	5650.0	134.3	37.6	0.46
5 Si	77.725	2.156E-08	18132.5	151.8	96.9	0.45
6 Na	129.960	2.156E-08	2.9	11.6	7.6	25.62
7 Ti	88.424	2.156E-08	84.8	35.3	25.2	2.30
8 Cr	158.287	2.156E-08	-0.3	16.1	14.5	100.00 ?
9 Mn	145.203	2.156E-08	-3.2	23.6	17.7	100.00 ?
10 Zn	98.703	2.156E-08	0.4	53.8	45.4	476.79 ?
11 K	120.226	2.156E-08	1146.1	12.9	12.9	0.47

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	1.257	0.1387	1.150	1.0935	1.0834	1.0093	1.0000
MgO	1.557	0.3061	1.391	1.1192	1.0060	1.1101	1.0022
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	19.722	3.0652	23.997	0.8219	1.0060	0.8324	0.9815
SiO2	69.715	9.1924	68.346	1.0200	1.0043	1.0149	1.0007
Na2O	0.025	0.0063	0.030	0.8172	1.0923	0.7521	0.9947
TiO2	0.444	0.0440	0.377	1.1781	1.0842	1.0423	1.0426
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.003	0.0003	0.003	1.1332	1.1350	0.9984	1.0000
K2O	5.722	0.9626	5.632	1.0159	1.0045	1.0115	0.9999
Total	98.445	13.7155	100.926	Total O =	24.0	Iteration =	5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 30 Comment : 3/7
 Stage : X= 62.835 Y= 79.074 Z= 10.536
 Dated on Mar 19 14:07 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.155E-08	2433.9	30.4	30.2	0.45
2 Mg	107.942	2.155E-08	1721.5	31.1	16.7	0.46
3 Ca	107.967	2.155E-08	2603.2	22.5	18.3	0.45
4 Al	91.015	2.155E-08	2289.7	84.2	35.3	0.47
5 Si	77.725	2.155E-08	10214.7	140.3	75.2	0.45
6 Na	129.960	2.155E-08	107.7	11.5	8.2	1.66
7 Ti	88.424	2.155E-08	268.4	40.9	27.5	1.10
8 Cr	158.287	2.155E-08	3.3	20.8	17.6	30.94
9 Mn	145.203	2.155E-08	38.5	27.3	20.7	3.85
10 Zn	98.703	2.155E-08	0.4	62.3	51.9	566.15 ?
11 K	120.226	2.155E-08	231.2	12.8	75.0	1.36

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	17.003	2.2319	15.739	1.0803	1.0655	1.0139	1.0000
MgO	11.862	2.7754	8.559	1.3858	0.9916	1.3847	1.0093
CaO	11.569	1.9458	10.729	1.0784	1.0124	1.0404	1.0238
Al2O3	10.247	1.8958	9.729	1.0532	0.9916	1.0719	0.9909
SiO2	43.142	6.7715	38.520	1.1200	0.9900	1.1307	1.0006
Na2O	1.189	0.3618	1.125	1.0562	1.0767	0.9849	0.9960
TiO2	1.380	0.1628	1.193	1.1566	1.0675	1.0522	1.0297
Cr2O3	0.029	0.0036	0.028	1.0540	1.0467	1.0279	0.9796
MnO	0.285	0.0379	0.276	1.0326	1.0696	0.9654	1.0000
ZnO	0.003	0.0003	0.003	1.1270	1.1143	1.0114	1.0000
K2O	1.100	0.2203	1.137	0.9677	0.9896	0.9946	0.9832
Total	97.809	16.4070	87.037	Total O =	24.0	Iteration =	5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 31 Comment : 3/8
 Stage : X= 61.209 Y= 79.434 Z= 10.548
 Dated on Mar 19 14:13 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.154E-08	2758.0	32.9	30.5	0.45
2 Mg	107.942	2.154E-08	1336.2	28.8	16.4	0.46
3 Ca	107.967	2.154E-08	2315.0	21.5	18.2	0.45
4 Al	91.015	2.154E-08	3049.0	96.2	34.6	0.46
5 Si	77.725	2.154E-08	10020.7	135.6	73.4	0.45
6 Na	129.960	2.154E-08	142.7	11.6	8.0	1.41
7 Ti	88.424	2.154E-08	126.7	40.0	31.8	1.83
8 Cr	158.287	2.154E-08	-3.0	19.2	16.8	100.00 ?
9 Mn	145.203	2.154E-08	38.3	26.4	22.1	3.87
10 Zn	98.703	2.154E-08	3.5	59.4	53.5	61.43 ?
11 K	120.226	2.154E-08	24.5	12.5	78.4	9.10

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	19.209	2.5058	17.843	1.0766	1.0643	1.0115	1.0000
MgO	9.385	2.1823	6.647	1.4120	0.9906	1.4130	1.0088
CaO	10.262	1.7151	9.546	1.0751	1.0113	1.0385	1.0237
Al2O3	13.547	2.4907	12.962	1.0452	0.9906	1.0646	0.9911
SiO2	43.000	6.7070	37.806	1.1374	0.9889	1.1493	1.0007
Na2O	1.607	0.4859	1.493	1.0765	1.0756	1.0047	0.9962
TiO2	0.646	0.0758	0.563	1.1477	1.0663	1.0477	1.0273
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.282	0.0373	0.274	1.0285	1.0684	0.9626	1.0000
ZnO	0.027	0.0031	0.024	1.1264	1.1130	1.0120	1.0000
K2O	0.117	0.0233	0.121	0.9713	0.9886	0.9978	0.9847
Total	98.082	16.2264	87.278	Total O = 24.0		Iteration = 5	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 32 Comment : 3/9
 Stage : X= 63.324 Y= 80.448 Z= 10.532
 Dated on Mar 19 14:18 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.153E-08	2805.8	33.0	30.6	0.45
2 Mg	107.942	2.153E-08	1420.5	29.3	16.7	0.46
3 Ca	107.967	2.153E-08	2383.6	24.0	17.7	0.45
4 Al	91.015	2.153E-08	2399.7	87.2	35.6	0.47
5 Si	77.725	2.153E-08	10260.1	136.3	71.9	0.45
6 Na	129.960	2.153E-08	118.7	10.1	7.6	1.56
7 Ti	88.424	2.153E-08	261.5	41.0	31.1	1.13
8 Cr	158.287	2.153E-08	-1.5	20.4	17.6	100.00 ?
9 Mn	145.203	2.153E-08	36.0	27.2	20.9	4.06
10 Zn	98.703	2.153E-08	-0.6	65.4	55.8	100.00 ?
11 K	120.226	2.153E-08	74.7	14.4	86.2	3.54

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	19.560	2.5731	18.161	1.0770	1.0637	1.0125	1.0000
MgO	10.041	2.3545	7.069	1.4204	0.9901	1.4214	1.0093
CaO	10.561	1.7801	9.833	1.0741	1.0108	1.0386	1.0231
Al2O3	10.767	1.9964	10.206	1.0550	0.9901	1.0753	0.9909
SiO2	43.561	6.8522	38.727	1.1248	0.9885	1.1372	1.0007
Na2O	1.352	0.4123	1.242	1.0887	1.0751	1.0165	0.9963
TiO2	1.336	0.1580	1.163	1.1480	1.0658	1.0486	1.0273
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.266	0.0354	0.258	1.0292	1.0678	0.9638	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.356	0.0715	0.368	0.9689	0.9881	0.9965	0.9840
Total	97.800	16.2335	87.027	Total O = 24.0		Iteration = 5	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 33 Comment : 3/10
 Stage : X= 62.265 Y= 80.349 Z= 10.540
 Dated on Mar 19 14:24 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.153E-08	42.6	24.3	20.5	3.47
2 Mg	107.942	2.153E-08	-0.7	20.6	15.8	100.00 ?
3 Ca	107.967	2.153E-08	9.1	18.1	13.7	11.11
4 Al	91.015	2.153E-08	428.7	67.8	40.3	0.91
5 Si	77.725	2.153E-08	29598.4	199.7	92.0	0.44
6 Na	129.960	2.153E-08	-2.2	14.4	10.1	100.00 ?
7 Ti	88.424	2.153E-08	-3.0	32.6	28.4	100.00 ?
8 Cr	158.287	2.153E-08	-2.4	16.5	13.4	100.00 ?
9 Mn	145.203	2.153E-08	-3.8	20.1	17.4	100.00 ?
10 Zn	98.703	2.153E-08	1.6	54.0	42.9	122.51 ?
11 K	120.226	2.153E-08	6.6	11.2	10.6	12.77

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.303	0.0304	0.276	1.0979	1.0919	1.0055	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.042	0.0054	0.038	1.1273	1.0355	1.0580	1.0290
Al2O3	1.450	0.2054	1.823	0.7954	1.0133	0.8115	0.9674
SiO2	98.453	11.8262	111.719	0.8813	1.0117	0.8701	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.012	0.0011	0.011	1.1401	1.1443	0.9963	1.0000
K2O	0.034	0.0052	0.032	1.0357	1.0120	1.0233	1.0002
Total	100.294	12.0737	113.899	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 34 Comment : 3/11
 Stage : X= 61.873 Y= 80.167 Z= 10.545
 Dated on Mar 19 14:30 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.153E-08	1860.7	31.0	28.7	0.46
2 Mg	107.942	2.153E-08	2264.8	32.1	17.3	0.45
3 Ca	107.967	2.153E-08	2675.3	22.1	17.6	0.45
4 Al	91.015	2.153E-08	1941.5	77.6	34.5	0.47
5 Si	77.725	2.153E-08	11124.3	149.0	72.8	0.45
6 Na	129.960	2.153E-08	107.2	11.8	8.9	1.67
7 Ti	88.424	2.153E-08	205.4	39.7	29.6	1.31
8 Cr	158.287	2.153E-08	12.5	18.1	16.9	8.72
9 Mn	145.203	2.153E-08	38.3	26.4	21.9	3.85
10 Zn	98.703	2.153E-08	-0.6	61.0	55.2	100.00 ?
11 K	120.226	2.153E-08	169.9	11.7	58.6	1.56

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	13.067	1.6624	12.044	1.0850	1.0702	1.0138	1.0000
MgO	14.946	3.3892	11.271	1.3260	0.9955	1.3200	1.0091
CaO	11.955	1.9486	11.036	1.0832	1.0165	1.0397	1.0249
Al2O3	8.655	1.5519	8.257	1.0482	0.9955	1.0635	0.9900
SiO2	46.436	7.0637	41.989	1.1059	0.9939	1.1121	1.0006
Na2O	1.118	0.3297	1.121	0.9970	1.0809	0.9267	0.9953
TiO2	1.065	0.1218	0.914	1.1653	1.0719	1.0526	1.0328
Cr2O3	0.113	0.0135	0.105	1.0674	1.0512	1.0277	0.9881
MnO	0.285	0.0367	0.275	1.0369	1.0743	0.9652	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.813	0.1578	0.836	0.9726	0.9936	0.9955	0.9834
Total	98.453	16.2755	87.849	Total O =	24.0	Iteration =	5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 35 Comment : 3/12
 Stage : X= 61.066 Y= 79.869 Z= 10.547
 Dated on Mar 19 14:35 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.153E-08	1500.0	29.4	25.1	0.46
2 Mg	107.942	2.153E-08	3529.4	39.0	18.4	0.45
3 Ca	107.967	2.153E-08	1107.8	21.4	15.7	0.48
4 Al	91.015	2.153E-08	4634.6	112.7	36.6	0.46
5 Si	77.725	2.153E-08	9250.9	142.5	68.2	0.45
6 Na	129.960	2.153E-08	4.1	9.7	7.2	17.88
7 Ti	88.424	2.153E-08	199.3	38.2	28.3	1.32
8 Cr	158.287	2.153E-08	108.7	17.3	15.3	1.73
9 Mn	145.203	2.153E-08	37.8	24.7	19.7	3.79
10 Zn	98.703	2.153E-08	-2.3	59.6	50.1	100.00 ?
11 K	120.226	2.153E-08	-20.6	11.4	44.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	10.514	1.2446	9.709	1.0829	1.0735	1.0087	1.0000
MgO	21.652	4.5683	17.565	1.2327	0.9978	1.2259	1.0078
CaO	4.972	0.7540	4.570	1.0879	1.0191	1.0413	1.0251
Al2O3	20.791	3.4686	19.711	1.0548	0.9978	1.0655	0.9921
SiO2	41.722	5.9053	34.918	1.1949	0.9961	1.1984	1.0009
Na2O	0.039	0.0107	0.042	0.9221	1.0834	0.8567	0.9935
TiO2	1.019	0.1085	0.887	1.1491	1.0748	1.0354	1.0325
Cr2O3	0.975	0.1091	0.917	1.0630	1.0542	1.0174	0.9911
MnO	0.280	0.0335	0.271	1.0319	1.0775	0.9577	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	101.964	16.2027	88.590	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 13 Comment : 4/1
 Stage : X= 63.092 Y= 78.618 Z= 10.579
 Dated on Mar 17 16:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.033E-08	5374.6	45.5	40.2	0.45
2 Mg	107.937	2.033E-08	42.2	21.0	14.6	3.31
3 Ca	107.987	2.033E-08	10.8	30.0	23.4	11.97
4 Al	90.993	2.033E-08	15.5	57.7	36.3	12.70
5 Si	77.711	2.033E-08	12.2	124.3	76.4	30.12
6 Na	129.948	2.033E-08	-1.5	10.2	7.9	100.00 ?
7 Ti	88.392	2.033E-08	11679.5	61.4	51.5	0.45
8 Cr	158.287	2.033E-08	-1.1	25.9	21.3	100.00 ?
9 Mn	145.184	2.033E-08	218.6	34.0	29.0	1.72
10 Zn	98.703	2.033E-08	2.0	82.8	78.2	148.78 ?
11 K	120.235	2.033E-08	-72.8	18.1	167.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	38.383	6.5067	36.504	1.0515	1.0038	1.0476	1.0000
MgO	0.431	0.1303	0.223	1.9315	0.9391	2.0267	1.0149
CaO	0.045	0.0098	0.049	0.9238	0.9574	1.0035	0.9616
Al2O3	0.086	0.0204	0.070	1.2278	0.9392	1.3077	0.9996
SiO2	0.057	0.0115	0.049	1.1576	0.9376	1.2342	1.0003
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	55.789	8.5046	54.350	1.0265	1.0084	1.0022	1.0157
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.679	0.2882	1.654	1.0149	1.0084	1.0064	1.0000
ZnO	0.016	0.0023	0.014	1.0873	1.0455	1.0399	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.486	15.4738	92.912	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 14 Comment : 4/2
 Stage : X= 63.351 Y= 79.141 Z= 10.579
 Dated on Mar 17 16:15 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.035E-08	6316.2	45.8	38.6	0.45
2 Mg	107.937	2.035E-08	4.2	22.1	14.5	24.05
3 Ca	107.987	2.035E-08	1.0	29.9	23.2	122.74 ?
4 Al	90.993	2.035E-08	3.9	59.7	37.6	50.06 ?
5 Si	77.711	2.035E-08	3.1	126.7	87.1	122.50 ?
6 Na	129.948	2.035E-08	-4.2	10.0	8.3	100.00 ?
7 Ti	88.392	2.035E-08	11236.9	65.6	44.7	0.45
8 Cr	158.287	2.035E-08	-2.3	26.7	22.8	100.00 ?
9 Mn	145.184	2.035E-08	28.4	36.8	26.4	7.53
10 Zn	98.703	2.035E-08	-4.8	88.6	76.0	100.00 ?
11 K	120.235	2.035E-08	-93.3	18.9	192.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	44.872	7.6162	42.857	1.0470	1.0023	1.0446	1.0000
MgO	0.044	0.0132	0.022	1.9713	0.9380	2.0708	1.0149
CaO	0.004	0.0009	0.004	0.9283	0.9562	1.0056	0.9654
Al2O3	0.022	0.0052	0.017	1.2445	0.9381	1.3270	0.9997
SiO2	0.015	0.0030	0.012	1.1693	0.9365	1.2481	1.0004
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.459	8.1594	52.239	1.0234	1.0071	1.0033	1.0127
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.217	0.0373	0.215	1.0098	1.0070	1.0028	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	98.633	15.8351	95.367	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 15 Comment : 4/3
 Stage : X= 62.828 Y= 78.983 Z= 10.579
 Dated on Mar 17 16:20 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.037E-08	5711.6	45.6	39.7	0.45
2 Mg	107.937	2.037E-08	5.8	23.0	15.5	18.30
3 Ca	107.987	2.037E-08	0.8	30.2	23.2	145.62 ?
4 Al	90.993	2.037E-08	-1.4	56.3	41.5	100.00 ?
5 Si	77.711	2.037E-08	-2.6	125.5	89.8	100.00 ?
6 Na	129.948	2.037E-08	-5.2	10.6	9.8	100.00 ?
7 Ti	88.392	2.037E-08	11681.9	59.1	43.0	0.45
8 Cr	158.287	2.037E-08	-1.5	26.0	21.9	100.00 ?
9 Mn	145.184	2.037E-08	280.0	34.2	26.0	1.47
10 Zn	98.703	2.037E-08	14.5	89.4	71.7	20.64
11 K	120.235	2.037E-08	-77.1	16.9	162.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	40.617	6.8198	38.717	1.0491	1.0027	1.0464	0.9999
MgO	0.059	0.0177	0.030	1.9503	0.9382	2.0483	1.0149
CaO	0.003	0.0007	0.004	0.9249	0.9564	1.0042	0.9630
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	55.569	8.3904	54.254	1.0242	1.0074	1.0026	1.0141
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.141	0.3640	2.115	1.0123	1.0074	1.0049	1.0000
ZnO	0.114	0.0169	0.105	1.0868	1.0443	1.0407	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	98.503	15.6096	95.225	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 16 Comment : 4/4
 Stage : X= 61.904 Y= 79.276 Z= 10.576
 Dated on Mar 17 16:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.040E-08	6435.9	46.3	41.1	0.45
2 Mg	107.937	2.040E-08	10.4	21.7	17.5	10.71
3 Ca	107.987	2.040E-08	1.3	29.8	22.7	93.77 ?
4 Al	90.993	2.040E-08	2.4	57.3	37.9	78.87 ?
5 Si	77.711	2.040E-08	3.8	124.5	87.9	98.72 ?
6 Na	129.948	2.040E-08	-5.2	12.1	8.3	100.00 ?
7 Ti	88.392	2.040E-08	11127.2	58.5	47.9	0.45
8 Cr	158.287	2.040E-08	-0.1	27.9	22.3	100.00 ?
9 Mn	145.184	2.040E-08	131.0	37.8	30.2	2.41
10 Zn	98.703	2.040E-08	2.6	86.9	77.9	113.27 ?
11 K	120.235	2.040E-08	-94.6	18.4	195.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	45.550	7.7142	43.562	1.0456	1.0019	1.0436	1.0000
MgO	0.108	0.0327	0.055	1.9780	0.9377	2.0785	1.0149
CaO	0.005	0.0011	0.006	0.9294	0.9558	1.0061	0.9665
Al2O3	0.013	0.0032	0.011	1.2484	0.9378	1.3317	0.9997
SiO2	0.018	0.0036	0.015	1.1721	0.9362	1.2515	1.0004
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	52.746	8.0329	51.602	1.0222	1.0068	1.0037	1.0116
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.996	0.1709	0.988	1.0082	1.0067	1.0016	1.0000
ZnO	0.021	0.0031	0.019	1.0871	1.0433	1.0420	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.457	15.9618	96.258	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 17 Comment : 4/5
 Stage : X= 61.764 Y= 79.522 Z= 10.576
 Dated on Mar 17 16:31 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.041E-08	4707.1	42.5	38.7	0.45
2 Mg	107.937	2.041E-08	1.5	22.2	14.9	67.72 ?
3 Ca	107.987	2.041E-08	7.4	28.6	21.5	16.40
4 Al	90.993	2.041E-08	13.1	52.1	36.7	14.17
5 Si	77.711	2.041E-08	12.5	119.0	75.9	28.48
6 Na	129.948	2.041E-08	-4.0	9.8	8.2	100.00 ?
7 Ti	88.392	2.041E-08	12206.1	60.8	45.8	0.45
8 Cr	158.287	2.041E-08	-0.9	22.8	23.9	100.00 ?
9 Mn	145.184	2.041E-08	209.6	34.2	26.8	1.76
10 Zn	98.703	2.041E-08	-3.0	84.0	71.9	100.00 ?
11 K	120.235	2.041E-08	-72.9	17.6	153.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.626	5.7516	31.845	1.0559	1.0046	1.0511	1.0000
MgO	0.015	0.0044	0.008	1.9029	0.9397	1.9953	1.0149
CaO	0.031	0.0067	0.033	0.9178	0.9580	1.0012	0.9569
Al2O3	0.071	0.0171	0.059	1.2096	0.9398	1.2876	0.9996
SiO2	0.057	0.0117	0.050	1.1441	0.9382	1.2192	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.217	8.9545	56.578	1.0290	1.0092	1.0008	1.0188
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.611	0.2791	1.580	1.0200	1.0093	1.0107	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.628	15.0252	90.152	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 18 Comment : 4/6
 Stage : X= 61.764 Y= 80.077 Z= 10.576
 Dated on Mar 17 16:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.039E-08	4176.9	40.7	38.1	0.45
2 Mg	107.937	2.039E-08	11.7	22.0	14.6	9.39
3 Ca	107.987	2.039E-08	14.0	34.2	22.7	9.90
4 Al	90.993	2.039E-08	49.3	58.4	37.9	4.47
5 Si	77.711	2.039E-08	27.0	126.5	74.6	13.86
6 Na	129.948	2.039E-08	-5.3	11.3	9.4	100.00 ?
7 Ti	88.392	2.039E-08	12890.2	60.5	48.3	0.45
8 Cr	158.287	2.039E-08	0.8	22.9	20.6	140.27 ?
9 Mn	145.184	2.039E-08	127.0	37.0	29.0	2.45
10 Zn	98.703	2.039E-08	-4.5	81.7	72.3	100.00 ?
11 K	120.235	2.039E-08	-57.7	18.5	127.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.013	5.0286	28.285	1.0611	1.0063	1.0545	1.0000
MgO	0.115	0.0344	0.062	1.8672	0.9411	1.9551	1.0148
CaO	0.058	0.0124	0.063	0.9132	0.9595	0.9991	0.9526
Al2O3	0.263	0.0622	0.221	1.1925	0.9411	1.2676	0.9996
SiO2	0.122	0.0245	0.108	1.1331	0.9396	1.2058	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.773	9.3070	59.807	1.0329	1.0107	0.9997	1.0222
Cr2O3	0.007	0.0011	0.007	1.0630	0.9899	1.0952	0.9804
MnO	0.983	0.1668	0.958	1.0258	1.0109	1.0148	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.334	14.6369	89.511	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 19 Comment : 4/7
 Stage : X= 61.806 Y= 80.655 Z= 10.576
 Dated on Mar 17 16:42 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.038E-08	4862.4	42.0	38.6	0.45
2 Mg	107.937	2.038E-08	3.6	22.1	15.7	28.25
3 Ca	107.987	2.038E-08	-1.4	29.8	23.0	100.00 ?
4 Al	90.993	2.038E-08	22.2	56.4	39.2	9.12
5 Si	77.711	2.038E-08	41.1	129.9	82.9	9.60
6 Na	129.948	2.038E-08	-1.5	9.3	8.7	100.00 ?
7 Ti	88.392	2.038E-08	12273.9	59.6	43.8	0.45
8 Cr	158.287	2.038E-08	2.7	22.8	21.9	41.06 ?
9 Mn	145.184	2.038E-08	80.1	31.4	28.4	3.30
10 Zn	98.703	2.038E-08	0.1	86.0	68.9	3328.24 ?
11 K	120.235	2.038E-08	-61.8	17.5	136.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.798	5.8923	32.944	1.0563	1.0049	1.0511	1.0000
MgO	0.036	0.0109	0.019	1.9037	0.9400	1.9955	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.120	0.0287	0.099	1.2102	0.9401	1.2878	0.9996
SiO2	0.188	0.0381	0.164	1.1450	0.9385	1.2198	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.666	8.9328	56.976	1.0297	1.0095	1.0009	1.0191
Cr2O3	0.025	0.0040	0.024	1.0491	0.9887	1.0896	0.9739
MnO	0.617	0.1058	0.605	1.0203	1.0096	1.0106	1.0000
ZnO	0.001	0.0001	0.001	1.0874	1.0469	1.0386	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.451	15.0127	90.832	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 20 Comment : 4/8
 Stage : X= 62.974 Y= 79.957 Z= 10.578
 Dated on Mar 17 16:47 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.039E-08	6334.3	42.6	41.7	0.45
2 Mg	107.937	2.039E-08	13.5	21.5	16.6	8.44
3 Ca	107.987	2.039E-08	-0.8	29.8	21.8	100.00 ?
4 Al	90.993	2.039E-08	-2.3	61.0	38.6	100.00 ?
5 Si	77.711	2.039E-08	-3.6	130.9	86.3	100.00 ?
6 Na	129.948	2.039E-08	-1.9	12.2	6.7	100.00 ?
7 Ti	88.392	2.039E-08	11192.3	61.5	49.0	0.45
8 Cr	158.287	2.039E-08	-1.2	26.2	21.2	100.00 ?
9 Mn	145.184	2.039E-08	156.3	35.8	31.6	2.14
10 Zn	98.703	2.039E-08	1.0	89.9	73.0	284.17 ?
11 K	120.235	2.039E-08	-79.3	18.5	165.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	44.872	7.5937	42.896	1.0461	1.0020	1.0440	1.0000
MgO	0.140	0.0423	0.071	1.9739	0.9377	2.0741	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.092	8.0795	51.929	1.0224	1.0068	1.0035	1.0119
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.190	0.2039	1.180	1.0087	1.0067	1.0020	1.0000
ZnO	0.008	0.0012	0.008	1.0871	1.0435	1.0418	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.302	15.9205	96.083	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 21 Comment : 4/9
 Stage : X= 63.712 Y= 79.942 Z= 10.579
 Dated on Mar 17 16:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.037E-08	10709.3	50.1	48.2	0.45
2 Mg	107.937	2.037E-08	14.0	21.7	15.4	8.10
3 Ca	107.987	2.037E-08	28.7	27.3	25.3	5.02
4 Al	90.993	2.037E-08	169.5	57.8	43.2	1.68
5 Si	77.711	2.037E-08	35.2	131.7	88.0	11.43
6 Na	129.948	2.037E-08	-3.3	10.9	10.8	100.00 ?
7 Ti	88.392	2.037E-08	3495.7	57.6	46.0	0.46
8 Cr	158.287	2.037E-08	-1.7	28.9	24.6	100.00 ?
9 Mn	145.184	2.037E-08	41.0	37.0	31.0	5.69
10 Zn	98.703	2.037E-08	24.0	91.0	71.1	12.72
11 K	120.235	2.037E-08	-129.4	17.5	271.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	73.158	16.6242	72.594	1.0078	0.9926	1.0154	0.9999
MgO	0.165	0.0668	0.074	2.2383	0.9305	2.3705	1.0147
CaO	0.125	0.0363	0.129	0.9667	0.9482	1.0249	0.9947
Al2O3	1.048	0.3358	0.759	1.3807	0.9306	1.4838	0.9999
SiO2	0.180	0.0488	0.141	1.2763	0.9291	1.3724	1.0009
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	16.063	3.2824	16.235	0.9894	0.9984	1.0149	0.9765
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.299	0.0688	0.310	0.9648	0.9976	0.9672	0.9999
ZnO	0.189	0.0380	0.174	1.0874	1.0322	1.0534	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.227	20.5009	90.415	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 22 Comment : 4/10
 Stage : X= 62.840 Y= 80.364 Z= 10.579
 Dated on Mar 17 16:58 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.035E-08	4400.1	39.2	37.7	0.45
2 Mg	107.937	2.035E-08	6.4	21.1	16.0	16.17
3 Ca	107.987	2.035E-08	17.2	28.1	22.5	7.67
4 Al	90.993	2.035E-08	43.3	55.0	38.3	4.89
5 Si	77.711	2.035E-08	18.1	128.6	85.2	21.44
6 Na	129.948	2.035E-08	-4.9	12.0	7.9	100.00 ?
7 Ti	88.392	2.035E-08	12645.5	61.1	45.3	0.45
8 Cr	158.287	2.035E-08	-0.2	25.7	19.7	100.00 ?
9 Mn	145.184	2.035E-08	60.1	32.2	27.6	4.07
10 Zn	98.703	2.035E-08	-1.1	78.7	73.5	100.00 ?
11 K	120.235	2.035E-08	-54.4	17.2	121.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.641	5.3426	29.856	1.0598	1.0059	1.0536	1.0000
MgO	0.064	0.0193	0.034	1.8790	0.9408	1.9681	1.0148
CaO	0.071	0.0153	0.077	0.9148	0.9592	0.9998	0.9539
Al2O3	0.233	0.0554	0.194	1.1980	0.9409	1.2738	0.9996
SiO2	0.082	0.0166	0.072	1.1369	0.9393	1.2102	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.679	9.2135	58.787	1.0322	1.0104	1.0001	1.0214
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.465	0.0796	0.454	1.0244	1.0106	1.0137	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.235	14.7422	89.475	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 23 Comment : 4/11
 Stage : X= 63.481 Y= 80.885 Z= 10.579
 Dated on Mar 17 17:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.031E-08	13023.9	55.9	51.8	0.45
2 Mg	107.937	2.031E-08	18.9	22.3	15.0	6.29
3 Ca	107.987	2.031E-08	-0.8	32.8	28.7	100.00 ?
4 Al	90.993	2.031E-08	80.6	63.5	40.3	3.08
5 Si	77.711	2.031E-08	224.6	144.9	86.1	2.12
6 Na	129.948	2.031E-08	-4.9	11.1	8.6	100.00 ?
7 Ti	88.392	2.031E-08	22.4	62.0	48.1	9.98
8 Cr	158.287	2.031E-08	7.5	30.9	24.2	17.24
9 Mn	145.184	2.031E-08	51.9	43.4	32.8	4.88
10 Zn	98.703	2.031E-08	4.6	94.1	86.7	71.08 ?
11 K	120.235	2.031E-08	-143.1	19.8	341.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.619	22.6970	88.544	0.9896	0.9880	1.0016	1.0000
MgO	0.236	0.1089	0.100	2.3621	0.9269	2.5112	1.0148
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.523	0.1908	0.362	1.4438	0.9271	1.5576	0.9998
SiO2	1.189	0.3682	0.901	1.3187	0.9255	1.4232	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.101	0.0234	0.105	0.9628	0.9942	1.0199	0.9496
Cr2O3	0.052	0.0126	0.067	0.7728	0.9729	1.0073	0.7886
MnO	0.371	0.0974	0.393	0.9438	0.9930	0.9504	1.0000
ZnO	0.036	0.0083	0.033	1.0875	1.0266	1.0592	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.127	23.5066	90.505	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 1 Comment : 5/1
 Stage : X= 69.6520 Y= 76.9095 Z= 10.6985
 Dated on Mar 31 15:07 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.916	2.046E-08	2953.1	33.5	27.5	0.45
2 Mg	107.512	2.046E-08	1116.9	28.8	15.3	0.48
3 Ca	107.422	2.046E-08	-3.9	25.8	22.0	100.00 ?
4 Al	90.572	2.046E-08	4365.1	110.1	34.0	0.46
5 Si	77.290	2.046E-08	-72.5	349.6	100.3	100.00 ?
6 Na	129.537	2.046E-08	-5.4	11.1	9.7	100.00 ?
7 Ti	87.773	2.046E-08	25.4	46.5	37.6	7.33
8 Cr	159.496	2.046E-08	3656.3	21.9	20.6	0.45
9 Mn	146.382	2.046E-08	35.1	26.9	27.9	4.34
10 Zn	99.907	2.046E-08	24.7	64.0	61.5	10.02
11 K	119.666	2.046E-08	-57.4	19.8	120.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.675	4.0724	23.900	1.0743	1.0253	1.0479	0.9998
MgO	10.685	3.0208	6.152	1.7369	0.9574	1.7936	1.0115
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	25.065	5.6031	20.475	1.2242	0.9574	1.2786	1.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.116	0.0166	0.116	1.0006	1.0290	1.0142	0.9587
Cr2O3	37.283	5.5907	37.718	0.9885	1.0245	1.0074	0.9578
MnO	0.309	0.0496	0.316	0.9759	1.0298	0.9478	0.9998
ZnO	0.238	0.0333	0.216	1.1017	1.0697	1.0300	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.371	18.3865	88.892	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 2 Comment : 5/2
 Stage : X= 68.5375 Y= 76.8965 Z= 10.6960
 Dated on Mar 31 15:12 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.916	2.051E-08	4559.6	34.9	35.8	0.45
2 Mg	107.512	2.051E-08	17.3	20.0	15.5	6.66
3 Ca	107.422	2.051E-08	-0.8	31.5	25.2	100.00 ?
4 Al	90.572	2.051E-08	13.0	51.4	37.7	14.37
5 Si	77.290	2.051E-08	-4.4	240.7	118.1	100.00 ?
6 Na	129.537	2.051E-08	-2.5	10.9	9.1	100.00 ?
7 Ti	87.773	2.051E-08	11852.6	57.5	46.8	0.45
8 Cr	159.496	2.051E-08	2.4	21.3	19.0	43.92 ?
9 Mn	146.382	2.051E-08	62.0	30.4	25.7	2.81
10 Zn	99.907	2.051E-08	-1.7	71.6	61.9	100.00 ?
11 K	119.666	2.051E-08	-77.5	22.0	168.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	38.723	6.6602	36.812	1.0519	1.0037	1.0480	1.0000
MgO	0.183	0.0562	0.095	1.9347	0.9391	2.0300	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.074	0.0180	0.061	1.2272	0.9391	1.3072	0.9996
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	55.447	8.5759	54.005	1.0267	1.0084	1.0020	1.0161
Cr2O3	0.025	0.0041	0.024	1.0392	1.0035	1.0882	0.9517
MnO	0.566	0.0986	0.558	1.0153	1.0084	1.0069	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	95.018	15.4131	91.554	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 3 Comment : 5/3
 Stage : X= 67.9600 Y= 77.2995 Z= 10.6935
 Dated on Mar 31 15:18 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.916	2.056E-08	2901.0	36.6	30.2	0.45
2 Mg	107.512	2.056E-08	63.9	21.0	16.2	2.49
3 Ca	107.422	2.056E-08	16.4	29.5	22.7	8.14
4 Al	90.572	2.056E-08	55.0	57.6	37.5	4.03
5 Si	77.290	2.056E-08	62.9	206.5	122.7	9.34
6 Na	129.537	2.056E-08	-1.9	11.1	7.6	100.00 ?
7 Ti	87.773	2.056E-08	13190.9	54.0	44.4	0.45
8 Cr	159.496	2.056E-08	1.9	19.4	16.9	52.79 ?
9 Mn	146.382	2.056E-08	263.3	29.1	24.6	1.07
10 Zn	99.907	2.056E-08	-2.2	65.9	63.6	100.00 ?
11 K	119.666	2.056E-08	-47.9	20.6	120.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.869	4.2163	23.365	1.0644	1.0076	1.0563	1.0000
MgO	0.642	0.1941	0.350	1.8337	0.9421	1.9179	1.0148
CaO	0.061	0.0133	0.067	0.9103	0.9606	0.9977	0.9499
Al2O3	0.303	0.0724	0.257	1.1804	0.9422	1.2535	0.9995
SiO2	0.300	0.0608	0.281	1.0663	0.9357	1.1407	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.060	9.4618	59.957	1.0351	1.0119	0.9989	1.0240
Cr2O3	0.020	0.0033	0.019	1.0764	1.0072	1.1022	0.9696
MnO	2.432	0.4176	2.363	1.0294	1.0122	1.0170	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.687	14.4396	86.658	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 4 Comment : 5/4
 Stage : X= 68.6160 Y= 77.7345 Z= 10.6935
 Dated on Mar 31 15:23 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.916	2.060E-08	3932.9	37.1	30.8	0.45
2 Mg	107.512	2.060E-08	3.6	23.2	14.6	28.26
3 Ca	107.422	2.060E-08	-2.1	33.7	25.5	100.00 ?
4 Al	90.572	2.060E-08	33.5	56.4	36.7	6.17
5 Si	77.290	2.060E-08	12.8	223.7	125.7	47.73 ?
6 Na	129.537	2.060E-08	-4.3	10.4	8.2	100.00 ?
7 Ti	87.773	2.060E-08	12599.2	61.2	43.9	0.45
8 Cr	159.496	2.060E-08	0.4	19.8	19.4	248.75 ?
9 Mn	146.382	2.060E-08	85.8	30.9	22.4	2.20
10 Zn	99.907	2.060E-08	-0.9	70.9	61.0	100.00 ?
11 K	119.666	2.060E-08	-70.3	21.1	154.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.422	5.6998	31.614	1.0572	1.0051	1.0518	1.0000
MgO	0.037	0.0114	0.020	1.8964	0.9401	1.9876	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.188	0.0452	0.156	1.2065	0.9402	1.2838	0.9996
SiO2	0.062	0.0127	0.057	1.0835	0.9338	1.1614	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.879	9.0295	57.156	1.0301	1.0097	1.0006	1.0197
Cr2O3	0.004	0.0007	0.004	1.0548	1.0048	1.0947	0.9590
MnO	0.785	0.1357	0.769	1.0214	1.0098	1.0116	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.377	14.9349	89.776	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 5 Comment : 5/5
 Stage : X= 69.6620 Y= 77.7345 Z= 10.6935
 Dated on Mar 31 15:29 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.916	2.065E-08	3333.7	34.3	32.1	0.45
2 Mg	107.512	2.065E-08	5.3	20.5	14.0	18.98
3 Ca	107.422	2.065E-08	10.5	29.9	24.1	12.35
4 Al	90.572	2.065E-08	16.4	56.8	40.4	12.26
5 Si	77.290	2.065E-08	33.3	198.6	119.9	16.92
6 Na	129.537	2.065E-08	-4.4	10.2	8.6	100.00 ?
7 Ti	87.773	2.065E-08	13088.3	56.5	46.7	0.45
8 Cr	159.496	2.065E-08	-1.8	19.7	18.9	100.00 ?
9 Mn	146.382	2.065E-08	359.2	28.5	23.4	0.89
10 Zn	99.907	2.065E-08	-6.8	70.0	63.7	100.00 ?
11 K	119.666	2.065E-08	-56.7	21.5	131.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.330	4.7813	26.732	1.0598	1.0056	1.0539	1.0000
MgO	0.054	0.0161	0.029	1.8683	0.9404	1.9576	1.0149
CaO	0.039	0.0085	0.043	0.9127	0.9588	0.9991	0.9528
Al2O3	0.091	0.0216	0.076	1.1923	0.9405	1.2683	0.9996
SiO2	0.159	0.0320	0.148	1.0729	0.9340	1.1498	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.066	9.2677	59.231	1.0310	1.0100	0.9996	1.0211
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	3.288	0.5620	3.210	1.0245	1.0102	1.0141	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.027	14.6894	89.468	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 6 Comment : 5/6
 Stage : X= 70.8190 Y= 77.5245 Z= 10.6990
 Dated on Mar 31 15:34 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.916	2.069E-08	4918.7	38.1	33.4	0.45
2 Mg	107.512	2.069E-08	-1.2	21.2	16.3	100.00 ?
3 Ca	107.422	2.069E-08	1.6	32.5	24.4	80.85 ?
4 Al	90.572	2.069E-08	4.0	57.2	39.8	48.51 ?
5 Si	77.290	2.069E-08	-6.0	255.2	136.9	100.00 ?
6 Na	129.537	2.069E-08	-2.6	11.3	8.8	100.00 ?
7 Ti	87.773	2.069E-08	11162.7	62.8	46.8	0.45
8 Cr	159.496	2.069E-08	-1.2	21.2	21.1	100.00 ?
9 Mn	146.382	2.069E-08	802.6	33.8	27.4	0.58
10 Zn	99.907	2.069E-08	0.8	72.7	70.6	311.21 ?
11 K	119.666	2.069E-08	-83.5	24.0	177.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	41.047	7.0024	39.365	1.0427	1.0005	1.0422	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.006	0.0013	0.006	0.9287	0.9545	1.0061	0.9671
Al2O3	0.023	0.0055	0.018	1.2459	0.9364	1.3309	0.9997
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.315	7.8719	50.419	1.0178	1.0053	1.0036	1.0087
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	7.194	1.2430	7.158	1.0051	1.0052	0.9999	1.0000
ZnO	0.008	0.0012	0.007	1.0857	1.0418	1.0421	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.593	16.1253	96.975	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 7 Comment : 5/7
 Stage : X= 69.7535 Y= 78.3785 Z= 10.6945
 Dated on Mar 31 15:39 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.916	2.074E-08	4274.5	38.5	33.4	0.45
2 Mg	107.512	2.074E-08	14.1	21.3	15.6	8.03
3 Ca	107.422	2.074E-08	-2.0	32.9	26.1	100.00 ?
4 Al	90.572	2.074E-08	18.5	51.1	36.9	10.19
5 Si	77.290	2.074E-08	0.9	237.8	125.4	680.08 ?
6 Na	129.537	2.074E-08	-4.8	9.5	10.0	100.00 ?
7 Ti	87.773	2.074E-08	12479.6	57.3	46.8	0.45
8 Cr	159.496	2.074E-08	0.5	21.1	17.9	198.75 ?
9 Mn	146.382	2.074E-08	37.8	33.8	25.7	4.26
10 Zn	99.907	2.074E-08	-2.3	74.3	65.4	100.00 ?
11 K	119.666	2.074E-08	-79.7	23.0	171.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	36.011	6.1332	34.128	1.0552	1.0046	1.0504	1.0000
MgO	0.146	0.0443	0.076	1.9124	0.9398	2.0052	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.104	0.0250	0.086	1.2156	0.9398	1.2939	0.9996
SiO2	0.005	0.0009	0.004	1.0892	0.9334	1.1680	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.860	8.8614	56.231	1.0290	1.0092	1.0011	1.0184
Cr2O3	0.005	0.0009	0.005	1.0484	1.0043	1.0922	0.9558
MnO	0.343	0.0591	0.336	1.0191	1.0093	1.0098	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 94.474 15.1248 90.866 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 57 Comment : 5/8
 Stage : X= 31.2210 Y= 77.9255 Z= 10.8295
 Dated on Apr 1 15:35 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.057E-08	11751.8	47.0	46.0	0.45
2 Mg	107.512	2.057E-08	-4.1	20.9	17.3	100.00 ?
3 Ca	107.422	2.057E-08	-4.4	34.3	29.4	100.00 ?
4 Al	90.572	2.057E-08	-3.3	56.6	40.1	100.00 ?
5 Si	77.295	2.057E-08	14.4	237.7	128.5	44.68 ?
6 Na	129.537	2.057E-08	-5.4	11.9	9.0	100.00 ?
7 Ti	87.781	2.057E-08	-4.3	57.3	46.2	100.00 ?
8 Cr	159.496	2.057E-08	-5.2	29.2	26.3	100.00 ?
9 Mn	146.389	2.057E-08	-1.2	36.7	30.7	100.00 ?
10 Zn	99.907	2.057E-08	-2.6	78.5	71.7	100.00 ?
11 K	119.666	2.057E-08	-200.0	25.8	409.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	90.284	23.9490	91.458	0.9872	0.9858	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.080	0.0255	0.064	1.2533	0.9189	1.3639	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 90.364 23.9745 91.522 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_5
 Unknown Specimen
 Group : silicates Sample : NAT92_5
 UNK No. : 9 Comment : 5/9
 Stage : X= 69.0160 Y= 78.5765 Z= 10.6945
 Dated on Mar 31 15:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.916	2.079E-08	3552.9	37.5	32.6	0.45
2 Mg	107.512	2.079E-08	2.2	20.4	15.3	45.24 ?
3 Ca	107.422	2.079E-08	2.2	29.7	25.8	55.12 ?
4 Al	90.572	2.079E-08	21.6	53.7	38.1	9.07
5 Si	77.290	2.079E-08	17.8	216.9	112.7	33.00
6 Na	129.537	2.079E-08	-5.3	10.4	10.2	100.00 ?
7 Ti	87.773	2.079E-08	12740.3	54.1	44.7	0.45
8 Cr	159.496	2.079E-08	-0.2	21.3	19.1	100.00 ?
9 Mn	146.382	2.079E-08	219.3	32.5	24.1	1.21
10 Zn	99.907	2.079E-08	4.2	63.8	62.8	56.77 ?
11 K	119.666	2.079E-08	-62.5	21.1	143.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.961	5.1853	28.298	1.0587	1.0054	1.0531	1.0000
MgO	0.022	0.0068	0.012	1.8812	0.9403	1.9713	1.0149
CaO	0.008	0.0018	0.009	0.9145	0.9587	0.9998	0.9541
Al2O3	0.120	0.0292	0.100	1.1986	0.9404	1.2752	0.9996
SiO2	0.085	0.0175	0.079	1.0775	0.9339	1.1549	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.024	9.1861	57.268	1.0307	1.0099	1.0000	1.0206
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.991	0.3490	1.946	1.0233	1.0100	1.0132	1.0000
ZnO	0.039	0.0060	0.036	1.0869	1.0475	1.0377	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.250	14.7818	87.747	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 1 Comment : 5/10
 Stage : X= 31.5020 Y= 78.1840 Z= 10.8270
 Dated on Mar 31 16:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.097E-08	11539.9	47.6	48.1	0.45
2 Mg	107.512	2.097E-08	-4.1	22.6	15.5	100.00 ?
3 Ca	107.422	2.097E-08	-5.9	33.9	27.9	100.00 ?
4 Al	90.572	2.097E-08	-4.8	59.6	40.1	100.00 ?
5 Si	77.290	2.097E-08	5.6	244.8	149.1	122.07 ?
6 Na	129.537	2.097E-08	-4.6	10.8	8.4	100.00 ?
7 Ti	87.773	2.097E-08	-2.4	60.2	44.7	100.00 ?
8 Cr	159.496	2.097E-08	-3.0	26.6	24.5	100.00 ?
9 Mn	146.382	2.097E-08	1.8	36.2	30.2	78.23 ?
10 Zn	99.907	2.097E-08	4.5	70.9	70.0	57.51 ?
11 K	119.666	2.097E-08	-204.5	24.3	424.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.131	23.9663	90.299	0.9871	0.9857	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.031	0.0098	0.024	1.2536	0.9188	1.3643	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.015	0.0041	0.016	0.9415	0.9908	0.9502	1.0000
ZnO	0.042	0.0100	0.039	1.0861	1.0241	1.0606	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.219	23.9902	90.378	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 24 Comment : 6/1
 Stage : X= 63.578 Y= 85.022 Z= 10.579
 Dated on Mar 17 17:09 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.031E-08	13159.0	52.6	53.7	0.45
2 Mg	107.937	2.031E-08	-4.1	23.6	14.5	100.00 ?
3 Ca	107.987	2.031E-08	-3.7	34.2	28.2	100.00 ?
4 Al	90.993	2.031E-08	12.3	58.3	42.2	16.61
5 Si	77.711	2.031E-08	20.3	151.4	83.1	21.10
6 Na	129.948	2.031E-08	-3.2	11.7	9.6	100.00 ?
7 Ti	88.392	2.031E-08	20.9	60.9	42.4	10.24
8 Cr	158.287	2.031E-08	0.6	30.0	23.8	199.33 ?
9 Mn	145.184	2.031E-08	6.7	41.2	35.4	30.46
10 Zn	98.703	2.031E-08	-0.5	98.8	77.2	100.00 ?
11 K	120.235	2.031E-08	-173.7	20.2	357.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.336	23.8251	89.463	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.080	0.0304	0.055	1.4527	0.9253	1.5700	1.0000
SiO2	0.108	0.0347	0.081	1.3216	0.9238	1.4290	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.093	0.0226	0.097	0.9590	0.9922	1.0197	0.9478
Cr2O3	0.004	0.0011	0.005	0.7665	0.9709	1.0072	0.7838
MnO	0.048	0.0131	0.051	0.9418	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.669	23.9269	89.753	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 25 Comment : 6/2
 Stage : X= 61.590 Y= 85.555 Z= 10.574
 Dated on Mar 17 17:14 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.031E-08	13026.0	52.5	53.0	0.45
2 Mg	107.937	2.031E-08	-5.1	24.0	16.1	100.00 ?
3 Ca	107.987	2.031E-08	-2.9	33.7	27.1	100.00 ?
4 Al	90.993	2.031E-08	13.4	61.2	42.1	15.68
5 Si	77.711	2.031E-08	28.7	134.1	88.6	14.13
6 Na	129.948	2.031E-08	-5.1	11.3	8.9	100.00 ?
7 Ti	88.392	2.031E-08	58.8	59.3	43.1	3.96
8 Cr	158.287	2.031E-08	8.3	31.3	27.0	16.05
9 Mn	145.184	2.031E-08	25.2	45.6	34.0	9.08
10 Zn	98.703	2.031E-08	-1.4	95.2	77.6	100.00 ?
11 K	120.235	2.031E-08	-173.4	19.7	357.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.472	23.6529	88.558	0.9877	0.9860	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.087	0.0332	0.060	1.4514	0.9254	1.5684	1.0000
SiO2	0.152	0.0491	0.115	1.3207	0.9239	1.4278	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.263	0.0639	0.274	0.9594	0.9923	1.0197	0.9482
Cr2O3	0.057	0.0147	0.075	0.7687	0.9710	1.0074	0.7858
MnO	0.180	0.0493	0.191	0.9421	0.9911	0.9505	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.211	23.8630	89.273	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 26 Comment : 6/3
 Stage : X= 61.992 Y= 86.141 Z= 10.574
 Dated on Mar 17 18:40 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.177E-08	13681.2	56.2	55.5	0.45
2 Mg	107.937	2.177E-08	-0.9	24.3	17.4	100.00 ?
3 Ca	107.987	2.177E-08	1.2	33.7	28.8	110.55 ?
4 Al	90.993	2.177E-08	21.6	56.5	40.4	9.46
5 Si	77.711	2.177E-08	25.4	135.6	93.7	16.29
6 Na	129.948	2.177E-08	-3.5	13.1	8.8	100.00 ?
7 Ti	88.392	2.177E-08	25.7	68.5	50.0	9.30
8 Cr	158.287	2.177E-08	6.8	30.0	26.5	19.17
9 Mn	145.184	2.177E-08	23.9	46.8	35.4	9.63
10 Zn	98.703	2.177E-08	0.7	97.0	81.6	456.19 ?
11 K	120.235	2.177E-08	-215.9	22.3	439.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.695	23.7221	86.775	0.9876	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.005	0.0018	0.005	0.9767	0.9426	1.0337	1.0024
Al2O3	0.131	0.0512	0.090	1.4519	0.9254	1.5690	1.0000
SiO2	0.126	0.0416	0.095	1.3214	0.9239	1.4287	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.107	0.0267	0.112	0.9592	0.9923	1.0197	0.9479
Cr2O3	0.043	0.0113	0.056	0.7674	0.9710	1.0072	0.7847
MnO	0.159	0.0446	0.169	0.9419	0.9911	0.9503	1.0000
ZnO	0.005	0.0013	0.005	1.0863	1.0244	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.271	23.9005	87.307	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 27 Comment : 6/4
 Stage : X= 62.066 Y= 86.444 Z= 10.574
 Dated on Mar 17 18:45 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.175E-08	14164.2	57.0	56.0	0.45
2 Mg	107.937	2.175E-08	-0.9	24.2	17.5	100.00 ?
3 Ca	107.987	2.175E-08	-4.0	34.4	28.5	100.00 ?
4 Al	90.993	2.175E-08	38.5	62.5	45.5	5.98
5 Si	77.711	2.175E-08	25.7	159.1	89.6	17.59
6 Na	129.948	2.175E-08	-2.2	10.5	8.8	100.00 ?
7 Ti	88.392	2.175E-08	17.9	60.9	53.3	12.69
8 Cr	158.287	2.175E-08	-2.1	31.3	27.8	100.00 ?
9 Mn	145.184	2.175E-08	20.0	42.4	37.6	11.18
10 Zn	98.703	2.175E-08	-5.8	100.9	90.8	100.00 ?
11 K	120.235	2.175E-08	-184.6	19.9	384.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.802	23.7144	89.921	0.9875	0.9861	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.235	0.0883	0.162	1.4516	0.9255	1.5685	1.0000
SiO2	0.127	0.0406	0.096	1.3220	0.9240	1.4291	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.075	0.0179	0.078	0.9592	0.9924	1.0197	0.9479
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.133	0.0360	0.141	0.9419	0.9912	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.372	23.8973	90.398	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 28 Comment : 6/5
 Stage : X= 62.864 Y= 86.261 Z= 10.575
 Dated on Mar 17 18:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.170E-08	14159.0	55.4	57.5	0.45
2 Mg	107.937	2.170E-08	-4.1	25.1	18.1	100.00 ?
3 Ca	107.987	2.170E-08	-0.6	33.8	27.5	100.00 ?
4 Al	90.993	2.170E-08	10.2	62.5	42.2	20.63
5 Si	77.711	2.170E-08	7.8	168.0	91.5	60.02 ?
6 Na	129.948	2.170E-08	-6.3	13.5	9.1	100.00 ?
7 Ti	88.392	2.170E-08	8.3	66.4	52.0	27.44
8 Cr	158.287	2.170E-08	3.9	32.7	29.4	34.71 ?
9 Mn	145.184	2.170E-08	15.3	46.4	33.0	14.22
10 Zn	98.703	2.170E-08	0.7	101.2	82.4	455.68 ?
11 K	120.235	2.170E-08	-185.6	21.5	379.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.946	23.8845	90.095	0.9872	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.062	0.0235	0.043	1.4534	0.9252	1.5709	1.0000
SiO2	0.039	0.0124	0.029	1.3220	0.9237	1.4295	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.035	0.0084	0.036	0.9586	0.9921	1.0197	0.9476
Cr2O3	0.025	0.0064	0.033	0.7660	0.9708	1.0071	0.7835
MnO	0.102	0.0278	0.108	0.9416	0.9909	0.9503	1.0000
ZnO	0.005	0.0013	0.005	1.0862	1.0242	1.0606	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.214	23.9643	90.350	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 29 Comment : 6/6
 Stage : X= 63.422 Y= 86.261 Z= 10.577
 Dated on Mar 17 18:56 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.170E-08	6950.4	51.0	42.2	0.45
2 Mg	107.937	2.170E-08	3.9	25.8	16.4	27.61
3 Ca	107.987	2.170E-08	-4.5	32.9	26.0	100.00 ?
4 Al	90.993	2.170E-08	-3.6	57.5	44.7	100.00 ?
5 Si	77.711	2.170E-08	-7.2	143.6	90.7	100.00 ?
6 Na	129.948	2.170E-08	-2.7	11.3	9.0	100.00 ?
7 Ti	88.392	2.170E-08	11603.8	71.9	56.7	0.45
8 Cr	158.287	2.170E-08	-3.0	25.9	25.2	100.00 ?
9 Mn	145.184	2.170E-08	188.6	42.0	31.0	1.92
10 Zn	98.703	2.170E-08	-5.0	96.1	83.9	100.00 ?
11 K	120.235	2.170E-08	-107.0	18.5	220.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.188	7.8890	44.226	1.0444	1.0015	1.0428	1.0000
MgO	0.038	0.0117	0.019	1.9859	0.9373	2.0877	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.650	7.9332	50.588	1.0210	1.0063	1.0039	1.0106
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.346	0.2328	1.337	1.0068	1.0062	1.0006	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.222	16.0668	96.171	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 30 Comment : 6/7 host
 Stage : X= 63.208 Y= 86.594 Z= 10.577
 Dated on Mar 17 19:01 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.169E-08	12466.6	58.5	53.4	0.45
2 Mg	107.937	2.169E-08	-3.4	23.9	17.8	100.00 ?
3 Ca	107.987	2.169E-08	-0.8	33.9	27.7	100.00 ?
4 Al	90.993	2.169E-08	29.1	65.7	41.2	7.75
5 Si	77.711	2.169E-08	46.3	148.1	94.4	9.56
6 Na	129.948	2.169E-08	-3.4	11.3	10.5	100.00 ?
7 Ti	88.392	2.169E-08	2285.2	73.5	51.0	0.47
8 Cr	158.287	2.169E-08	3.6	30.1	27.8	35.91 ?
9 Mn	145.184	2.169E-08	-7.4	39.8	35.0	100.00 ?
10 Zn	98.703	2.169E-08	-5.6	99.4	86.8	100.00 ?
11 K	120.235	2.169E-08	-180.6	19.7	381.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	79.316	19.4687	79.363	0.9994	0.9895	1.0100	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.172	0.0597	0.122	1.4112	0.9282	1.5205	0.9999
SiO2	0.225	0.0660	0.174	1.2921	0.9266	1.3929	1.0010
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	9.743	2.1505	9.967	0.9775	0.9955	1.0165	0.9659
Cr2O3	0.025	0.0058	0.030	0.8385	0.9743	1.0212	0.8428
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 89.481 21.7507 89.656 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 31 Comment : 6/7 inclusion
 Stage : X= 63.126 Y= 86.766 Z= 10.577
 Dated on Mar 17 19:06 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.167E-08	135.8	37.9	30.5	1.66
2 Mg	107.937	2.167E-08	-5.1	23.5	16.7	100.00 ?
3 Ca	107.987	2.167E-08	1.1	30.4	22.4	109.32 ?
4 Al	90.993	2.167E-08	28.1	60.9	38.0	7.56
5 Si	77.711	2.167E-08	-1.9	120.6	83.2	100.00 ?
6 Na	129.948	2.167E-08	-2.6	10.8	9.4	100.00 ?
7 Ti	88.392	2.167E-08	21152.2	61.4	46.5	0.44
8 Cr	158.287	2.167E-08	4.8	20.4	20.0	22.15
9 Mn	145.184	2.167E-08	-6.6	31.0	22.2	100.00 ?
10 Zn	98.703	2.167E-08	-8.3	84.0	72.6	100.00 ?
11 K	120.235	2.167E-08	-5.6	17.3	18.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.951	0.1297	0.865	1.0986	1.0157	1.0817	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.004	0.0007	0.005	0.8615	0.9672	0.9817	0.9073
Al2O3	0.126	0.0241	0.118	1.0617	0.9483	1.1203	0.9993
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	97.134	11.9122	92.344	1.0519	1.0192	0.9894	1.0431
Cr2O3	0.047	0.0060	0.040	1.1576	0.9986	1.1407	1.0162
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 98.262 12.0727 93.372 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 32 Comment : 6/8
 Stage : X= 64.434 Y= 86.402 Z= 10.577
 Dated on Mar 17 19:12 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.166E-08	13926.7	55.1	56.4	0.45
2 Mg	107.937	2.166E-08	-2.2	23.3	16.1	100.00 ?
3 Ca	107.987	2.166E-08	-1.1	33.9	28.3	100.00 ?
4 Al	90.993	2.166E-08	8.6	66.5	41.2	24.98
5 Si	77.711	2.166E-08	24.5	158.9	97.1	18.75
6 Na	129.948	2.166E-08	-2.4	11.0	8.8	100.00 ?
7 Ti	88.392	2.166E-08	10.1	62.3	52.5	22.13
8 Cr	158.287	2.166E-08	-2.9	34.0	26.9	100.00 ?
9 Mn	145.184	2.166E-08	34.2	43.2	38.4	7.03
10 Zn	98.703	2.166E-08	-6.4	103.6	89.3	100.00 ?
11 K	120.235	2.166E-08	-195.5	19.9	406.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.653	23.8069	88.781	0.9873	0.9859	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.053	0.0202	0.036	1.4528	0.9253	1.5701	1.0000
SiO2	0.122	0.0396	0.092	1.3214	0.9238	1.4288	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.042	0.0103	0.044	0.9587	0.9921	1.0197	0.9476
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.229	0.0629	0.243	0.9417	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.099 23.9400 89.197 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 33 Comment : 6/9
 Stage : X= 63.477 Y= 87.270 Z= 10.575
 Dated on Mar 17 19:17 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.164E-08	13849.0	58.8	54.1	0.45
2 Mg	107.937	2.164E-08	-2.3	23.3	16.3	100.00 ?
3 Ca	107.987	2.164E-08	-2.9	34.0	26.7	100.00 ?
4 Al	90.993	2.164E-08	16.3	62.4	45.0	13.32
5 Si	77.711	2.164E-08	17.6	149.8	90.1	24.62
6 Na	129.948	2.164E-08	-3.5	11.5	10.5	100.00 ?
7 Ti	88.392	2.164E-08	78.3	65.0	48.4	3.29
8 Cr	158.287	2.164E-08	-1.3	30.2	27.5	100.00 ?
9 Mn	145.184	2.164E-08	11.8	40.4	36.0	17.80
10 Zn	98.703	2.164E-08	-0.8	96.3	85.2	100.00 ?
11 K	120.235	2.164E-08	-197.6	20.2	405.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.279	23.7037	88.367	0.9877	0.9860	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.100	0.0382	0.069	1.4517	0.9254	1.5687	1.0000
SiO2	0.087	0.0284	0.066	1.3210	0.9239	1.4282	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.329	0.0802	0.342	0.9595	0.9923	1.0196	0.9483
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.079	0.0217	0.084	0.9421	0.9911	0.9506	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.874 23.8723 88.929 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 34 Comment : 6/10
 Stage : X= 63.691 Y= 88.049 Z= 10.575
 Dated on Mar 17 19:22 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.164E-08	14081.1	58.6	55.0	0.45
2 Mg	107.937	2.164E-08	-1.5	22.0	15.9	100.00 ?
3 Ca	107.987	2.164E-08	-0.7	33.2	28.1	100.00 ?
4 Al	90.993	2.164E-08	16.0	63.5	44.5	13.63
5 Si	77.711	2.164E-08	31.2	152.8	84.8	13.96
6 Na	129.948	2.164E-08	-2.8	13.5	7.0	100.00 ?
7 Ti	88.392	2.164E-08	20.2	62.3	52.4	11.36
8 Cr	158.287	2.164E-08	7.1	32.5	28.4	19.38
9 Mn	145.184	2.164E-08	7.5	45.6	39.4	28.68
10 Zn	98.703	2.164E-08	4.4	92.2	84.1	72.91 ?
11 K	120.235	2.164E-08	-194.3	19.4	399.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.726	23.7656	89.848	0.9875	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.098	0.0370	0.067	1.4525	0.9254	1.5696	1.0000
SiO2	0.155	0.0498	0.118	1.3216	0.9239	1.4288	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.085	0.0204	0.088	0.9592	0.9923	1.0197	0.9480
Cr2O3	0.045	0.0115	0.059	0.7670	0.9710	1.0072	0.7843
MnO	0.050	0.0136	0.053	0.9418	0.9911	0.9503	1.0000
ZnO	0.032	0.0077	0.030	1.0863	1.0244	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.191	23.9056	90.263	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 35 Comment : 7/1
 Stage : X= 68.945 Y= 84.766 Z= 10.579
 Dated on Mar 17 19:28 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.164E-08	14275.1	55.8	53.0	0.45
2 Mg	107.937	2.164E-08	-4.5	25.2	18.7	100.00 ?
3 Ca	107.987	2.164E-08	-1.9	37.8	26.0	100.00 ?
4 Al	90.993	2.164E-08	23.5	64.1	43.8	9.45
5 Si	77.711	2.164E-08	16.5	150.2	91.9	26.42
6 Na	129.948	2.164E-08	-2.9	12.1	8.6	100.00 ?
7 Ti	88.392	2.164E-08	24.4	64.8	51.4	9.58
8 Cr	158.287	2.164E-08	0.4	29.2	30.1	328.02 ?
9 Mn	145.184	2.164E-08	2.2	47.6	38.0	95.23 ?
10 Zn	98.703	2.164E-08	-8.0	102.4	88.7	100.00 ?
11 K	120.235	2.164E-08	-195.9	19.9	402.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.943	23.8137	91.086	0.9874	0.9860	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.144	0.0538	0.099	1.4525	0.9254	1.5697	1.0000
SiO2	0.082	0.0260	0.062	1.3219	0.9239	1.4292	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.103	0.0244	0.107	0.9591	0.9922	1.0197	0.9479
Cr2O3	0.003	0.0006	0.003	0.7666	0.9710	1.0072	0.7839
MnO	0.015	0.0040	0.016	0.9418	0.9911	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.290	23.9224	91.373	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 36 Comment : 7/2
 Stage : X= 70.175 Y= 85.152 Z= 10.579
 Dated on Mar 17 19:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.165E-08	4276.6	41.5	39.3	0.45
2 Mg	107.937	2.165E-08	24.1	24.6	17.3	5.34
3 Ca	107.987	2.165E-08	44.6	28.8	21.9	3.50
4 Al	90.993	2.165E-08	40.3	59.8	39.7	5.45
5 Si	77.711	2.165E-08	85.5	126.9	97.1	4.92
6 Na	129.948	2.165E-08	-2.3	11.1	8.5	100.00 ?
7 Ti	88.392	2.165E-08	12981.7	61.2	51.1	0.45
8 Cr	158.287	2.165E-08	3.8	25.3	22.2	30.03
9 Mn	145.184	2.165E-08	505.9	32.0	26.8	1.05
10 Zn	98.703	2.165E-08	8.2	80.0	78.6	35.44 ?
11 K	120.235	2.165E-08	-58.1	18.8	132.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.860	4.9557	27.276	1.0581	1.0055	1.0523	1.0000
MgO	0.224	0.0686	0.120	1.8764	0.9404	1.9661	1.0148
CaO	0.173	0.0380	0.189	0.9162	0.9588	1.0001	0.9555
Al2O3	0.203	0.0492	0.170	1.1981	0.9405	1.2744	0.9995
SiO2	0.366	0.0751	0.322	1.1367	0.9389	1.2104	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.470	9.0284	56.726	1.0307	1.0100	1.0006	1.0199
Cr2O3	0.034	0.0054	0.032	1.0588	0.9892	1.0916	0.9805
MnO	3.675	0.6392	3.595	1.0224	1.0102	1.0121	1.0000
ZnO	0.061	0.0092	0.056	1.0869	1.0477	1.0375	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.066	14.8691	88.484	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 37 Comment : 7/3
 Stage : X= 71.204 Y= 85.496 Z= 10.575
 Dated on Mar 17 19:38 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.164E-08	13833.6	55.9	55.5	0.45
2 Mg	107.937	2.164E-08	-3.2	24.5	16.8	100.00 ?
3 Ca	107.987	2.164E-08	-4.2	34.7	28.6	100.00 ?
4 Al	90.993	2.164E-08	12.8	65.0	44.4	17.09
5 Si	77.711	2.164E-08	9.0	153.4	98.6	49.57 ?
6 Na	129.948	2.164E-08	-3.6	12.8	9.3	100.00 ?
7 Ti	88.392	2.164E-08	18.9	62.5	49.6	11.87
8 Cr	158.287	2.164E-08	19.3	32.9	28.4	7.66
9 Mn	145.184	2.164E-08	24.3	45.2	36.2	9.46
10 Zn	98.703	2.164E-08	2.0	91.9	84.1	155.13 ?
11 K	120.235	2.164E-08	-209.0	19.5	428.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.161	23.7896	88.269	0.9875	0.9858	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.078	0.0302	0.054	1.4528	0.9253	1.5701	1.0000
SiO2	0.045	0.0147	0.034	1.3216	0.9237	1.4291	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.079	0.0195	0.083	0.9589	0.9921	1.0197	0.9478
Cr2O3	0.125	0.0321	0.162	0.7672	0.9709	1.0071	0.7847
MnO	0.163	0.0450	0.173	0.9417	0.9909	0.9503	1.0000
ZnO	0.015	0.0036	0.014	1.0862	1.0242	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.666	23.9347	88.789	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 38 Comment : 7/4
 Stage : X= 69.784 Y= 85.788 Z= 10.578
 Dated on Mar 17 19:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.168E-08	14071.5	59.0	55.3	0.45
2 Mg	107.937	2.168E-08	-3.0	22.2	18.8	100.00 ?
3 Ca	107.987	2.168E-08	-3.7	32.1	30.2	100.00 ?
4 Al	90.993	2.168E-08	16.7	63.1	43.5	12.97
5 Si	77.711	2.168E-08	38.6	156.6	91.2	11.72
6 Na	129.948	2.168E-08	-4.1	13.1	10.1	100.00 ?
7 Ti	88.392	2.168E-08	39.8	68.5	52.0	6.26
8 Cr	158.287	2.168E-08	-0.9	30.5	26.3	100.00 ?
9 Mn	145.184	2.168E-08	15.0	43.6	36.4	14.53
10 Zn	98.703	2.168E-08	-1.2	101.8	90.6	100.00 ?
11 K	120.235	2.168E-08	-227.1	20.5	468.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.511	23.7119	89.621	0.9876	0.9861	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.102	0.0385	0.070	1.4517	0.9255	1.5687	1.0000
SiO2	0.192	0.0614	0.145	1.3211	0.9239	1.4282	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.167	0.0401	0.174	0.9593	0.9923	1.0197	0.9480
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.100	0.0272	0.106	0.9420	0.9912	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.072	23.8792	90.117	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 39 Comment : 7/5
 Stage : X= 68.695 Y= 86.139 Z= 10.578
 Dated on Mar 17 19:49 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.172E-08	7212.1	44.2	44.0	0.45
2 Mg	107.937	2.172E-08	401.3	26.6	16.1	0.83
3 Ca	107.987	2.172E-08	-3.0	32.2	23.7	100.00 ?
4 Al	90.993	2.172E-08	44.4	57.5	38.6	4.88
5 Si	77.711	2.172E-08	-10.3	144.2	86.4	100.00 ?
6 Na	129.948	2.172E-08	-5.0	11.7	8.4	100.00 ?
7 Ti	88.392	2.172E-08	9332.3	67.3	51.9	0.45
8 Cr	158.287	2.172E-08	-3.2	27.4	23.9	100.00 ?
9 Mn	145.184	2.172E-08	117.3	34.4	31.0	2.58
10 Zn	98.703	2.172E-08	4.6	92.2	78.7	67.83 ?
11 K	120.235	2.172E-08	-105.1	19.3	220.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	47.694	8.7499	45.849	1.0403	1.0037	1.0364	1.0000
MgO	3.958	1.2942	1.988	1.9912	0.9394	2.0888	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.241	0.0623	0.187	1.2904	0.9394	1.3739	0.9997
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	41.529	6.8512	40.648	1.0217	1.0086	1.0063	1.0066
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.832	0.1546	0.831	1.0012	1.0085	0.9928	1.0000
ZnO	0.034	0.0055	0.031	1.0895	1.0452	1.0424	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.288	17.1177	89.533	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 40 Comment : 7/5 inclusion
 Stage : X= 68.623 Y= 85.999 Z= 10.578
 Dated on Mar 17 19:54 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.173E-08	11964.5	53.7	52.2	0.45
2 Mg	107.937	2.173E-08	18.4	24.5	18.7	6.74
3 Ca	107.987	2.173E-08	2.5	34.4	25.6	52.08 ?
4 Al	90.993	2.173E-08	183.8	67.9	44.5	1.66
5 Si	77.711	2.173E-08	42.3	159.4	96.1	10.98
6 Na	129.948	2.173E-08	-4.8	13.4	11.2	100.00 ?
7 Ti	88.392	2.173E-08	2901.0	63.2	51.3	0.46
8 Cr	158.287	2.173E-08	-2.8	29.7	25.9	100.00 ?
9 Mn	145.184	2.173E-08	17.5	41.0	34.0	12.29
10 Zn	98.703	2.173E-08	16.3	97.8	84.6	20.39
11 K	120.235	2.173E-08	-157.6	18.9	331.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	76.297	17.9489	76.027	1.0036	0.9915	1.0122	0.9999
MgO	0.207	0.0866	0.091	2.2671	0.9296	2.4032	1.0147
CaO	0.010	0.0031	0.011	0.9697	0.9472	1.0270	0.9969
Al2O3	1.077	0.3572	0.772	1.3956	0.9298	1.5012	0.9999
SiO2	0.204	0.0575	0.159	1.2875	0.9282	1.3856	1.0010
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	12.426	2.6286	12.630	0.9838	0.9973	1.0158	0.9711
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.119	0.0283	0.124	0.9599	0.9965	0.9634	0.9999
ZnO	0.121	0.0251	0.111	1.0874	1.0309	1.0548	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.461	21.1353	89.924	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 41 Comment : 7/6
 Stage : X= 70.972 Y= 86.889 Z= 10.574
 Dated on Mar 17 20:00 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.175E-08	13864.8	57.1	53.7	0.45
2 Mg	107.937	2.175E-08	-3.2	24.9	16.4	100.00 ?
3 Ca	107.987	2.175E-08	-1.6	35.6	27.5	100.00 ?
4 Al	90.993	2.175E-08	34.1	70.7	46.1	7.10
5 Si	77.711	2.175E-08	28.4	156.5	86.7	15.65
6 Na	129.948	2.175E-08	-5.8	11.7	9.9	100.00 ?
7 Ti	88.392	2.175E-08	31.7	64.0	52.6	7.51
8 Cr	158.287	2.175E-08	23.3	34.7	28.8	6.65
9 Mn	145.184	2.175E-08	7.2	41.8	33.8	28.26
10 Zn	98.703	2.175E-08	-7.4	102.6	92.2	100.00 ?
11 K	120.235	2.175E-08	-190.1	20.8	394.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.952	23.6535	88.021	0.9879	0.9861	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.208	0.0796	0.143	1.4511	0.9255	1.5679	1.0000
SiO2	0.141	0.0457	0.106	1.3215	0.9240	1.4285	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.132	0.0324	0.138	0.9596	0.9924	1.0197	0.9482
Cr2O3	0.149	0.0384	0.194	0.7683	0.9711	1.0072	0.7855
MnO	0.048	0.0132	0.051	0.9420	0.9912	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.630	23.8628	88.653	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 42 Comment : 7/7
 Stage : X= 69.915 Y= 86.660 Z= 10.577
 Dated on Mar 17 20:05 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.175E-08	14318.6	56.4	54.4	0.45
2 Mg	107.937	2.175E-08	0.1	24.0	15.8	999.00 ?
3 Ca	107.987	2.175E-08	-2.4	32.1	27.8	100.00 ?
4 Al	90.993	2.175E-08	13.6	65.6	42.2	16.01
5 Si	77.711	2.175E-08	7.2	151.6	89.1	59.97 ?
6 Na	129.948	2.175E-08	-3.7	12.3	10.0	100.00 ?
7 Ti	88.392	2.175E-08	8.9	67.0	50.2	25.68
8 Cr	158.287	2.175E-08	3.1	31.7	27.2	42.47 ?
9 Mn	145.184	2.175E-08	7.3	46.4	39.0	29.49
10 Zn	98.703	2.175E-08	0.1	101.5	83.3	2925.66 ?
11 K	120.235	2.175E-08	-198.6	20.6	411.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.744	23.8917	90.901	0.9873	0.9858	1.0015	1.0000
MgO	0.001	0.0006	0.000	2.3855	0.9251	2.5409	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.083	0.0311	0.057	1.4534	0.9253	1.5708	1.0000
SiO2	0.036	0.0114	0.027	1.3221	0.9237	1.4296	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.037	0.0089	0.039	0.9587	0.9921	1.0197	0.9476
Cr2O3	0.020	0.0049	0.026	0.7659	0.9708	1.0071	0.7834
MnO	0.049	0.0131	0.052	0.9416	0.9909	0.9503	1.0000
ZnO	0.001	0.0002	0.001	1.0862	1.0242	1.0606	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.971	23.9618	91.102	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 43 Comment : 7/8
 Stage : X= 69.012 Y= 86.969 Z= 10.577
 Dated on Mar 17 20:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.178E-08	14219.6	56.8	52.6	0.45
2 Mg	107.937	2.178E-08	-3.1	22.5	18.7	100.00 ?
3 Ca	107.987	2.178E-08	-3.5	36.8	30.1	100.00 ?
4 Al	90.993	2.178E-08	20.3	67.7	41.7	11.03
5 Si	77.711	2.178E-08	34.1	147.4	89.4	12.66
6 Na	129.948	2.178E-08	-4.2	12.7	10.6	100.00 ?
7 Ti	88.392	2.178E-08	28.2	69.1	49.6	8.55
8 Cr	158.287	2.178E-08	3.1	32.7	31.1	43.66 ?
9 Mn	145.184	2.178E-08	25.1	44.2	35.6	9.12
10 Zn	98.703	2.178E-08	-8.8	106.8	90.9	100.00 ?
11 K	120.235	2.178E-08	-206.6	19.3	423.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.027	23.7140	90.149	0.9876	0.9860	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.124	0.0464	0.085	1.4518	0.9254	1.5688	1.0000
SiO2	0.169	0.0537	0.128	1.3213	0.9239	1.4284	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.117	0.0281	0.122	0.9592	0.9923	1.0197	0.9479
Cr2O3	0.020	0.0051	0.026	0.7673	0.9710	1.0072	0.7846
MnO	0.167	0.0451	0.177	0.9419	0.9911	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.624	23.8924	90.687	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 44 Comment : 7/9
 Stage : X= 70.462 Y= 87.468 Z= 10.572
 Dated on Mar 17 20:16 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.177E-08	13720.4	59.3	54.1	0.45
2 Mg	107.937	2.177E-08	-0.6	24.6	16.5	100.00 ?
3 Ca	107.987	2.177E-08	4.4	34.4	26.9	30.96
4 Al	90.993	2.177E-08	39.8	62.1	43.4	5.72
5 Si	77.711	2.177E-08	82.7	160.4	89.4	5.68
6 Na	129.948	2.177E-08	-3.9	13.5	9.4	100.00 ?
7 Ti	88.392	2.177E-08	583.4	68.0	51.1	0.76
8 Cr	158.287	2.177E-08	3.6	29.9	27.9	35.68 ?
9 Mn	145.184	2.177E-08	4.2	47.0	34.6	49.31 ?
10 Zn	98.703	2.177E-08	-8.3	97.5	94.1	100.00 ?
11 K	120.235	2.177E-08	-184.0	23.0	380.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.230	22.4473	87.024	0.9909	0.9873	1.0036	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.018	0.0060	0.018	0.9759	0.9437	1.0325	1.0016
Al2O3	0.240	0.0881	0.167	1.4401	0.9265	1.5545	0.9999
SiO2	0.406	0.1265	0.309	1.3137	0.9249	1.4187	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	2.447	0.5727	2.535	0.9649	0.9935	1.0190	0.9531
Cr2O3	0.024	0.0058	0.030	0.7874	0.9722	1.0106	0.8014
MnO	0.028	0.0074	0.030	0.9456	0.9924	0.9529	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.393	23.2538	90.114	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 45 Comment : 7/10
 Stage : X= 69.980 Y= 88.415 Z= 10.572
 Dated on Mar 17 20:21 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.175E-08	13627.7	56.6	54.5	0.45
2 Mg	107.937	2.175E-08	-3.3	25.2	16.4	100.00 ?
3 Ca	107.987	2.175E-08	29.5	33.1	28.0	5.30
4 Al	90.993	2.175E-08	25.3	62.6	41.8	8.63
5 Si	77.711	2.175E-08	23.9	145.5	86.8	17.68
6 Na	129.948	2.175E-08	-4.2	12.0	11.4	100.00 ?
7 Ti	88.392	2.175E-08	24.1	66.4	50.4	9.78
8 Cr	158.287	2.175E-08	-1.3	31.1	31.4	100.00 ?
9 Mn	145.184	2.175E-08	4.8	41.0	39.4	43.00 ?
10 Zn	98.703	2.175E-08	7.2	91.6	84.0	44.31 ?
11 K	120.235	2.175E-08	-201.6	20.9	417.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.449	23.7158	86.515	0.9877	0.9861	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.121	0.0431	0.124	0.9769	0.9427	1.0337	1.0025
Al2O3	0.154	0.0603	0.106	1.4519	0.9255	1.5687	1.0000
SiO2	0.118	0.0393	0.090	1.3216	0.9240	1.4287	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.101	0.0251	0.105	0.9601	0.9924	1.0200	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.032	0.0090	0.034	0.9421	0.9912	0.9505	1.0000
ZnO	0.053	0.0130	0.049	1.0864	1.0245	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.028	23.9055	87.022	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_2467
 Unknown Specimen
 Group : silicates Sample : 878UEM
 UNK No. : 46 Comment : 7/11
 Stage : X= 68.660 Y= 87.995 Z= 10.575
 Dated on Mar 17 20:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.176E-08	14092.9	55.7	55.9	0.45
2 Mg	107.937	2.176E-08	-3.8	24.5	18.1	100.00 ?
3 Ca	107.987	2.176E-08	-4.4	34.8	29.1	100.00 ?
4 Al	90.993	2.176E-08	30.9	61.5	41.6	7.10
5 Si	77.711	2.176E-08	9.2	152.0	99.6	48.35 ?
6 Na	129.948	2.176E-08	-2.6	11.8	8.4	100.00 ?
7 Ti	88.392	2.176E-08	2.9	73.5	50.7	81.29 ?
8 Cr	158.287	2.176E-08	2.5	33.5	26.5	53.05 ?
9 Mn	145.184	2.176E-08	18.3	48.0	35.4	12.32
10 Zn	98.703	2.176E-08	-9.9	102.0	102.8	100.00 ?
11 K	120.235	2.176E-08	-214.7	21.3	438.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.295	23.8179	89.427	0.9873	0.9859	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.188	0.0716	0.130	1.4526	0.9253	1.5698	1.0000
SiO2	0.046	0.0147	0.035	1.3223	0.9238	1.4297	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.012	0.0029	0.013	0.9588	0.9922	1.0197	0.9477
Cr2O3	0.016	0.0040	0.021	0.7661	0.9709	1.0071	0.7835
MnO	0.122	0.0333	0.129	0.9417	0.9910	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.679	23.9445	89.754	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 2 Comment : 8/1
 Stage : X= 62.4340 Y= 77.6745 Z= 10.6835
 Dated on Mar 31 17:13 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.988E-08	4058.1	36.7	33.0	0.45
2 Mg	107.512	1.988E-08	0.2	20.9	13.8	622.27 ?
3 Ca	107.422	1.988E-08	-4.8	33.1	26.5	100.00 ?
4 Al	90.572	1.988E-08	-1.5	51.7	36.3	100.00 ?
5 Si	77.290	1.988E-08	-15.2	230.3	140.2	100.00 ?
6 Na	129.537	1.988E-08	-2.4	9.0	10.8	100.00 ?
7 Ti	87.773	1.988E-08	10819.7	54.8	46.3	0.45
8 Cr	159.496	1.988E-08	-4.2	22.9	20.4	100.00 ?
9 Mn	146.382	1.988E-08	1468.2	30.2	29.5	0.46
10 Zn	99.907	1.988E-08	47.9	74.2	65.1	5.84
11 K	119.666	1.988E-08	-72.4	23.1	151.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.869	5.8947	33.495	1.0410	0.9994	1.0419	0.9997
MgO	0.002	0.0005	0.001	1.9665	0.9354	2.0715	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.617	7.8470	50.861	1.0149	1.0043	1.0034	1.0072
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	13.674	2.3413	13.627	1.0034	1.0041	0.9995	0.9998
ZnO	0.466	0.0696	0.430	1.0839	1.0407	1.0415	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.628	16.1530	98.414	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 3 Comment : 8/2
 Stage : X= 61.5885 Y= 77.9755 Z= 10.6810
 Dated on Mar 31 17:19 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.986E-08	14.5	22.3	18.7	8.12
2 Mg	107.512	1.986E-08	13.6	20.8	12.1	7.95
3 Ca	107.422	1.986E-08	5.3	15.9	18.5	18.79
4 Al	90.572	1.986E-08	3912.0	97.3	34.0	0.46
5 Si	77.290	1.986E-08	17861.3	202.7	130.2	0.45
6 Na	129.537	1.986E-08	3.4	10.4	7.9	21.96
7 Ti	87.773	1.986E-08	2.2	32.9	22.6	55.77 ?
8 Cr	159.496	1.986E-08	-2.3	11.7	13.0	100.00 ?
9 Mn	146.382	1.986E-08	-4.5	18.2	15.7	100.00 ?
10 Zn	99.907	1.986E-08	-6.8	44.1	39.5	100.00 ?
11 K	119.666	1.986E-08	1318.7	14.1	11.0	0.45

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.131	0.0143	0.120	1.0959	1.0856	1.0095	1.0000
MgO	0.085	0.0166	0.077	1.1088	1.0078	1.0981	1.0019
CaO	0.026	0.0036	0.023	1.1418	1.0298	1.0775	1.0290
Al2O3	15.158	2.3346	18.904	0.8019	1.0078	0.8136	0.9780
SiO2	76.345	9.9758	82.599	0.9243	1.0010	0.9238	0.9996
Na2O	0.033	0.0084	0.041	0.8071	1.0944	0.7413	0.9949
TiO2	0.013	0.0012	0.011	1.1834	1.0863	1.0440	1.0436
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	6.062	1.0105	5.945	1.0197	1.0064	1.0130	1.0002
Total	97.853	13.3652	107.719	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 4 Comment : 8/3
 Stage : X= 60.7985 Y= 78.3405 Z= 10.6775
 Dated on Mar 31 17:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.983E-08	-1.8	8.9	9.7	100.00 ?
2 Mg	107.512	1.983E-08	12.7	11.2	8.4	7.08
3 Ca	107.422	1.983E-08	96.2	9.8	7.9	1.75
4 Al	90.572	1.983E-08	-3.2	20.8	15.7	100.00 ?
5 Si	77.290	1.983E-08	0.8	58.6	34.8	239.01 ?
6 Na	129.537	1.983E-08	105.4	5.5	3.8	1.61
7 Ti	87.773	1.983E-08	-5.0	16.4	13.7	100.00 ?
8 Cr	159.496	1.983E-08	-3.7	5.9	6.4	100.00 ?
9 Mn	146.382	1.983E-08	-2.7	8.5	6.8	100.00 ?
10 Zn	99.907	1.983E-08	-3.4	19.8	17.1	100.00 ?
11 K	119.666	1.983E-08	8.4	8.0	5.1	8.69

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MgO	0.145	3.2359	0.072	2.0071	0.9871	2.0037	1.0148
CaO	0.431	6.9164	0.409	1.0526	1.0083	1.0145	1.0290
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.004	0.0646	0.004	1.1866	0.9804	1.2118	0.9988
Na2O	0.922	26.7775	1.298	0.7102	1.0718	0.6634	0.9989
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.035	0.6596	0.038	0.9044	0.9854	0.9557	0.9603
Total	1.537	37.6540	1.821	Total O =	24.0	Iteration =	6

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 5 Comment : 8/4
 Stage : X= 63.0890 Y= 78.2045 Z= 10.6850
 Dated on Mar 31 17:31 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.981E-08	2498.4	26.5	20.9	0.45
2 Mg	107.512	1.981E-08	919.3	23.0	15.3	0.53
3 Ca	107.422	1.981E-08	2592.5	23.7	19.3	0.45
4 Al	90.572	1.981E-08	2034.3	78.3	29.7	0.47
5 Si	77.290	1.981E-08	8859.2	204.4	104.7	0.46
6 Na	129.537	1.981E-08	81.7	9.8	6.8	1.92
7 Ti	87.773	1.981E-08	139.4	37.0	29.3	1.67
8 Cr	159.496	1.981E-08	42.5	15.7	14.4	3.17
9 Mn	146.382	1.981E-08	42.0	21.6	19.5	3.43
10 Zn	99.907	1.981E-08	-3.6	56.3	45.9	100.00 ?
11 K	119.666	1.981E-08	226.9	15.1	91.4	1.49

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	22.253	2.9398	20.695	1.0753	1.0606	1.0139	1.0000
MgO	7.639	1.7989	5.230	1.4608	0.9876	1.4653	1.0095
CaO	11.846	2.0051	11.045	1.0726	1.0082	1.0401	1.0229
Al2O3	10.380	1.9327	9.855	1.0533	0.9876	1.0761	0.9910
SiO2	43.560	6.8809	41.072	1.0606	0.9809	1.0818	0.9995
Na2O	1.142	0.3497	1.007	1.1335	1.0724	1.0604	0.9968
TiO2	0.754	0.0896	0.658	1.1465	1.0629	1.0522	1.0252
Cr2O3	0.470	0.0587	0.452	1.0399	1.0589	1.0306	0.9529
MnO	0.401	0.0537	0.391	1.0272	1.0648	0.9647	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.988	0.1991	1.025	0.9635	0.9855	0.9949	0.9826
Total	99.433	16.3082	91.430	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 6 Comment : 8/5
 Stage : X= 62.4925 Y= 78.8480 Z= 10.6795
 Dated on Mar 31 17:36 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.979E-08	10880.2	44.1	42.4	0.45
2 Mg	107.512	1.979E-08	-3.3	22.1	14.4	100.00 ?
3 Ca	107.422	1.979E-08	-3.0	32.5	28.5	100.00 ?
4 Al	90.572	1.979E-08	35.1	54.5	40.4	5.95
5 Si	77.290	1.979E-08	31.8	241.3	130.1	20.59
6 Na	129.537	1.979E-08	-3.8	9.7	8.0	100.00 ?
7 Ti	87.773	1.979E-08	35.5	59.7	44.3	6.26
8 Cr	159.496	1.979E-08	1.6	24.4	22.5	71.01 ?
9 Mn	146.382	1.979E-08	5.0	35.9	29.1	28.31
10 Zn	99.907	1.979E-08	-5.0	78.1	66.9	100.00 ?
11 K	119.666	1.979E-08	-170.8	23.7	357.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.110	23.6506	90.213	0.9878	0.9862	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.247	0.0923	0.170	1.4509	0.9256	1.5676	1.0000
SiO2	0.185	0.0588	0.148	1.2530	0.9193	1.3630	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.161	0.0384	0.168	0.9596	0.9925	1.0197	0.9482
Cr2O3	0.013	0.0032	0.017	0.7698	0.9869	1.0108	0.7717
MnO	0.044	0.0118	0.047	0.9421	0.9913	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.760	23.8551	90.762	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 7 Comment : 8/6
 Stage : X= 61.7375 Y= 79.0905 Z= 10.6795
 Dated on Mar 31 17:41 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.978E-08	3994.4	32.4	30.7	0.45
2 Mg	107.512	1.978E-08	64.8	21.0	14.5	2.44
3 Ca	107.422	1.978E-08	747.1	27.0	20.1	0.60
4 Al	90.572	1.978E-08	235.4	56.3	33.1	1.28
5 Si	77.290	1.978E-08	6021.6	259.1	117.1	0.47
6 Na	129.537	1.978E-08	-1.8	9.5	9.0	100.00 ?
7 Ti	87.773	1.978E-08	9.5	47.3	33.7	18.02
8 Cr	159.496	1.978E-08	-4.1	20.4	17.9	100.00 ?
9 Mn	146.382	1.978E-08	1931.0	27.2	24.6	0.45
10 Zn	99.907	1.978E-08	3.0	59.7	54.2	71.83 ?
11 K	119.666	1.978E-08	24.0	19.0	163.1	16.91

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.182	6.1324	33.136	1.0316	1.0264	1.0051	1.0000
MgO	0.687	0.2196	0.369	1.8615	0.9590	1.9177	1.0122
CaO	3.272	0.7521	3.188	1.0264	0.9780	1.0375	1.0116
Al2O3	1.364	0.3450	1.142	1.1948	0.9591	1.2535	0.9939
SiO2	30.588	6.5615	27.959	1.0940	0.9525	1.1487	0.9999
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.047	0.0076	0.045	1.0437	1.0304	1.0305	0.9829
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	17.729	3.2215	18.013	0.9843	1.0309	0.9547	1.0000
ZnO	0.030	0.0048	0.027	1.1071	1.0701	1.0346	1.0000
K2O	0.102	0.0279	0.108	0.9395	0.9563	0.9962	0.9862
Total	88.001	17.2723	83.988	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 8 Comment : 8/7
 Stage : X= 60.4525 Y= 79.2035 Z= 10.6820
 Dated on Apr 1 11:04 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.977E-08	10553.0	45.7	41.0	0.45
2 Mg	107.512	1.977E-08	-2.3	19.4	15.3	100.00 ?
3 Ca	107.422	1.977E-08	-3.0	34.2	26.8	100.00 ?
4 Al	90.572	1.977E-08	2.0	52.5	38.6	93.13 ?
5 Si	77.290	1.977E-08	3.0	247.5	126.5	217.16 ?
6 Na	129.537	1.977E-08	-2.9	9.1	6.7	100.00 ?
7 Ti	87.773	1.977E-08	109.9	55.1	45.2	2.33
8 Cr	159.496	1.977E-08	2.1	27.2	23.5	54.26 ?
9 Mn	146.382	1.977E-08	-3.6	35.0	27.2	100.00 ?
10 Zn	99.907	1.977E-08	-1.7	82.3	66.1	100.00 ?
11 K	119.666	1.977E-08	-171.2	21.9	355.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.516	23.7277	87.589	0.9877	0.9859	1.0019	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.014	0.0053	0.009	1.4520	0.9253	1.5692	1.0000
SiO2	0.018	0.0058	0.014	1.2521	0.9190	1.3624	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.498	0.1229	0.519	0.9596	0.9922	1.0196	0.9486
Cr2O3	0.018	0.0046	0.023	0.7716	0.9866	1.0113	0.7733
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.064	23.8663	88.154	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 9 Comment : 8/8
 Stage : X= 63.4135 Y= 79.0385 Z= 10.6840
 Dated on Mar 31 17:52 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.977E-08	6209.0	39.8	36.7	0.45
2 Mg	107.512	1.977E-08	161.3	22.1	15.4	1.38
3 Ca	107.422	1.977E-08	-5.2	31.1	24.2	100.00 ?
4 Al	90.572	1.977E-08	57.5	52.8	42.2	3.86
5 Si	77.290	1.977E-08	0.8	221.8	111.7	729.57 ?
6 Na	129.537	1.977E-08	-3.5	9.5	7.5	100.00 ?
7 Ti	87.773	1.977E-08	7950.2	52.3	46.5	0.45
8 Cr	159.496	1.977E-08	-1.0	23.1	18.9	100.00 ?
9 Mn	146.382	1.977E-08	45.0	31.1	23.9	3.58
10 Zn	99.907	1.977E-08	1.8	66.8	64.7	138.18 ?
11 K	119.666	1.977E-08	-111.5	21.1	231.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	53.292	10.1122	51.534	1.0341	1.0006	1.0336	1.0000
MgO	1.883	0.6367	0.919	2.0478	0.9368	2.1541	1.0148
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.363	0.0970	0.279	1.3000	0.9368	1.3880	0.9998
SiO2	0.004	0.0010	0.004	1.1496	0.9304	1.2362	0.9995
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	38.153	6.5102	37.580	1.0152	1.0056	1.0075	1.0021
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.418	0.0803	0.420	0.9946	1.0053	0.9893	1.0000
ZnO	0.017	0.0029	0.016	1.0884	1.0416	1.0450	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.130	17.4403	90.752	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 10 Comment : 8/9
 Stage : X= 63.1445 Y= 79.6330 Z= 10.6865
 Dated on Apr 1 11:20 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.972E-08	6031.4	39.9	36.5	0.45
2 Mg	107.512	1.972E-08	66.7	17.4	14.2	2.35
3 Ca	107.422	1.972E-08	779.5	28.6	23.9	0.59
4 Al	90.572	1.972E-08	2.7	51.0	33.6	63.51 ?
5 Si	77.290	1.972E-08	932.6	220.7	116.7	0.82
6 Na	129.537	1.972E-08	-1.2	9.1	8.3	100.00 ?
7 Ti	87.773	1.972E-08	-2.6	48.0	42.2	100.00 ?
8 Cr	159.496	1.972E-08	-4.0	22.7	20.2	100.00 ?
9 Mn	146.382	1.972E-08	2156.7	29.8	27.3	0.45
10 Zn	99.907	1.972E-08	8.2	65.0	63.6	29.77
11 K	119.666	1.972E-08	-24.3	20.4	223.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	50.072	13.6940	50.187	0.9977	0.9939	1.0039	0.9999
MgO	0.839	0.4091	0.381	2.2018	0.9316	2.3298	1.0145
CaO	3.270	1.1458	3.336	0.9803	0.9493	1.0294	1.0032
Al2O3	0.018	0.0070	0.013	1.3695	0.9317	1.4713	0.9990
SiO2	5.197	1.6995	4.344	1.1965	0.9253	1.2932	0.9999
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	19.214	5.3221	20.180	0.9521	0.9988	0.9533	1.0000
ZnO	0.081	0.0195	0.074	1.0879	1.0336	1.0526	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	78.691	22.2970	78.514	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 11 Comment : 8/10
 Stage : X= 62.1785 Y= 79.8610 Z= 10.6780
 Dated on Mar 31 18:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.976E-08	2805.2	33.6	28.9	0.45
2 Mg	107.512	1.976E-08	-3.0	21.1	14.8	100.00 ?
3 Ca	107.422	1.976E-08	2639.4	32.3	25.5	0.45
4 Al	90.572	1.976E-08	58.5	48.7	34.3	3.53
5 Si	77.290	1.976E-08	2841.3	220.5	107.9	0.51
6 Na	129.537	1.976E-08	-3.2	9.0	7.4	100.00 ?
7 Ti	87.773	1.976E-08	9730.2	50.2	39.0	0.45
8 Cr	159.496	1.976E-08	5.0	18.3	16.7	20.00
9 Mn	146.382	1.976E-08	10.5	27.2	21.7	11.68
10 Zn	99.907	1.976E-08	-5.8	63.4	53.1	100.00 ?
11 K	119.666	1.976E-08	-53.3	18.6	113.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.047	3.7048	23.294	1.0752	1.0239	1.0501	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	10.824	2.0512	11.273	0.9601	0.9754	1.0035	0.9809
Al2O3	0.319	0.0665	0.284	1.1213	0.9564	1.1760	0.9969
SiO2	13.605	2.4062	13.206	1.0302	0.9499	1.0858	0.9989
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	50.012	6.6523	46.017	1.0868	1.0278	1.0282	1.0285
Cr2O3	0.058	0.0081	0.053	1.0838	1.0231	1.0918	0.9702
MnO	0.102	0.0153	0.098	1.0381	1.0284	1.0095	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.967	14.9043	94.226	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 12 Comment : 8/11
 Stage : X= 60.9485 Y= 79.6065 Z= 10.6755
 Dated on Mar 31 18:08 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.976E-08	10781.1	44.8	44.6	0.45
2 Mg	107.512	1.976E-08	-1.5	19.0	14.0	100.00 ?
3 Ca	107.422	1.976E-08	25.4	32.9	26.3	5.92
4 Al	90.572	1.976E-08	10.1	55.2	39.6	19.16
5 Si	77.290	1.976E-08	104.1	215.8	121.2	5.88
6 Na	129.537	1.976E-08	-3.0	9.4	6.7	100.00 ?
7 Ti	87.773	1.976E-08	-8.6	62.6	49.6	100.00 ?
8 Cr	159.496	1.976E-08	-3.9	25.6	22.1	100.00 ?
9 Mn	146.382	1.976E-08	-4.0	32.6	30.5	100.00 ?
10 Zn	99.907	1.976E-08	0.3	76.7	62.7	899.18 ?
11 K	119.666	1.976E-08	-184.4	23.9	389.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.462	23.5382	89.527	0.9881	0.9866	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.106	0.0361	0.108	0.9776	0.9431	1.0338	1.0026
Al2O3	0.071	0.0267	0.049	1.4498	0.9259	1.5659	0.9999
SiO2	0.605	0.1925	0.484	1.2511	0.9196	1.3605	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.003	0.0007	0.003	1.0867	1.0251	1.0602	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.247	23.7941	90.171	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 13 Comment : 9/1
 Stage : X= 62.6735 Y= 83.9100 Z= 10.6685
 Dated on Mar 31 18:14 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.976E-08	3708.6	27.6	24.6	0.45
2 Mg	107.512	1.976E-08	823.9	23.6	15.2	0.56
3 Ca	107.422	1.976E-08	-2.3	23.1	16.5	100.00 ?
4 Al	90.572	1.976E-08	11343.1	233.2	39.1	0.45
5 Si	77.290	1.976E-08	0.1	159.2	80.6	3849.06 ?
6 Na	129.537	1.976E-08	-3.2	9.2	12.1	100.00 ?
7 Ti	87.773	1.976E-08	2.8	38.3	31.2	53.10 ?
8 Cr	159.496	1.976E-08	75.5	18.3	15.7	2.19
9 Mn	146.382	1.976E-08	8.5	22.2	20.9	13.43
10 Zn	99.907	1.976E-08	50.2	52.6	47.0	4.45
11 K	119.666	1.976E-08	-67.1	15.6	138.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.313	4.5172	30.796	1.0492	1.0464	1.0033	0.9994
MgO	7.024	1.7502	4.699	1.4949	0.9747	1.5256	1.0053
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	59.218	11.6673	55.090	1.0749	0.9747	1.1028	1.0000
SiO2	0.001	0.0001	0.001	1.4073	0.9681	1.4537	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.014	0.0018	0.013	1.0832	1.0489	1.0231	1.0094
Cr2O3	0.778	0.1029	0.807	0.9652	1.0448	1.0123	0.9125
MnO	0.079	0.0112	0.079	0.9991	1.0506	0.9514	0.9996
ZnO	0.505	0.0623	0.454	1.1128	1.0936	1.0175	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 99.932 18.1130 91.938 Total O = 24.0 Iteration = 6

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 14 Comment : 9/2
 Stage : X= 63.4335 Y= 84.4545 Z= 10.6685
 Dated on Mar 31 18:19 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.977E-08	5606.7	36.1	33.1	0.45
2 Mg	107.512	1.977E-08	1.8	21.6	14.7	52.80 ?
3 Ca	107.422	1.977E-08	-7.8	33.8	26.8	100.00 ?
4 Al	90.572	1.977E-08	-4.4	55.4	38.3	100.00 ?
5 Si	77.290	1.977E-08	-5.4	233.6	122.4	100.00 ?
6 Na	129.537	1.977E-08	-4.2	10.9	7.5	100.00 ?
7 Ti	87.773	1.977E-08	10691.2	53.5	46.4	0.45
8 Cr	159.496	1.977E-08	1.4	22.1	20.2	77.35 ?
9 Mn	146.382	1.977E-08	61.2	32.1	25.5	2.87
10 Zn	99.907	1.977E-08	-5.6	76.3	60.0	100.00 ?
11 K	119.666	1.977E-08	-100.5	22.2	208.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	48.560	8.2093	46.535	1.0435	1.0013	1.0422	1.0000
MgO	0.021	0.0063	0.011	1.9949	0.9372	2.0974	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.579	7.8412	50.536	1.0206	1.0062	1.0042	1.0101
Cr2O3	0.015	0.0023	0.014	1.0145	1.0012	1.0785	0.9395
MnO	0.575	0.0984	0.571	1.0058	1.0060	0.9998	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 100.750 16.1576 97.668 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 15 Comment : 9/3
 Stage : X= 62.2535 Y= 84.1570 Z= 10.6670
 Dated on Mar 31 18:24 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.977E-08	5384.2	38.7	31.9	0.45
2 Mg	107.512	1.977E-08	1.5	18.3	13.8	63.16 ?
3 Ca	107.422	1.977E-08	-3.3	31.9	24.6	100.00 ?
4 Al	90.572	1.977E-08	-1.2	49.9	37.5	100.00 ?
5 Si	77.290	1.977E-08	-4.8	212.0	117.7	100.00 ?
6 Na	129.537	1.977E-08	-3.1	10.1	6.1	100.00 ?
7 Ti	87.773	1.977E-08	10871.5	56.6	42.5	0.45
8 Cr	159.496	1.977E-08	-1.4	23.2	19.6	100.00 ?
9 Mn	146.382	1.977E-08	153.2	29.5	24.1	1.49
10 Zn	99.907	1.977E-08	-4.0	71.1	61.9	100.00 ?
11 K	119.666	1.977E-08	-98.4	21.9	204.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.673	7.8594	44.688	1.0444	1.0015	1.0429	1.0000
MgO	0.016	0.0049	0.008	1.9853	0.9373	2.0870	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	52.468	7.9451	51.389	1.0210	1.0063	1.0039	1.0107
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.440	0.2456	1.430	1.0069	1.0062	1.0007	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 100.597 16.0549 97.515 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 16 Comment : 9/4
 Stage : X= 63.4995 Y= 85.3775 Z= 10.6670
 Dated on Mar 31 18:30 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.978E-08	3038.8	30.6	28.0	0.45
2 Mg	107.512	1.978E-08	64.6	20.7	15.1	2.45
3 Ca	107.422	1.978E-08	37.9	30.3	23.9	4.07
4 Al	90.572	1.978E-08	56.8	48.3	33.1	3.59
5 Si	77.290	1.978E-08	56.6	209.1	107.8	10.16
6 Na	129.537	1.978E-08	-4.2	10.0	8.3	100.00 ?
7 Ti	87.773	1.978E-08	12884.3	50.6	39.9	0.45
8 Cr	159.496	1.978E-08	1.6	19.3	17.6	63.25 ?
9 Mn	146.382	1.978E-08	78.2	26.4	22.3	2.29
10 Zn	99.907	1.978E-08	-3.5	67.8	54.3	100.00 ?
11 K	119.666	1.978E-08	-46.6	21.8	121.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.844	4.4791	25.209	1.0649	1.0080	1.0565	1.0000
MgO	0.676	0.2011	0.368	1.8368	0.9424	1.9206	1.0148
CaO	0.147	0.0315	0.162	0.9111	0.9609	0.9979	0.9502
Al2O3	0.326	0.0766	0.276	1.1823	0.9425	1.2551	0.9995
SiO2	0.281	0.0560	0.263	1.0678	0.9360	1.1420	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	63.083	9.4652	60.872	1.0363	1.0123	0.9992	1.0245
Cr2O3	0.018	0.0028	0.017	1.0750	1.0075	1.1024	0.9678
MnO	0.751	0.1269	0.729	1.0300	1.0126	1.0172	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 92.126 14.4392 87.895 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 17 Comment : 9/5
 Stage : X= 62.7245 Y= 84.9720 Z= 10.6650
 Dated on Mar 31 18:35 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.979E-08	10379.3	42.4	41.4	0.45
2 Mg	107.512	1.979E-08	-2.8	20.7	14.9	100.00 ?
3 Ca	107.422	1.979E-08	8.4	34.3	28.9	16.81
4 Al	90.572	1.979E-08	98.8	53.2	34.2	2.39
5 Si	77.290	1.979E-08	351.7	219.8	127.4	1.92
6 Na	129.537	1.979E-08	-4.0	11.5	6.4	100.00 ?
7 Ti	87.773	1.979E-08	-4.1	56.7	46.5	100.00 ?
8 Cr	159.496	1.979E-08	-3.1	23.6	22.5	100.00 ?
9 Mn	146.382	1.979E-08	-8.0	35.3	30.6	100.00 ?
10 Zn	99.907	1.979E-08	0.7	75.8	62.8	373.87 ?
11 K	119.666	1.979E-08	-157.2	22.6	376.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.250	22.3299	86.060	0.9906	0.9891	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.035	0.0118	0.036	0.9810	0.9453	1.0344	1.0032
Al2O3	0.689	0.2543	0.479	1.4374	0.9280	1.5494	0.9997
SiO2	2.036	0.6377	1.632	1.2475	0.9216	1.3535	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.007	0.0016	0.006	1.0882	1.0278	1.0588	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.017	23.2352	88.213	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 18 Comment : 9/6
 Stage : X= 61.4950 Y= 84.9465 Z= 10.6635
 Dated on Mar 31 18:41 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.982E-08	5549.1	38.1	33.6	0.45
2 Mg	107.512	1.982E-08	22.0	21.8	14.3	5.49
3 Ca	107.422	1.982E-08	-2.9	31.5	24.4	100.00 ?
4 Al	90.572	1.982E-08	2.3	50.7	34.7	75.11 ?
5 Si	77.290	1.982E-08	-0.7	215.6	130.8	100.00 ?
6 Na	129.537	1.982E-08	-3.4	9.8	6.9	100.00 ?
7 Ti	87.773	1.982E-08	10623.7	57.1	45.7	0.45
8 Cr	159.496	1.982E-08	1.3	21.8	20.6	80.37 ?
9 Mn	146.382	1.982E-08	3.4	30.7	27.5	37.80 ?
10 Zn	99.907	1.982E-08	-3.7	70.7	66.7	100.00 ?
11 K	119.666	1.982E-08	-107.1	23.4	220.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	47.970	8.1929	45.940	1.0442	1.0017	1.0424	1.0000
MgO	0.248	0.0756	0.125	1.9910	0.9375	2.0925	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.014	0.0034	0.011	1.2562	0.9376	1.3402	0.9997
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.168	7.8587	50.091	1.0215	1.0066	1.0042	1.0106
Cr2O3	0.014	0.0023	0.014	1.0154	1.0016	1.0789	0.9397
MnO	0.032	0.0055	0.032	1.0065	1.0065	1.0000	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.446	16.1385	96.213	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 19 Comment : 9/7
 Stage : X= 61.4950 Y= 85.6235 Z= 10.6610
 Dated on Mar 31 18:46 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.987E-08	4562.5	35.7	32.6	0.45
2 Mg	107.512	1.987E-08	-2.5	20.1	14.8	100.00 ?
3 Ca	107.422	1.987E-08	1.8	29.5	22.0	66.92 ?
4 Al	90.572	1.987E-08	-1.2	51.9	40.5	100.00 ?
5 Si	77.290	1.987E-08	-5.1	223.9	126.3	100.00 ?
6 Na	129.537	1.987E-08	-4.4	11.1	7.7	100.00 ?
7 Ti	87.773	1.987E-08	11669.0	52.4	45.7	0.45
8 Cr	159.496	1.987E-08	-5.7	22.3	19.1	100.00 ?
9 Mn	146.382	1.987E-08	13.6	29.2	23.6	9.65
10 Zn	99.907	1.987E-08	-4.8	66.7	62.9	100.00 ?
11 K	119.666	1.987E-08	-75.6	21.3	160.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	39.636	6.7410	37.678	1.0520	1.0036	1.0482	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.007	0.0015	0.008	0.9228	0.9572	1.0033	0.9609
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.347	8.6177	54.881	1.0267	1.0083	1.0020	1.0163
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.128	0.0221	0.126	1.0155	1.0083	1.0072	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.118	15.3823	92.693	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 20 Comment : 9/8
 Stage : X= 62.3380 Y= 86.0630 Z= 10.6610
 Dated on Mar 31 18:51 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.992E-08	3716.8	33.1	31.7	0.45
2 Mg	107.512	1.992E-08	15.9	19.4	13.9	6.99
3 Ca	107.422	1.992E-08	32.7	30.5	24.2	4.61
4 Al	90.572	1.992E-08	26.5	49.1	32.9	6.99
5 Si	77.290	1.992E-08	49.5	190.5	105.6	10.82
6 Na	129.537	1.992E-08	-3.4	10.1	6.7	100.00 ?
7 Ti	87.773	1.992E-08	12357.0	53.3	42.2	0.45
8 Cr	159.496	1.992E-08	8.2	21.0	17.6	13.19
9 Mn	146.382	1.992E-08	52.3	30.3	25.2	3.19
10 Zn	99.907	1.992E-08	1.9	66.0	55.2	122.54 ?
11 K	119.666	1.992E-08	-65.2	21.2	149.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.422	5.4782	30.617	1.0590	1.0059	1.0528	1.0000
MgO	0.169	0.0509	0.090	1.8846	0.9408	1.9740	1.0148
CaO	0.127	0.0275	0.138	0.9166	0.9591	1.0003	0.9553
Al2O3	0.154	0.0366	0.128	1.2018	0.9408	1.2779	0.9996
SiO2	0.246	0.0498	0.228	1.0801	0.9344	1.1570	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.823	9.0897	57.971	1.0320	1.0104	1.0006	1.0208
Cr2O3	0.092	0.0147	0.087	1.0587	1.0055	1.0961	0.9606
MnO	0.496	0.0848	0.484	1.0232	1.0105	1.0126	1.0000
ZnO	0.018	0.0027	0.017	1.0875	1.0480	1.0378	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.547	14.8349	89.760	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 21 Comment : 9/9
 Stage : X= 62.7920 Y= 86.2440 Z= 10.6610
 Dated on Mar 31 18:57 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.997E-08	4433.2	34.4	33.2	0.45
2 Mg	107.512	1.997E-08	-2.5	19.5	15.5	100.00 ?
3 Ca	107.422	1.997E-08	1.7	30.4	26.1	72.31 ?
4 Al	90.572	1.997E-08	-1.5	49.7	38.3	100.00 ?
5 Si	77.290	1.997E-08	0.9	217.5	110.8	650.57 ?
6 Na	129.537	1.997E-08	-3.8	10.4	7.3	100.00 ?
7 Ti	87.773	1.997E-08	12106.4	55.1	44.6	0.45
8 Cr	159.496	1.997E-08	-6.0	22.0	20.0	100.00 ?
9 Mn	146.382	1.997E-08	21.2	27.7	24.9	6.48
10 Zn	99.907	1.997E-08	5.6	64.0	54.8	40.27 ?
11 K	119.666	1.997E-08	-75.3	22.1	158.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	38.379	6.4244	36.427	1.0536	1.0040	1.0494	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.007	0.0014	0.007	0.9209	0.9576	1.0025	0.9593
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.004	0.0009	0.004	1.0924	0.9329	1.1719	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.231	8.7653	56.653	1.0279	1.0087	1.0016	1.0174
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.199	0.0338	0.196	1.0174	1.0087	1.0086	1.0000
ZnO	0.055	0.0081	0.051	1.0872	1.0458	1.0396	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.875	15.2338	93.337	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 22 Comment : 9/10
 Stage : X= 63.0740 Y= 86.6345 Z= 10.6610
 Dated on Mar 31 19:02 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.003E-08	11029.7	44.0	42.6	0.45
2 Mg	107.512	2.003E-08	-3.2	21.0	15.3	100.00 ?
3 Ca	107.422	2.003E-08	-3.0	36.6	29.5	100.00 ?
4 Al	90.572	2.003E-08	12.1	53.4	37.5	15.65
5 Si	77.290	2.003E-08	23.5	250.0	138.2	28.98
6 Na	129.537	2.003E-08	-5.5	11.6	9.4	100.00 ?
7 Ti	87.773	2.003E-08	46.3	55.5	46.9	4.87
8 Cr	159.496	2.003E-08	6.4	24.6	22.5	17.94
9 Mn	146.382	2.003E-08	12.1	41.1	29.8	13.05
10 Zn	99.907	2.003E-08	1.5	75.5	71.6	185.09 ?
11 K	119.666	2.003E-08	-189.6	22.1	397.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.238	23.7169	90.356	0.9876	0.9860	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.084	0.0314	0.058	1.4520	0.9254	1.5691	1.0000
SiO2	0.135	0.0428	0.108	1.2526	0.9191	1.3628	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.207	0.0495	0.216	0.9593	0.9923	1.0197	0.9481
Cr2O3	0.052	0.0131	0.068	0.7700	0.9867	1.0109	0.7720
MnO	0.105	0.0282	0.111	0.9420	0.9911	0.9504	1.0000
ZnO	0.014	0.0033	0.013	1.0863	1.0244	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.835	23.8854	90.930	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 23 Comment : 9/11
 Stage : X= 63.5695 Y= 86.2740 Z= 10.6610
 Dated on Mar 31 19:07 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.011E-08	11311.2	44.4	43.4	0.45
2 Mg	107.512	2.011E-08	-3.7	22.4	14.9	100.00 ?
3 Ca	107.422	2.011E-08	-1.3	33.9	28.7	100.00 ?
4 Al	90.572	2.011E-08	9.5	54.8	41.2	20.46
5 Si	77.290	2.011E-08	26.1	243.1	129.8	25.23
6 Na	129.537	2.011E-08	-3.6	9.5	7.7	100.00 ?
7 Ti	87.773	2.011E-08	42.9	59.2	50.0	5.44
8 Cr	159.496	2.011E-08	-1.3	25.2	22.4	100.00 ?
9 Mn	146.382	2.011E-08	4.5	36.9	29.0	31.42
10 Zn	99.907	2.011E-08	-6.6	81.9	66.3	100.00 ?
11 K	119.666	2.011E-08	-193.2	23.8	397.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	91.145	23.7705	92.294	0.9875	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.066	0.0242	0.045	1.4523	0.9254	1.5694	1.0000
SiO2	0.149	0.0465	0.119	1.2526	0.9191	1.3629	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.191	0.0449	0.199	0.9592	0.9923	1.0197	0.9480
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.039	0.0104	0.042	0.9419	0.9911	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.590	23.8965	92.700	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 57 Comment : 10/1
 Stage : X= 68.769 Y= 36.268 Z= 10.720
 Dated on Mar 18 21:22 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.009E-08	4036.4	39.0	36.9	0.45
2 Mg	107.930	2.009E-08	88.4	23.4	14.8	2.01
3 Ca	107.963	2.009E-08	30.3	27.9	21.6	4.71
4 Al	91.004	2.009E-08	26.7	56.8	34.8	7.52
5 Si	77.720	2.009E-08	70.6	133.9	80.0	5.78
6 Na	129.948	2.009E-08	-2.5	11.8	8.1	100.00 ?
7 Ti	88.392	2.009E-08	12259.3	59.0	43.9	0.45
8 Cr	158.287	2.009E-08	18.5	21.4	21.6	6.70
9 Mn	145.184	2.009E-08	63.4	31.8	26.5	2.81
10 Zn	98.703	2.009E-08	0.6	79.7	69.2	481.98 ?
11 K	120.232	2.009E-08	-54.7	14.7	124.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.455	5.0353	27.742	1.0617	1.0072	1.0541	1.0000
MgO	0.866	0.2638	0.465	1.8607	0.9419	1.9467	1.0148
CaO	0.124	0.0271	0.135	0.9154	0.9603	0.9995	0.9537
Al2O3	0.146	0.0351	0.122	1.1962	0.9419	1.2706	0.9995
SiO2	0.325	0.0665	0.287	1.1352	0.9403	1.2070	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.711	9.1791	57.729	1.0343	1.0116	1.0001	1.0223
Cr2O3	0.178	0.0287	0.167	1.0627	0.9908	1.0943	0.9801
MnO	0.498	0.0862	0.485	1.0261	1.0118	1.0141	1.0000
ZnO	0.005	0.0007	0.004	1.0880	1.0495	1.0367	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.308	14.7225	87.137	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 58 Comment : 10/2
 Stage : X= 67.704 Y= 36.819 Z= 10.715
 Dated on Mar 18 21:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	4337.2	36.5	34.5	0.45
2 Mg	107.930	2.008E-08	8.9	21.4	15.9	12.14
3 Ca	107.963	2.008E-08	17.5	28.9	21.1	7.55
4 Al	91.004	2.008E-08	32.6	52.0	37.8	6.14
5 Si	77.720	2.008E-08	24.4	125.5	75.6	15.23
6 Na	129.948	2.008E-08	-2.4	11.8	7.9	100.00 ?
7 Ti	88.392	2.008E-08	12216.7	54.2	46.4	0.45
8 Cr	158.287	2.008E-08	2.9	23.0	21.2	37.41 ?
9 Mn	145.184	2.008E-08	120.9	32.1	26.2	1.78
10 Zn	98.703	2.008E-08	-7.7	80.1	80.3	100.00 ?
11 K	120.232	2.008E-08	-64.1	16.7	141.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	31.579	5.4043	29.825	1.0588	1.0056	1.0529	1.0000
MgO	0.088	0.0268	0.047	1.8840	0.9405	1.9738	1.0148
CaO	0.072	0.0157	0.078	0.9157	0.9589	1.0001	0.9548
Al2O3	0.179	0.0431	0.149	1.2007	0.9406	1.2771	0.9996
SiO2	0.113	0.0231	0.099	1.1385	0.9390	1.2122	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.364	9.1356	57.557	1.0314	1.0101	1.0003	1.0207
Cr2O3	0.028	0.0045	0.026	1.0567	0.9893	1.0926	0.9776
MnO	0.948	0.1642	0.926	1.0232	1.0103	1.0128	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.371	14.8174	88.707	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 59 Comment : 10/3
 Stage : X= 69.991 Y= 37.602 Z= 10.729
 Dated on Mar 18 21:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.009E-08	3585.2	38.0	35.4	0.45
2 Mg	107.930	2.009E-08	37.8	24.0	15.5	3.68
3 Ca	107.963	2.009E-08	91.3	26.6	20.8	2.05
4 Al	91.004	2.009E-08	43.7	55.5	37.2	4.85
5 Si	77.720	2.009E-08	303.3	132.6	76.1	1.54
6 Na	129.948	2.009E-08	-2.3	11.2	8.4	100.00 ?
7 Ti	88.392	2.009E-08	11901.5	56.0	42.7	0.45
8 Cr	158.287	2.009E-08	13.3	22.1	21.3	8.95
9 Mn	145.184	2.009E-08	12.7	29.7	24.9	10.40
10 Zn	98.703	2.009E-08	-2.8	77.3	68.4	100.00 ?
11 K	120.232	2.009E-08	-43.4	14.2	107.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	26.241	4.6268	24.641	1.0649	1.0088	1.0556	1.0000
MgO	0.365	0.1147	0.199	1.8379	0.9432	1.9203	1.0147
CaO	0.374	0.0844	0.408	0.9152	0.9617	0.9989	0.9528
Al2O3	0.235	0.0584	0.199	1.1802	0.9433	1.2521	0.9993
SiO2	1.386	0.2922	1.232	1.1246	0.9417	1.1941	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.186	9.2260	56.044	1.0382	1.0131	1.0004	1.0243
Cr2O3	0.129	0.0214	0.120	1.0699	0.9923	1.0969	0.9830
MnO	0.100	0.0179	0.097	1.0296	1.0134	1.0159	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.016	14.4419	82.942	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 60 Comment : 10/4
 Stage : X= 69.731 Y= 37.300 Z= 10.727
 Dated on Mar 18 21:38 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	13007.0	51.4	53.1	0.45
2 Mg	107.930	2.008E-08	-4.2	21.6	16.7	100.00 ?
3 Ca	107.963	2.008E-08	-3.7	33.2	24.3	100.00 ?
4 Al	91.004	2.008E-08	10.2	55.7	38.8	18.91
5 Si	77.720	2.008E-08	9.1	135.3	86.5	43.75 ?
6 Na	129.948	2.008E-08	-1.7	10.1	8.2	100.00 ?
7 Ti	88.392	2.008E-08	0.8	57.9	45.5	263.39 ?
8 Cr	158.287	2.008E-08	-7.1	33.4	25.8	100.00 ?
9 Mn	145.184	2.008E-08	1.0	39.8	33.3	153.30 ?
10 Zn	98.703	2.008E-08	2.7	87.3	77.4	112.75 ?
11 K	120.232	2.008E-08	-179.3	20.2	368.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	88.297	23.9207	89.442	0.9872	0.9858	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.068	0.0259	0.047	1.4538	0.9252	1.5712	1.0000
SiO2	0.049	0.0159	0.037	1.3223	0.9237	1.4298	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.003	0.0008	0.004	0.9587	0.9921	1.0198	0.9476
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.007	0.0019	0.008	0.9416	0.9909	0.9502	1.0000
ZnO	0.021	0.0051	0.020	1.0862	1.0242	1.0606	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.445	23.9703	89.557	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 61 Comment : 10/5
 Stage : X= 68.960 Y= 37.375 Z= 10.722
 Dated on Mar 18 21:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	13050.5	51.7	47.2	0.45
2 Mg	107.930	2.005E-08	-5.5	24.3	16.6	100.00 ?
3 Ca	107.963	2.005E-08	-4.5	32.5	26.6	100.00 ?
4 Al	91.004	2.005E-08	6.3	59.2	43.2	32.04
5 Si	77.720	2.005E-08	12.8	144.1	85.3	32.37
6 Na	129.948	2.005E-08	-2.2	11.1	8.2	100.00 ?
7 Ti	88.392	2.005E-08	4.8	60.3	50.0	44.19 ?
8 Cr	158.287	2.005E-08	-1.0	32.8	24.2	100.00 ?
9 Mn	145.184	2.005E-08	0.6	40.6	33.3	272.76 ?
10 Zn	98.703	2.005E-08	-5.1	91.4	78.8	100.00 ?
11 K	120.232	2.005E-08	-160.1	18.7	331.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	88.728	23.9198	89.876	0.9872	0.9858	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.042	0.0160	0.029	1.4536	0.9253	1.5710	1.0000
SiO2	0.069	0.0222	0.052	1.3220	0.9237	1.4295	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.022	0.0053	0.023	0.9587	0.9921	1.0197	0.9476
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.004	0.0011	0.004	0.9416	0.9909	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.865	23.9645	89.984	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 62 Comment : 10/6
 Stage : X= 68.913 Y= 37.614 Z= 10.722
 Dated on Mar 18 21:49 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	1828.0	25.9	23.0	0.45
2 Mg	107.930	2.003E-08	183.3	23.6	14.8	1.28
3 Ca	107.963	2.003E-08	11.4	18.6	13.6	9.16
4 Al	91.004	2.003E-08	7921.4	153.1	34.6	0.45
5 Si	77.720	2.003E-08	6982.9	101.8	56.3	0.45
6 Na	129.948	2.003E-08	126.0	9.1	9.0	1.51
7 Ti	88.392	2.003E-08	28.1	32.3	26.5	5.41
8 Cr	158.287	2.003E-08	-4.8	16.0	13.5	100.00 ?
9 Mn	145.184	2.003E-08	15.8	22.4	16.0	7.37
10 Zn	98.703	2.003E-08	6.3	50.1	47.3	30.63
11 K	120.232	2.003E-08	-21.3	11.0	56.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	13.510	1.8763	12.601	1.0721	1.0681	1.0038	0.9999
MgO	1.266	0.3135	0.968	1.3086	0.9930	1.3130	1.0037
CaO	0.056	0.0099	0.051	1.0891	1.0141	1.0481	1.0247
Al2O3	33.595	6.5758	36.251	0.9267	0.9930	0.9406	0.9922
SiO2	35.076	5.8248	28.451	1.2328	0.9914	1.2422	1.0011
Na2O	1.402	0.4515	1.431	0.9800	1.0782	0.9132	0.9953
TiO2	0.150	0.0187	0.133	1.1289	1.0695	1.0273	1.0275
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.124	0.0174	0.121	1.0219	1.0721	0.9533	0.9999
ZnO	0.053	0.0064	0.047	1.1252	1.1179	1.0065	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	85.232	15.0943	80.054	Total O =	24.0	Iteration =	6

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 63 Comment : 10/7
 Stage : X= 68.754 Y= 38.215 Z= 10.722
 Dated on Mar 18 21:55 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	13049.1	55.1	48.7	0.45
2 Mg	107.930	2.003E-08	-1.7	22.1	16.2	100.00 ?
3 Ca	107.963	2.003E-08	-0.8	29.8	26.8	100.00 ?
4 Al	91.004	2.003E-08	11.6	57.7	39.1	17.09
5 Si	77.720	2.003E-08	42.7	134.6	80.0	9.37
6 Na	129.948	2.003E-08	-2.8	11.7	8.9	100.00 ?
7 Ti	88.392	2.003E-08	21.5	59.4	47.7	10.18
8 Cr	158.287	2.003E-08	2.7	32.3	27.4	48.73 ?
9 Mn	145.184	2.003E-08	54.0	42.3	34.6	3.61
10 Zn	98.703	2.003E-08	-1.9	93.2	80.7	100.00 ?
11 K	120.232	2.003E-08	-160.6	19.0	332.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.833	23.6513	89.956	0.9875	0.9860	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.077	0.0289	0.053	1.4515	0.9254	1.5685	1.0000
SiO2	0.230	0.0732	0.174	1.3207	0.9239	1.4279	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.097	0.0233	0.101	0.9590	0.9923	1.0197	0.9478
Cr2O3	0.019	0.0047	0.024	0.7676	0.9710	1.0072	0.7848
MnO	0.391	0.1054	0.415	0.9419	0.9911	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.647	23.8868	90.723	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 64 Comment : 10/8
 Stage : X= 68.392 Y= 38.489 Z= 10.722
 Dated on Mar 18 22:00 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.001E-08	12963.6	54.0	53.6	0.45
2 Mg	107.930	2.001E-08	-2.9	21.1	14.7	100.00 ?
3 Ca	107.963	2.001E-08	-2.6	31.4	23.7	100.00 ?
4 Al	91.004	2.001E-08	1.7	57.0	39.5	109.95 ?
5 Si	77.720	2.001E-08	-0.6	146.3	85.0	100.00 ?
6 Na	129.948	2.001E-08	-2.7	11.5	8.9	100.00 ?
7 Ti	88.392	2.001E-08	27.9	57.1	42.2	7.58
8 Cr	158.287	2.001E-08	12.3	27.2	28.3	10.84
9 Mn	145.184	2.001E-08	18.9	44.1	33.2	9.11
10 Zn	98.703	2.001E-08	-3.0	90.8	80.2	100.00 ?
11 K	120.232	2.001E-08	-178.6	18.7	363.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.323	23.8619	89.456	0.9873	0.9857	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.012	0.0044	0.008	1.4534	0.9252	1.5709	1.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.126	0.0307	0.132	0.9587	0.9920	1.0197	0.9478
Cr2O3	0.085	0.0218	0.111	0.7670	0.9707	1.0072	0.7844
MnO	0.137	0.0374	0.145	0.9416	0.9908	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.683	23.9562	89.852	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 65 Comment : 10/9
 Stage : X= 69.162 Y= 37.825 Z= 10.725
 Dated on Mar 18 22:05 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.001E-08	12977.9	52.4	47.7	0.45
2 Mg	107.930	2.001E-08	-3.3	22.0	14.5	100.00 ?
3 Ca	107.963	2.001E-08	-4.4	31.4	27.3	100.00 ?
4 Al	91.004	2.001E-08	5.3	60.6	43.8	38.81 ?
5 Si	77.720	2.001E-08	6.5	148.4	83.7	64.79 ?
6 Na	129.948	2.001E-08	-2.8	11.2	9.3	100.00 ?
7 Ti	88.392	2.001E-08	1.9	64.8	46.4	112.76 ?
8 Cr	158.287	2.001E-08	11.4	28.1	24.2	11.27
9 Mn	145.184	2.001E-08	11.9	43.8	32.3	13.83
10 Zn	98.703	2.001E-08	-4.7	92.8	81.6	100.00 ?
11 K	120.232	2.001E-08	-181.8	19.2	374.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.414	23.8992	89.554	0.9873	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.035	0.0134	0.024	1.4536	0.9252	1.5711	1.0000
SiO2	0.035	0.0113	0.026	1.3219	0.9237	1.4294	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.009	0.0021	0.009	0.9586	0.9920	1.0197	0.9476
Cr2O3	0.079	0.0202	0.103	0.7660	0.9708	1.0070	0.7835
MnO	0.086	0.0237	0.092	0.9415	0.9909	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.658	23.9698	89.809	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 66 Comment : 10/10
 Stage : X= 69.273 Y= 38.151 Z= 10.725
 Dated on Mar 18 22:11 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.002E-08	12771.5	51.8	49.6	0.45
2 Mg	107.930	2.002E-08	-1.1	21.5	15.7	100.00 ?
3 Ca	107.963	2.002E-08	-2.9	30.5	25.3	100.00 ?
4 Al	91.004	2.002E-08	12.4	59.2	40.9	16.40
5 Si	77.720	2.002E-08	25.3	140.6	88.9	16.49
6 Na	129.948	2.002E-08	-4.2	10.7	7.8	100.00 ?
7 Ti	88.392	2.002E-08	31.1	59.5	48.3	7.24
8 Cr	158.287	2.002E-08	-1.6	28.5	24.7	100.00 ?
9 Mn	145.184	2.002E-08	37.5	42.7	32.3	4.85
10 Zn	98.703	2.002E-08	-6.1	96.6	85.5	100.00 ?
11 K	120.232	2.002E-08	-181.1	19.2	373.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.981	23.7196	88.086	0.9875	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.083	0.0318	0.057	1.4520	0.9254	1.5692	1.0000
SiO2	0.136	0.0443	0.103	1.3211	0.9238	1.4284	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.141	0.0346	0.147	0.9590	0.9922	1.0197	0.9478
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.271	0.0749	0.288	0.9418	0.9910	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.612	23.9052	88.681	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 67 Comment : 10/11
 Stage : X= 70.263 Y= 38.673 Z= 10.732
 Dated on Mar 18 22:16 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.001E-08	12867.4	53.0	52.7	0.45
2 Mg	107.930	2.001E-08	-0.4	20.2	15.5	100.00 ?
3 Ca	107.963	2.001E-08	-1.6	32.1	26.2	100.00 ?
4 Al	91.004	2.001E-08	25.7	54.3	39.3	7.83
5 Si	77.720	2.001E-08	33.2	136.5	87.1	12.30
6 Na	129.948	2.001E-08	-4.3	11.1	7.5	100.00 ?
7 Ti	88.392	2.001E-08	17.2	64.0	46.5	12.91
8 Cr	158.287	2.001E-08	18.4	30.4	27.7	7.73
9 Mn	145.184	2.001E-08	22.1	44.6	36.2	8.10
10 Zn	98.703	2.001E-08	-5.3	97.1	78.5	100.00 ?
11 K	120.232	2.001E-08	-183.4	20.7	376.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.704	23.6560	88.792	0.9877	0.9861	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.171	0.0650	0.118	1.4513	0.9255	1.5682	1.0000
SiO2	0.179	0.0578	0.136	1.3213	0.9240	1.4284	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.078	0.0190	0.081	0.9594	0.9924	1.0197	0.9480
Cr2O3	0.129	0.0328	0.167	0.7679	0.9711	1.0071	0.7851
MnO	0.160	0.0438	0.170	0.9419	0.9912	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.421	23.8744	89.464	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 68 Comment : 11/1
 Stage : X= 60.996 Y= 36.928 Z= 10.669
 Dated on Mar 18 22:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.001E-08	12566.8	52.6	54.9	0.45
2 Mg	107.930	2.001E-08	-1.8	22.7	15.9	100.00 ?
3 Ca	107.963	2.001E-08	2.5	29.0	26.0	49.62 ?
4 Al	91.004	2.001E-08	20.9	56.6	41.7	9.83
5 Si	77.720	2.001E-08	69.2	136.4	75.2	5.87
6 Na	129.948	2.001E-08	-4.8	11.7	7.9	100.00 ?
7 Ti	88.392	2.001E-08	236.8	58.8	42.8	1.32
8 Cr	158.287	2.001E-08	-2.1	30.5	23.7	100.00 ?
9 Mn	145.184	2.001E-08	-1.9	39.8	33.9	100.00 ?
10 Zn	98.703	2.001E-08	0.1	85.3	79.5	2565.52 ?
11 K	120.232	2.001E-08	-174.9	19.8	360.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	85.770	23.1540	86.717	0.9891	0.9867	1.0024	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.011	0.0038	0.011	0.9766	0.9432	1.0332	1.0021
Al2O3	0.138	0.0527	0.096	1.4466	0.9260	1.5623	0.9999
SiO2	0.372	0.1201	0.282	1.3177	0.9245	1.4238	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	1.077	0.2614	1.119	0.9619	0.9929	1.0195	0.9503
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.001	0.0002	0.001	1.0866	1.0252	1.0599	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.369	23.5922	88.227	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 69 Comment : 11/2
 Stage : X= 62.582 Y= 36.221 Z= 10.689
 Dated on Mar 19 16:35 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.121E-08	13429.1	54.7	51.5	0.45
2 Mg	107.942	2.121E-08	-3.2	23.7	17.7	100.00 ?
3 Ca	107.967	2.121E-08	-3.9	34.5	28.2	100.00 ?
4 Al	91.015	2.121E-08	16.3	66.4	41.0	13.42
5 Si	77.725	2.121E-08	27.0	145.4	95.6	16.05
6 Na	129.960	2.121E-08	-2.8	11.3	9.4	100.00 ?
7 Ti	88.424	2.121E-08	45.8	66.2	52.2	5.42
8 Cr	158.287	2.121E-08	0.8	33.2	30.1	158.96 ?
9 Mn	145.203	2.121E-08	8.0	40.9	38.2	20.84
10 Zn	98.703	2.121E-08	1.2	97.1	80.5	262.02 ?
11 K	120.226	2.121E-08	-185.9	20.6	381.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	87.138	23.7353	88.232	0.9876	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.102	0.0392	0.070	1.4520	0.9254	1.5690	1.0000
SiO2	0.137	0.0446	0.104	1.3213	0.9239	1.4285	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.199	0.0486	0.207	0.9593	0.9923	1.0197	0.9481
Cr2O3	0.006	0.0014	0.007	0.7677	0.9710	1.0073	0.7848
MnO	0.055	0.0151	0.058	0.9420	0.9911	0.9504	1.0000
ZnO	0.009	0.0022	0.009	1.0863	1.0244	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.646	23.8865	88.687	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 70 Comment : 11/3
 Stage : X= 63.124 Y= 37.776 Z= 10.688
 Dated on Mar 18 22:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.000E-08	4862.1	39.4	36.8	0.45
2 Mg	107.930	2.000E-08	2.8	23.3	16.1	36.68 ?
3 Ca	107.963	2.000E-08	29.6	28.9	21.9	4.85
4 Al	91.004	2.000E-08	28.4	55.8	37.5	7.17
5 Si	77.720	2.000E-08	27.1	130.7	90.1	14.77
6 Na	129.948	2.000E-08	-2.1	10.8	8.4	100.00 ?
7 Ti	88.392	2.000E-08	12019.6	58.3	46.7	0.45
8 Cr	158.287	2.000E-08	-1.8	24.7	18.9	100.00 ?
9 Mn	145.184	2.000E-08	154.6	34.1	26.8	1.53
10 Zn	98.703	2.000E-08	3.2	83.3	65.2	85.12 ?
11 K	120.232	2.000E-08	-69.8	16.5	148.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	35.421	5.9553	33.568	1.0552	1.0046	1.0504	1.0000
MgO	0.028	0.0085	0.015	1.9090	0.9398	2.0016	1.0149
CaO	0.122	0.0263	0.133	0.9196	0.9581	1.0017	0.9582
Al2O3	0.158	0.0373	0.130	1.2128	0.9398	1.2910	0.9996
SiO2	0.127	0.0255	0.111	1.1472	0.9383	1.2224	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.512	8.8463	56.855	1.0291	1.0092	1.0014	1.0184
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.212	0.2063	1.189	1.0192	1.0093	1.0098	1.0000
ZnO	0.026	0.0039	0.024	1.0872	1.0465	1.0389	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	95.606	15.1095	92.024	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 71 Comment : 11/4
 Stage : X= 62.810 Y= 37.523 Z= 10.682
 Dated on Mar 18 22:38 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.000E-08	12707.7	53.3	48.7	0.45
2 Mg	107.930	2.000E-08	-1.1	21.6	15.6	100.00 ?
3 Ca	107.963	2.000E-08	-2.7	33.8	26.6	100.00 ?
4 Al	91.004	2.000E-08	33.6	61.3	41.5	6.56
5 Si	77.720	2.000E-08	22.5	140.5	84.6	18.26
6 Na	129.948	2.000E-08	-5.2	12.0	8.3	100.00 ?
7 Ti	88.392	2.000E-08	31.2	64.4	48.2	7.45
8 Cr	158.287	2.000E-08	85.0	32.4	27.7	2.29
9 Mn	145.184	2.000E-08	0.9	40.8	32.5	175.46 ?
10 Zn	98.703	2.000E-08	-1.4	96.2	76.6	100.00 ?
11 K	120.232	2.000E-08	-201.2	20.4	417.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.728	23.4942	87.734	0.9885	0.9862	1.0024	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.223	0.0853	0.154	1.4500	0.9256	1.5667	1.0000
SiO2	0.121	0.0392	0.092	1.3208	0.9241	1.4277	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.142	0.0346	0.148	0.9601	0.9925	1.0196	0.9488
Cr2O3	0.595	0.1524	0.772	0.7712	0.9712	1.0072	0.7884
MnO	0.006	0.0017	0.007	0.9421	0.9913	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.815	23.8074	88.905	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 72 Comment : 11/5
 Stage : X= 62.489 Y= 37.568 Z= 10.682
 Dated on Mar 18 22:43 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.001E-08	9947.8	45.8	47.9	0.45
2 Mg	107.930	2.001E-08	21.2	21.9	15.8	5.73
3 Ca	107.963	2.001E-08	-6.0	31.5	25.6	100.00 ?
4 Al	91.004	2.001E-08	47.0	54.8	36.2	4.50
5 Si	77.720	2.001E-08	20.2	140.2	79.5	19.97
6 Na	129.948	2.001E-08	-2.2	11.0	8.4	100.00 ?
7 Ti	88.392	2.001E-08	4229.9	62.5	44.8	0.45
8 Cr	158.287	2.001E-08	-2.6	26.2	24.0	100.00 ?
9 Mn	145.184	2.001E-08	34.5	36.3	29.8	4.84
10 Zn	98.703	2.001E-08	3.8	87.6	74.9	78.49 ?
11 K	120.232	2.001E-08	-143.7	17.8	304.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	69.450	15.6131	68.645	1.0117	0.9932	1.0187	1.0000
MgO	0.247	0.0991	0.112	2.2142	0.9309	2.3438	1.0148
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.295	0.0934	0.215	1.3692	0.9310	1.4708	0.9999
SiO2	0.104	0.0279	0.082	1.2624	0.9295	1.3570	1.0009
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	19.854	4.0136	19.998	0.9928	0.9988	1.0132	0.9810
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.257	0.0585	0.265	0.9694	0.9981	0.9713	1.0000
ZnO	0.030	0.0060	0.028	1.0872	1.0329	1.0526	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.237	19.9118	89.345	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 73 Comment : 11/6
 Stage : X= 61.989 Y= 37.945 Z= 10.678
 Dated on Mar 18 22:48 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	6362.1	45.1	39.8	0.45
2 Mg	107.930	2.003E-08	5.3	22.6	16.8	19.94
3 Ca	107.963	2.003E-08	-1.8	29.4	24.2	100.00 ?
4 Al	91.004	2.003E-08	-3.1	53.9	42.3	100.00 ?
5 Si	77.720	2.003E-08	3.5	134.1	79.0	110.43 ?
6 Na	129.948	2.003E-08	-3.4	12.2	9.6	100.00 ?
7 Ti	88.392	2.003E-08	10651.5	65.7	45.0	0.45
8 Cr	158.287	2.003E-08	-4.5	25.9	23.0	100.00 ?
9 Mn	145.184	2.003E-08	221.8	37.4	29.2	1.24
10 Zn	98.703	2.003E-08	6.5	87.0	75.1	45.75 ?
11 K	120.232	2.003E-08	-80.2	17.5	167.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	45.792	7.8459	43.858	1.0441	1.0014	1.0427	1.0000
MgO	0.056	0.0170	0.028	1.9865	0.9372	2.0885	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.017	0.0034	0.014	1.1748	0.9358	1.2549	1.0004
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.354	7.9124	50.308	1.0208	1.0063	1.0040	1.0104
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.714	0.2975	1.703	1.0065	1.0061	1.0004	1.0000
ZnO	0.052	0.0079	0.048	1.0869	1.0427	1.0424	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	98.985	16.0841	95.960	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 74 Comment : 11/7
 Stage : X= 61.795 Y= 38.624 Z= 10.678
 Dated on Mar 18 22:54 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.006E-08	11499.7	47.3	48.6	0.45
2 Mg	107.930	2.006E-08	-1.8	22.5	16.0	100.00 ?
3 Ca	107.963	2.006E-08	4.7	30.2	25.3	26.63
4 Al	91.004	2.006E-08	55.7	65.9	37.7	4.24
5 Si	77.720	2.006E-08	57.0	136.3	84.8	7.25
6 Na	129.948	2.006E-08	-1.8	9.8	8.9	100.00 ?
7 Ti	88.392	2.006E-08	2241.4	60.5	45.5	0.46
8 Cr	158.287	2.006E-08	-1.9	30.2	23.5	100.00 ?
9 Mn	145.184	2.006E-08	33.8	43.3	29.2	5.23
10 Zn	98.703	2.006E-08	-2.6	92.0	78.2	100.00 ?
11 K	120.232	2.006E-08	-146.6	18.5	314.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	79.175	19.0914	79.156	1.0002	0.9899	1.0104	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.021	0.0064	0.021	0.9702	0.9459	1.0280	0.9978
Al2O3	0.358	0.1218	0.255	1.4070	0.9285	1.5155	0.9999
SiO2	0.299	0.0862	0.232	1.2904	0.9270	1.3907	1.0010
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	10.346	2.2434	10.570	0.9788	0.9959	1.0164	0.9669
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.248	0.0605	0.259	0.9563	0.9950	0.9611	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.447	21.6096	90.493	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 75 Comment : 11/8
 Stage : X= 61.397 Y= 39.031 Z= 10.675
 Dated on Mar 18 22:59 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	4080.8	38.8	33.3	0.45
2 Mg	107.930	2.008E-08	5.9	21.6	16.5	17.63
3 Ca	107.963	2.008E-08	27.6	27.4	22.5	5.09
4 Al	91.004	2.008E-08	50.1	60.1	39.7	4.50
5 Si	77.720	2.008E-08	41.0	115.9	87.0	9.14
6 Na	129.948	2.008E-08	-4.4	10.7	8.1	100.00 ?
7 Ti	88.392	2.008E-08	12504.7	58.2	43.6	0.45
8 Cr	158.287	2.008E-08	-2.1	23.9	20.3	100.00 ?
9 Mn	145.184	2.008E-08	14.5	29.6	26.4	9.35
10 Zn	98.703	2.008E-08	-0.2	79.2	66.3	100.00 ?
11 K	120.232	2.008E-08	-59.5	15.8	128.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.797	5.0814	28.061	1.0619	1.0066	1.0549	1.0000
MgO	0.058	0.0178	0.031	1.8653	0.9414	1.9525	1.0148
CaO	0.113	0.0246	0.123	0.9131	0.9598	0.9990	0.9524
Al2O3	0.272	0.0655	0.229	1.1910	0.9414	1.2657	0.9995
SiO2	0.189	0.0385	0.167	1.1322	0.9399	1.2045	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.910	9.3406	58.914	1.0339	1.0111	0.9998	1.0228
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.114	0.0197	0.111	1.0267	1.0112	1.0153	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.453	14.5881	87.637	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 76 Comment : 11/9
 Stage : X= 61.725 Y= 39.292 Z= 10.678
 Dated on Mar 18 23:04 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	4497.7	38.1	36.7	0.45
2 Mg	107.930	2.008E-08	5.3	22.3	17.1	19.94
3 Ca	107.963	2.008E-08	19.5	31.7	24.4	7.26
4 Al	91.004	2.008E-08	27.4	53.3	36.9	7.21
5 Si	77.720	2.008E-08	26.1	119.8	88.1	14.51
6 Na	129.948	2.008E-08	-2.2	11.2	8.1	100.00 ?
7 Ti	88.392	2.008E-08	11965.3	56.5	45.7	0.45
8 Cr	158.287	2.008E-08	-1.6	23.1	20.0	100.00 ?
9 Mn	145.184	2.008E-08	29.4	30.9	25.3	5.08
10 Zn	98.703	2.008E-08	1.8	82.4	69.1	156.60 ?
11 K	120.232	2.008E-08	-69.1	18.0	150.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.723	5.6778	30.929	1.0580	1.0055	1.0523	1.0000
MgO	0.053	0.0163	0.028	1.8929	0.9404	1.9833	1.0149
CaO	0.080	0.0177	0.087	0.9169	0.9588	1.0006	0.9557
Al2O3	0.151	0.0369	0.125	1.2049	0.9405	1.2817	0.9996
SiO2	0.121	0.0251	0.106	1.1414	0.9389	1.2154	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.130	9.0700	56.373	1.0312	1.0100	1.0007	1.0203
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.230	0.0405	0.225	1.0224	1.0101	1.0121	1.0000
ZnO	0.014	0.0022	0.013	1.0874	1.0475	1.0381	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.502	14.8865	87.886	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 77 Comment : 11/10
 Stage : X= 61.803 Y= 38.982 Z= 10.678
 Dated on Mar 18 23:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.009E-08	12951.7	51.8	49.2	0.45
2 Mg	107.930	2.009E-08	-1.6	21.9	16.2	100.00 ?
3 Ca	107.963	2.009E-08	5.8	33.0	25.5	22.93
4 Al	91.004	2.009E-08	13.8	54.6	37.8	13.94
5 Si	77.720	2.009E-08	2.3	148.3	82.0	178.62 ?
6 Na	129.948	2.009E-08	-2.6	12.2	8.0	100.00 ?
7 Ti	88.392	2.009E-08	11.5	56.7	45.4	17.87
8 Cr	158.287	2.009E-08	9.4	30.4	25.8	14.04
9 Mn	145.184	2.009E-08	5.1	41.6	33.2	30.62
10 Zn	98.703	2.009E-08	-2.7	94.0	81.4	100.00 ?
11 K	120.232	2.009E-08	-180.9	18.7	373.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.894	23.8700	89.018	0.9874	0.9858	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.025	0.0088	0.026	0.9765	0.9424	1.0337	1.0024
Al2O3	0.092	0.0351	0.063	1.4531	0.9253	1.5705	1.0000
SiO2	0.013	0.0041	0.009	1.3220	0.9238	1.4295	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.052	0.0126	0.054	0.9589	0.9921	1.0198	0.9478
Cr2O3	0.065	0.0167	0.085	0.7665	0.9709	1.0071	0.7839
MnO	0.037	0.0102	0.039	0.9417	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.178	23.9574	89.294	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 78 Comment : 11/11
 Stage : X= 62.348 Y= 39.220 Z= 10.682
 Dated on Mar 18 23:15 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.009E-08	3810.7	40.4	33.3	0.45
2 Mg	107.930	2.009E-08	74.5	22.7	13.3	2.23
3 Ca	107.963	2.009E-08	20.1	27.9	21.9	6.65
4 Al	91.004	2.009E-08	98.2	59.9	38.7	2.54
5 Si	77.720	2.009E-08	279.2	118.1	78.8	1.58
6 Na	129.948	2.009E-08	-1.4	10.9	7.0	100.00 ?
7 Ti	88.392	2.009E-08	12160.0	54.1	43.6	0.45
8 Cr	158.287	2.009E-08	0.6	23.5	20.4	191.64 ?
9 Mn	145.184	2.009E-08	441.7	31.5	25.7	0.80
10 Zn	98.703	2.009E-08	-0.3	81.4	64.2	100.00 ?
11 K	120.232	2.009E-08	-17.9	16.0	119.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.770	4.6493	26.191	1.0603	1.0075	1.0524	1.0000
MgO	0.726	0.2167	0.392	1.8525	0.9421	1.9379	1.0147
CaO	0.083	0.0177	0.090	0.9182	0.9605	1.0004	0.9556
Al2O3	0.534	0.1259	0.448	1.1906	0.9421	1.2645	0.9994
SiO2	1.286	0.2575	1.134	1.1340	0.9406	1.2054	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.193	8.9118	57.261	1.0337	1.0119	1.0005	1.0211
Cr2O3	0.005	0.0008	0.005	1.0628	0.9911	1.0918	0.9822
MnO	3.465	0.5876	3.382	1.0245	1.0121	1.0123	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.062	14.7674	88.904	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 24 Comment : 12/1
 Stage : X= 69.3950 Y= 83.3355 Z= 10.6820
 Dated on Mar 31 19:13 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	2.018E-08	11252.4	45.0	43.5	0.45
2 Mg	107.512	2.018E-08	-4.2	22.1	16.3	100.00 ?
3 Ca	107.422	2.018E-08	-2.4	34.6	30.1	100.00 ?
4 Al	90.572	2.018E-08	10.6	56.8	42.1	18.95
5 Si	77.290	2.018E-08	30.9	242.7	140.7	21.69
6 Na	129.537	2.018E-08	-2.0	10.5	8.5	100.00 ?
7 Ti	87.773	2.018E-08	60.6	56.8	41.9	3.78
8 Cr	159.496	2.018E-08	9.8	25.8	24.6	12.54
9 Mn	146.382	2.018E-08	10.0	34.2	30.8	14.57
10 Zn	99.907	2.018E-08	-8.4	91.5	70.3	100.00 ?
11 K	119.666	2.018E-08	-192.2	23.0	401.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	90.378	23.6703	91.496	0.9878	0.9861	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.073	0.0269	0.050	1.4515	0.9255	1.5684	1.0000
SiO2	0.176	0.0551	0.141	1.2521	0.9191	1.3623	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.269	0.0634	0.281	0.9595	0.9923	1.0197	0.9483
Cr2O3	0.079	0.0196	0.103	0.7707	0.9867	1.0110	0.7726
MnO	0.086	0.0228	0.091	0.9421	0.9911	0.9505	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.061	23.8582	92.161	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30

UNK No. : 25 Comment : 12/2

Stage : X= 70.7395 Y= 84.0210 Z= 10.6810

Dated on Mar 31 19:18 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	2.024E-08	11188.3	43.9	43.9	0.45
2 Mg	107.512	2.024E-08	-4.8	23.0	16.5	100.00 ?
3 Ca	107.422	2.024E-08	-0.9	33.0	28.8	100.00 ?
4 Al	90.572	2.024E-08	15.3	56.3	38.1	12.89
5 Si	77.290	2.024E-08	17.1	251.3	124.6	39.03 ?
6 Na	129.537	2.024E-08	-4.2	10.7	7.7	100.00 ?
7 Ti	87.773	2.024E-08	11.3	56.6	45.8	18.15
8 Cr	159.496	2.024E-08	0.1	25.4	24.5	1696.08 ?
9 Mn	146.382	2.024E-08	12.5	37.3	32.6	12.42
10 Zn	99.907	2.024E-08	1.5	77.8	74.2	183.46 ?
11 K	119.666	2.024E-08	-193.3	24.0	397.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.556	23.8225	90.705	0.9873	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.105	0.0395	0.072	1.4529	0.9253	1.5701	1.0000
SiO2	0.097	0.0309	0.078	1.2533	0.9190	1.3637	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.050	0.0120	0.052	0.9589	0.9922	1.0197	0.9477
Cr2O3	0.001	0.0001	0.001	0.7683	0.9866	1.0107	0.7705
MnO	0.107	0.0290	0.114	0.9417	0.9910	0.9503	1.0000
ZnO	0.015	0.0034	0.013	1.0863	1.0243	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 89.931 23.9373 91.035 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30

UNK No. : 26 Comment : 12/3

Stage : X= 70.2635 Y= 84.1495 Z= 10.6790

Dated on Mar 31 19:23 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	2.027E-08	2900.6	28.1	25.1	0.45
2 Mg	107.512	2.027E-08	664.2	22.5	15.2	0.63
3 Ca	107.422	2.027E-08	2641.5	24.0	20.7	0.45
4 Al	90.572	2.027E-08	2248.0	78.3	33.8	0.47
5 Si	77.290	2.027E-08	8636.0	216.2	102.6	0.46
6 Na	129.537	2.027E-08	71.3	10.4	7.0	2.09
7 Ti	87.773	2.027E-08	172.3	39.1	31.5	1.47
8 Cr	159.496	2.027E-08	-4.0	16.4	16.6	100.00 ?
9 Mn	146.382	2.027E-08	69.6	21.6	19.3	2.39
10 Zn	99.907	2.027E-08	-4.7	53.0	51.5	100.00 ?
11 K	119.666	2.027E-08	278.3	16.8	116.8	1.42

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.162	3.3904	23.481	1.0716	1.0574	1.0135	1.0000
MgO	5.542	1.3311	3.692	1.5010	0.9850	1.5095	1.0095
CaO	11.762	2.0305	10.998	1.0694	1.0054	1.0407	1.0222
Al2O3	11.240	2.1345	10.643	1.0561	0.9850	1.0814	0.9915
SiO2	41.768	6.7294	39.129	1.0675	0.9782	1.0917	0.9995
Na2O	1.011	0.3158	0.859	1.1767	1.0695	1.1034	0.9971
TiO2	0.906	0.1098	0.794	1.1412	1.0599	1.0523	1.0232
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.649	0.0885	0.633	1.0244	1.0616	0.9650	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	1.180	0.2426	1.229	0.9601	0.9828	0.9945	0.9823

Total 99.220 16.3727 91.459 Total O = 24.0 Iteration = 5

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 27 Comment : 12/4
 Stage : X= 69.7235 Y= 83.8650 Z= 10.6790
 Dated on Mar 31 19:29 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.029E-08	5553.9	38.8	32.9	0.45
2 Mg	107.512	2.029E-08	6.7	21.0	15.7	15.65
3 Ca	107.422	2.029E-08	-3.5	30.4	26.6	100.00 ?
4 Al	90.572	2.029E-08	-3.4	52.4	39.4	100.00 ?
5 Si	77.290	2.029E-08	-5.6	233.4	127.9	100.00 ?
6 Na	129.537	2.029E-08	-4.0	10.2	7.8	100.00 ?
7 Ti	87.773	2.029E-08	10860.5	59.7	47.7	0.45
8 Cr	159.496	2.029E-08	-1.1	21.6	20.6	100.00 ?
9 Mn	146.382	2.029E-08	221.5	30.9	26.3	1.20
10 Zn	99.907	2.029E-08	-1.3	70.7	72.0	100.00 ?
11 K	119.666	2.029E-08	-103.0	22.8	218.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.852	7.9869	44.915	1.0431	1.0011	1.0420	1.0000
MgO	0.074	0.0224	0.037	1.9918	0.9370	2.0946	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.016	7.8206	50.021	1.0199	1.0060	1.0042	1.0096
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.025	0.3496	2.014	1.0054	1.0058	0.9996	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.967	16.1794	96.987	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 28 Comment : 12/5
 Stage : X= 69.0770 Y= 83.8650 Z= 10.6790
 Dated on Mar 31 19:34 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.031E-08	3105.8	33.3	29.2	0.45
2 Mg	107.512	2.031E-08	166.4	22.3	14.9	1.36
3 Ca	107.422	2.031E-08	34.2	29.3	22.2	4.34
4 Al	90.572	2.031E-08	75.4	52.2	41.9	3.05
5 Si	77.290	2.031E-08	73.2	212.1	116.6	8.11
6 Na	129.537	2.031E-08	-1.9	11.0	7.8	100.00 ?
7 Ti	87.773	2.031E-08	13117.0	55.6	44.2	0.45
8 Cr	159.496	2.031E-08	32.7	22.6	17.0	4.11
9 Mn	146.382	2.031E-08	39.2	28.6	22.9	3.88
10 Zn	99.907	2.031E-08	-4.8	68.4	61.2	100.00 ?
11 K	119.666	2.031E-08	-51.8	19.1	124.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.744	4.4207	25.092	1.0658	1.0091	1.0562	1.0000
MgO	1.686	0.4969	0.923	1.8262	0.9434	1.9075	1.0148
CaO	0.130	0.0275	0.142	0.9136	0.9619	0.9983	0.9513
Al2O3	0.423	0.0985	0.356	1.1862	0.9435	1.2579	0.9995
SiO2	0.355	0.0701	0.331	1.0714	0.9370	1.1446	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.632	9.3099	60.354	1.0377	1.0134	0.9994	1.0247
Cr2O3	0.365	0.0571	0.340	1.0752	1.0086	1.1012	0.9680
MnO	0.367	0.0615	0.356	1.0302	1.0137	1.0163	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.702	14.5422	87.896	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates

Sample : NAT92_8_30

UNK No. : 29

Comment : 12/6

Stage : X= 68.3965 Y= 84.0265 Z= 10.6775

Dated on Mar 31 19:39 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.032E-08	10942.1	43.3	45.7	0.45
2 Mg	107.512	2.032E-08	-3.4	20.3	16.6	100.00 ?
3 Ca	107.422	2.032E-08	-2.2	33.8	30.6	100.00 ?
4 Al	90.572	2.032E-08	4.9	55.7	39.6	39.12 ?
5 Si	77.290	2.032E-08	15.2	256.4	123.4	44.55 ?
6 Na	129.537	2.032E-08	-1.9	10.2	8.7	100.00 ?
7 Ti	87.773	2.032E-08	10.2	56.8	47.9	20.48
8 Cr	159.496	2.032E-08	-0.7	28.0	23.3	100.00 ?
9 Mn	146.382	2.032E-08	54.7	36.1	29.6	3.31
10 Zn	99.907	2.032E-08	12.7	73.3	66.3	20.67
11 K	119.666	2.032E-08	-190.1	24.0	391.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.218	23.7448	88.360	0.9871	0.9857	1.0015	0.9999
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.034	0.0129	0.023	1.4535	0.9252	1.5711	1.0000
SiO2	0.086	0.0279	0.069	1.2532	0.9189	1.3639	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.045	0.0110	0.047	0.9586	0.9920	1.0198	0.9476
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.467	0.1288	0.496	0.9415	0.9908	0.9503	0.9999
ZnO	0.122	0.0293	0.112	1.0860	1.0241	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.972 23.9547 89.106 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates

Sample : NAT92_8_30

UNK No. : 30

Comment : 12/7

Stage : X= 69.1750 Y= 84.8255 Z= 10.6750

Dated on Mar 31 19:45 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.030E-08	3229.2	32.2	33.5	0.45
2 Mg	107.512	2.030E-08	5.1	19.6	15.2	19.58
3 Ca	107.422	2.030E-08	47.2	31.1	24.5	3.46
4 Al	90.572	2.030E-08	44.3	52.4	39.0	4.73
5 Si	77.290	2.030E-08	51.6	228.3	123.7	12.17
6 Na	129.537	2.030E-08	-1.7	10.3	8.0	100.00 ?
7 Ti	87.773	2.030E-08	13498.9	57.4	42.2	0.45
8 Cr	159.496	2.030E-08	3.9	20.2	17.1	26.34
9 Mn	146.382	2.030E-08	126.4	27.6	24.6	1.68
10 Zn	99.907	2.030E-08	3.3	67.3	51.1	68.64 ?
11 K	119.666	2.030E-08	-51.0	20.2	126.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.769	4.5598	26.102	1.0638	1.0071	1.0564	1.0000
MgO	0.052	0.0153	0.028	1.8476	0.9417	1.9334	1.0148
CaO	0.179	0.0376	0.196	0.9104	0.9601	0.9979	0.9502
Al2O3	0.248	0.0573	0.209	1.1820	0.9417	1.2557	0.9995
SiO2	0.249	0.0489	0.233	1.0669	0.9353	1.1419	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	64.310	9.4962	62.142	1.0349	1.0114	0.9993	1.0239
Cr2O3	0.043	0.0067	0.040	1.0734	1.0066	1.1023	0.9674
MnO	1.182	0.1966	1.149	1.0289	1.0117	1.0171	1.0000
ZnO	0.032	0.0046	0.029	1.0873	1.0494	1.0361	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 94.064 14.4230 90.130 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 31 Comment : 12/8
 Stage : X= 68.5095 Y= 84.8255 Z= 10.6750
 Dated on Mar 31 19:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.030E-08	11215.9	44.8	43.4	0.45
2 Mg	107.512	2.030E-08	-3.1	21.0	15.2	100.00 ?
3 Ca	107.422	2.030E-08	-5.5	36.1	29.9	100.00 ?
4 Al	90.572	2.030E-08	13.9	56.4	40.8	14.37
5 Si	77.290	2.030E-08	18.8	232.3	130.2	33.80 ?
6 Na	129.537	2.030E-08	-4.5	11.0	8.0	100.00 ?
7 Ti	87.773	2.030E-08	9.7	58.8	46.7	21.48
8 Cr	159.496	2.030E-08	7.6	26.6	23.3	15.96
9 Mn	146.382	2.030E-08	6.6	36.9	29.8	21.97
10 Zn	99.907	2.030E-08	-7.2	85.4	74.1	100.00 ?
11 K	119.666	2.030E-08	-185.2	23.8	381.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.521	23.8197	90.660	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.095	0.0358	0.066	1.4527	0.9253	1.5699	1.0000
SiO2	0.107	0.0339	0.085	1.2531	0.9190	1.3635	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.043	0.0103	0.045	0.9590	0.9922	1.0197	0.9478
Cr2O3	0.060	0.0152	0.079	0.7685	0.9866	1.0107	0.7707
MnO	0.057	0.0153	0.060	0.9417	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.883	23.9303	90.995	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 32 Comment : 12/9
 Stage : X= 70.3890 Y= 85.0350 Z= 10.6750
 Dated on Mar 31 19:56 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.028E-08	3950.6	35.1	31.1	0.45
2 Mg	107.512	2.028E-08	10.5	20.5	13.6	10.10
3 Ca	107.422	2.028E-08	16.3	31.2	26.1	8.56
4 Al	90.572	2.028E-08	29.6	49.9	35.9	6.49
5 Si	77.290	2.028E-08	13.0	222.7	126.4	47.02 ?
6 Na	129.537	2.028E-08	-3.5	9.2	7.9	100.00 ?
7 Ti	87.773	2.028E-08	12437.8	55.9	46.1	0.45
8 Cr	159.496	2.028E-08	0.8	20.8	17.7	132.08 ?
9 Mn	146.382	2.028E-08	77.3	27.6	22.8	2.32
10 Zn	99.907	2.028E-08	-0.9	66.3	60.5	100.00 ?
11 K	119.666	2.028E-08	-77.2	22.1	167.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.791	5.7303	31.965	1.0571	1.0052	1.0517	1.0000
MgO	0.110	0.0333	0.058	1.8968	0.9402	1.9879	1.0149
CaO	0.062	0.0135	0.068	0.9176	0.9585	1.0009	0.9564
Al2O3	0.169	0.0405	0.140	1.2074	0.9403	1.2846	0.9996
SiO2	0.064	0.0130	0.059	1.0840	0.9338	1.1619	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.054	9.0054	57.314	1.0304	1.0097	1.0008	1.0197
Cr2O3	0.008	0.0013	0.008	1.0544	1.0048	1.0945	0.9587
MnO	0.719	0.1234	0.704	1.0213	1.0098	1.0114	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.977	14.9607	90.315	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 33 Comment : 12/10
 Stage : X= 69.8880 Y= 85.2615 Z= 10.6750
 Dated on Mar 31 20:01 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.026E-08	4365.1	39.2	35.9	0.45
2 Mg	107.512	2.026E-08	46.3	21.9	15.6	3.13
3 Ca	107.422	2.026E-08	22.1	30.5	25.2	6.44
4 Al	90.572	2.026E-08	44.4	58.9	37.3	4.90
5 Si	77.290	2.026E-08	49.7	224.9	125.9	12.55
6 Na	129.537	2.026E-08	-2.0	10.4	8.6	100.00 ?
7 Ti	87.773	2.026E-08	11801.2	57.7	44.0	0.45
8 Cr	159.496	2.026E-08	-3.3	20.8	20.9	100.00 ?
9 Mn	146.382	2.026E-08	290.2	30.2	24.7	1.02
10 Zn	99.907	2.026E-08	-1.5	68.8	59.3	100.00 ?
11 K	119.666	2.026E-08	-75.1	22.2	167.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	37.183	6.2602	35.353	1.0518	1.0041	1.0475	1.0000
MgO	0.495	0.1485	0.257	1.9236	0.9393	2.0179	1.0148
CaO	0.085	0.0184	0.092	0.9241	0.9576	1.0034	0.9617
Al2O3	0.258	0.0611	0.210	1.2243	0.9394	1.3038	0.9996
SiO2	0.247	0.0497	0.225	1.0963	0.9330	1.1760	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	55.894	8.4622	54.434	1.0268	1.0087	1.0023	1.0157
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.682	0.4574	2.643	1.0151	1.0087	1.0063	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.844	15.4575	93.215	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 34 Comment : 12/11
 Stage : X= 69.1875 Y= 85.5770 Z= 10.6725
 Dated on Mar 31 20:06 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	2.021E-08	3604.2	34.7	32.0	0.45
2 Mg	107.512	2.021E-08	26.9	20.4	15.9	4.68
3 Ca	107.422	2.021E-08	11.9	30.4	25.7	11.25
4 Al	90.572	2.021E-08	26.7	50.6	35.9	7.17
5 Si	77.290	2.021E-08	54.6	213.3	122.6	10.95
6 Na	129.537	2.021E-08	-4.0	10.0	7.9	100.00 ?
7 Ti	87.773	2.021E-08	12863.0	57.4	46.3	0.45
8 Cr	159.496	2.021E-08	-1.4	20.1	17.6	100.00 ?
9 Mn	146.382	2.021E-08	38.9	27.7	24.6	3.92
10 Zn	99.907	2.021E-08	-0.9	63.8	58.0	100.00 ?
11 K	119.666	2.021E-08	-51.0	20.8	126.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.043	5.1939	29.263	1.0608	1.0065	1.0540	1.0000
MgO	0.280	0.0835	0.150	1.8706	0.9412	1.9583	1.0148
CaO	0.045	0.0097	0.050	0.9144	0.9596	0.9995	0.9533
Al2O3	0.152	0.0358	0.127	1.1957	0.9413	1.2708	0.9995
SiO2	0.267	0.0534	0.248	1.0759	0.9348	1.1519	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.449	9.2453	59.479	1.0331	1.0109	0.9999	1.0221
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.364	0.0617	0.355	1.0255	1.0111	1.0142	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.600	14.6834	89.672	Total O = 24.0	Iteration = 4		

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 5 Comment : 13/1
 Stage : X= 63.9690 Y= 42.0985 Z= 10.9245
 Dated on Apr 5 14:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.962E-08	4489.3	37.6	32.8	0.45
2 Mg	107.494	1.962E-08	13.6	7.1	5.7	5.97
3 Ca	107.418	1.962E-08	11.2	28.5	24.0	11.40
4 Al	90.574	1.962E-08	16.3	21.3	16.1	7.11
5 Si	77.315	1.962E-08	16.1	54.0	38.8	12.09
6 Na	129.537	1.962E-08	-3.2	3.8	2.5	100.00 ?
7 Ti	87.776	1.962E-08	11570.8	52.0	43.7	0.45
8 Cr	159.526	1.962E-08	-0.5	22.5	18.4	100.00 ?
9 Mn	146.434	1.962E-08	181.5	31.0	26.1	1.36
10 Zn	100.011	1.962E-08	-1.7	76.8	66.5	100.00 ?
11 K	119.716	1.962E-08	-86.4	19.9	187.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.534	6.0315	32.755	1.0543	1.0045	1.0496	1.0000
MgO	0.247	0.0770	0.129	1.9123	0.9396	2.0054	1.0149
CaO	0.042	0.0095	0.046	0.9206	0.9579	1.0021	0.9589
Al2O3	0.134	0.0329	0.110	1.2165	0.9397	1.2951	0.9996
SiO2	0.102	0.0213	0.094	1.0901	0.9333	1.1690	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	55.763	8.7579	54.227	1.0283	1.0091	1.0014	1.0176
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.550	0.2743	1.523	1.0181	1.0091	1.0089	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.372	15.2043	88.884	Total O = 24.0		Iteration = 4	

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 6 Comment : 13/2
 Stage : X= 62.9245 Y= 42.0590 Z= 10.9245
 Dated on Apr 5 14:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.962E-08	5862.2	41.8	36.3	0.45
2 Mg	107.494	1.962E-08	-1.7	7.9	5.4	100.00 ?
3 Ca	107.418	1.962E-08	-5.2	33.2	27.2	100.00 ?
4 Al	90.574	1.962E-08	-2.8	19.4	16.1	100.00 ?
5 Si	77.315	1.962E-08	-3.8	57.5	40.0	100.00 ?
6 Na	129.537	1.962E-08	-3.3	3.5	3.1	100.00 ?
7 Ti	87.776	1.962E-08	10728.3	60.6	45.2	0.45
8 Cr	159.526	1.962E-08	-2.7	24.3	21.0	100.00 ?
9 Mn	146.434	1.962E-08	436.9	31.2	25.4	0.81
10 Zn	100.011	1.962E-08	-2.1	86.9	72.4	100.00 ?
11 K	119.716	1.962E-08	-126.8	21.3	262.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	44.622	7.6206	42.772	1.0433	1.0009	1.0423	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.251	7.8709	50.279	1.0193	1.0058	1.0039	1.0095
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	3.686	0.6376	3.666	1.0056	1.0057	0.9999	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.559	16.1291	96.716	Total O = 24.0		Iteration = 3	

Intensity & Wt. %

Unknown Specimen

Group : silicates

Sample : NAT92_1513

UNK No. : 7

Comment : 13/3

Stage : X= 62.4040

Y= 42.4305 Z= 10.9265

Dated on Apr 5 14:56 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.960E-08	6085.5	39.3	38.8	0.45
2 Mg	107.494	1.960E-08	0.1	9.1	5.6	406.20 ?
3 Ca	107.418	1.960E-08	-6.1	30.6	26.6	100.00 ?
4 Al	90.574	1.960E-08	-3.6	21.1	16.1	100.00 ?
5 Si	77.315	1.960E-08	-2.7	61.1	39.3	100.00 ?
6 Na	129.537	1.960E-08	-3.2	3.5	2.8	100.00 ?
7 Ti	87.776	1.960E-08	10828.1	54.9	47.4	0.45
8 Cr	159.526	1.960E-08	-3.9	24.1	18.6	100.00 ?
9 Mn	146.434	1.960E-08	237.3	31.9	28.7	1.16
10 Zn	100.011	1.960E-08	-1.8	79.0	74.6	100.00 ?
11 K	119.716	1.960E-08	-129.9	21.3	268.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.393	7.8606	44.446	1.0438	1.0012	1.0425	1.0000
MgO	0.003	0.0009	0.001	1.9875	0.9371	2.0898	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.832	7.8972	50.798	1.0203	1.0061	1.0040	1.0101
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.005	0.3441	1.993	1.0062	1.0060	1.0002	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 100.233 16.1028 97.238 Total O = 24.0 Iteration = 3

Intensity & Wt. %

Unknown Specimen

Group : silicates

Sample : NAT92_1513

UNK No. : 8

Comment : 13/4

Stage : X= 63.2000

Y= 42.7180 Z= 10.9265

Dated on Apr 5 15:02 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.959E-08	4392.1	34.5	34.6	0.45
2 Mg	107.494	1.959E-08	0.6	8.6	5.2	100.00 ?
3 Ca	107.418	1.959E-08	15.0	31.2	23.9	9.07
4 Al	90.574	1.959E-08	14.7	21.2	14.5	7.66
5 Si	77.315	1.959E-08	16.4	52.4	39.8	11.78
6 Na	129.537	1.959E-08	-3.0	3.0	3.0	100.00 ?
7 Ti	87.776	1.959E-08	12072.8	60.0	46.2	0.45
8 Cr	159.526	1.959E-08	-0.5	21.5	19.5	100.00 ?
9 Mn	146.434	1.959E-08	275.1	29.8	25.3	1.05
10 Zn	100.011	1.959E-08	3.2	75.7	67.9	83.71 ?
11 K	119.716	1.959E-08	-84.2	21.4	186.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.864	5.7366	32.095	1.0551	1.0044	1.0505	1.0000
MgO	0.011	0.0033	0.006	1.9055	0.9395	1.9984	1.0149
CaO	0.056	0.0122	0.061	0.9186	0.9578	1.0014	0.9576
Al2O3	0.120	0.0286	0.099	1.2108	0.9396	1.2892	0.9996
SiO2	0.104	0.0210	0.096	1.0860	0.9332	1.1648	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.275	8.8773	56.666	1.0284	1.0090	1.0011	1.0182
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.355	0.4041	2.311	1.0191	1.0091	1.0100	1.0000
ZnO	0.028	0.0042	0.026	1.0869	1.0463	1.0388	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 94.813 15.0874 91.359 Total O = 24.0 Iteration = 4

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 9 Comment : 13/5
 Stage : X= 63.1490 Y= 43.1335 Z= 10.9265
 Dated on Apr 5 15:08 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.957E-08	12098.0	46.7	47.5	0.45
2 Mg	107.494	1.957E-08	-3.7	7.2	5.2	100.00 ?
3 Ca	107.418	1.957E-08	3.1	31.8	27.0	41.87 ?
4 Al	90.574	1.957E-08	16.7	21.8	14.9	6.94
5 Si	77.315	1.957E-08	60.2	65.9	38.7	3.97
6 Na	129.537	1.957E-08	-3.0	3.3	2.7	100.00 ?
7 Ti	87.776	1.957E-08	88.9	56.2	51.1	2.86
8 Cr	159.526	1.957E-08	7.1	28.4	22.5	17.35
9 Mn	146.434	1.957E-08	44.0	36.1	30.9	3.98
10 Zn	100.011	1.957E-08	-4.0	88.4	74.5	100.00 ?
11 K	119.716	1.957E-08	-222.9	21.9	473.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.463	23.3162	88.494	0.9883	0.9865	1.0019	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.012	0.0042	0.013	0.9770	0.9430	1.0336	1.0024
Al2O3	0.163	0.0612	0.112	1.4483	0.9258	1.5644	0.9999
SiO2	0.440	0.1402	0.352	1.2507	0.9195	1.3601	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.401	0.0962	0.418	0.9605	0.9928	1.0197	0.9488
Cr2O3	0.055	0.0138	0.071	0.7734	0.9872	1.0112	0.7747
MnO	0.349	0.0942	0.370	0.9427	0.9916	0.9507	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.883 23.7261 89.830 Total O = 24.0 Iteration = 3

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 10 Comment : 13/6
 Stage : X= 62.4030 Y= 43.2065 Z= 10.9265
 Dated on Apr 5 15:14 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.954E-08	888.2	24.3	21.1	0.54
2 Mg	107.494	1.954E-08	1867.8	16.2	6.6	0.45
3 Ca	107.418	1.954E-08	1221.6	19.7	15.4	0.46
4 Al	90.574	1.954E-08	2425.1	48.2	13.0	0.45
5 Si	77.315	1.954E-08	6431.8	76.2	28.7	0.45
6 Na	129.537	1.954E-08	-2.8	3.4	2.1	100.00 ?
7 Ti	87.776	1.954E-08	78.8	33.7	28.7	2.45
8 Cr	159.526	1.954E-08	523.2	16.3	13.0	0.71
9 Mn	146.434	1.954E-08	31.2	19.9	17.8	4.21
10 Zn	100.011	1.954E-08	-5.7	49.1	47.2	100.00 ?
11 K	119.716	1.954E-08	-22.1	14.0	45.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	7.086	0.8539	6.507	1.0890	1.0734	1.0146	1.0000
MgO	21.936	4.7113	17.839	1.2297	0.9977	1.2225	1.0082
CaO	5.453	0.8418	5.025	1.0851	1.0190	1.0396	1.0243
Al2O3	17.356	2.9474	16.399	1.0584	0.9977	1.0696	0.9918
SiO2	41.914	6.0389	37.617	1.1142	0.9909	1.1248	0.9998
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.425	0.0460	0.371	1.1449	1.0747	1.0359	1.0285
Cr2O3	5.672	0.6461	5.276	1.0751	1.0711	1.0204	0.9837
MnO	0.271	0.0330	0.262	1.0313	1.0773	0.9572	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 100.113 16.1184 89.295 Total O = 24.0 Iteration = 5

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 11 Comment : 13/7
 Stage : X= 63.7965 Y= 43.5095 Z= 10.9250
 Dated on Apr 5 15:19 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.952E-08	4156.4	35.3	31.8	0.45
2 Mg	107.494	1.952E-08	98.5	7.2	5.8	1.69
3 Ca	107.418	1.952E-08	16.0	29.7	23.3	8.36
4 Al	90.574	1.952E-08	48.1	21.5	12.4	2.98
5 Si	77.315	1.952E-08	64.5	53.9	37.2	3.43
6 Na	129.537	1.952E-08	-2.7	3.1	2.3	100.00 ?
7 Ti	87.776	1.952E-08	11700.4	56.2	43.8	0.45
8 Cr	159.526	1.952E-08	1.6	21.7	20.2	67.22 ?
9 Mn	146.434	1.952E-08	50.2	30.4	24.3	3.28
10 Zn	100.011	1.952E-08	-2.2	70.0	64.5	100.00 ?
11 K	119.716	1.952E-08	-77.2	20.4	169.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.269	5.5228	30.481	1.0586	1.0074	1.0509	1.0000
MgO	1.765	0.5384	0.942	1.8739	0.9421	1.9601	1.0148
CaO	0.061	0.0133	0.066	0.9216	0.9605	1.0016	0.9580
Al2O3	0.394	0.0950	0.325	1.2112	0.9421	1.2862	0.9995
SiO2	0.411	0.0841	0.377	1.0885	0.9357	1.1644	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.969	8.7679	55.115	1.0336	1.0118	1.0011	1.0204
Cr2O3	0.017	0.0027	0.016	1.0561	1.0070	1.0931	0.9595
MnO	0.432	0.0750	0.423	1.0225	1.0120	1.0104	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.318	15.0992	87.745	Total O =	24.0	Iteration =	4

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 12 Comment : 13/8
 Stage : X= 63.3730 Y= 43.7245 Z= 10.9250
 Dated on Apr 5 15:25 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.950E-08	5262.2	40.4	33.3	0.45
2 Mg	107.494	1.950E-08	3.2	8.7	4.9	20.25
3 Ca	107.418	1.950E-08	0.9	30.1	23.1	133.97 ?
4 Al	90.574	1.950E-08	-5.8	21.0	15.6	100.00 ?
5 Si	77.315	1.950E-08	0.1	60.3	39.4	1375.99 ?
6 Na	129.537	1.950E-08	-2.9	3.3	2.5	100.00 ?
7 Ti	87.776	1.950E-08	11224.0	56.0	47.0	0.45
8 Cr	159.526	1.950E-08	-1.5	21.0	21.9	100.00 ?
9 Mn	146.434	1.950E-08	35.4	30.0	24.2	4.30
10 Zn	100.011	1.950E-08	-0.4	74.2	66.6	100.00 ?
11 K	119.716	1.950E-08	-107.0	22.3	226.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	40.568	7.0249	38.630	1.0502	1.0031	1.0469	1.0000
MgO	0.060	0.0184	0.031	1.9490	0.9386	2.0460	1.0149
CaO	0.003	0.0008	0.004	0.9248	0.9568	1.0041	0.9626
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.001	0.0002	0.001	1.1008	0.9323	1.1817	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	54.274	8.4512	52.925	1.0255	1.0079	1.0025	1.0150
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.303	0.0531	0.299	1.0134	1.0078	1.0055	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	95.209	15.5486	91.890	Total O =	24.0	Iteration =	3

Intensity & Wt. %

Unknown Specimen

Group : silicates Sample : NAT92_1513
 UNK No. : 13 Comment : 13/9
 Stage : X= 63.5525 Y= 44.4035 Z= 10.9250
 Dated on Apr 5 15:31 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.948E-08	3897.3	38.3	32.2	0.45
2 Mg	107.494	1.948E-08	11.1	8.1	4.6	6.93
3 Ca	107.418	1.948E-08	28.6	30.0	22.7	5.07
4 Al	90.574	1.948E-08	14.8	20.5	15.0	7.60
5 Si	77.315	1.948E-08	25.5	56.8	37.2	7.97
6 Na	129.537	1.948E-08	-2.8	3.0	2.6	100.00 ?
7 Ti	87.776	1.948E-08	12567.0	51.3	41.7	0.45
8 Cr	159.526	1.948E-08	10.4	21.4	17.8	10.71
9 Mn	146.434	1.948E-08	17.7	31.0	23.6	7.79
10 Zn	100.011	1.948E-08	-1.5	68.6	64.4	100.00 ?
11 K	119.716	1.948E-08	-76.2	22.0	165.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.402	5.1347	28.640	1.0615	1.0065	1.0547	1.0000
MgO	0.200	0.0601	0.107	1.8682	0.9413	1.9558	1.0149
CaO	0.108	0.0234	0.118	0.9135	0.9597	0.9991	0.9527
Al2O3	0.119	0.0284	0.100	1.1938	0.9413	1.2688	0.9996
SiO2	0.161	0.0324	0.149	1.0743	0.9349	1.1503	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.305	9.3107	59.319	1.0335	1.0109	0.9998	1.0224
Cr2O3	0.112	0.0179	0.105	1.0653	1.0061	1.0993	0.9633
MnO	0.153	0.0262	0.149	1.0262	1.0111	1.0149	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 92.560 14.6338 88.688 Total O = 24.0 Iteration = 4

Intensity & Wt. %

Group : silicates

Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30
 UNK No. : 35 Comment : 14/1
 Stage : X= 69.8755 Y= 35.3015 Z= 10.7495
 Dated on Apr 1 11:34 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.969E-08	9210.0	44.6	40.3	0.45
2 Mg	107.512	1.969E-08	24.3	21.4	15.0	5.07
3 Ca	107.422	1.969E-08	81.9	30.0	26.3	2.30
4 Al	90.572	1.969E-08	306.2	61.9	41.0	1.12
5 Si	77.290	1.969E-08	874.4	241.7	132.1	0.92
6 Na	129.537	1.969E-08	0.4	11.3	7.9	175.00 ?
7 Ti	87.773	1.969E-08	681.6	52.8	45.1	0.67
8 Cr	159.496	1.969E-08	2.4	22.8	22.3	44.50 ?
9 Mn	146.382	1.969E-08	-0.2	37.0	28.5	100.00 ?
10 Zn	99.907	1.969E-08	-2.8	70.0	65.6	100.00 ?
11 K	119.666	1.969E-08	34.2	22.3	324.5	22.32

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	76.837	18.4226	76.752	1.0011	0.9962	1.0049	1.0000
MgO	0.314	0.1344	0.139	2.2605	0.9338	2.3866	1.0143
CaO	0.347	0.1065	0.351	0.9873	0.9515	1.0338	1.0036
Al2O3	2.080	0.7029	1.493	1.3937	0.9339	1.4935	0.9992
SiO2	5.010	1.4364	4.078	1.2285	0.9275	1.3245	1.0000
Na2O	0.010	0.0055	0.005	1.9767	1.0137	1.9505	0.9997
TiO2	3.185	0.6868	3.235	0.9847	1.0019	1.0206	0.9629
Cr2O3	0.022	0.0049	0.026	0.8201	0.9965	1.0164	0.8097
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.141	0.0516	0.155	0.9090	0.9306	0.9910	0.9857

Total 87.946 21.5515 86.234 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 36 Comment : 14/2
 Stage : X= 68.8975 Y= 35.0305 Z= 10.7435
 Dated on Mar 31 20:17 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	2.006E-08	3536.0	34.2	31.3	0.45
2 Mg	107.512	2.006E-08	0.4	19.7	14.4	206.53 ?
3 Ca	107.422	2.006E-08	17.3	31.2	24.3	8.02
4 Al	90.572	2.006E-08	23.4	52.0	36.2	8.23
5 Si	77.290	2.006E-08	41.5	215.4	126.8	14.57
6 Na	129.537	2.006E-08	-3.7	10.4	7.0	100.00 ?
7 Ti	87.773	2.006E-08	12560.1	52.1	41.4	0.45
8 Cr	159.496	2.006E-08	-0.4	19.1	16.8	100.00 ?
9 Mn	146.382	2.006E-08	166.3	30.1	22.3	1.42
10 Zn	99.907	2.006E-08	6.7	64.8	56.7	34.46 ?
11 K	119.666	2.006E-08	-54.8	21.0	128.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.639	5.1894	28.924	1.0593	1.0057	1.0534	1.0000
MgO	0.005	0.0014	0.003	1.8792	0.9406	1.9687	1.0148
CaO	0.066	0.0144	0.073	0.9147	0.9589	0.9998	0.9540
Al2O3	0.134	0.0320	0.112	1.1975	0.9406	1.2736	0.9996
SiO2	0.204	0.0414	0.190	1.0769	0.9342	1.1539	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.356	9.1928	58.512	1.0315	1.0101	1.0001	1.0210
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.567	0.2687	1.530	1.0238	1.0103	1.0134	1.0000
ZnO	0.065	0.0098	0.060	1.0871	1.0478	1.0375	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.036	14.7498	89.403	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 37 Comment : 14/3
 Stage : X= 68.1635 Y= 35.6075 Z= 10.7495
 Dated on Apr 1 11:42 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.966E-08	10363.4	43.9	40.5	0.45
2 Mg	107.512	1.966E-08	-0.7	18.0	13.3	100.00 ?
3 Ca	107.422	1.966E-08	19.0	32.2	29.7	7.81
4 Al	90.572	1.966E-08	37.4	53.1	37.1	5.45
5 Si	77.290	1.966E-08	22.0	241.2	125.0	29.52
6 Na	129.537	1.966E-08	1.8	9.6	6.7	36.41 ?
7 Ti	87.773	1.966E-08	30.9	58.7	49.6	7.30
8 Cr	159.496	1.966E-08	-4.8	26.7	22.9	100.00 ?
9 Mn	146.382	1.966E-08	28.0	35.2	28.8	5.69
10 Zn	99.907	1.966E-08	4.0	74.5	57.5	61.88 ?
11 K	119.666	1.966E-08	-178.8	23.2	374.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.441	23.5684	86.496	0.9878	0.9862	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.080	0.0282	0.082	0.9769	0.9428	1.0337	1.0025
Al2O3	0.265	0.1030	0.183	1.4507	0.9256	1.5674	1.0000
SiO2	0.129	0.0424	0.103	1.2531	0.9193	1.3631	1.0000
Na2O	0.048	0.0308	0.023	2.0987	1.0046	2.0892	1.0000
TiO2	0.141	0.0349	0.147	0.9600	0.9925	1.0199	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.248	0.0692	0.263	0.9422	0.9913	0.9505	1.0000
ZnO	0.040	0.0097	0.036	1.0864	1.0247	1.0602	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.392	23.8866	87.332	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 38 Comment : 14/4
 Stage : X= 67.5415 Y= 36.0915 Z= 10.7420
 Dated on Mar 31 20:28 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.998E-08	3108.2	25.8	28.2	0.45
2 Mg	107.512	1.998E-08	456.6	22.3	14.9	0.77
3 Ca	107.422	1.998E-08	2586.2	25.2	19.1	0.45
4 Al	90.572	1.998E-08	2231.1	79.0	32.2	0.47
5 Si	77.290	1.998E-08	8191.3	201.4	102.4	0.46
6 Na	129.537	1.998E-08	86.2	9.1	8.5	1.87
7 Ti	87.773	1.998E-08	223.3	39.4	29.2	1.24
8 Cr	159.496	1.998E-08	-3.9	18.1	14.6	100.00 ?
9 Mn	146.382	1.998E-08	43.5	22.2	20.9	3.39
10 Zn	99.907	1.998E-08	0.9	49.4	48.8	221.96 ?
11 K	119.666	1.998E-08	324.4	16.7	119.9	1.28

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.299	3.7475	25.527	1.0694	1.0549	1.0138	1.0000
MgO	3.956	0.9680	2.576	1.5360	0.9829	1.5477	1.0097
CaO	11.655	2.0500	10.924	1.0669	1.0032	1.0411	1.0215
Al2O3	11.364	2.1987	10.717	1.0604	0.9830	1.0877	0.9918
SiO2	40.321	6.6184	37.653	1.0709	0.9762	1.0975	0.9995
Na2O	1.273	0.4051	1.054	1.2079	1.0673	1.1347	0.9974
TiO2	1.188	0.1466	1.044	1.1373	1.0576	1.0524	1.0219
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.410	0.0570	0.401	1.0224	1.0592	0.9653	1.0000
ZnO	0.009	0.0010	0.008	1.1225	1.1022	1.0184	1.0000
K2O	1.391	0.2914	1.454	0.9572	0.9807	0.9938	0.9821

Total 98.866 16.4839 91.357 Total O = 24.0 Iteration = 5

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 39 Comment : 14/5
 Stage : X= 68.8855 Y= 36.3420 Z= 10.7440
 Dated on Mar 31 20:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.994E-08	3287.9	33.1	31.9	0.45
2 Mg	107.512	1.994E-08	28.8	20.9	16.6	4.48
3 Ca	107.422	1.994E-08	26.5	30.1	21.9	5.38
4 Al	90.572	1.994E-08	66.9	50.2	36.0	3.23
5 Si	77.290	1.994E-08	46.5	218.7	118.4	12.96
6 Na	129.537	1.994E-08	-4.4	10.7	8.2	100.00 ?
7 Ti	87.773	1.994E-08	12885.0	47.2	43.3	0.45
8 Cr	159.496	1.994E-08	5.0	21.2	18.8	21.21
9 Mn	146.382	1.994E-08	90.4	23.5	20.8	2.03
10 Zn	99.907	1.994E-08	-3.5	64.8	57.3	100.00 ?
11 K	119.666	1.994E-08	-58.5	22.0	135.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.755	4.7899	27.057	1.0628	1.0071	1.0553	1.0000
MgO	0.301	0.0894	0.162	1.8539	0.9417	1.9399	1.0148
CaO	0.102	0.0219	0.112	0.9126	0.9601	0.9987	0.9517
Al2O3	0.382	0.0898	0.322	1.1875	0.9418	1.2615	0.9995
SiO2	0.230	0.0457	0.214	1.0717	0.9353	1.1470	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.466	9.3572	60.387	1.0344	1.0115	0.9995	1.0232
Cr2O3	0.057	0.0089	0.053	1.0696	1.0066	1.1004	0.9656
MnO	0.859	0.1450	0.836	1.0276	1.0117	1.0157	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 93.152 14.5478 89.144 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30

UNK No. : 40 Comment : 14/6

Stage : X= 69.9590 Y= 36.0185 Z= 10.7440

Dated on Mar 31 20:38 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.991E-08	5079.7	35.3	33.8	0.45
2 Mg	107.512	1.991E-08	4.1	20.7	16.1	24.66
3 Ca	107.422	1.991E-08	8.9	32.8	24.5	15.03
4 Al	90.572	1.991E-08	-2.5	55.6	39.4	100.00 ?
5 Si	77.290	1.991E-08	7.0	215.7	120.5	84.64 ?
6 Na	129.537	1.991E-08	-4.7	10.5	8.8	100.00 ?
7 Ti	87.773	1.991E-08	11294.5	63.9	43.4	0.45
8 Cr	159.496	1.991E-08	-0.4	21.6	19.1	100.00 ?
9 Mn	146.382	1.991E-08	263.2	29.8	24.0	1.07
10 Zn	99.907	1.991E-08	-3.2	69.3	62.1	100.00 ?
11 K	119.666	1.991E-08	-92.4	23.4	196.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	43.804	7.3024	41.864	1.0463	1.0019	1.0443	1.0000
MgO	0.046	0.0136	0.023	1.9679	0.9376	2.0680	1.0149
CaO	0.035	0.0075	0.038	0.9278	0.9558	1.0054	0.9655
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.036	0.0071	0.032	1.1072	0.9313	1.1898	0.9993
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	54.188	8.1234	53.013	1.0222	1.0068	1.0033	1.0119
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.461	0.4156	2.439	1.0091	1.0067	1.0024	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 100.570 15.8695 97.409 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30

UNK No. : 41 Comment : 14/7

Stage : X= 69.8870 Y= 36.9785 Z= 10.7490

Dated on Mar 31 20:44 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.988E-08	2488.8	28.2	25.0	0.45
2 Mg	107.512	1.988E-08	882.4	26.6	15.4	0.55
3 Ca	107.422	1.988E-08	2574.8	24.1	19.0	0.45
4 Al	90.572	1.988E-08	2251.9	69.6	31.4	0.46
5 Si	77.290	1.988E-08	8564.0	200.1	98.9	0.46
6 Na	129.537	1.988E-08	74.0	9.2	7.8	2.04
7 Ti	87.773	1.988E-08	295.9	38.6	29.8	1.04
8 Cr	159.496	1.988E-08	-0.7	17.1	14.3	100.00 ?
9 Mn	146.382	1.988E-08	33.6	23.6	19.2	4.11
10 Zn	99.907	1.988E-08	0.4	49.8	44.4	479.36 ?
11 K	119.666	1.988E-08	330.7	16.5	102.4	1.18

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	22.087	2.9381	20.542	1.0752	1.0601	1.0142	1.0000
MgO	7.291	1.7288	5.002	1.4577	0.9872	1.4629	1.0094
CaO	11.729	1.9990	10.931	1.0730	1.0077	1.0413	1.0225
Al2O3	11.405	2.1382	10.871	1.0491	0.9872	1.0721	0.9913
SiO2	42.114	6.6986	39.564	1.0645	0.9805	1.0863	0.9995
Na2O	1.029	0.3175	0.909	1.1322	1.0719	1.0597	0.9968
TiO2	1.596	0.1910	1.391	1.1476	1.0624	1.0527	1.0261
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.321	0.0432	0.312	1.0280	1.0643	0.9659	1.0000
ZnO	0.004	0.0005	0.003	1.1247	1.1082	1.0149	1.0000
K2O	1.433	0.2908	1.489	0.9620	0.9851	0.9940	0.9825

Total 99.009 16.3455 91.015 Total O = 24.0 Iteration = 5

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 42 Comment : 14/8
 Stage : X= 69.1325 Y= 37.4955 Z= 10.7490
 Dated on Mar 31 20:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.984E-08	2146.3	26.2	24.6	0.45
2 Mg	107.512	1.984E-08	1254.5	26.7	15.8	0.46
3 Ca	107.422	1.984E-08	2670.7	22.1	18.1	0.45
4 Al	90.572	1.984E-08	1836.0	74.4	32.2	0.47
5 Si	77.290	1.984E-08	9385.3	192.0	92.6	0.45
6 Na	129.537	1.984E-08	69.4	9.7	6.6	2.11
7 Ti	87.773	1.984E-08	102.7	38.2	31.5	2.10
8 Cr	159.496	1.984E-08	0.6	14.3	14.5	142.89 ?
9 Mn	146.382	1.984E-08	32.2	22.2	18.4	4.19
10 Zn	99.907	1.984E-08	-0.7	47.9	43.4	100.00 ?
11 K	119.666	1.984E-08	165.7	15.5	93.2	1.91

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	19.149	2.4898	17.751	1.0788	1.0646	1.0133	1.0000
MgO	10.046	2.3281	7.125	1.4099	0.9909	1.4097	1.0093
CaO	12.233	2.0378	11.361	1.0768	1.0117	1.0395	1.0239
Al2O3	9.309	1.7058	8.881	1.0481	0.9909	1.0680	0.9904
SiO2	45.675	7.1009	43.446	1.0513	0.9841	1.0688	0.9995
Na2O	0.926	0.2792	0.854	1.0850	1.0759	1.0122	0.9963
TiO2	0.559	0.0653	0.484	1.1548	1.0667	1.0530	1.0282
Cr2O3	0.007	0.0008	0.006	1.0502	1.0627	1.0307	0.9587
MnO	0.309	0.0407	0.299	1.0311	1.0687	0.9648	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.724	0.1435	0.748	0.9675	0.9889	0.9957	0.9826
Total	98.937	16.1919	90.955	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 43 Comment : 14/9
 Stage : X= 68.4930 Y= 36.5625 Z= 10.7435
 Dated on Mar 31 20:55 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.981E-08	5145.5	35.5	31.1	0.45
2 Mg	107.512	1.981E-08	5.1	21.6	13.3	19.79
3 Ca	107.422	1.981E-08	19.0	32.1	24.8	7.45
4 Al	90.572	1.981E-08	136.8	53.4	38.1	1.89
5 Si	77.290	1.981E-08	77.5	220.4	114.6	7.84
6 Na	129.537	1.981E-08	-4.3	9.7	8.9	100.00 ?
7 Ti	87.773	1.981E-08	9086.3	50.4	41.8	0.45
8 Cr	159.496	1.981E-08	-0.1	20.4	19.7	100.00 ?
9 Mn	146.382	1.981E-08	109.3	32.3	24.1	1.89
10 Zn	99.907	1.981E-08	-0.5	65.4	60.5	100.00 ?
11 K	119.666	1.981E-08	-91.8	20.3	198.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	44.402	8.3877	42.620	1.0418	1.0018	1.0399	1.0000
MgO	0.057	0.0193	0.029	1.9975	0.9376	2.0994	1.0147
CaO	0.076	0.0184	0.081	0.9364	0.9558	1.0087	0.9713
Al2O3	0.834	0.2220	0.663	1.2581	0.9377	1.3421	0.9996
SiO2	0.404	0.0912	0.359	1.1239	0.9313	1.2076	0.9994
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	43.749	7.4318	42.863	1.0207	1.0067	1.0053	1.0085
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.022	0.1955	1.018	1.0036	1.0065	0.9971	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.544	16.3660	87.634	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 44 Comment : 14/10
 Stage : X= 68.1960 Y= 37.1280 Z= 10.7500
 Dated on Apr 1 11:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.960E-08	10350.3	44.3	44.2	0.45
2 Mg	107.512	1.960E-08	-1.9	18.9	14.9	100.00 ?
3 Ca	107.422	1.960E-08	-4.5	32.9	26.1	100.00 ?
4 Al	90.572	1.960E-08	5.7	52.1	36.6	32.01
5 Si	77.290	1.960E-08	193.4	248.3	125.2	3.59
6 Na	129.537	1.960E-08	-3.7	10.1	7.3	100.00 ?
7 Ti	87.773	1.960E-08	205.3	52.8	46.7	1.45
8 Cr	159.496	1.960E-08	-1.6	25.5	22.7	100.00 ?
9 Mn	146.382	1.960E-08	-1.4	35.3	27.5	100.00 ?
10 Zn	99.907	1.960E-08	-2.4	76.3	68.4	100.00 ?
11 K	119.666	1.960E-08	-178.0	22.5	368.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.766	22.8081	86.651	0.9898	0.9875	1.0023	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.040	0.0150	0.028	1.4433	0.9267	1.5578	0.9998
SiO2	1.130	0.3592	0.906	1.2466	0.9203	1.3545	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.943	0.2255	0.979	0.9632	0.9937	1.0196	0.9507
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.879	23.4078	88.564	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 45 Comment : 14/11
 Stage : X= 67.9280 Y= 37.5525 Z= 10.7445
 Dated on Mar 31 21:06 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.975E-08	4331.3	34.2	32.9	0.45
2 Mg	107.512	1.975E-08	10.5	19.4	14.6	10.04
3 Ca	107.422	1.975E-08	2.1	30.0	25.7	58.53 ?
4 Al	90.572	1.975E-08	3.4	52.4	35.7	51.96 ?
5 Si	77.290	1.975E-08	81.7	216.2	115.4	7.36
6 Na	129.537	1.975E-08	-3.2	9.3	7.1	100.00 ?
7 Ti	87.773	1.975E-08	11687.1	57.8	48.7	0.45
8 Cr	159.496	1.975E-08	-3.7	22.6	19.7	100.00 ?
9 Mn	146.382	1.975E-08	65.9	28.8	24.4	2.64
10 Zn	99.907	1.975E-08	6.6	67.5	59.2	36.37 ?
11 K	119.666	1.975E-08	-82.6	21.3	179.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	37.900	6.4017	35.986	1.0532	1.0043	1.0487	1.0000
MgO	0.115	0.0347	0.060	1.9250	0.9396	2.0189	1.0149
CaO	0.008	0.0018	0.009	0.9226	0.9578	1.0030	0.9603
Al2O3	0.020	0.0049	0.017	1.2217	0.9396	1.3007	0.9996
SiO2	0.415	0.0839	0.380	1.0930	0.9332	1.1722	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.849	8.6349	55.300	1.0280	1.0089	1.0018	1.0170
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.626	0.1071	0.616	1.0168	1.0090	1.0078	1.0000
ZnO	0.065	0.0097	0.060	1.0875	1.0461	1.0395	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	95.998	15.2787	92.427	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 79 Comment : 15/1
 Stage : X= 69.909 Y= 44.054 Z= 10.729
 Dated on Mar 18 23:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.010E-08	3256.5	37.0	33.1	0.45
2 Mg	107.930	2.010E-08	158.5	21.9	16.1	1.40
3 Ca	107.963	2.010E-08	32.4	25.6	19.6	4.31
4 Al	91.004	2.010E-08	79.5	54.2	36.9	2.89
5 Si	77.720	2.010E-08	109.0	116.7	80.3	3.58
6 Na	129.948	2.010E-08	-2.2	12.2	7.2	100.00 ?
7 Ti	88.392	2.010E-08	13179.8	52.4	49.4	0.45
8 Cr	158.287	2.010E-08	10.4	22.6	21.6	11.23
9 Mn	145.184	2.010E-08	47.5	30.3	24.7	3.42
10 Zn	98.703	2.010E-08	3.5	75.6	62.5	73.70 ?
11 K	120.232	2.010E-08	-45.6	15.3	105.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kv)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	23.910	3.9465	22.371	1.0688	1.0099	1.0583	1.0000
MgO	1.504	0.4426	0.834	1.8044	0.9440	1.8835	1.0148
CaO	0.132	0.0278	0.145	0.9097	0.9626	0.9969	0.9480
Al2O3	0.425	0.0989	0.362	1.1737	0.9441	1.2438	0.9995
SiO2	0.496	0.0979	0.443	1.1209	0.9425	1.1892	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	64.505	9.5741	62.033	1.0398	1.0141	0.9986	1.0268
Cr2O3	0.102	0.0159	0.094	1.0812	0.9934	1.1015	0.9881
MnO	0.376	0.0628	0.363	1.0341	1.0145	1.0193	1.0000
ZnO	0.028	0.0041	0.026	1.0886	1.0527	1.0341	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.478	14.2706	86.671	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 80 Comment : 15/2
 Stage : X= 70.425 Y= 42.678 Z= 10.739
 Dated on Mar 19 16:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.128E-08	14063.9	58.4	52.8	0.45
2 Mg	107.942	2.128E-08	-5.1	23.6	16.6	100.00 ?
3 Ca	107.967	2.128E-08	-1.6	35.1	28.1	100.00 ?
4 Al	91.015	2.128E-08	14.6	63.5	42.2	14.66
5 Si	77.725	2.128E-08	32.4	139.9	90.4	12.95
6 Na	129.960	2.128E-08	-2.8	12.5	8.1	100.00 ?
7 Ti	88.424	2.128E-08	32.0	65.1	51.0	7.45
8 Cr	158.287	2.128E-08	-1.8	31.7	26.8	100.00 ?
9 Mn	145.203	2.128E-08	7.5	45.5	34.5	22.41
10 Zn	98.703	2.128E-08	-0.7	98.3	83.2	100.00 ?
11 K	120.226	2.128E-08	-197.8	20.0	405.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kv)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	90.950	23.7690	92.099	0.9875	0.9860	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.091	0.0337	0.063	1.4522	0.9254	1.5693	1.0000
SiO2	0.163	0.0510	0.124	1.3213	0.9239	1.4285	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.138	0.0324	0.144	0.9592	0.9923	1.0197	0.9480
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.051	0.0136	0.054	0.9419	0.9911	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.393	23.8997	92.484	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 81 Comment : 15/3
 Stage : X= 69.195 Y= 43.775 Z= 10.726
 Dated on Mar 18 23:31 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.006E-08	3458.9	37.4	34.7	0.45
2 Mg	107.930	2.006E-08	4.0	21.7	15.4	25.65
3 Ca	107.963	2.006E-08	38.1	31.0	22.7	4.05
4 Al	91.004	2.006E-08	62.1	58.2	37.6	3.65
5 Si	77.720	2.006E-08	65.5	124.8	84.3	6.03
6 Na	129.948	2.006E-08	-1.9	10.2	8.7	100.00 ?
7 Ti	88.392	2.006E-08	13494.1	60.4	43.0	0.45
8 Cr	158.287	2.006E-08	2.4	22.6	22.6	45.46 ?
9 Mn	145.184	2.006E-08	89.6	31.0	24.7	2.15
10 Zn	98.703	2.006E-08	-1.6	76.6	71.6	100.00 ?
11 K	120.232	2.006E-08	-46.3	16.3	106.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.405	4.1612	23.809	1.0670	1.0080	1.0585	1.0000
MgO	0.038	0.0111	0.021	1.8260	0.9424	1.9093	1.0148
CaO	0.155	0.0325	0.171	0.9070	0.9609	0.9966	0.9472
Al2O3	0.332	0.0767	0.284	1.1709	0.9425	1.2430	0.9995
SiO2	0.298	0.0583	0.266	1.1179	0.9409	1.1880	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	65.992	9.7201	63.639	1.0370	1.0123	0.9985	1.0259
Cr2O3	0.023	0.0036	0.022	1.0785	0.9916	1.1020	0.9870
MnO	0.710	0.1178	0.687	1.0326	1.0126	1.0197	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.953	14.1814	88.899	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 82 Comment : 15/4
 Stage : X= 69.397 Y= 44.331 Z= 10.726
 Dated on Mar 18 23:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.006E-08	10281.5	46.3	42.8	0.45
2 Mg	107.930	2.006E-08	27.9	19.3	15.0	4.48
3 Ca	107.963	2.006E-08	26.9	28.3	22.8	5.25
4 Al	91.004	2.006E-08	80.9	61.3	37.0	2.98
5 Si	77.720	2.006E-08	462.7	135.5	74.9	1.11
6 Na	129.948	2.006E-08	-4.6	11.2	7.9	100.00 ?
7 Ti	88.392	2.006E-08	-4.0	52.3	45.7	100.00 ?
8 Cr	158.287	2.006E-08	-2.8	24.3	21.3	100.00 ?
9 Mn	145.184	2.006E-08	-2.2	35.0	29.4	100.00 ?
10 Zn	98.703	2.006E-08	-1.4	81.1	66.6	100.00 ?
11 K	120.232	2.006E-08	-130.2	18.4	307.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	70.235	21.6041	70.771	0.9924	0.9908	1.0017	1.0000
MgO	0.343	0.1880	0.147	2.3365	0.9293	2.4780	1.0146
CaO	0.119	0.0467	0.121	0.9831	0.9468	1.0345	1.0037
Al2O3	0.529	0.2295	0.369	1.4326	0.9294	1.5421	0.9995
SiO2	2.470	0.9084	1.882	1.3122	0.9279	1.4125	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	73.696	22.9768	73.290	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 83 Comment : 15/5
 Stage : X= 68.801 Y= 44.681 Z= 10.723
 Dated on Mar 18 23:42 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	12886.6	54.9	49.1	0.45
2 Mg	107.930	2.005E-08	-3.7	22.9	14.4	100.00 ?
3 Ca	107.963	2.005E-08	-2.4	30.2	29.7	100.00 ?
4 Al	91.004	2.005E-08	31.5	57.8	39.3	6.70
5 Si	77.720	2.005E-08	62.1	138.5	87.3	6.79
6 Na	129.948	2.005E-08	-3.1	11.4	9.8	100.00 ?
7 Ti	88.392	2.005E-08	40.0	64.4	45.5	5.85
8 Cr	158.287	2.005E-08	0.0	28.7	26.2	3336.11 ?
9 Mn	145.184	2.005E-08	10.1	43.2	31.6	16.05
10 Zn	98.703	2.005E-08	-2.0	89.9	84.1	100.00 ?
11 K	120.232	2.005E-08	-178.9	19.3	368.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.677	23.5592	88.747	0.9879	0.9864	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.209	0.0790	0.144	1.4502	0.9257	1.5666	0.9999
SiO2	0.334	0.1073	0.253	1.3208	0.9242	1.4275	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.181	0.0438	0.189	0.9599	0.9926	1.0197	0.9484
Cr2O3	0.000	0.0001	0.000	0.7684	0.9714	1.0073	0.7853
MnO	0.073	0.0199	0.077	0.9423	0.9915	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.474	23.8093	89.410	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 84 Comment : 15/6
 Stage : X= 67.909 Y= 44.681 Z= 10.718
 Dated on Mar 18 23:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	4867.6	41.5	37.9	0.45
2 Mg	107.930	2.005E-08	1.2	22.1	15.5	82.08 ?
3 Ca	107.963	2.005E-08	16.8	25.4	21.1	7.51
4 Al	91.004	2.005E-08	14.7	55.9	39.6	13.43
5 Si	77.720	2.005E-08	33.2	134.4	74.2	11.74
6 Na	129.948	2.005E-08	-2.5	7.5	7.5	100.00 ?
7 Ti	88.392	2.005E-08	11819.0	55.6	45.8	0.45
8 Cr	158.287	2.005E-08	-2.0	23.9	20.1	100.00 ?
9 Mn	145.184	2.005E-08	95.9	35.7	27.6	2.14
10 Zn	98.703	2.005E-08	73.1	3.7	0.1	1.90
11 K	120.232	2.005E-08	-72.1	16.4	152.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	35.341	6.0366	33.522	1.0543	1.0044	1.0501	0.9996
MgO	0.012	0.0037	0.006	1.9215	0.9396	2.0151	1.0149
CaO	0.069	0.0151	0.075	0.9208	0.9579	1.0024	0.9589
Al2O3	0.082	0.0198	0.067	1.2190	0.9396	1.2978	0.9996
SiO2	0.156	0.0318	0.135	1.1511	0.9381	1.2268	1.0003
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.399	8.8166	55.767	1.0293	1.0090	1.0017	1.0184
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.749	0.1296	0.736	1.0183	1.0090	1.0095	0.9997
ZnO	0.586	0.0884	0.539	1.0868	1.0462	1.0387	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.394	15.1417	90.848	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 85 Comment : 15/7
 Stage : X= 69.890 Y= 43.946 Z= 10.733
 Dated on Mar 19 16:49 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.132E-08	13985.1	57.1	49.1	0.45
2 Mg	107.942	2.132E-08	-3.5	23.9	18.1	100.00 ?
3 Ca	107.967	2.132E-08	-2.3	31.7	27.8	100.00 ?
4 Al	91.015	2.132E-08	15.3	62.0	47.3	14.27
5 Si	77.725	2.132E-08	26.2	154.6	93.0	17.05
6 Na	129.960	2.132E-08	-3.2	12.3	9.2	100.00 ?
7 Ti	88.424	2.132E-08	22.4	60.2	45.2	9.70
8 Cr	158.287	2.132E-08	8.3	29.4	29.0	16.10
9 Mn	145.203	2.132E-08	9.6	46.2	34.5	17.69
10 Zn	98.703	2.132E-08	-0.5	95.9	85.2	100.00 ?
11 K	120.226	2.132E-08	-183.6	22.6	374.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	90.271	23.7800	91.412	0.9875	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.096	0.0355	0.066	1.4524	0.9254	1.5695	1.0000
SiO2	0.132	0.0416	0.100	1.3215	0.9239	1.4287	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.096	0.0228	0.100	0.9591	0.9922	1.0197	0.9479
Cr2O3	0.054	0.0135	0.071	0.7670	0.9710	1.0072	0.7843
MnO	0.066	0.0176	0.070	0.9418	0.9911	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.715	23.9110	91.819	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 1 Comment : 15/8
 Stage : X= 69.5375 Y= 42.6380 Z= 10.9110
 Dated on Apr 5 14:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.973E-08	12115.1	53.1	44.6	0.45
2 Mg	107.494	1.973E-08	-4.4	8.4	5.4	100.00 ?
3 Ca	107.418	1.973E-08	3.4	33.5	29.7	40.26 ?
4 Al	90.574	1.973E-08	6.7	21.4	15.3	15.65
5 Si	77.315	1.973E-08	17.4	60.8	39.4	11.90
6 Na	129.537	1.973E-08	-2.9	3.4	2.4	100.00 ?
7 Ti	87.776	1.973E-08	8.9	55.1	47.1	22.83
8 Cr	159.526	1.973E-08	4.1	27.5	24.4	29.49
9 Mn	146.434	1.973E-08	8.1	37.8	31.0	18.57
10 Zn	100.011	1.973E-08	-6.7	87.9	75.6	100.00 ?
11 K	119.716	1.973E-08	-241.4	23.2	499.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.795	23.8251	87.901	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.014	0.0048	0.014	0.9767	0.9425	1.0337	1.0024
Al2O3	0.065	0.0250	0.045	1.4528	0.9254	1.5700	1.0000
SiO2	0.127	0.0416	0.101	1.2530	0.9190	1.3633	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.040	0.0098	0.041	0.9590	0.9922	1.0198	0.9478
Cr2O3	0.031	0.0081	0.041	0.7684	0.9866	1.0107	0.7706
MnO	0.064	0.0177	0.068	0.9417	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.136	23.9321	88.210	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Unknown Specimen

Group : silicates Sample : NAT92_1513
 UNK No. : 2 Comment : 15/9
 Stage : X= 70.3930 Y= 43.3210 Z= 10.9090
 Dated on Apr 5 14:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.968E-08	8815.1	43.5	42.4	0.45
2 Mg	107.494	1.968E-08	-4.6	8.6	5.5	100.00 ?
3 Ca	107.418	1.968E-08	-1.1	29.8	27.4	100.00 ?
4 Al	90.574	1.968E-08	65.7	23.8	14.9	2.46
5 Si	77.315	1.968E-08	8.7	60.1	37.6	22.97
6 Na	129.537	1.968E-08	-3.3	3.5	3.2	100.00 ?
7 Ti	87.776	1.968E-08	4756.2	56.6	49.2	0.45
8 Cr	159.526	1.968E-08	-4.5	26.5	22.5	100.00 ?
9 Mn	146.434	1.968E-08	8.2	35.4	28.2	17.28
10 Zn	100.011	1.968E-08	29.8	79.3	71.1	9.65
11 K	119.716	1.968E-08	-138.1	21.9	349.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	65.082	14.6483	64.120	1.0150	0.9941	1.0212	0.9998
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.598	0.1897	0.441	1.3565	0.9317	1.4561	0.9999
SiO2	0.060	0.0161	0.050	1.1903	0.9253	1.2867	0.9997
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	22.154	4.4838	22.222	0.9969	0.9996	1.0124	0.9851
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.067	0.0153	0.069	0.9732	0.9990	0.9743	0.9999
ZnO	0.262	0.0521	0.241	1.0870	1.0340	1.0513	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.223 19.4052 87.143 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen

Group : silicates Sample : NAT92_1513
 UNK No. : 3 Comment : 15/10
 Stage : X= 69.7765 Y= 43.2690 Z= 10.9115
 Dated on Apr 5 14:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.966E-08	12129.5	49.8	45.7	0.45
2 Mg	107.494	1.966E-08	-4.3	8.5	5.1	100.00 ?
3 Ca	107.418	1.966E-08	1.5	33.1	29.0	90.97 ?
4 Al	90.574	1.966E-08	3.8	22.6	14.8	26.70
5 Si	77.315	1.966E-08	-0.6	65.7	40.6	100.00 ?
6 Na	129.537	1.966E-08	-2.8	3.5	2.1	100.00 ?
7 Ti	87.776	1.966E-08	8.1	56.6	47.2	25.26
8 Cr	159.526	1.966E-08	32.4	28.0	22.2	4.48
9 Mn	146.434	1.966E-08	6.7	36.9	29.8	21.91
10 Zn	100.011	1.966E-08	4.1	82.1	69.7	67.60 ?
11 K	119.716	1.966E-08	-229.2	23.5	474.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.215	23.8385	88.319	0.9875	0.9858	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.006	0.0021	0.006	0.9764	0.9424	1.0337	1.0024
Al2O3	0.037	0.0143	0.026	1.4535	0.9252	1.5710	1.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.036	0.0090	0.038	0.9589	0.9920	1.0197	0.9479
Cr2O3	0.250	0.0646	0.325	0.7694	0.9864	1.0106	0.7717
MnO	0.052	0.0145	0.056	0.9415	0.9908	0.9502	1.0000
ZnO	0.036	0.0088	0.033	1.0861	1.0241	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.632 23.9516 88.803 Total O = 24.0 Iteration = 3

Intensity & Wt. %

Unknown Specimen
 Group : silicates Sample : NAT92 1513
 UNK No. : 4 Comment : 15/11
 Stage : X= 70.0315 Y= 43.8690 Z= 10.9115
 Dated on Apr 5 14:38 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.964E-08	11851.5	50.0	48.1	0.45
2 Mg	107.494	1.964E-08	-3.9	7.0	5.8	100.00 ?
3 Ca	107.418	1.964E-08	5.0	32.4	27.6	26.72
4 Al	90.574	1.964E-08	10.3	22.4	17.1	10.88
5 Si	77.315	1.964E-08	37.4	67.5	37.7	6.12
6 Na	129.537	1.964E-08	-3.2	3.2	3.1	100.00 ?
7 Ti	87.776	1.964E-08	60.4	66.3	43.0	4.06
8 Cr	159.526	1.964E-08	-0.9	27.0	24.8	100.00 ?
9 Mn	146.434	1.964E-08	25.9	35.1	33.1	6.30
10 Zn	100.011	1.964E-08	-7.8	86.3	79.2	100.00 ?
11 K	119.716	1.964E-08	-220.3	24.2	456.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.336	23.5627	86.382	0.9879	0.9862	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.020	0.0071	0.020	0.9768	0.9428	1.0336	1.0024
Al2O3	0.100	0.0389	0.069	1.4505	0.9256	1.5671	1.0000
SiO2	0.273	0.0900	0.218	1.2517	0.9193	1.3616	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.271	0.0674	0.283	0.9598	0.9925	1.0197	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.205	0.0572	0.217	0.9423	0.9913	0.9505	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 86.205 23.8232 87.189 Total O = 24.0 Iteration = 3

Intensity & Wt. %

Unknown Specimen

Group : silicates Sample : NAT92 16171819
 UNK No. : 1 Comment : 16/1
 Stage : X= 68.508 Y= 79.135 Z= 10.576
 Dated on Mar 18 12:12 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.989E-08	12717.8	53.7	51.5	0.45
2 Mg	107.930	1.989E-08	-4.3	22.5	16.0	100.00 ?
3 Ca	107.963	1.989E-08	-3.4	31.0	25.8	100.00 ?
4 Al	91.004	1.989E-08	8.6	58.9	39.0	23.18
5 Si	77.720	1.989E-08	21.6	153.0	83.9	20.03
6 Na	129.948	1.989E-08	-2.0	11.3	7.7	100.00 ?
7 Ti	88.392	1.989E-08	6.8	57.4	49.1	30.88
8 Cr	158.287	1.989E-08	2.1	27.9	28.0	59.79 ?
9 Mn	145.184	1.989E-08	6.0	41.0	37.0	34.14 ?
10 Zn	98.703	1.989E-08	-0.2	88.7	81.7	100.00 ?
11 K	120.232	1.989E-08	-185.3	17.3	378.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.171	23.8573	88.289	0.9873	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.057	0.0221	0.039	1.4531	0.9253	1.5704	1.0000
SiO2	0.117	0.0383	0.089	1.3217	0.9238	1.4291	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.031	0.0076	0.032	0.9588	0.9922	1.0197	0.9477
Cr2O3	0.014	0.0037	0.019	0.7660	0.9709	1.0071	0.7834
MnO	0.044	0.0121	0.046	0.9417	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.434 23.9412 88.515 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 2 Comment : 16/2
 Stage : X= 68.722 Y= 80.052 Z= 10.574
 Dated on Mar 18 12:18 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.989E-08	3829.2	40.0	34.0	0.45
2 Mg	107.930	1.989E-08	21.6	21.1	15.8	5.61
3 Ca	107.963	1.989E-08	15.0	28.6	21.4	8.61
4 Al	91.004	1.989E-08	15.1	50.7	39.0	12.45
5 Si	77.720	1.989E-08	35.8	120.8	82.7	10.52
6 Na	129.948	1.989E-08	-4.8	10.8	8.9	100.00 ?
7 Ti	88.392	1.989E-08	12846.8	55.6	45.9	0.45
8 Cr	158.287	1.989E-08	0.8	21.5	22.0	140.27 ?
9 Mn	145.184	1.989E-08	56.5	33.2	23.8	4.22
10 Zn	98.703	1.989E-08	-1.4	75.0	62.7	100.00 ?
11 K	120.232	1.989E-08	-52.3	16.9	117.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.276	4.7301	26.583	1.0637	1.0070	1.0563	1.0000
MgO	0.212	0.0632	0.115	1.8516	0.9416	1.9376	1.0149
CaO	0.062	0.0132	0.068	0.9104	0.9601	0.9980	0.9502
Al2O3	0.083	0.0195	0.070	1.1855	0.9417	1.2594	0.9995
SiO2	0.165	0.0331	0.147	1.1267	0.9401	1.1983	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	63.219	9.5101	61.104	1.0346	1.0114	0.9991	1.0239
Cr2O3	0.007	0.0012	0.007	1.0692	0.9906	1.0983	0.9828
MnO	0.450	0.0762	0.437	1.0288	1.0116	1.0170	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 92.474 14.4465 88.530 Total O = 24.0 Iteration = 4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 3 Comment : 16/3
 Stage : X= 68.446 Y= 79.865 Z= 10.574
 Dated on Mar 18 12:23 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.990E-08	12785.7	53.3	49.2	0.45
2 Mg	107.930	1.990E-08	-3.5	21.9	15.1	100.00 ?
3 Ca	107.963	1.990E-08	-2.9	31.5	24.3	100.00 ?
4 Al	91.004	1.990E-08	30.4	63.2	40.9	7.28
5 Si	77.720	1.990E-08	14.9	146.8	83.4	28.06
6 Na	129.948	1.990E-08	-5.0	11.3	8.7	100.00 ?
7 Ti	88.392	1.990E-08	34.4	55.9	45.2	6.31
8 Cr	158.287	1.990E-08	-1.3	26.6	26.0	100.00 ?
9 Mn	145.184	1.990E-08	3.9	39.8	32.4	50.03 ?
10 Zn	98.703	1.990E-08	-0.5	95.1	75.8	100.00 ?
11 K	120.232	1.990E-08	-175.4	21.0	359.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.614	23.7467	88.716	0.9876	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.203	0.0777	0.140	1.4519	0.9254	1.5688	1.0000
SiO2	0.081	0.0262	0.061	1.3219	0.9239	1.4291	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.157	0.0383	0.164	0.9593	0.9923	1.0197	0.9481
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.028	0.0078	0.030	0.9420	0.9911	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.083 23.8967 89.111 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 4 Comment : 16/4
 Stage : X= 68.188 Y= 80.070 Z= 10.574
 Dated on Mar 18 12:28 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.991E-08	2346.0	35.6	34.5	0.46
2 Mg	107.930	1.991E-08	25.6	22.7	16.2	4.97
3 Ca	107.963	1.991E-08	44.4	26.2	20.1	3.40
4 Al	91.004	1.991E-08	304.3	58.0	38.7	1.10
5 Si	77.720	1.991E-08	815.5	131.7	79.2	0.72
6 Na	129.948	1.991E-08	-2.3	10.3	9.4	100.00 ?
7 Ti	88.392	1.991E-08	14323.2	54.9	45.1	0.45
8 Cr	158.287	1.991E-08	1.5	22.0	19.9	67.23 ?
9 Mn	145.184	1.991E-08	3.3	28.8	24.6	51.03 ?
10 Zn	98.703	1.991E-08	-5.0	77.1	72.9	100.00 ?
11 K	120.232	1.991E-08	60.9	17.1	76.1	3.95

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	17.545	2.6482	16.270	1.0783	1.0148	1.0627	1.0000
MgO	0.234	0.0630	0.136	1.7256	0.9480	1.7945	1.0143
CaO	0.182	0.0352	0.200	0.9092	0.9668	0.9962	0.9440
Al2O3	1.572	0.3344	1.401	1.1219	0.9480	1.1848	0.9988
SiO2	3.650	0.6587	3.342	1.0919	0.9464	1.1537	0.9999
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	71.445	9.6976	68.058	1.0498	1.0187	0.9983	1.0323
Cr2O3	0.016	0.0022	0.014	1.1036	0.9979	1.1090	0.9972
MnO	0.027	0.0041	0.025	1.0445	1.0193	1.0248	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.279	0.0641	0.329	0.8470	0.9453	0.9431	0.9501
Total	94.950	13.5075	89.776	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 5 Comment : 16/5
 Stage : X= 67.674 Y= 80.142 Z= 10.574
 Dated on Mar 18 12:34 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.992E-08	3340.1	38.7	32.6	0.45
2 Mg	107.930	1.992E-08	31.8	20.7	15.7	4.11
3 Ca	107.963	1.992E-08	54.0	26.6	20.5	2.96
4 Al	91.004	1.992E-08	76.7	53.6	38.1	2.98
5 Si	77.720	1.992E-08	124.4	123.6	77.6	3.24
6 Na	129.948	1.992E-08	-2.3	10.9	8.8	100.00 ?
7 Ti	88.392	1.992E-08	12681.3	55.0	42.6	0.45
8 Cr	158.287	1.992E-08	1.8	22.2	19.2	57.72 ?
9 Mn	145.184	1.992E-08	237.2	30.0	25.8	1.61
10 Zn	98.703	1.992E-08	2.4	76.7	68.5	111.91 ?
11 K	120.232	1.992E-08	-42.3	16.2	103.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.667	4.1698	23.153	1.0654	1.0080	1.0569	1.0000
MgO	0.309	0.0930	0.169	1.8292	0.9425	1.9126	1.0148
CaO	0.222	0.0480	0.243	0.9103	0.9609	0.9975	0.9496
Al2O3	0.415	0.0988	0.353	1.1751	0.9425	1.2474	0.9994
SiO2	0.572	0.1156	0.510	1.1217	0.9409	1.1920	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.426	9.4897	60.226	1.0365	1.0123	0.9992	1.0247
Cr2O3	0.018	0.0028	0.016	1.0754	0.9916	1.0993	0.9866
MnO	1.888	0.3232	1.832	1.0306	1.0126	1.0177	1.0000
ZnO	0.019	0.0029	0.018	1.0876	1.0506	1.0353	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.536	14.3439	86.519	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 6 Comment : 16/6
 Stage : X= 69.488 Y= 80.397 Z= 10.572
 Dated on Mar 18 12:39 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.993E-08	12734.3	51.0	51.9	0.45
2 Mg	107.930	1.993E-08	-1.6	22.1	16.1	100.00 ?
3 Ca	107.963	1.993E-08	-1.6	33.4	24.9	100.00 ?
4 Al	91.004	1.993E-08	22.5	53.6	36.4	8.66
5 Si	77.720	1.993E-08	34.2	144.4	82.3	12.23
6 Na	129.948	1.993E-08	-3.2	11.7	9.6	100.00 ?
7 Ti	88.392	1.993E-08	20.7	63.2	50.4	11.04
8 Cr	158.287	1.993E-08	12.2	29.1	26.5	10.95
9 Mn	145.184	1.993E-08	72.3	42.0	33.4	3.76
10 Zn	98.703	1.993E-08	3.0	88.6	80.4	101.29 ?
11 K	120.232	1.993E-08	-190.5	18.7	402.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.132	23.5663	88.226	0.9876	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.150	0.0572	0.103	1.4510	0.9254	1.5680	1.0000
SiO2	0.185	0.0598	0.140	1.3209	0.9239	1.4281	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.094	0.0229	0.098	0.9591	0.9923	1.0197	0.9479
Cr2O3	0.085	0.0218	0.111	0.7684	0.9710	1.0072	0.7857
MnO	0.526	0.1440	0.558	0.9419	0.9911	0.9503	1.0000
ZnO	0.024	0.0058	0.022	1.0862	1.0244	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.196	23.8778	89.259	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 7 Comment : 16/7
 Stage : X= 69.305 Y= 80.791 Z= 10.571
 Dated on Mar 18 12:45 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.994E-08	12873.8	54.5	50.3	0.45
2 Mg	107.930	1.994E-08	-5.1	23.2	17.0	100.00 ?
3 Ca	107.963	1.994E-08	-1.3	33.2	24.5	100.00 ?
4 Al	91.004	1.994E-08	17.5	61.1	44.0	12.25
5 Si	77.720	1.994E-08	17.6	139.8	85.1	23.24
6 Na	129.948	1.994E-08	-4.7	10.5	8.9	100.00 ?
7 Ti	88.392	1.994E-08	25.6	57.7	46.0	8.42
8 Cr	158.287	1.994E-08	10.1	28.9	25.9	12.87
9 Mn	145.184	1.994E-08	-3.9	42.4	35.4	100.00 ?
10 Zn	98.703	1.994E-08	-4.8	98.0	76.7	100.00 ?
11 K	120.232	1.994E-08	-186.0	18.7	383.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.040	23.7883	89.148	0.9876	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.117	0.0444	0.080	1.4524	0.9254	1.5695	1.0000
SiO2	0.095	0.0307	0.072	1.3216	0.9239	1.4289	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.117	0.0283	0.122	0.9592	0.9923	1.0197	0.9480
Cr2O3	0.071	0.0180	0.092	0.7672	0.9710	1.0072	0.7844
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.440	23.9098	89.514	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 8 Comment : 16/8
 Stage : X= 69.677 Y= 81.102 Z= 10.571
 Dated on Mar 18 12:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.995E-08	10142.6	50.9	45.8	0.45
2 Mg	107.930	1.995E-08	-1.4	21.2	16.6	100.00 ?
3 Ca	107.963	1.995E-08	1.0	28.9	24.2	123.16 ?
4 Al	91.004	1.995E-08	390.0	65.3	40.2	0.96
5 Si	77.720	1.995E-08	9.1	140.7	86.2	44.96 ?
6 Na	129.948	1.995E-08	-5.9	11.8	20.0	100.00 ?
7 Ti	88.392	1.995E-08	3310.6	56.3	46.3	0.46
8 Cr	158.287	1.995E-08	-1.9	29.4	24.4	100.00 ?
9 Mn	145.184	1.995E-08	50.2	37.0	32.6	4.88
10 Zn	98.703	1.995E-08	150.9	88.6	79.7	2.39
11 K	120.232	1.995E-08	-155.4	19.7	321.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	70.724	16.0854	70.200	1.0075	0.9933	1.0152	0.9991
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.004	0.0012	0.004	0.9692	0.9487	1.0261	0.9956
Al2O3	2.473	0.7926	1.792	1.3800	0.9312	1.4821	0.9999
SiO2	0.048	0.0130	0.037	1.2864	0.9297	1.3824	1.0009
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	15.569	3.1841	15.699	0.9917	0.9990	1.0153	0.9777
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.374	0.0860	0.387	0.9647	0.9982	0.9670	0.9994
ZnO	1.216	0.2442	1.119	1.0868	1.0330	1.0521	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.408	20.4066	89.239	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 9 Comment : 16/9
 Stage : X= 68.989 Y= 81.490 Z= 10.571
 Dated on Mar 18 12:55 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.996E-08	12799.5	50.3	51.0	0.45
2 Mg	107.930	1.996E-08	-3.0	22.0	14.0	100.00 ?
3 Ca	107.963	1.996E-08	-0.2	30.4	24.9	100.00 ?
4 Al	91.004	1.996E-08	11.0	60.6	42.4	18.80
5 Si	77.720	1.996E-08	13.2	136.6	87.0	30.55
6 Na	129.948	1.996E-08	-2.9	11.5	9.4	100.00 ?
7 Ti	88.392	1.996E-08	268.4	63.3	45.1	1.24
8 Cr	158.287	1.996E-08	-3.2	29.9	26.5	100.00 ?
9 Mn	145.184	1.996E-08	2.9	41.2	33.0	67.69 ?
10 Zn	98.703	1.996E-08	1.7	86.9	79.7	178.81 ?
11 K	120.232	1.996E-08	-183.6	20.0	377.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.545	23.3187	88.545	0.9887	0.9863	1.0025	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.073	0.0275	0.051	1.4484	0.9256	1.5649	1.0000
SiO2	0.071	0.0226	0.054	1.3184	0.9241	1.4251	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	1.223	0.2929	1.272	0.9613	0.9925	1.0194	0.9501
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.021	0.0057	0.022	0.9433	0.9913	0.9515	1.0000
ZnO	0.014	0.0032	0.012	1.0863	1.0247	1.0601	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.947	23.6707	89.956	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 10 Comment : 16/10
 Stage : X= 68.680 Y= 80.540 Z= 10.571
 Dated on Mar 18 13:01 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.999E-08	3941.9	40.7	37.1	0.45
2 Mg	107.930	1.999E-08	18.4	21.9	16.4	6.48
3 Ca	107.963	1.999E-08	20.9	28.4	19.9	6.39
4 Al	91.004	1.999E-08	36.5	58.1	38.9	5.85
5 Si	77.720	1.999E-08	33.9	132.5	79.8	11.61
6 Na	129.948	1.999E-08	-3.0	11.7	9.4	100.00 ?
7 Ti	88.392	1.999E-08	12542.6	57.2	46.5	0.45
8 Cr	158.287	1.999E-08	6.1	21.9	21.0	18.28
9 Mn	145.184	1.999E-08	98.5	30.0	23.0	2.79
10 Zn	98.703	1.999E-08	0.2	80.4	69.3	1593.02 ?
11 K	120.232	1.999E-08	-56.8	17.0	126.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.919	4.9097	27.228	1.0621	1.0066	1.0551	1.0000
MgO	0.181	0.0546	0.097	1.8609	0.9413	1.9480	1.0148
CaO	0.086	0.0186	0.094	0.9124	0.9597	0.9987	0.9519
Al2O3	0.199	0.0477	0.167	1.1899	0.9414	1.2645	0.9996
SiO2	0.156	0.0317	0.138	1.1308	0.9398	1.2030	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.356	9.3669	59.359	1.0336	1.0110	0.9996	1.0228
Cr2O3	0.059	0.0094	0.055	1.0653	0.9902	1.0962	0.9813
MnO	0.779	0.1339	0.758	1.0269	1.0112	1.0155	1.0000
ZnO	0.001	0.0002	0.001	1.0874	1.0489	1.0367	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.736	14.5728	87.898	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 11 Comment : 16/11
 Stage : X= 68.004 Y= 80.357 Z= 10.581
 Dated on Mar 19 09:52 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.162E-08	13303.9	53.2	53.4	0.45
2 Mg	107.942	2.162E-08	-5.7	23.1	18.2	100.00 ?
3 Ca	107.963	2.162E-08	-0.3	32.2	28.4	100.00 ?
4 Al	91.015	2.162E-08	20.8	58.8	44.7	10.27
5 Si	77.720	2.162E-08	40.9	149.1	89.2	10.69
6 Na	129.948	2.162E-08	-3.7	12.8	9.6	100.00 ?
7 Ti	88.424	2.162E-08	48.1	61.7	52.0	5.04
8 Cr	158.287	2.162E-08	-0.5	30.9	30.0	100.00 ?
9 Mn	145.203	2.162E-08	17.6	46.9	32.8	9.94
10 Zn	98.703	2.162E-08	1.3	91.3	86.1	241.98 ?
11 K	120.232	2.162E-08	-186.5	19.6	388.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	84.699	23.6499	85.752	0.9877	0.9861	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.128	0.0502	0.088	1.4512	0.9255	1.5681	1.0000
SiO2	0.204	0.0681	0.154	1.3210	0.9240	1.4280	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.205	0.0514	0.213	0.9595	0.9924	1.0197	0.9482
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.119	0.0336	0.126	0.9421	0.9912	0.9505	1.0000
ZnO	0.010	0.0024	0.009	1.0864	1.0246	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	85.365	23.8555	86.343	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 12 Comment : 16/12
 Stage : X= 67.648 Y= 80.665 Z= 10.574
 Dated on Mar 18 13:11 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	12358.9	57.2	48.2	0.45
2 Mg	107.930	2.005E-08	7.8	22.7	16.6	13.83
3 Ca	107.963	2.005E-08	4.4	30.8	25.4	28.73
4 Al	91.004	2.005E-08	222.3	61.6	44.0	1.40
5 Si	77.720	2.005E-08	386.9	147.1	89.7	1.35
6 Na	129.948	2.005E-08	-3.2	11.9	9.6	100.00 ?
7 Ti	88.392	2.005E-08	209.5	57.7	48.4	1.46
8 Cr	158.287	2.005E-08	-3.0	29.8	26.2	100.00 ?
9 Mn	145.184	2.005E-08	-6.1	40.6	31.6	100.00 ?
10 Zn	98.703	2.005E-08	-5.8	97.5	79.0	100.00 ?
11 K	120.232	2.005E-08	-76.1	18.1	344.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	84.489	21.4733	85.113	0.9927	0.9903	1.0024	1.0000
MgO	0.097	0.0438	0.041	2.3342	0.9289	2.4768	1.0146
CaO	0.019	0.0063	0.020	0.9815	0.9464	1.0339	1.0031
Al2O3	1.452	0.5201	1.016	1.4286	0.9290	1.5383	0.9997
SiO2	2.071	0.6294	1.575	1.3151	0.9275	1.4163	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.958	0.2189	0.989	0.9686	0.9964	1.0199	0.9532
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.086	22.8917	88.754	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 13 Comment : 17/1
 Stage : X= 62.636 Y= 79.652 Z= 10.586
 Dated on Mar 18 13:17 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.007E-08	9744.3	43.0	41.6	0.45
2 Mg	107.930	2.007E-08	30.3	19.7	14.7	4.20
3 Ca	107.963	2.007E-08	34.0	28.3	23.6	4.35
4 Al	91.004	2.007E-08	210.1	56.0	38.9	1.41
5 Si	77.720	2.007E-08	1718.3	129.1	75.0	0.51
6 Na	129.948	2.007E-08	-4.4	9.1	9.6	100.00 ?
7 Ti	88.392	2.007E-08	4.8	52.8	42.7	39.97 ?
8 Cr	158.287	2.007E-08	-4.0	26.6	21.3	100.00 ?
9 Mn	145.184	2.007E-08	68.1	35.4	28.4	3.77
10 Zn	98.703	2.007E-08	2.8	77.5	66.9	94.78 ?
11 K	120.232	2.007E-08	-112.2	17.5	302.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	67.219	17.3730	67.040	1.0027	1.0006	1.0020	1.0000
MgO	0.357	0.1642	0.160	2.2337	0.9377	2.3492	1.0140
CaO	0.152	0.0503	0.152	0.9965	0.9555	1.0365	1.0061
Al2O3	1.325	0.4826	0.960	1.3807	0.9378	1.4747	0.9984
SiO2	8.967	2.7712	6.987	1.2834	0.9362	1.3693	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.022	0.0051	0.022	0.9874	1.0062	1.0216	0.9605
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.499	0.1307	0.522	0.9563	1.0056	0.9510	1.0000
ZnO	0.023	0.0052	0.021	1.0952	1.0409	1.0522	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	78.564	20.9824	75.864	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 14 Comment : 17/2
 Stage : X= 62.785 Y= 79.967 Z= 10.583
 Dated on Mar 18 13:22 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.008E-08	13161.9	56.0	50.8	0.45
2 Mg	107.930	2.008E-08	-2.0	22.5	16.4	100.00 ?
3 Ca	107.963	2.008E-08	-1.1	31.5	25.7	100.00 ?
4 Al	91.004	2.008E-08	41.2	64.6	43.0	5.64
5 Si	77.720	2.008E-08	49.4	134.5	86.8	8.30
6 Na	129.948	2.008E-08	-2.8	11.4	9.2	100.00 ?
7 Ti	88.392	2.008E-08	3.1	61.9	46.9	68.34 ?
8 Cr	158.287	2.008E-08	-0.6	30.6	25.6	100.00 ?
9 Mn	145.184	2.008E-08	0.5	45.6	33.4	398.80 ?
10 Zn	98.703	2.008E-08	0.5	88.3	75.7	565.71 ?
11 K	120.232	2.008E-08	-194.6	19.7	399.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.395	23.6707	90.507	0.9877	0.9863	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.273	0.1018	0.188	1.4510	0.9257	1.5676	1.0000
SiO2	0.265	0.0840	0.201	1.3219	0.9241	1.4287	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.014	0.0033	0.015	0.9596	0.9926	1.0198	0.9480
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.004	0.0010	0.004	0.9421	0.9914	0.9503	1.0000
ZnO	0.004	0.0010	0.004	1.0865	1.0247	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.955	23.8618	90.918	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 15 Comment : 17/3
 Stage : X= 62.228 Y= 79.920 Z= 10.583
 Dated on Mar 18 13:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.007E-08	12872.3	53.6	49.6	0.45
2 Mg	107.930	2.007E-08	-2.0	22.5	16.5	100.00 ?
3 Ca	107.963	2.007E-08	12.0	31.5	24.5	11.20
4 Al	91.004	2.007E-08	11.4	64.5	42.8	18.90
5 Si	77.720	2.007E-08	38.1	134.2	84.7	10.59
6 Na	129.948	2.007E-08	-2.7	10.1	10.3	100.00 ?
7 Ti	88.392	2.007E-08	37.4	54.8	45.5	5.82
8 Cr	158.287	2.007E-08	4.5	28.3	27.7	28.26
9 Mn	145.184	2.007E-08	14.0	41.8	30.2	14.81
10 Zn	98.703	2.007E-08	7.2	90.5	80.1	42.85 ?
11 K	120.232	2.007E-08	-163.3	18.1	343.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.470	23.6706	88.560	0.9877	0.9861	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.052	0.0182	0.054	0.9768	0.9427	1.0337	1.0024
Al2O3	0.075	0.0288	0.052	1.4518	0.9255	1.5687	1.0000
SiO2	0.205	0.0662	0.155	1.3210	0.9240	1.4280	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.169	0.0411	0.176	0.9598	0.9924	1.0198	0.9483
Cr2O3	0.031	0.0080	0.040	0.7684	0.9711	1.0074	0.7854
MnO	0.101	0.0277	0.107	0.9421	0.9912	0.9505	1.0000
ZnO	0.058	0.0138	0.053	1.0863	1.0245	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.161	23.8743	89.198	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 16 Comment : 17/4
 Stage : X= 61.773 Y= 79.532 Z= 10.591
 Dated on Mar 19 10:06 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.156E-08	13720.4	57.2	54.0	0.45
2 Mg	107.942	2.156E-08	-4.6	26.3	17.9	100.00 ?
3 Ca	107.963	2.156E-08	-1.1	35.1	27.2	100.00 ?
4 Al	91.015	2.156E-08	22.3	63.2	42.2	9.78
5 Si	77.720	2.156E-08	50.9	154.8	98.5	9.07
6 Na	129.948	2.156E-08	-3.2	12.0	9.5	100.00 ?
7 Ti	88.424	2.156E-08	22.9	60.9	48.2	9.70
8 Cr	158.287	2.156E-08	13.5	31.5	26.5	10.24
9 Mn	145.203	2.156E-08	31.5	46.4	35.7	5.97
10 Zn	98.703	2.156E-08	4.7	91.1	84.6	67.53 ?
11 K	120.232	2.156E-08	-192.4	20.5	399.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	87.595	23.6107	88.683	0.9877	0.9862	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.137	0.0522	0.095	1.4512	0.9255	1.5680	1.0000
SiO2	0.254	0.0820	0.193	1.3210	0.9240	1.4280	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.098	0.0237	0.102	0.9595	0.9924	1.0197	0.9481
Cr2O3	0.087	0.0223	0.114	0.7681	0.9712	1.0072	0.7853
MnO	0.212	0.0579	0.225	0.9420	0.9912	0.9503	1.0000
ZnO	0.035	0.0083	0.032	1.0864	1.0246	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.418 23.8571 89.443 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 17 Comment : 17/5
 Stage : X= 61.498 Y= 80.082 Z= 10.585
 Dated on Mar 18 13:38 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.004E-08	12555.0	50.8	47.8	0.45
2 Mg	107.930	2.004E-08	14.0	20.7	16.3	8.06
3 Ca	107.963	2.004E-08	6.6	30.9	26.0	19.84
4 Al	91.004	2.004E-08	109.9	61.7	43.6	2.39
5 Si	77.720	2.004E-08	65.4	143.1	81.2	6.49
6 Na	129.948	2.004E-08	-4.7	10.8	8.6	100.00 ?
7 Ti	88.392	2.004E-08	198.0	61.4	47.7	1.54
8 Cr	158.287	2.004E-08	0.9	27.4	25.8	126.72 ?
9 Mn	145.184	2.004E-08	16.1	43.6	34.2	13.46
10 Zn	98.703	2.004E-08	-4.9	93.6	81.3	100.00 ?
11 K	120.232	2.004E-08	-186.9	18.2	385.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	85.614	22.8095	86.506	0.9897	0.9874	1.0023	1.0000
MgO	0.175	0.0829	0.074	2.3631	0.9265	2.5135	1.0148
CaO	0.029	0.0098	0.029	0.9777	0.9438	1.0334	1.0024
Al2O3	0.726	0.2724	0.503	1.4438	0.9266	1.5583	0.9999
SiO2	0.351	0.1119	0.266	1.3202	0.9251	1.4255	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.900	0.2157	0.935	0.9631	0.9936	1.0196	0.9506
Cr2O3	0.007	0.0017	0.008	0.7769	0.9724	1.0084	0.7923
MnO	0.117	0.0315	0.124	0.9441	0.9925	0.9512	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.919 23.5353 88.445 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 18 Comment : 17/6
 Stage : X= 61.392 Y= 80.425 Z= 10.585
 Dated on Mar 18 13:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	11261.8	46.4	47.8	0.45
2 Mg	107.930	2.003E-08	2.5	23.2	16.7	40.39 ?
3 Ca	107.963	2.003E-08	83.6	30.0	22.9	2.23
4 Al	91.004	2.003E-08	690.8	65.9	38.7	0.67
5 Si	77.720	2.003E-08	980.6	151.5	85.0	0.67
6 Na	129.948	2.003E-08	-3.0	10.6	10.3	100.00 ?
7 Ti	88.392	2.003E-08	38.0	54.2	44.8	5.69
8 Cr	158.287	2.003E-08	9.2	27.2	24.4	13.53
9 Mn	145.184	2.003E-08	44.8	40.2	30.2	5.36
10 Zn	98.703	2.003E-08	-3.1	88.0	78.1	100.00 ?
11 K	120.232	2.003E-08	-143.8	17.5	330.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	77.607	18.4991	77.635	0.9996	0.9974	1.0023	1.0000
MgO	0.030	0.0129	0.013	2.2561	0.9348	2.3800	1.0140
CaO	0.372	0.1135	0.375	0.9916	0.9526	1.0353	1.0054
Al2O3	4.392	1.4754	3.161	1.3892	0.9350	1.4870	0.9992
SiO2	5.235	1.4920	3.995	1.3103	0.9334	1.4021	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.176	0.0378	0.179	0.9826	1.0031	1.0215	0.9589
Cr2O3	0.067	0.0150	0.083	0.8005	0.9819	1.0083	0.8085
MnO	0.328	0.0792	0.344	0.9534	1.0023	0.9512	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.207	21.7250	85.787	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 19 Comment : 17/7
 Stage : X= 61.962 Y= 80.388 Z= 10.585
 Dated on Mar 18 13:49 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	12779.2	52.5	53.2	0.45
2 Mg	107.930	2.003E-08	-3.4	24.3	17.4	100.00 ?
3 Ca	107.963	2.003E-08	-2.5	33.2	26.8	100.00 ?
4 Al	91.004	2.003E-08	48.5	61.0	42.1	4.72
5 Si	77.720	2.003E-08	47.6	138.4	91.4	8.86
6 Na	129.948	2.003E-08	-3.7	12.3	10.1	100.00 ?
7 Ti	88.392	2.003E-08	29.8	56.6	48.9	7.40
8 Cr	158.287	2.003E-08	-2.8	27.7	27.9	100.00 ?
9 Mn	145.184	2.003E-08	2.2	41.6	34.0	89.64 ?
10 Zn	98.703	2.003E-08	-3.4	97.8	74.1	100.00 ?
11 K	120.232	2.003E-08	-177.6	19.6	365.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.031	23.5794	88.095	0.9879	0.9864	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.322	0.1228	0.222	1.4501	0.9257	1.5665	1.0000
SiO2	0.257	0.0831	0.194	1.3216	0.9242	1.4284	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.135	0.0329	0.141	0.9600	0.9927	1.0198	0.9483
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.016	0.0044	0.017	0.9423	0.9915	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.761	23.8226	88.669	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 20 Comment : 17/8
 Stage : X= 62.132 Y= 80.784 Z= 10.583
 Dated on Mar 18 13:54 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.002E-08	3623.1	38.3	33.1	0.45
2 Mg	107.930	2.002E-08	165.3	22.4	17.0	1.37
3 Ca	107.963	2.002E-08	48.7	27.1	20.5	3.21
4 Al	91.004	2.002E-08	57.3	50.1	40.3	3.75
5 Si	77.720	2.002E-08	114.9	123.7	76.6	3.48
6 Na	129.948	2.002E-08	-1.8	10.3	8.4	100.00 ?
7 Ti	88.392	2.002E-08	12093.4	54.6	41.6	0.45
8 Cr	158.287	2.002E-08	1.4	23.1	19.2	77.41 ?
9 Mn	145.184	2.002E-08	87.5	30.8	24.2	3.05
10 Zn	98.703	2.002E-08	-2.1	72.9	66.3	100.00 ?
11 K	120.232	2.002E-08	-52.3	16.7	112.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.594	4.5925	24.989	1.0642	1.0088	1.0549	1.0000
MgO	1.601	0.4930	0.873	1.8344	0.9432	1.9165	1.0148
CaO	0.200	0.0443	0.219	0.9154	0.9617	0.9989	0.9528
Al2O3	0.312	0.0761	0.263	1.1902	0.9433	1.2624	0.9995
SiO2	0.530	0.1095	0.468	1.1322	0.9417	1.2022	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.284	9.2065	57.147	1.0374	1.0131	1.0000	1.0240
Cr2O3	0.013	0.0021	0.012	1.0692	0.9924	1.0959	0.9831
MnO	0.692	0.1210	0.673	1.0289	1.0134	1.0153	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.226	14.6449	84.644	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 21 Comment : 17/9
 Stage : X= 61.296 Y= 81.353 Z= 10.583
 Dated on Mar 18 14:00 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	3354.5	39.1	34.0	0.45
2 Mg	107.930	2.003E-08	18.4	21.4	16.8	6.47
3 Ca	107.963	2.003E-08	40.8	26.4	21.9	3.67
4 Al	91.004	2.003E-08	69.8	54.5	35.9	3.20
5 Si	77.720	2.003E-08	63.3	125.0	83.6	6.22
6 Na	129.948	2.003E-08	-5.3	12.1	8.5	100.00 ?
7 Ti	88.392	2.003E-08	12993.0	53.2	42.6	0.45
8 Cr	158.287	2.003E-08	3.5	22.8	20.1	30.37
9 Mn	145.184	2.003E-08	242.2	31.8	24.0	1.59
10 Zn	98.703	2.003E-08	-4.5	76.8	72.1	100.00 ?
11 K	120.232	2.003E-08	-46.6	16.2	106.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.642	4.1363	23.124	1.0656	1.0077	1.0575	1.0000
MgO	0.178	0.0532	0.097	1.8298	0.9422	1.9138	1.0148
CaO	0.166	0.0358	0.183	0.9085	0.9606	0.9970	0.9485
Al2O3	0.375	0.0887	0.319	1.1741	0.9422	1.2467	0.9995
SiO2	0.289	0.0580	0.258	1.1206	0.9406	1.1912	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	63.571	9.5957	61.367	1.0359	1.0120	0.9988	1.0249
Cr2O3	0.035	0.0055	0.032	1.0764	0.9912	1.1002	0.9870
MnO	1.918	0.3260	1.860	1.0309	1.0123	1.0184	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.174	14.2992	87.242	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 22 Comment : 17/10
 Stage : X= 63.215 Y= 81.371 Z= 10.581
 Dated on Mar 18 14:05 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.002E-08	11220.1	48.2	46.3	0.45
2 Mg	107.930	2.002E-08	21.0	22.7	15.3	5.79
3 Ca	107.963	2.002E-08	118.6	29.1	23.8	1.76
4 Al	91.004	2.002E-08	-2.0	56.2	37.8	100.00 ?
5 Si	77.720	2.002E-08	603.8	133.1	80.3	0.90
6 Na	129.948	2.002E-08	-3.8	9.4	8.1	100.00 ?
7 Ti	88.392	2.002E-08	-1.3	54.4	43.2	100.00 ?
8 Cr	158.287	2.002E-08	-5.5	26.6	24.5	100.00 ?
9 Mn	145.184	2.002E-08	11.9	36.2	30.0	16.60
10 Zn	98.703	2.002E-08	-6.4	88.0	74.9	100.00 ?
11 K	120.232	2.002E-08	-156.6	17.5	325.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	76.843	21.5066	77.386	0.9930	0.9910	1.0020	1.0000
MgO	0.259	0.1292	0.111	2.3354	0.9295	2.4762	1.0147
CaO	0.523	0.1876	0.532	0.9832	0.9470	1.0343	1.0038
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	3.215	1.0760	2.462	1.3062	0.9281	1.4058	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.087	0.0246	0.091	0.9472	0.9960	0.9510	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	80.927	22.9240	80.582	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 23 Comment : 17/11
 Stage : X= 63.497 Y= 80.540 Z= 10.581
 Dated on Mar 18 14:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.002E-08	12701.0	55.8	49.2	0.45
2 Mg	107.930	2.002E-08	-2.4	20.1	14.6	100.00 ?
3 Ca	107.963	2.002E-08	-1.3	30.4	27.3	100.00 ?
4 Al	91.004	2.002E-08	50.1	58.2	41.7	4.49
5 Si	77.720	2.002E-08	36.1	142.6	85.2	11.59
6 Na	129.948	2.002E-08	-2.7	11.2	9.1	100.00 ?
7 Ti	88.392	2.002E-08	40.4	63.7	45.6	5.77
8 Cr	158.287	2.002E-08	-3.1	31.2	25.1	100.00 ?
9 Mn	145.184	2.002E-08	2.0	42.4	33.6	98.75 ?
10 Zn	98.703	2.002E-08	0.3	87.0	77.4	997.99 ?
11 K	120.232	2.002E-08	-182.8	17.7	382.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.541	23.5871	87.600	0.9879	0.9863	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.332	0.1277	0.229	1.4502	0.9257	1.5667	1.0000
SiO2	0.195	0.0635	0.147	1.3218	0.9242	1.4286	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.183	0.0449	0.191	0.9599	0.9926	1.0197	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.014	0.0040	0.015	0.9423	0.9914	0.9504	1.0000
ZnO	0.002	0.0006	0.002	1.0865	1.0248	1.0602	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.267	23.8278	88.185	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 24 Comment : 18/1
 Stage : X= 62.992 Y= 85.967 Z= 10.573
 Dated on Mar 18 14:16 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.003E-08	12729.7	52.5	51.2	0.45
2 Mg	107.930	2.003E-08	-2.0	22.9	16.0	100.00 ?
3 Ca	107.963	2.003E-08	0.2	32.2	27.3	533.75 ?
4 Al	91.004	2.003E-08	23.9	57.8	39.4	8.64
5 Si	77.720	2.003E-08	30.3	142.5	87.0	13.84
6 Na	129.948	2.003E-08	-4.9	10.6	9.1	100.00 ?
7 Ti	88.392	2.003E-08	59.9	65.2	50.1	4.20
8 Cr	158.287	2.003E-08	-3.6	28.0	29.2	100.00 ?
9 Mn	145.184	2.003E-08	-2.7	41.0	34.4	100.00 ?
10 Zn	98.703	2.003E-08	1.3	88.6	78.9	236.78 ?
11 K	120.232	2.003E-08	-196.6	20.5	402.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.682	23.6659	87.754	0.9878	0.9862	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.001	0.0004	0.001	0.9767	0.9427	1.0337	1.0024
Al2O3	0.159	0.0610	0.109	1.4513	0.9255	1.5681	1.0000
SiO2	0.163	0.0532	0.123	1.3212	0.9240	1.4282	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.271	0.0666	0.283	0.9597	0.9924	1.0197	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.010	0.0025	0.009	1.0864	1.0246	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.286	23.8496	88.280	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 25 Comment : 18/2
 Stage : X= 62.492 Y= 85.831 Z= 10.573
 Dated on Mar 18 14:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.004E-08	12439.7	52.6	50.6	0.45
2 Mg	107.930	2.004E-08	15.0	23.8	16.3	7.85
3 Ca	107.963	2.004E-08	63.9	30.3	26.9	2.77
4 Al	91.004	2.004E-08	61.1	63.1	44.6	3.96
5 Si	77.720	2.004E-08	323.4	149.8	88.7	1.58
6 Na	129.948	2.004E-08	-2.8	11.5	9.0	100.00 ?
7 Ti	88.392	2.004E-08	188.7	61.9	45.7	1.59
8 Cr	158.287	2.004E-08	-2.7	28.2	27.2	100.00 ?
9 Mn	145.184	2.004E-08	3.1	41.2	32.6	63.26 ?
10 Zn	98.703	2.004E-08	-10.8	92.9	88.7	100.00 ?
11 K	120.232	2.004E-08	-182.6	19.5	385.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	84.986	22.1141	85.712	0.9915	0.9891	1.0025	1.0000
MgO	0.185	0.0859	0.079	2.3489	0.9279	2.4948	1.0147
CaO	0.281	0.0936	0.287	0.9798	0.9453	1.0336	1.0029
Al2O3	0.402	0.1473	0.280	1.4367	0.9280	1.5486	0.9997
SiO2	1.729	0.5381	1.317	1.3130	0.9265	1.4156	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.862	0.2017	0.891	0.9672	0.9952	1.0204	0.9525
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.023	0.0059	0.024	0.9459	0.9941	0.9515	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.468	23.1866	88.589	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 26 Comment : 18/3
 Stage : X= 62.723 Y= 86.163 Z= 10.573
 Dated on Mar 18 14:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.006E-08	3681.6	38.3	34.3	0.45
2 Mg	107.930	2.006E-08	6.2	21.7	15.9	16.87
3 Ca	107.963	2.006E-08	43.1	27.3	21.4	3.54
4 Al	91.004	2.006E-08	66.9	57.8	38.3	3.43
5 Si	77.720	2.006E-08	65.2	119.2	85.5	5.93
6 Na	129.948	2.006E-08	-4.3	10.9	7.8	100.00 ?
7 Ti	88.392	2.006E-08	12858.3	58.1	45.7	0.45
8 Cr	158.287	2.006E-08	-0.9	23.9	23.0	100.00 ?
9 Mn	145.184	2.006E-08	222.7	28.4	26.4	1.67
10 Zn	98.703	2.006E-08	-7.3	81.7	73.0	100.00 ?
11 K	120.232	2.006E-08	-54.2	14.9	123.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.949	4.5111	25.342	1.0634	1.0070	1.0560	1.0000
MgO	0.060	0.0180	0.033	1.8467	0.9416	1.9325	1.0148
CaO	0.176	0.0378	0.193	0.9109	0.9601	0.9980	0.9507
Al2O3	0.361	0.0853	0.306	1.1816	0.9417	1.2553	0.9995
SiO2	0.299	0.0597	0.265	1.1259	0.9401	1.1974	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.739	9.4440	60.641	1.0346	1.0114	0.9994	1.0236
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.756	0.2978	1.708	1.0285	1.0116	1.0166	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.340	14.4536	88.487	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 27 Comment : 18/4
 Stage : X= 62.946 Y= 86.537 Z= 10.572
 Dated on Mar 18 14:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.009E-08	5939.3	43.7	40.5	0.45
2 Mg	107.930	2.009E-08	23.6	21.8	16.0	5.25
3 Ca	107.963	2.009E-08	-3.8	29.6	23.1	100.00 ?
4 Al	91.004	2.009E-08	-1.9	60.2	38.6	100.00 ?
5 Si	77.720	2.009E-08	-4.8	131.4	88.2	100.00 ?
6 Na	129.948	2.009E-08	-3.7	10.0	7.3	100.00 ?
7 Ti	88.392	2.009E-08	11130.1	65.8	46.8	0.45
8 Cr	158.287	2.009E-08	13.8	24.8	22.6	8.96
9 Mn	145.184	2.009E-08	59.1	36.0	25.8	4.16
10 Zn	98.703	2.009E-08	-2.4	84.5	80.4	100.00 ?
11 K	120.232	2.009E-08	-89.0	17.9	185.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	42.799	7.3147	40.821	1.0484	1.0028	1.0455	1.0000
MgO	0.243	0.0742	0.124	1.9601	0.9384	2.0582	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.682	8.2504	52.412	1.0242	1.0075	1.0030	1.0135
Cr2O3	0.128	0.0207	0.125	1.0260	0.9867	1.0801	0.9628
MnO	0.458	0.0792	0.453	1.0112	1.0075	1.0037	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	97.310	15.7392	93.935	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 28 Comment : 18/5
 Stage : X= 62.236 Y= 86.828 Z= 10.572
 Dated on Mar 18 14:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.011E-08	3101.1	38.8	37.0	0.45
2 Mg	107.930	2.011E-08	6.2	21.3	16.4	17.02
3 Ca	107.963	2.011E-08	58.1	27.9	21.0	2.84
4 Al	91.004	2.011E-08	80.0	57.2	37.9	2.94
5 Si	77.720	2.011E-08	58.1	131.3	82.5	6.91
6 Na	129.948	2.011E-08	-2.2	10.7	8.6	100.00 ?
7 Ti	88.392	2.011E-08	13696.4	54.3	42.0	0.45
8 Cr	158.287	2.011E-08	-1.6	22.1	21.0	100.00 ?
9 Mn	145.184	2.011E-08	131.3	31.2	26.2	2.34
10 Zn	98.703	2.011E-08	1.4	77.4	64.8	189.41 ?
11 K	120.232	2.011E-08	-44.0	16.5	101.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	22.771	3.7403	21.293	1.0694	1.0087	1.0602	1.0000
MgO	0.058	0.0171	0.032	1.8074	0.9430	1.8888	1.0148
CaO	0.235	0.0494	0.259	0.9043	0.9615	0.9954	0.9449
Al2O3	0.423	0.0980	0.364	1.1617	0.9430	1.2325	0.9995
SiO2	0.262	0.0515	0.236	1.1118	0.9414	1.1810	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	66.918	9.8843	64.432	1.0386	1.0129	0.9980	1.0273
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.040	0.1730	1.005	1.0353	1.0133	1.0218	1.0000
ZnO	0.011	0.0016	0.010	1.0875	1.0514	1.0343	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.718	14.0152	87.632	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 29 Comment : 18/6
 Stage : X= 61.922 Y= 86.460 Z= 10.579
 Dated on Mar 19 10:13 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.155E-08	12493.4	54.8	54.3	0.45
2 Mg	107.942	2.155E-08	-3.4	24.3	17.5	100.00 ?
3 Ca	107.963	2.155E-08	14.1	35.1	26.7	10.29
4 Al	91.015	2.155E-08	27.5	63.4	46.5	8.25
5 Si	77.720	2.155E-08	24.6	160.2	95.7	18.70
6 Na	129.948	2.155E-08	-2.7	12.0	8.3	100.00 ?
7 Ti	88.424	2.155E-08	2014.2	65.4	50.4	0.47
8 Cr	158.287	2.155E-08	0.7	30.5	28.0	177.48 ?
9 Mn	145.203	2.155E-08	4.4	43.2	33.0	36.17 ?
10 Zn	98.703	2.155E-08	-2.3	94.9	84.8	100.00 ?
11 K	120.232	2.155E-08	-172.6	22.2	358.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	80.633	19.9314	80.790	0.9981	0.9891	1.0091	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.057	0.0181	0.059	0.9709	0.9451	1.0288	0.9986
Al2O3	0.166	0.0577	0.117	1.4159	0.9278	1.5262	0.9999
SiO2	0.121	0.0357	0.093	1.2954	0.9263	1.3971	1.0010
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	8.735	1.9416	8.952	0.9758	0.9951	1.0170	0.9642
Cr2O3	0.005	0.0012	0.006	0.8317	0.9739	1.0197	0.8375
MnO	0.030	0.0075	0.032	0.9539	0.9941	0.9595	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.747	21.9932	90.048	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 30 Comment : 18/7
 Stage : X= 62.425 Y= 87.141 Z= 10.570
 Dated on Mar 18 14:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.013E-08	10719.9	48.0	46.8	0.45
2 Mg	107.930	2.013E-08	3.8	22.8	14.6	26.71
3 Ca	107.963	2.013E-08	27.4	27.3	22.9	5.13
4 Al	91.004	2.013E-08	-3.0	56.1	39.8	100.00 ?
5 Si	77.720	2.013E-08	489.4	126.2	80.8	1.04
6 Na	129.948	2.013E-08	-4.8	10.1	9.4	100.00 ?
7 Ti	88.392	2.013E-08	5.3	55.9	43.5	37.12 ?
8 Cr	158.287	2.013E-08	-2.6	25.9	24.3	100.00 ?
9 Mn	145.184	2.013E-08	-4.4	38.0	30.8	100.00 ?
10 Zn	98.703	2.013E-08	-5.6	85.4	75.8	100.00 ?
11 K	120.232	2.013E-08	-157.4	17.4	322.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	72.902	22.0372	73.532	0.9914	0.9898	1.0017	1.0000
MgO	0.047	0.0253	0.020	2.3490	0.9285	2.4933	1.0147
CaO	0.120	0.0465	0.122	0.9818	0.9459	1.0344	1.0034
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	2.598	0.9390	1.984	1.3093	0.9271	1.4107	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.024	0.0066	0.025	0.9667	0.9959	1.0205	0.9513
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	75.691	23.0545	75.683	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 31 Comment : 18/8
 Stage : X= 63.414 Y= 87.131 Z= 10.569
 Dated on Mar 18 14:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.013E-08	3407.3	31.1	34.1	0.45
2 Mg	107.930	2.013E-08	705.9	23.2	16.2	0.61
3 Ca	107.963	2.013E-08	2436.7	22.7	19.0	0.45
4 Al	91.004	2.013E-08	2332.2	81.5	38.9	0.47
5 Si	77.720	2.013E-08	8771.3	135.5	76.6	0.45
6 Na	129.948	2.013E-08	94.3	8.4	8.0	1.76
7 Ti	88.392	2.013E-08	216.5	39.7	32.5	1.28
8 Cr	158.287	2.013E-08	-0.7	18.4	18.0	100.00 ?
9 Mn	145.184	2.013E-08	38.9	29.4	22.8	5.49
10 Zn	98.703	2.013E-08	2.9	64.9	54.2	77.75 ?
11 K	120.232	2.013E-08	249.1	13.8	113.2	1.52

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.044	3.4421	23.372	1.0716	1.0570	1.0138	1.0000
MgO	5.583	1.3678	3.707	1.5062	0.9847	1.5151	1.0096
CaO	11.626	2.0472	10.875	1.0690	1.0051	1.0407	1.0220
Al2O3	11.257	2.1806	10.620	1.0600	0.9847	1.0854	0.9917
SiO2	40.179	6.6029	35.560	1.1299	0.9831	1.1487	1.0006
Na2O	1.255	0.3998	1.066	1.1772	1.0692	1.1042	0.9971
TiO2	1.161	0.1435	1.017	1.1413	1.0595	1.0525	1.0235
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.305	0.0424	0.297	1.0245	1.0613	0.9653	1.0000
ZnO	0.024	0.0029	0.021	1.1234	1.1047	1.0170	1.0000
K2O	1.276	0.2676	1.331	0.9592	0.9825	0.9940	0.9822
Total	97.710	16.4970	87.867	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 32 Comment : 18/9
 Stage : X= 64.121 Y= 87.568 Z= 10.565
 Dated on Mar 18 14:58 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.012E-08	13034.1	50.7	52.2	0.45
2 Mg	107.930	2.012E-08	-3.5	21.4	15.6	100.00 ?
3 Ca	107.963	2.012E-08	-1.8	32.6	26.0	100.00 ?
4 Al	91.004	2.012E-08	-0.5	61.2	44.8	100.00 ?
5 Si	77.720	2.012E-08	10.5	143.2	85.8	39.25 ?
6 Na	129.948	2.012E-08	-2.6	10.9	9.3	100.00 ?
7 Ti	88.392	2.012E-08	5.7	60.6	48.1	37.35 ?
8 Cr	158.287	2.012E-08	-0.4	29.4	26.4	100.00 ?
9 Mn	145.184	2.012E-08	1.4	45.2	32.0	141.57 ?
10 Zn	98.703	2.012E-08	-1.0	92.3	74.7	100.00 ?
11 K	120.232	2.012E-08	-184.3	18.1	380.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.303	23.9482	89.451	0.9872	0.9858	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.056	0.0183	0.043	1.3219	0.9237	1.4294	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.026	0.0062	0.027	0.9586	0.9920	1.0197	0.9476
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.010	0.0028	0.011	0.9415	0.9908	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.395	23.9755	89.531	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 33 Comment : 18/10
 Stage : X= 63.482 Y= 87.964 Z= 10.565
 Dated on Mar 18 15:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.009E-08	-121.4	229.1	158.7	100.00 ?
2 Mg	107.930	2.009E-08	-14.3	33.1	35.4	100.00 ?
3 Ca	107.963	2.009E-08	32.0	43.3	32.6	5.60
4 Al	91.004	2.009E-08	-9.6	88.8	50.5	100.00 ?
5 Si	77.720	2.009E-08	39.1	179.9	107.0	13.16
6 Na	129.948	2.009E-08	-46.0	27.2	89.8	100.00 ?
7 Ti	88.392	2.009E-08	-28.6	117.3	79.9	100.00 ?
8 Cr	158.287	2.009E-08	-114.5	46.2	282.7	100.00 ?
9 Mn	145.184	2.009E-08	-228.3	315.6	260.9	100.00 ?
10 Zn	98.703	2.009E-08	-5.1	142.9	132.4	100.00 ?
11 K	120.232	2.009E-08	3.0	24.3	19.7	36.13 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.155	8.4550	0.143	1.0784	1.0193	1.0281	1.0290
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.148	7.5379	0.159	0.9296	0.9969	0.9340	0.9985
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.014	0.9384	0.016	0.8972	0.9964	0.9602	0.9378
Total	0.317	16.9313	0.318	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_16171819
 Unknown Specimen
 Group : silicates Sample : NAT92_16171819
 UNK No. : 34 Comment : 18/11
 Stage : X= 62.586 Y= 88.379 Z= 10.565
 Dated on Mar 18 15:08 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.008E-08	6065.9	40.9	36.6	0.45
2 Mg	107.930	2.008E-08	6.4	21.9	15.2	16.17
3 Ca	107.963	2.008E-08	3.4	31.1	22.1	36.31 ?
4 Al	91.004	2.008E-08	515.5	64.7	34.9	0.80
5 Si	77.720	2.008E-08	789.4	140.2	92.8	0.77
6 Na	129.948	2.008E-08	10.9	10.3	7.9	7.83
7 Ti	88.392	2.008E-08	8947.6	54.2	45.7	0.45
8 Cr	158.287	2.008E-08	1.5	24.7	22.3	73.40 ?
9 Mn	145.184	2.008E-08	-7.5	35.6	29.4	100.00 ?
10 Zn	98.703	2.008E-08	-2.5	80.6	74.5	100.00 ?
11 K	120.232	2.008E-08	-34.4	15.9	197.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	43.637	7.6275	41.712	1.0461	1.0074	1.0385	1.0000
MgO	0.066	0.0206	0.034	1.9466	0.9424	2.0367	1.0142
CaO	0.014	0.0032	0.015	0.9467	0.9607	1.0110	0.9747
Al2O3	2.901	0.7147	2.353	1.2328	0.9424	1.3093	0.9991
SiO2	3.795	0.7931	3.208	1.1828	0.9409	1.2566	1.0005
Na2O	0.204	0.0826	0.123	1.6498	1.0231	1.6131	0.9997
TiO2	43.406	6.8228	42.155	1.0297	1.0120	1.0065	1.0109
Cr2O3	0.014	0.0023	0.014	1.0113	0.9911	1.0686	0.9549
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 94.037 16.0668 89.615 Total O = 24.0 Iteration = 4

Intensity & Wt. % Unknown Specimen

Group : silicates Sample : NAT92_19_10_3
 UNK No. : 1 Comment : 19/1
 Stage : X= 69.651 Y= 85.751 Z= 10.565
 Dated on Mar 18 16:15 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.994E-08	12688.3	52.5	49.8	0.45
2 Mg	107.930	1.994E-08	0.3	22.5	16.8	284.57 ?
3 Ca	107.963	1.994E-08	-1.3	31.9	25.8	100.00 ?
4 Al	91.004	1.994E-08	60.1	58.8	45.9	3.93
5 Si	77.720	1.994E-08	86.7	152.2	84.5	5.19
6 Na	129.948	1.994E-08	0.2	11.1	8.5	352.00 ?
7 Ti	88.392	1.994E-08	172.0	62.9	48.2	1.73
8 Cr	158.287	1.994E-08	3.6	26.7	26.2	33.51 ?
9 Mn	145.184	1.994E-08	-5.2	42.4	32.9	100.00 ?
10 Zn	98.703	1.994E-08	-7.7	91.9	83.4	100.00 ?
11 K	120.232	1.994E-08	-170.5	19.5	356.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.908	23.0899	87.864	0.9891	0.9870	1.0022	1.0000
MgO	0.004	0.0021	0.002	2.3701	0.9261	2.5219	1.0148
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.400	0.1497	0.276	1.4456	0.9262	1.5609	0.9999
SiO2	0.468	0.1487	0.355	1.3190	0.9247	1.4248	1.0011
Na2O	0.005	0.0029	0.002	2.0897	1.0052	2.0789	1.0000
TiO2	0.785	0.1876	0.816	0.9620	0.9932	1.0196	0.9500
Cr2O3	0.025	0.0064	0.033	0.7745	0.9720	1.0082	0.7904
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.595 23.5872 89.348 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen

Group : silicates Sample : NAT92_19_10_3
 UNK No. : 2 Comment : 19/2
 Stage : X= 69.234 Y= 85.751 Z= 10.565
 Dated on Mar 18 16:20 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.992E-08	11711.6	50.3	49.3	0.45
2 Mg	107.930	1.992E-08	60.8	22.0	16.5	2.59
3 Ca	107.963	1.992E-08	-3.7	31.2	26.1	100.00 ?
4 Al	91.004	1.992E-08	113.9	59.2	38.0	2.24
5 Si	77.720	1.992E-08	5.5	141.0	83.0	73.62 ?
6 Na	129.948	1.992E-08	-4.7	11.5	7.9	100.00 ?
7 Ti	88.392	1.992E-08	1279.5	60.8	48.3	0.49
8 Cr	158.287	1.992E-08	0.1	25.5	24.4	2074.07 ?
9 Mn	145.184	1.992E-08	31.1	39.6	33.2	5.59
10 Zn	98.703	1.992E-08	1.8	92.7	78.8	175.31 ?
11 K	120.232	1.992E-08	-150.6	18.4	307.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	80.857	20.4880	81.181	0.9960	0.9894	1.0066	1.0000
MgO	0.747	0.3374	0.322	2.3171	0.9280	2.4603	1.0148
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.748	0.2670	0.524	1.4261	0.9282	1.5366	1.0000
SiO2	0.029	0.0089	0.022	1.3073	0.9266	1.4093	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	5.912	1.3472	6.076	0.9730	0.9955	1.0178	0.9603
Cr2O3	0.000	0.0001	0.000	0.8163	0.9743	1.0157	0.8249
MnO	0.228	0.0586	0.240	0.9513	0.9945	0.9566	1.0000
ZnO	0.014	0.0032	0.013	1.0873	1.0284	1.0573	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.535 22.5104 88.381 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_16171819

Unknown Specimen

Group : silicates Sample : NAT92_16171819
 UNK No. : 37 Comment : 19/3
 Stage : X= 68.468 Y= 85.534 Z= 10.566
 Dated on Mar 19 10:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.154E-08	11262.7	48.7	46.7	0.45
2 Mg	107.942	2.154E-08	4.7	23.9	16.7	22.64
3 Ca	107.963	2.154E-08	25.4	32.2	27.0	5.91
4 Al	91.015	2.154E-08	186.6	61.4	40.6	1.58
5 Si	77.720	2.154E-08	551.1	131.4	82.4	0.97
6 Na	129.948	2.154E-08	-3.8	12.6	9.9	100.00 ?
7 Ti	88.424	2.154E-08	1.3	56.4	46.0	152.02 ?
8 Cr	158.287	2.154E-08	9.3	27.6	23.8	13.37
9 Mn	145.203	2.154E-08	7.3	38.9	31.6	20.96
10 Zn	98.703	2.154E-08	-0.8	90.5	76.1	100.00 ?
11 K	120.232	2.154E-08	-169.6	18.8	350.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	72.360	21.2611	72.865	0.9931	0.9913	1.0018	1.0000
MgO	0.054	0.0285	0.023	2.3294	0.9297	2.4695	1.0145
CaO	0.104	0.0393	0.106	0.9839	0.9473	1.0347	1.0038
Al2O3	1.131	0.4683	0.793	1.4258	0.9299	1.5341	0.9995
SiO2	2.740	0.9627	2.088	1.3124	0.9284	1.4120	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.006	0.0015	0.006	0.9696	0.9973	1.0205	0.9526
Cr2O3	0.061	0.0170	0.079	0.7808	0.9761	1.0075	0.7940
MnO	0.049	0.0147	0.052	0.9471	0.9963	0.9505	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 76.505 22.7931 76.012 Total O = 24.0 Iteration = 4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 4 Comment : 19/4
 Stage : X= 69.741 Y= 86.086 Z= 10.563
 Dated on Mar 18 16:31 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.990E-08	9863.3	46.3	45.6	0.45
2 Mg	107.930	1.990E-08	42.3	19.9	15.5	3.30
3 Ca	107.963	1.990E-08	35.4	26.6	22.6	4.13
4 Al	91.004	1.990E-08	379.0	58.0	34.4	0.95
5 Si	77.720	1.990E-08	680.7	126.0	79.0	0.81
6 Na	129.948	1.990E-08	-4.5	10.9	13.1	100.00 ?
7 Ti	88.392	1.990E-08	0.7	54.7	38.9	261.27 ?
8 Cr	158.287	1.990E-08	-3.0	27.3	23.8	100.00 ?
9 Mn	145.184	1.990E-08	7.4	36.2	29.0	19.48
10 Zn	98.703	1.990E-08	11.1	79.2	63.6	24.21
11 K	120.232	1.990E-08	-111.4	16.2	301.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	68.222	19.6199	68.438	0.9968	0.9951	1.0018	0.9999
MgO	0.514	0.2634	0.225	2.2867	0.9329	2.4165	1.0143
CaO	0.158	0.0583	0.160	0.9889	0.9506	1.0352	1.0049
Al2O3	2.461	0.9977	1.746	1.4099	0.9331	1.5120	0.9993
SiO2	3.666	1.2608	2.792	1.3134	0.9315	1.4083	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.003	0.0009	0.003	0.9772	1.0009	1.0210	0.9562
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.054	0.0158	0.057	0.9508	1.0001	0.9507	0.9999
ZnO	0.090	0.0229	0.083	1.0917	1.0347	1.0551	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	75.168	22.2395	73.503	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 5 Comment : 19/5
 Stage : X= 69.297 Y= 86.086 Z= 10.563
 Dated on Mar 18 16:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.990E-08	12772.9	53.1	51.4	0.45
2 Mg	107.930	1.990E-08	-1.5	22.3	15.7	100.00 ?
3 Ca	107.963	1.990E-08	-3.9	31.6	26.2	100.00 ?
4 Al	91.004	1.990E-08	10.7	57.3	41.3	18.61
5 Si	77.720	1.990E-08	-2.0	145.4	88.5	100.00 ?
6 Na	129.948	1.990E-08	-5.2	11.4	9.1	100.00 ?
7 Ti	88.392	1.990E-08	4.9	59.4	45.8	41.87 ?
8 Cr	158.287	1.990E-08	1.4	27.8	24.4	84.53 ?
9 Mn	145.184	1.990E-08	10.9	40.0	33.2	14.68
10 Zn	98.703	1.990E-08	-4.8	88.9	85.8	100.00 ?
11 K	120.232	1.990E-08	-191.2	19.3	393.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.490	23.9218	88.627	0.9872	0.9857	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.072	0.0277	0.049	1.4537	0.9252	1.5712	1.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.022	0.0055	0.023	0.9585	0.9920	1.0197	0.9475
Cr2O3	0.010	0.0025	0.013	0.7657	0.9708	1.0071	0.7832
MnO	0.079	0.0219	0.084	0.9415	0.9908	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.673	23.9794	88.796	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 6 Comment : 19/6
 Stage : X= 68.903 Y= 86.094 Z= 10.563
 Dated on Mar 18 16:42 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.990E-08	5853.7	42.4	37.7	0.45
2 Mg	107.930	1.990E-08	36.3	22.2	15.3	3.75
3 Ca	107.963	1.990E-08	3.6	28.3	24.4	33.16
4 Al	91.004	1.990E-08	11.5	55.0	36.9	16.52
5 Si	77.720	1.990E-08	18.4	130.7	77.4	20.74
6 Na	129.948	1.990E-08	-2.8	11.8	8.9	100.00 ?
7 Ti	88.392	1.990E-08	11073.0	58.4	44.0	0.45
8 Cr	158.287	1.990E-08	-2.9	23.3	22.5	100.00 ?
9 Mn	145.184	1.990E-08	72.1	32.7	28.1	2.59
10 Zn	98.703	1.990E-08	-6.1	86.7	75.5	100.00 ?
11 K	120.232	1.990E-08	-83.5	18.0	179.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	42.594	7.2382	40.617	1.0487	1.0031	1.0455	1.0000
MgO	0.377	0.1141	0.193	1.9558	0.9386	2.0532	1.0149
CaO	0.015	0.0033	0.016	0.9274	0.9568	1.0050	0.9644
Al2O3	0.066	0.0158	0.053	1.2396	0.9387	1.3210	0.9997
SiO2	0.088	0.0179	0.076	1.1661	0.9371	1.2439	1.0003
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.948	8.2439	52.641	1.0248	1.0078	1.0030	1.0138
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.564	0.0970	0.557	1.0116	1.0078	1.0038	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	97.652	15.7303	94.152	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 7 Comment : 19/7
 Stage : X= 69.790 Y= 86.713 Z= 10.562
 Dated on Mar 18 16:47 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.990E-08	13032.5	52.1	51.4	0.45
2 Mg	107.930	1.990E-08	-1.3	22.6	15.0	100.00 ?
3 Ca	107.963	1.990E-08	-1.1	32.8	24.5	100.00 ?
4 Al	91.004	1.990E-08	10.9	61.1	42.0	18.99
5 Si	77.720	1.990E-08	14.2	150.2	81.3	29.65
6 Na	129.948	1.990E-08	-2.8	11.3	9.3	100.00 ?
7 Ti	88.392	1.990E-08	28.4	62.1	51.0	8.15
8 Cr	158.287	1.990E-08	2.0	29.3	26.8	63.56 ?
9 Mn	145.184	1.990E-08	15.4	40.0	34.2	10.67
10 Zn	98.703	1.990E-08	-4.8	98.4	76.2	100.00 ?
11 K	120.232	1.990E-08	-178.8	19.1	368.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.288	23.8119	90.428	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.073	0.0275	0.050	1.4527	0.9253	1.5700	1.0000
SiO2	0.077	0.0246	0.058	1.3215	0.9238	1.4289	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.130	0.0311	0.135	0.9589	0.9922	1.0197	0.9478
Cr2O3	0.014	0.0034	0.018	0.7669	0.9709	1.0072	0.7842
MnO	0.112	0.0303	0.119	0.9418	0.9910	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.694	23.9288	90.809	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 8 Comment : 19/8
 Stage : X= 69.228 Y= 86.837 Z= 10.562
 Dated on Mar 18 16:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.990E-08	12982.6	52.8	48.8	0.45
2 Mg	107.930	1.990E-08	-4.0	22.2	15.8	100.00 ?
3 Ca	107.963	1.990E-08	-3.9	33.2	24.7	100.00 ?
4 Al	91.004	1.990E-08	17.3	66.6	43.8	12.94
5 Si	77.720	1.990E-08	28.3	129.1	89.3	14.01
6 Na	129.948	1.990E-08	-2.8	11.5	9.2	100.00 ?
7 Ti	88.392	1.990E-08	25.0	59.0	45.9	8.69
8 Cr	158.287	1.990E-08	-0.9	29.6	27.2	100.00 ?
9 Mn	145.184	1.990E-08	16.0	39.1	34.0	10.21
10 Zn	98.703	1.990E-08	-3.9	100.4	77.4	100.00 ?
11 K	120.232	1.990E-08	-190.9	19.5	392.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.956	23.7505	90.082	0.9875	0.9860	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.116	0.0435	0.080	1.4521	0.9254	1.5691	1.0000
SiO2	0.154	0.0490	0.116	1.3214	0.9239	1.4286	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.114	0.0274	0.119	0.9591	0.9923	1.0197	0.9479
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.116	0.0314	0.123	0.9419	0.9911	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.456	23.9018	90.520	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 9 Comment : 19/9
 Stage : X= 68.122 Y= 86.976 Z= 10.566
 Dated on Mar 19 10:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.156E-08	13441.2	57.8	53.2	0.45
2 Mg	107.942	2.156E-08	-3.3	24.1	17.4	100.00 ?
3 Ca	107.963	2.156E-08	-1.6	35.0	28.3	100.00 ?
4 Al	91.015	2.156E-08	8.2	68.4	45.3	27.30
5 Si	77.720	2.156E-08	18.9	156.4	91.0	23.66
6 Na	129.948	2.156E-08	-2.8	11.5	9.1	100.00 ?
7 Ti	88.424	2.156E-08	39.5	59.6	46.4	5.75
8 Cr	158.287	2.156E-08	0.0	32.3	27.7	10716.67 ?
9 Mn	145.203	2.156E-08	8.4	47.6	35.6	20.71
10 Zn	98.703	2.156E-08	-7.7	103.6	91.7	100.00 ?
11 K	120.232	2.156E-08	-200.5	22.7	413.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.788	23.8078	86.879	0.9875	0.9859	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.050	0.0197	0.035	1.4527	0.9253	1.5699	1.0000
SiO2	0.094	0.0313	0.071	1.3213	0.9238	1.4287	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.168	0.0420	0.176	0.9591	0.9922	1.0197	0.9479
Cr2O3	0.000	0.0000	0.000	0.7671	0.9709	1.0073	0.7843
MnO	0.057	0.0159	0.060	0.9418	0.9910	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.157	23.9168	87.221	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 10 Comment : 19/10
 Stage : X= 69.719 Y= 87.427 Z= 10.559
 Dated on Mar 18 17:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.990E-08	6460.5	45.7	42.2	0.45
2 Mg	107.930	1.990E-08	19.6	24.2	16.6	6.27
3 Ca	107.963	1.990E-08	-4.8	31.2	23.4	100.00 ?
4 Al	91.004	1.990E-08	-3.0	59.7	41.3	100.00 ?
5 Si	77.720	1.990E-08	-12.1	139.0	85.1	100.00 ?
6 Na	129.948	1.990E-08	-2.0	11.1	7.8	100.00 ?
7 Ti	88.392	1.990E-08	10982.5	67.6	44.9	0.45
8 Cr	158.287	1.990E-08	-1.8	27.4	21.3	100.00 ?
9 Mn	145.184	1.990E-08	48.7	35.6	27.0	3.56
10 Zn	98.703	1.990E-08	0.3	90.9	73.6	1088.69 ?
11 K	120.232	1.990E-08	-92.8	16.7	193.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.876	7.8323	44.828	1.0457	1.0021	1.0436	1.0000
MgO	0.206	0.0614	0.104	1.9793	0.9378	2.0796	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.383	8.0209	52.211	1.0225	1.0069	1.0037	1.0117
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.380	0.0642	0.377	1.0083	1.0068	1.0015	1.0000
ZnO	0.002	0.0003	0.002	1.0873	1.0435	1.0420	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.847	15.9791	97.521	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 11 Comment : 19/11
 Stage : X= 69.212 Y= 87.488 Z= 10.559
 Dated on Mar 18 17:09 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.991E-08	12057.5	52.4	49.7	0.45
2 Mg	107.930	1.991E-08	35.6	23.6	15.3	3.84
3 Ca	107.963	1.991E-08	15.4	30.2	23.9	8.74
4 Al	91.004	1.991E-08	139.5	62.8	38.4	1.96
5 Si	77.720	1.991E-08	344.6	160.6	90.7	1.56
6 Na	129.948	1.991E-08	-3.2	12.4	9.0	100.00 ?
7 Ti	88.392	1.991E-08	184.9	58.3	47.1	1.60
8 Cr	158.287	1.991E-08	-0.5	28.4	22.7	100.00 ?
9 Mn	145.184	1.991E-08	10.3	41.0	33.4	15.66
10 Zn	98.703	1.991E-08	0.1	86.0	73.8	2181.20 ?
11 K	120.232	1.991E-08	-154.9	18.7	341.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	82.975	21.6823	83.621	0.9923	0.9900	1.0023	1.0000
MgO	0.441	0.2056	0.189	2.3383	0.9286	2.4817	1.0147
CaO	0.068	0.0229	0.070	0.9811	0.9461	1.0338	1.0031
Al2O3	0.921	0.3391	0.642	1.4340	0.9287	1.5444	0.9997
SiO2	1.858	0.5804	1.413	1.3151	0.9272	1.4167	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.850	0.1998	0.879	0.9679	0.9960	1.0199	0.9528
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.075	0.0199	0.079	0.9466	0.9950	0.9513	1.0000
ZnO	0.001	0.0002	0.001	1.0886	1.0289	1.0580	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.189	23.0502	86.893	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 12 Comment : 19/11 inclusions
 Stage : X= 69.630 Y= 86.668 Z= 10.566
 Dated on Mar 19 16:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.101E-08	149.7	26.4	24.3	1.50
2 Mg	107.942	2.101E-08	8.2	23.1	15.5	13.20
3 Ca	107.967	2.101E-08	71.9	17.5	18.7	2.29
4 Al	91.015	2.101E-08	5066.5	129.4	36.4	0.46
5 Si	77.725	2.101E-08	16821.1	152.3	105.0	0.45
6 Na	129.960	2.101E-08	266.3	10.3	7.2	1.00
7 Ti	88.424	2.101E-08	0.3	34.7	24.8	511.51 ?
8 Cr	158.287	2.101E-08	-3.3	17.0	14.7	100.00 ?
9 Mn	145.203	2.101E-08	-1.6	23.0	20.2	100.00 ?
10 Zn	98.703	2.101E-08	-1.5	53.0	50.1	100.00 ?
11 K	120.226	2.101E-08	1804.4	11.8	15.1	0.45

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	1.086	0.1254	0.993	1.0937	1.0811	1.0117	1.0000
MgO	0.048	0.0099	0.042	1.1551	1.0040	1.1471	1.0030
CaO	0.349	0.0516	0.304	1.1469	1.0257	1.0869	1.0288
Al2O3	18.282	2.9756	22.081	0.8279	1.0040	0.8396	0.9821
SiO2	66.004	9.1143	65.063	1.0145	1.0024	1.0116	1.0004
Na2O	2.333	0.6246	2.855	0.8169	1.0902	0.7529	0.9953
TiO2	0.001	0.0001	0.001	1.1848	1.0819	1.0502	1.0428
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	9.178	1.6169	9.100	1.0086	1.0025	1.0064	0.9998
Total	97.281	14.5185	100.439	Total O =	24.0	Iteration =	5

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 1 Comment : 20/1
 Stage : X= 70.9350 Y= 77.0250 Z= 10.8190
 Dated on Mar 30 13:00 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.982E-08	3068.4	33.7	28.8	0.45
2 Mg	107.499	1.982E-08	78.7	21.9	15.7	2.17
3 Ca	107.378	1.982E-08	24.3	27.5	23.9	5.71
4 Al	90.565	1.982E-08	43.4	51.1	37.1	4.70
5 Si	77.293	1.982E-08	51.6	126.7	75.1	7.42
6 Na	129.537	1.982E-08	-5.2	11.6	8.7	100.00 ?
7 Ti	87.741	1.982E-08	12785.8	53.2	43.2	0.45
8 Cr	159.466	1.982E-08	22.1	18.8	17.1	5.46
9 Mn	146.425	1.982E-08	119.7	28.1	22.6	1.73
10 Zn	99.946	1.982E-08	-1.2	59.8	57.6	100.00 ?
11 K	119.666	1.982E-08	-63.7	19.8	142.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.889	4.6937	26.234	1.0631	1.0074	1.0552	1.0000
MgO	0.826	0.2476	0.447	1.8488	0.9420	1.9339	1.0148
CaO	0.090	0.0195	0.099	0.9133	0.9605	0.9987	0.9521
Al2O3	0.250	0.0593	0.210	1.1897	0.9421	1.2635	0.9995
SiO2	0.253	0.0510	0.236	1.0724	0.9356	1.1474	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.432	9.2971	59.373	1.0347	1.0118	0.9996	1.0231
Cr2O3	0.254	0.0404	0.237	1.0701	1.0070	1.0998	0.9662
MnO	1.135	0.1935	1.105	1.0275	1.0120	1.0153	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.129	14.6021	87.941	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 2 Comment : 20/2
 Stage : X= 69.6535 Y= 77.7725 Z= 10.8170
 Dated on Mar 30 13:05 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.981E-08	3373.7	32.5	29.8	0.45
2 Mg	107.499	1.981E-08	0.2	20.0	14.6	466.37 ?
3 Ca	107.378	1.981E-08	30.9	30.4	22.7	4.78
4 Al	90.565	1.981E-08	60.7	51.9	36.8	3.55
5 Si	77.293	1.981E-08	44.8	129.4	76.0	8.63
6 Na	129.537	1.981E-08	-3.7	8.6	8.7	100.00 ?
7 Ti	87.741	1.981E-08	12823.4	56.8	43.1	0.45
8 Cr	159.466	1.981E-08	3.0	21.1	17.9	34.15 ?
9 Mn	146.425	1.981E-08	69.6	26.8	24.1	2.50
10 Zn	99.946	1.981E-08	3.4	62.0	61.2	68.41 ?
11 K	119.666	1.981E-08	-66.6	19.9	143.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.616	5.1211	28.860	1.0609	1.0063	1.0542	1.0000
MgO	0.002	0.0006	0.001	1.8702	0.9411	1.9582	1.0148
CaO	0.115	0.0247	0.126	0.9141	0.9595	0.9994	0.9532
Al2O3	0.350	0.0825	0.293	1.1930	0.9412	1.2681	0.9995
SiO2	0.221	0.0442	0.205	1.0753	0.9347	1.1515	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.552	9.2584	59.578	1.0331	1.0108	1.0000	1.0221
Cr2O3	0.034	0.0054	0.032	1.0646	1.0059	1.0986	0.9632
MnO	0.659	0.1117	0.643	1.0255	1.0110	1.0144	1.0000
ZnO	0.033	0.0049	0.030	1.0874	1.0486	1.0371	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.582	14.6535	89.769	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 3 Comment : 20/3
 Stage : X= 71.2045 Y= 77.8045 Z= 10.8170
 Dated on Mar 30 13:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.981E-08	10574.0	43.5	43.9	0.45
2 Mg	107.499	1.981E-08	-4.3	22.4	16.1	100.00 ?
3 Ca	107.378	1.981E-08	-1.3	31.5	26.0	100.00 ?
4 Al	90.565	1.981E-08	53.4	58.9	44.4	4.33
5 Si	77.293	1.981E-08	25.3	140.7	88.7	16.43
6 Na	129.537	1.981E-08	-4.7	11.0	8.4	100.00 ?
7 Ti	87.741	1.981E-08	48.4	57.9	45.4	4.72
8 Cr	159.466	1.981E-08	-0.9	25.3	21.6	100.00 ?
9 Mn	146.425	1.981E-08	1.5	34.4	27.6	86.32 ?
10 Zn	99.946	1.981E-08	3.3	70.1	58.3	74.10 ?
11 K	119.666	1.981E-08	-193.1	23.1	398.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.358	23.5860	90.453	0.9879	0.9863	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.374	0.1392	0.258	1.4504	0.9257	1.5669	1.0000
SiO2	0.145	0.0459	0.116	1.2535	0.9193	1.3635	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.216	0.0512	0.225	0.9600	0.9926	1.0197	0.9484
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.013	0.0036	0.014	0.9423	0.9914	0.9505	1.0000
ZnO	0.032	0.0074	0.029	1.0865	1.0248	1.0602	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.138	23.8333	91.096	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 4 Comment : 20/4
 Stage : X= 70.0040 Y= 78.7075 Z= 10.8170
 Dated on Mar 30 13:16 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.980E-08	3613.2	32.3	34.3	0.45
2 Mg	107.499	1.980E-08	4.8	20.3	15.2	21.11
3 Ca	107.378	1.980E-08	19.0	28.1	23.9	7.10
4 Al	90.565	1.980E-08	44.0	53.3	38.7	4.77
5 Si	77.293	1.980E-08	38.4	123.3	79.9	9.84
6 Na	129.537	1.980E-08	-4.6	11.7	7.4	100.00 ?
7 Ti	87.741	1.980E-08	12507.3	51.5	41.1	0.45
8 Cr	159.466	1.980E-08	1.3	19.8	17.6	75.66 ?
9 Mn	146.425	1.980E-08	99.8	28.4	22.1	1.95
10 Zn	99.946	1.980E-08	-3.1	62.7	58.5	100.00 ?
11 K	119.666	1.980E-08	-78.8	20.3	172.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.725	5.5038	30.924	1.0582	1.0055	1.0524	1.0000
MgO	0.051	0.0153	0.027	1.8877	0.9405	1.9778	1.0148
CaO	0.071	0.0153	0.077	0.9166	0.9589	1.0005	0.9555
Al2O3	0.256	0.0607	0.213	1.2023	0.9406	1.2788	0.9996
SiO2	0.190	0.0383	0.176	1.0810	0.9341	1.1584	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.950	9.0669	58.139	1.0311	1.0101	1.0005	1.0203
Cr2O3	0.015	0.0024	0.014	1.0577	1.0052	1.0956	0.9604
MnO	0.943	0.1607	0.922	1.0225	1.0102	1.0122	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 94.201 14.8633 90.493 Total O = 24.0 Iteration = 4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 5 Comment : 20/5
 Stage : X= 69.0440 Y= 78.7550 Z= 10.8145
 Dated on Mar 30 13:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.979E-08	10808.4	44.2	44.6	0.45
2 Mg	107.499	1.979E-08	-1.6	22.6	15.5	100.00 ?
3 Ca	107.378	1.979E-08	6.3	34.0	28.4	21.98
4 Al	90.565	1.979E-08	12.0	59.7	41.2	17.01
5 Si	77.293	1.979E-08	17.3	140.2	80.2	23.27
6 Na	129.537	1.979E-08	-5.3	11.7	9.0	100.00 ?
7 Ti	87.741	1.979E-08	38.7	56.9	45.7	5.73
8 Cr	159.466	1.979E-08	-4.1	25.7	22.4	100.00 ?
9 Mn	146.425	1.979E-08	10.1	34.7	30.1	14.45
10 Zn	99.946	1.979E-08	2.0	78.0	62.9	127.55 ?
11 K	119.666	1.979E-08	-196.6	25.9	402.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	91.394	23.7748	92.552	0.9875	0.9859	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.025	0.0084	0.026	0.9766	0.9425	1.0337	1.0024
Al2O3	0.085	0.0310	0.058	1.4525	0.9254	1.5696	1.0000
SiO2	0.099	0.0309	0.079	1.2529	0.9190	1.3632	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.173	0.0404	0.180	0.9593	0.9922	1.0198	0.9480
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.088	0.0231	0.093	0.9419	0.9910	0.9504	1.0000
ZnO	0.020	0.0046	0.018	1.0863	1.0243	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 91.884 23.9132 93.007 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 6 Comment : 20/6
 Stage : X= 71.0820 Y= 80.2225 Z= 10.8145
 Dated on Mar 30 13:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.978E-08	5557.1	37.6	37.1	0.45
2 Mg	107.499	1.978E-08	120.7	23.0	15.6	1.65
3 Ca	107.378	1.978E-08	-3.2	30.1	26.4	100.00 ?
4 Al	90.565	1.978E-08	3.5	55.0	38.0	53.79 ?
5 Si	77.293	1.978E-08	-0.2	138.3	87.1	100.00 ?
6 Na	129.537	1.978E-08	-4.1	10.3	7.9	100.00 ?
7 Ti	87.741	1.978E-08	10374.6	55.1	45.1	0.45
8 Cr	159.466	1.978E-08	0.0	21.2	18.7	1998.78 ?
9 Mn	146.425	1.978E-08	69.4	33.1	23.2	2.61
10 Zn	99.946	1.978E-08	-0.3	65.4	60.2	100.00 ?
11 K	119.666	1.978E-08	-104.2	21.9	221.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	49.624	8.4232	47.609	1.0423	1.0020	1.0402	1.0000
MgO	1.369	0.4142	0.686	1.9952	0.9378	2.0963	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.021	0.0051	0.017	1.2678	0.9379	1.3521	0.9997
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	49.280	7.5220	48.274	1.0208	1.0069	1.0049	1.0089
Cr2O3	0.001	0.0001	0.001	1.0094	1.0019	1.0753	0.9370
MnO	0.644	0.1108	0.642	1.0042	1.0067	0.9974	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.939	16.4754	97.228	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 7 Comment : 20/7
 Stage : X= 68.5725 Y= 79.4915 Z= 10.8165
 Dated on Mar 30 13:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.977E-08	10525.6	42.8	41.8	0.45
2 Mg	107.499	1.977E-08	-1.8	22.9	15.6	100.00 ?
3 Ca	107.378	1.977E-08	-0.2	33.6	26.9	100.00 ?
4 Al	90.565	1.977E-08	13.4	62.3	40.9	15.65
5 Si	77.293	1.977E-08	23.7	159.1	93.6	19.24
6 Na	129.537	1.977E-08	-6.3	12.1	10.5	100.00 ?
7 Ti	87.741	1.977E-08	47.6	57.4	47.4	4.82
8 Cr	159.466	1.977E-08	-4.7	26.0	23.3	100.00 ?
9 Mn	146.425	1.977E-08	26.3	34.9	27.6	5.93
10 Zn	99.946	1.977E-08	-2.7	76.2	64.2	100.00 ?
11 K	119.666	1.977E-08	-212.5	21.4	438.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.099	23.6970	90.221	0.9876	0.9860	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.094	0.0353	0.065	1.4518	0.9254	1.5688	1.0000
SiO2	0.136	0.0433	0.109	1.2525	0.9191	1.3627	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.213	0.0508	0.222	0.9592	0.9923	1.0197	0.9480
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.229	0.0617	0.243	0.9420	0.9911	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.771	23.8882	90.860	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 8 Comment : 21/1
 Stage : X= 63.5005 Y= 76.5780 Z= 10.8155
 Dated on Mar 30 13:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.975E-08	3615.1	33.7	29.1	0.45
2 Mg	107.499	1.975E-08	7.4	20.6	14.7	14.05
3 Ca	107.378	1.975E-08	19.0	30.2	21.9	7.18
4 Al	90.565	1.975E-08	27.9	54.5	39.7	7.30
5 Si	77.293	1.975E-08	30.8	113.8	84.7	11.85
6 Na	129.537	1.975E-08	-4.6	12.2	7.1	100.00 ?
7 Ti	87.741	1.975E-08	12401.7	55.4	42.9	0.45
8 Cr	159.466	1.975E-08	-1.0	18.6	18.4	100.00 ?
9 Mn	146.425	1.975E-08	128.2	29.8	23.8	1.68
10 Zn	99.946	1.975E-08	-2.6	68.5	56.6	100.00 ?
11 K	119.666	1.975E-08	-72.0	20.4	153.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.808	5.5409	31.019	1.0577	1.0053	1.0521	1.0000
MgO	0.079	0.0238	0.042	1.8909	0.9403	1.9815	1.0148
CaO	0.071	0.0154	0.078	0.9168	0.9586	1.0006	0.9558
Al2O3	0.163	0.0388	0.135	1.2041	0.9404	1.2810	0.9996
SiO2	0.153	0.0309	0.141	1.0817	0.9339	1.1593	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.563	9.0461	57.794	1.0306	1.0098	1.0006	1.0200
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.214	0.2077	1.188	1.0220	1.0100	1.0119	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.051	14.9036	90.396	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 9 Comment : 21/2
 Stage : X= 63.7230 Y= 78.8265 Z= 10.8155
 Dated on Mar 30 13:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.974E-08	2685.1	34.4	26.9	0.45
2 Mg	107.499	1.974E-08	121.6	21.6	15.3	1.64
3 Ca	107.378	1.974E-08	56.9	29.0	22.2	2.92
4 Al	90.565	1.974E-08	74.4	55.8	35.5	3.06
5 Si	77.293	1.974E-08	78.0	129.1	70.1	5.00
6 Na	129.537	1.974E-08	-3.0	9.3	6.7	100.00 ?
7 Ti	87.741	1.974E-08	13212.6	53.1	41.3	0.45
8 Cr	159.466	1.974E-08	12.0	19.5	16.6	9.17
9 Mn	146.425	1.974E-08	48.7	25.8	21.8	3.19
10 Zn	99.946	1.974E-08	-0.5	63.4	52.7	100.00 ?
11 K	119.666	1.974E-08	-54.9	22.5	122.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.616	4.0821	23.051	1.0679	1.0094	1.0579	1.0000
MgO	1.255	0.3710	0.692	1.8126	0.9436	1.8930	1.0148
CaO	0.212	0.0450	0.233	0.9101	0.9622	0.9970	0.9487
Al2O3	0.424	0.0991	0.361	1.1755	0.9437	1.2463	0.9995
SiO2	0.381	0.0756	0.358	1.0640	0.9372	1.1364	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	64.010	9.5454	61.604	1.0391	1.0136	0.9989	1.0262
Cr2O3	0.140	0.0219	0.129	1.0817	1.0089	1.1046	0.9706
MnO	0.467	0.0784	0.452	1.0330	1.0140	1.0188	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.505	14.3185	86.880	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 10 Comment : 21/3
 Stage : X= 61.8985 Y= 80.0710 Z= 10.8135
 Dated on Mar 30 13:48 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.974E-08	4103.6	31.7	30.6	0.45
2 Mg	107.499	1.974E-08	9.8	19.6	15.8	10.85
3 Ca	107.378	1.974E-08	17.5	27.2	22.8	7.49
4 Al	90.565	1.974E-08	24.7	60.8	34.9	8.38
5 Si	77.293	1.974E-08	39.2	125.1	81.4	9.77
6 Na	129.537	1.974E-08	-2.1	11.4	7.9	100.00 ?
7 Ti	87.741	1.974E-08	11770.7	53.2	44.5	0.45
8 Cr	159.466	1.974E-08	-2.5	22.1	17.9	100.00 ?
9 Mn	146.425	1.974E-08	303.7	30.6	22.3	0.99
10 Zn	99.946	1.974E-08	2.3	67.5	62.9	107.10 ?
11 K	119.666	1.974E-08	-87.8	20.9	184.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	37.046	6.2481	35.228	1.0516	1.0036	1.0479	1.0000
MgO	0.108	0.0323	0.056	1.9273	0.9389	2.0226	1.0148
CaO	0.066	0.0143	0.072	0.9228	0.9572	1.0031	0.9611
Al2O3	0.146	0.0348	0.120	1.2227	0.9390	1.3026	0.9996
SiO2	0.197	0.0398	0.180	1.0944	0.9325	1.1745	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.315	8.5410	54.881	1.0261	1.0082	1.0021	1.0156
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.858	0.4882	2.816	1.0150	1.0083	1.0067	1.0000
ZnO	0.022	0.0033	0.020	1.0869	1.0454	1.0398	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 96.758 15.4018 93.372 Total O = 24.0 Iteration = 4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 11 Comment : 21/4
 Stage : X= 64.0540 Y= 76.9425 Z= 10.8135
 Dated on Mar 30 13:54 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.973E-08	21.3	19.8	17.7	5.70
2 Mg	107.499	1.973E-08	-0.8	21.2	15.4	100.00 ?
3 Ca	107.378	1.973E-08	22.4	17.4	12.8	5.12
4 Al	90.565	1.973E-08	109.2	68.8	42.8	2.49
5 Si	77.293	1.973E-08	26081.4	205.7	100.3	0.44
6 Na	129.537	1.973E-08	-0.6	14.7	11.5	100.00 ?
7 Ti	87.741	1.973E-08	-2.5	31.4	23.5	100.00 ?
8 Cr	159.466	1.973E-08	-5.3	13.6	12.0	100.00 ?
9 Mn	146.425	1.973E-08	-2.2	15.2	14.2	100.00 ?
10 Zn	99.946	1.973E-08	-4.2	44.9	38.5	100.00 ?
11 K	119.666	1.973E-08	16.6	11.7	10.2	5.92

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.200	0.0201	0.183	1.0983	1.0922	1.0056	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.103	0.0133	0.092	1.1278	1.0357	1.0582	1.0290
Al2O3	0.421	0.0596	0.530	0.7946	1.0136	0.8111	0.9665
SiO2	99.430	11.9356	119.971	0.8288	1.0066	0.8233	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.077	0.0118	0.074	1.0360	1.0122	1.0234	1.0001

Total 100.231 12.0404 120.850 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 12 Comment : 22/1
 Stage : X= 64.9035 Y= 84.2820 Z= 10.8040
 Dated on Mar 30 14:00 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.972E-08	2273.9	31.8	30.6	0.45
2 Mg	107.499	1.972E-08	4.9	20.8	14.5	20.65
3 Ca	107.378	1.972E-08	66.0	29.8	23.1	2.64
4 Al	90.565	1.972E-08	41.0	51.4	36.7	4.95
5 Si	77.293	1.972E-08	84.6	126.3	74.6	4.64
6 Na	129.537	1.972E-08	-4.8	10.5	9.2	100.00 ?
7 Ti	87.741	1.972E-08	14026.1	52.7	42.0	0.45
8 Cr	159.466	1.972E-08	-3.0	18.7	17.2	100.00 ?
9 Mn	146.425	1.972E-08	235.0	24.3	20.9	1.13
10 Zn	99.946	1.972E-08	-2.4	63.6	51.3	100.00 ?
11 K	119.666	1.972E-08	-43.2	18.7	107.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	20.912	3.4064	19.541	1.0702	1.0088	1.0609	1.0000
MgO	0.050	0.0144	0.028	1.7979	0.9430	1.8788	1.0148
CaO	0.244	0.0509	0.270	0.9025	0.9615	0.9948	0.9436
Al2O3	0.230	0.0528	0.199	1.1567	0.9430	1.2273	0.9994
SiO2	0.409	0.0796	0.389	1.0493	0.9365	1.1217	0.9989
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	67.984	9.9585	65.463	1.0385	1.0130	0.9977	1.0276
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.260	0.3728	2.181	1.0362	1.0133	1.0226	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.089	13.9355	88.070	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 13 Comment : 22/2
 Stage : X= 63.6025 Y= 84.1225 Z= 10.8040
 Dated on Mar 30 14:05 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.971E-08	10106.2	43.2	41.6	0.45
2 Mg	107.499	1.971E-08	-3.1	20.9	15.3	100.00 ?
3 Ca	107.378	1.971E-08	-2.6	32.2	28.0	100.00 ?
4 Al	90.565	1.971E-08	22.8	59.2	40.2	9.17
5 Si	77.293	1.971E-08	43.5	142.2	85.8	9.68
6 Na	129.537	1.971E-08	-5.1	11.0	9.1	100.00 ?
7 Ti	87.741	1.971E-08	32.2	54.5	46.2	6.68
8 Cr	159.466	1.971E-08	-1.3	24.8	22.8	100.00 ?
9 Mn	146.425	1.971E-08	10.1	35.8	29.1	14.46
10 Zn	99.946	1.971E-08	-1.6	72.7	65.4	100.00 ?
11 K	119.666	1.971E-08	-189.1	23.3	389.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.825	23.6450	86.890	0.9877	0.9862	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.161	0.0624	0.111	1.4510	0.9256	1.5677	1.0000
SiO2	0.251	0.0827	0.200	1.2525	0.9193	1.3625	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.144	0.0357	0.150	0.9596	0.9925	1.0197	0.9481
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.088	0.0246	0.094	0.9421	0.9913	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.469	23.8504	87.445	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 14 Comment : 22/3
 Stage : X= 62.9375 Y= 84.1305 Z= 10.7980
 Dated on Mar 30 14:10 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.971E-08	10207.1	43.0	43.1	0.45
2 Mg	107.499	1.971E-08	-1.6	22.0	16.1	100.00 ?
3 Ca	107.378	1.971E-08	-0.6	32.8	28.3	100.00 ?
4 Al	90.565	1.971E-08	13.3	62.2	46.1	16.22
5 Si	77.293	1.971E-08	36.3	139.2	83.2	11.29
6 Na	129.537	1.971E-08	-2.8	11.0	9.5	100.00 ?
7 Ti	87.741	1.971E-08	25.0	54.1	46.0	8.39
8 Cr	159.466	1.971E-08	21.0	25.2	22.8	6.26
9 Mn	146.425	1.971E-08	14.9	33.2	26.9	9.58
10 Zn	99.946	1.971E-08	5.2	68.1	61.4	46.60 ?
11 K	119.666	1.971E-08	-202.7	21.5	418.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.685	23.6382	87.757	0.9878	0.9861	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.094	0.0362	0.065	1.4517	0.9255	1.5686	1.0000
SiO2	0.210	0.0683	0.167	1.2525	0.9191	1.3626	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.112	0.0275	0.117	0.9595	0.9924	1.0197	0.9482
Cr2O3	0.175	0.0451	0.227	0.7705	0.9868	1.0108	0.7725
MnO	0.130	0.0360	0.138	0.9419	0.9912	0.9503	1.0000
ZnO	0.051	0.0123	0.047	1.0863	1.0245	1.0603	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.457	23.8636	88.519	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 15 Comment : 22/4
 Stage : X= 61.9920 Y= 84.1960 Z= 10.8010
 Dated on Mar 30 14:16 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.970E-08	7171.7	38.6	38.0	0.45
2 Mg	107.499	1.970E-08	53.3	19.1	14.4	2.77
3 Ca	107.378	1.970E-08	175.3	29.5	25.1	1.38
4 Al	90.565	1.970E-08	371.7	58.1	34.0	0.96
5 Si	77.293	1.970E-08	1225.4	134.2	72.6	0.56
6 Na	129.537	1.970E-08	-6.0	10.9	11.1	100.00 ?
7 Ti	87.741	1.970E-08	5.0	50.0	40.1	36.49 ?
8 Cr	159.466	1.970E-08	-0.9	20.9	21.0	100.00 ?
9 Mn	146.425	1.970E-08	-0.9	29.5	27.4	100.00 ?
10 Zn	99.946	1.970E-08	7.8	66.2	58.2	30.46
11 K	119.666	1.970E-08	-155.8	20.0	361.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	61.925	17.2839	61.692	1.0038	1.0013	1.0026	0.9999
MgO	0.675	0.3360	0.304	2.2221	0.9382	2.3359	1.0140
CaO	0.716	0.2559	0.718	0.9969	0.9561	1.0358	1.0066
Al2O3	2.493	0.9806	1.807	1.3795	0.9383	1.4722	0.9986
SiO2	6.926	2.3114	5.645	1.2268	0.9319	1.3165	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.023	0.0058	0.023	0.9920	1.0068	1.0232	0.9630
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.077	0.0189	0.070	1.0954	1.0416	1.0517	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	72.835	21.1925	70.259	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 16 Comment : 22/7
 Stage : X= 64.1735 Y= 85.1255 Z= 10.8010
 Dated on Mar 30 14:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.970E-08	3508.0	32.2	30.7	0.45
2 Mg	107.499	1.970E-08	73.4	22.5	15.8	2.28
3 Ca	107.378	1.970E-08	8.6	30.8	21.9	14.75
4 Al	90.565	1.970E-08	9.7	54.7	36.0	19.35
5 Si	77.293	1.970E-08	25.2	121.6	78.0	14.59
6 Na	129.537	1.970E-08	-3.6	10.2	7.1	100.00 ?
7 Ti	87.741	1.970E-08	12363.3	51.0	46.7	0.45
8 Cr	159.466	1.970E-08	1.7	19.6	17.0	57.56 ?
9 Mn	146.425	1.970E-08	6.6	29.7	22.2	18.83
10 Zn	99.946	1.970E-08	2.4	72.9	52.4	100.21 ?
11 K	119.666	1.970E-08	-74.4	20.6	158.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.978	5.4338	30.176	1.0597	1.0064	1.0530	1.0000
MgO	0.786	0.2381	0.419	1.8779	0.9412	1.9660	1.0149
CaO	0.032	0.0071	0.035	0.9165	0.9596	1.0002	0.9549
Al2O3	0.057	0.0136	0.047	1.2041	0.9413	1.2797	0.9996
SiO2	0.126	0.0255	0.116	1.0811	0.9348	1.1575	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.653	9.1153	57.761	1.0328	1.0109	1.0003	1.0213
Cr2O3	0.019	0.0031	0.018	1.0600	1.0060	1.0966	0.9608
MnO	0.062	0.0108	0.061	1.0241	1.0110	1.0129	1.0000
ZnO	0.023	0.0035	0.021	1.0878	1.0486	1.0374	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.736	14.8508	88.656	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 17 Comment : 22/8
 Stage : X= 63.5755 Y= 85.2300 Z= 10.8010
 Dated on Mar 30 14:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.970E-08	5578.5	41.1	36.0	0.45
2 Mg	107.499	1.970E-08	64.0	22.3	14.7	2.48
3 Ca	107.378	1.970E-08	-2.1	30.1	24.1	100.00 ?
4 Al	90.565	1.970E-08	-1.8	57.0	36.7	100.00 ?
5 Si	77.293	1.970E-08	5.5	126.5	77.6	67.51 ?
6 Na	129.537	1.970E-08	-5.0	11.0	9.0	100.00 ?
7 Ti	87.741	1.970E-08	10313.6	61.7	44.8	0.45
8 Cr	159.466	1.970E-08	-0.6	22.1	19.0	100.00 ?
9 Mn	146.425	1.970E-08	66.8	31.0	25.4	2.67
10 Zn	99.946	1.970E-08	2.3	73.9	56.4	104.79 ?
11 K	119.666	1.970E-08	-102.7	22.0	218.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	49.988	8.5451	47.987	1.0417	1.0014	1.0403	1.0000
MgO	0.732	0.2230	0.365	2.0035	0.9373	2.1062	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.028	0.0058	0.025	1.1239	0.9309	1.2080	0.9993
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	49.144	7.5545	48.185	1.0199	1.0063	1.0049	1.0086
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.623	0.1078	0.620	1.0036	1.0061	0.9975	1.0000
ZnO	0.023	0.0034	0.021	1.0876	1.0426	1.0431	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.538	16.4397	97.204	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 18 Comment : 22/9
 Stage : X= 62.8095 Y= 84.8090 Z= 10.8010
 Dated on Mar 30 14:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.971E-08	7989.5	37.4	36.2	0.45
2 Mg	107.499	1.971E-08	22.0	21.7	14.3	5.47
3 Ca	107.378	1.971E-08	39.1	27.4	24.4	3.88
4 Al	90.565	1.971E-08	237.4	55.2	35.3	1.28
5 Si	77.293	1.971E-08	651.6	124.9	78.1	0.84
6 Na	129.537	1.971E-08	-5.5	9.9	11.1	100.00 ?
7 Ti	87.741	1.971E-08	0.4	50.9	38.2	399.33 ?
8 Cr	159.466	1.971E-08	-2.1	19.3	20.0	100.00 ?
9 Mn	146.425	1.971E-08	59.0	28.1	23.8	2.84
10 Zn	99.946	1.971E-08	-2.1	64.3	59.9	100.00 ?
11 K	119.666	1.971E-08	-87.6	19.0	356.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	68.389	20.0194	68.692	0.9956	0.9938	1.0018	1.0000
MgO	0.289	0.1506	0.126	2.2997	0.9319	2.4328	1.0144
CaO	0.158	0.0593	0.160	0.9870	0.9495	1.0350	1.0044
Al2O3	1.631	0.6727	1.154	1.4136	0.9320	1.5178	0.9993
SiO2	3.723	1.3031	3.000	1.2408	0.9256	1.3405	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.002	0.0005	0.002	0.9744	0.9997	1.0209	0.9547
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.521	0.1543	0.548	0.9496	0.9988	0.9507	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	74.713	22.3600	73.681	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 19 Comment : 22/10
 Stage : X= 62.1045 Y= 85.6955 Z= 10.7995
 Dated on Mar 30 14:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.971E-08	3756.8	32.0	30.8	0.45
2 Mg	107.499	1.971E-08	1.4	19.0	13.1	63.16 ?
3 Ca	107.378	1.971E-08	21.1	29.0	23.9	6.56
4 Al	90.565	1.971E-08	13.7	55.8	36.8	14.11
5 Si	77.293	1.971E-08	15.3	130.2	79.2	24.99
6 Na	129.537	1.971E-08	-4.2	10.5	7.8	100.00 ?
7 Ti	87.741	1.971E-08	12244.1	55.4	44.6	0.45
8 Cr	159.466	1.971E-08	6.4	19.7	17.6	16.45
9 Mn	146.425	1.971E-08	36.4	30.1	22.1	4.16
10 Zn	99.946	1.971E-08	-0.6	66.5	54.8	100.00 ?
11 K	119.666	1.971E-08	-77.8	20.9	169.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.146	5.8110	32.300	1.0572	1.0051	1.0518	1.0000
MgO	0.016	0.0048	0.008	1.8997	0.9401	1.9910	1.0149
CaO	0.079	0.0172	0.086	0.9175	0.9585	1.0009	0.9564
Al2O3	0.080	0.0193	0.067	1.2080	0.9402	1.2854	0.9996
SiO2	0.076	0.0155	0.070	1.0838	0.9337	1.1618	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.908	9.0150	57.175	1.0303	1.0096	1.0008	1.0197
Cr2O3	0.072	0.0116	0.069	1.0538	1.0047	1.0945	0.9583
MnO	0.345	0.0595	0.338	1.0213	1.0097	1.0114	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.722	14.9540	90.113	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 20 Comment : 23/1
 Stage : X= 68.0010 Y= 82.5120 Z= 10.8085
 Dated on Mar 30 14:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.972E-08	10529.8	44.9	42.0	0.45
2 Mg	107.499	1.972E-08	-4.2	22.5	15.9	100.00 ?
3 Ca	107.378	1.972E-08	5.2	33.0	26.6	25.79
4 Al	90.565	1.972E-08	44.1	59.4	37.5	4.96
5 Si	77.293	1.972E-08	19.0	150.1	91.9	22.90
6 Na	129.537	1.972E-08	-2.3	11.2	8.5	100.00 ?
7 Ti	87.741	1.972E-08	158.8	57.8	44.8	1.77
8 Cr	159.466	1.972E-08	28.7	24.8	22.8	4.81
9 Mn	146.425	1.972E-08	10.0	35.8	29.2	14.58
10 Zn	99.946	1.972E-08	-3.6	73.9	63.3	100.00 ?
11 K	119.666	1.972E-08	-203.4	25.4	421.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.468	23.3084	90.486	0.9887	0.9864	1.0024	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.021	0.0069	0.021	0.9766	0.9429	1.0333	1.0023
Al2O3	0.310	0.1138	0.214	1.4481	0.9257	1.5642	1.0000
SiO2	0.110	0.0341	0.088	1.2514	0.9194	1.3611	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.712	0.1668	0.741	0.9610	0.9927	1.0195	0.9496
Cr2O3	0.241	0.0593	0.310	0.7760	0.9871	1.0116	0.7771
MnO	0.088	0.0231	0.093	0.9429	0.9915	0.9510	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.950	23.7125	91.953	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 21 Comment : 23/2
 Stage : X= 68.3280 Y= 82.5120 Z= 10.8085
 Dated on Mar 30 14:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.977E-08	3999.9	35.9	30.8	0.45
2 Mg	107.499	1.977E-08	-1.3	22.4	15.2	100.00 ?
3 Ca	107.378	1.977E-08	15.3	30.8	23.5	8.82
4 Al	90.565	1.977E-08	26.3	57.1	40.4	7.91
5 Si	77.293	1.977E-08	64.0	146.4	85.7	6.80
6 Na	129.537	1.977E-08	-5.4	11.5	9.4	100.00 ?
7 Ti	87.741	1.977E-08	12303.3	57.0	46.6	0.45
8 Cr	159.466	1.977E-08	-4.3	20.6	18.0	100.00 ?
9 Mn	146.425	1.977E-08	146.8	29.1	22.5	1.53
10 Zn	99.946	1.977E-08	5.6	69.7	59.0	43.16 ?
11 K	119.666	1.977E-08	-74.3	19.7	169.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	36.162	5.9955	34.286	1.0547	1.0046	1.0500	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.058	0.0122	0.063	0.9203	0.9580	1.0021	0.9587
Al2O3	0.154	0.0361	0.127	1.2139	0.9398	1.2922	0.9996
SiO2	0.320	0.0634	0.294	1.0884	0.9333	1.1671	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.926	8.7855	57.277	1.0288	1.0092	1.0014	1.0180
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.384	0.2324	1.359	1.0186	1.0092	1.0093	1.0000
ZnO	0.055	0.0080	0.050	1.0872	1.0465	1.0389	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	97.059	15.1331	93.455	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 22 Comment : 23/3
 Stage : X= 69.9125 Y= 82.7190 Z= 10.8040
 Dated on Mar 30 14:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.984E-08	10532.8	43.4	44.3	0.45
2 Mg	107.499	1.984E-08	-4.2	21.4	17.0	100.00 ?
3 Ca	107.378	1.984E-08	0.1	33.6	26.1	893.48 ?
4 Al	90.565	1.984E-08	11.1	61.3	41.5	18.67
5 Si	77.293	1.984E-08	22.9	148.9	85.4	18.66
6 Na	129.537	1.984E-08	-3.3	11.3	10.3	100.00 ?
7 Ti	87.741	1.984E-08	25.1	52.6	47.2	8.34
8 Cr	159.466	1.984E-08	-3.6	26.5	20.7	100.00 ?
9 Mn	146.425	1.984E-08	10.0	37.1	27.8	14.56
10 Zn	99.946	1.984E-08	-3.5	75.0	61.9	100.00 ?
11 K	119.666	1.984E-08	-189.7	23.0	396.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.835	23.7943	89.964	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.001	0.0002	0.001	0.9766	0.9425	1.0337	1.0024
Al2O3	0.078	0.0294	0.054	1.4525	0.9254	1.5697	1.0000
SiO2	0.131	0.0420	0.105	1.2529	0.9190	1.3632	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.112	0.0269	0.116	0.9590	0.9922	1.0197	0.9479
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.087	0.0237	0.093	0.9418	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.244	23.9164	90.332	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 23 Comment : 23/4
 Stage : X= 70.2805 Y= 83.0485 Z= 10.8025
 Dated on Mar 30 14:59 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	1.990E-08	3669.0	33.3	30.7	0.45
2 Mg	107.499	1.990E-08	35.4	18.9	15.3	3.73
3 Ca	107.378	1.990E-08	7.7	31.2	23.3	16.61
4 Al	90.565	1.990E-08	20.5	53.6	35.5	9.40
5 Si	77.293	1.990E-08	19.7	127.9	87.7	19.80
6 Na	129.537	1.990E-08	-1.6	10.6	7.6	100.00 ?
7 Ti	87.741	1.990E-08	12223.1	52.0	42.2	0.45
8 Cr	159.466	1.990E-08	5.6	20.8	18.1	18.99
9 Mn	146.425	1.990E-08	55.7	27.5	21.1	2.92
10 Zn	99.946	1.990E-08	0.3	58.7	55.7	732.15 ?
11 K	119.666	1.990E-08	-61.8	19.4	144.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.046	5.6782	31.244	1.0577	1.0055	1.0519	1.0000
MgO	0.379	0.1159	0.200	1.8925	0.9405	1.9828	1.0149
CaO	0.029	0.0063	0.031	0.9177	0.9588	1.0009	0.9562
Al2O3	0.119	0.0288	0.098	1.2077	0.9406	1.2846	0.9996
SiO2	0.097	0.0200	0.090	1.0839	0.9341	1.1615	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.277	9.0047	56.532	1.0309	1.0100	1.0007	1.0199
Cr2O3	0.063	0.0102	0.059	1.0553	1.0052	1.0947	0.9591
MnO	0.523	0.0911	0.512	1.0218	1.0102	1.0115	1.0000
ZnO	0.003	0.0004	0.003	1.0875	1.0476	1.0381	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.536	14.9558	88.770	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 24 Comment : 23/5
 Stage : X= 70.1615 Y= 83.2680 Z= 10.8025
 Dated on Mar 30 15:04 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	1.995E-08	3574.6	28.2	27.1	0.45
2 Mg	107.499	1.995E-08	875.2	25.6	15.8	0.55
3 Ca	107.378	1.995E-08	241.5	23.7	18.5	1.10
4 Al	90.565	1.995E-08	4146.1	104.3	39.5	0.46
5 Si	77.293	1.995E-08	7416.6	134.4	66.1	0.45
6 Na	129.537	1.995E-08	-3.3	10.1	6.5	100.00 ?
7 Ti	87.741	1.995E-08	1.9	41.2	30.0	77.47 ?
8 Cr	159.466	1.995E-08	-1.4	17.1	15.6	100.00 ?
9 Mn	146.425	1.995E-08	74.4	22.3	19.0	2.29
10 Zn	99.946	1.995E-08	-1.4	55.1	47.7	100.00 ?
11 K	119.666	1.995E-08	-73.2	15.7	150.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.148	4.1476	30.363	1.0588	1.0546	1.0040	1.0000
MgO	7.491	1.7225	4.932	1.5186	0.9823	1.5327	1.0086
CaO	1.044	0.1725	0.977	1.0689	1.0027	1.0446	1.0205
Al2O3	21.544	3.9173	19.905	1.0823	0.9823	1.1094	0.9932
SiO2	38.859	5.9945	33.739	1.1517	0.9756	1.1805	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.010	0.0011	0.009	1.0994	1.0571	1.0278	1.0118
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.689	0.0900	0.682	1.0095	1.0588	0.9534	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	101.785	16.0457	90.608	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 25 Comment : 23/6
 Stage : X= 70.4415 Y= 83.4515 Z= 10.8005
 Dated on Mar 30 15:10 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.000E-08	903.0	25.8	20.1	0.54
2 Mg	107.499	2.000E-08	2731.6	35.0	15.3	0.45
3 Ca	107.378	2.000E-08	1638.0	19.4	16.7	0.45
4 Al	90.565	2.000E-08	3373.4	85.6	34.3	0.46
5 Si	77.293	2.000E-08	8121.8	155.3	65.8	0.45
6 Na	129.537	2.000E-08	-3.7	9.6	7.8	100.00 ?
7 Ti	87.741	2.000E-08	18.4	35.4	27.8	8.18
8 Cr	159.466	2.000E-08	681.4	14.5	13.8	0.62
9 Mn	146.425	2.000E-08	46.5	19.7	17.4	3.11
10 Zn	99.946	2.000E-08	-4.0	47.0	41.0	100.00 ?
11 K	119.666	2.000E-08	-19.5	14.4	44.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	8.334	1.0113	7.651	1.0893	1.0701	1.0179	1.0000
MgO	19.533	4.2245	15.357	1.2720	0.9950	1.2675	1.0085
CaO	7.131	1.1086	6.608	1.0792	1.0162	1.0376	1.0234
Al2O3	17.084	2.9214	16.155	1.0575	0.9951	1.0712	0.9921
SiO2	40.876	5.9303	36.855	1.1091	0.9882	1.1226	0.9997
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.097	0.0105	0.085	1.1408	1.0716	1.0387	1.0249
Cr2O3	7.777	0.8921	7.258	1.0714	1.0680	1.0216	0.9821
MnO	0.437	0.0538	0.425	1.0291	1.0741	0.9581	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	101.269	16.1524	90.393	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 26 Comment : 23/7
 Stage : X= 70.3255 Y= 83.5270 Z= 10.8005
 Dated on Mar 30 15:15 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.004E-08	10370.5	46.4	42.1	0.45
2 Mg	107.499	2.004E-08	-6.3	25.1	17.4	100.00 ?
3 Ca	107.378	2.004E-08	1.5	33.7	28.2	87.62 ?
4 Al	90.565	2.004E-08	17.3	63.0	42.4	12.42
5 Si	77.293	2.004E-08	26.9	148.4	87.8	15.98
6 Na	129.537	2.004E-08	-5.1	11.5	8.7	100.00 ?
7 Ti	87.741	2.004E-08	41.6	57.8	43.9	5.34
8 Cr	159.466	2.004E-08	20.8	26.4	22.0	6.35
9 Mn	146.425	2.004E-08	12.4	35.6	29.6	11.93
10 Zn	99.946	2.004E-08	-4.7	78.9	70.5	100.00 ?
11 K	119.666	2.004E-08	-218.0	23.2	447.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.631	23.6433	87.694	0.9879	0.9861	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.006	0.0021	0.006	0.9767	0.9427	1.0336	1.0024
Al2O3	0.120	0.0462	0.083	1.4513	0.9255	1.5682	1.0000
SiO2	0.153	0.0498	0.122	1.2523	0.9191	1.3625	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.184	0.0450	0.191	0.9596	0.9924	1.0197	0.9483
Cr2O3	0.171	0.0440	0.221	0.7708	0.9868	1.0109	0.7728
MnO	0.107	0.0295	0.113	0.9420	0.9912	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.372	23.8600	88.431	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 27 Comment : 23/8
 Stage : X= 70.2215 Y= 83.9660 Z= 10.7965
 Dated on Mar 30 15:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.006E-08	5159.3	36.5	36.8	0.45
2 Mg	107.499	2.006E-08	26.5	22.0	15.0	4.75
3 Ca	107.378	2.006E-08	-4.4	32.1	26.7	100.00 ?
4 Al	90.565	2.006E-08	-0.4	55.6	40.3	100.00 ?
5 Si	77.293	2.006E-08	3.1	131.1	82.8	124.95 ?
6 Na	129.537	2.006E-08	-3.4	11.9	9.9	100.00 ?
7 Ti	87.741	2.006E-08	11280.3	57.6	48.9	0.45
8 Cr	159.466	2.006E-08	0.4	21.1	18.1	248.75 ?
9 Mn	146.425	2.006E-08	56.4	31.8	25.3	3.04
10 Zn	99.946	2.006E-08	1.0	71.1	61.9	241.63 ?
11 K	119.666	2.006E-08	-111.1	23.9	233.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	45.597	7.7117	43.585	1.0462	1.0022	1.0438	1.0000
MgO	0.293	0.0884	0.149	1.9749	0.9379	2.0747	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.015	0.0031	0.014	1.1113	0.9316	1.1938	0.9993
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	52.937	8.0511	51.755	1.0228	1.0071	1.0036	1.0120
Cr2O3	0.004	0.0007	0.004	1.0222	1.0021	1.0813	0.9434
MnO	0.519	0.0890	0.515	1.0088	1.0070	1.0018	1.0000
ZnO	0.010	0.0015	0.009	1.0874	1.0437	1.0418	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.375	15.9455	96.030	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 28 Comment : 23/9
 Stage : X= 68.9500 Y= 85.9255 Z= 10.7925
 Dated on Mar 30 15:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.008E-08	10833.1	41.4	45.7	0.45
2 Mg	107.499	2.008E-08	-1.4	22.9	14.8	100.00 ?
3 Ca	107.378	2.008E-08	-2.3	32.5	27.1	100.00 ?
4 Al	90.565	2.008E-08	9.7	63.6	42.0	21.85
5 Si	77.293	2.008E-08	6.4	149.7	87.6	66.79 ?
6 Na	129.537	2.008E-08	-5.1	11.9	8.3	100.00 ?
7 Ti	87.741	2.008E-08	23.2	59.0	44.6	9.25
8 Cr	159.466	2.008E-08	9.1	26.2	20.6	13.08
9 Mn	146.425	2.008E-08	12.9	36.5	32.6	11.93
10 Zn	99.946	2.008E-08	-1.3	79.9	62.7	100.00 ?
11 K	119.666	2.008E-08	-194.6	23.0	406.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	90.271	23.8338	91.424	0.9874	0.9858	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.067	0.0250	0.046	1.4530	0.9253	1.5704	1.0000
SiO2	0.036	0.0114	0.029	1.2531	0.9189	1.3636	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.102	0.0242	0.106	0.9588	0.9921	1.0197	0.9478
Cr2O3	0.074	0.0185	0.096	0.7688	0.9865	1.0107	0.7711
MnO	0.111	0.0297	0.118	0.9417	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.661	23.9426	91.819	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_20212223
 UNK No. : 29 Comment : 23/10
 Stage : X= 67.1215 Y= 82.7570 Z= 10.8085
 Dated on Mar 30 15:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.009E-08	16.4	19.3	17.9	7.06
2 Mg	107.499	2.009E-08	1.1	24.1	18.7	95.20 ?
3 Ca	107.378	2.009E-08	7.2	16.5	14.1	13.50
4 Al	90.565	2.009E-08	299.5	81.4	49.9	1.24
5 Si	77.293	2.009E-08	26444.6	234.6	101.7	0.44
6 Na	129.537	2.009E-08	2.7	15.5	14.1	33.28
7 Ti	87.741	2.009E-08	-1.8	30.4	23.2	100.00 ?
8 Cr	159.466	2.009E-08	-2.4	13.0	11.9	100.00 ?
9 Mn	146.425	2.009E-08	-3.7	17.1	15.3	100.00 ?
10 Zn	99.946	2.009E-08	-0.7	48.6	37.9	100.00 ?
11 K	119.666	2.009E-08	38.8	12.8	9.7	3.19

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.152	0.0151	0.138	1.0982	1.0921	1.0056	1.0000
MgO	0.007	0.0012	0.006	1.1106	1.0134	1.0945	1.0012
CaO	0.033	0.0042	0.029	1.1280	1.0356	1.0585	1.0290
Al2O3	1.134	0.1594	1.428	0.7945	1.0134	0.8107	0.9670
SiO2	99.503	11.8619	119.462	0.8329	1.0065	0.8275	1.0000
Na2O	0.026	0.0061	0.033	0.8088	1.1005	0.7389	0.9947
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.177	0.0269	0.171	1.0358	1.0121	1.0232	1.0002
Total	101.032	12.0749	121.267	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 1 Comment : 24/1
 Stage : X= 69.3595 Y= 33.9635 Z= 10.9705
 Dated on Mar 31 07:45 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.004E-08	3144.5	0.0	0.0	0.45
2 Mg	107.499	2.004E-08	22.5	0.0	0.0	3.33
3 Ca	107.378	2.004E-08	61.2	0.0	0.0	2.86
4 Al	90.565	2.004E-08	90.0	0.0	0.0	1.67
5 Si	77.293	2.004E-08	295.0	0.0	0.0	0.92
6 Na	129.537	2.004E-08	-5.2	11.5	9.0	100.00 ?
7 Ti	87.741	2.004E-08	13158.2	0.0	0.0	0.44
8 Cr	159.466	2.004E-08	17.5	0.0	0.0	3.78
9 Mn	146.425	2.004E-08	90.0	0.0	0.0	1.67
10 Zn	99.946	2.004E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.004E-08	22.4	0.0	0.0	3.34

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.270	4.5873	26.591	1.0631	1.0082	1.0549	0.9996
MgO	0.234	0.0676	0.126	1.8503	0.9427	1.9344	1.0147
CaO	0.226	0.0470	0.246	0.9170	0.9612	1.0001	0.9540
Al2O3	0.510	0.1166	0.430	1.1850	0.9427	1.2578	0.9993
SiO2	1.431	0.2777	1.336	1.0712	0.9363	1.1452	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.683	9.1468	60.432	1.0373	1.0125	1.0007	1.0237
Cr2O3	0.199	0.0306	0.186	1.0709	1.0077	1.0994	0.9665
MnO	0.845	0.1388	0.822	1.0278	1.0128	1.0150	0.9998
ZnO	0.552	0.0791	0.507	1.0879	1.0507	1.0355	1.0000
K2O	0.084	0.0209	0.099	0.8528	0.9398	0.9490	0.9562
Total	95.034	14.5123	90.776	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 2 Comment : 24/2
 Stage : X= 69.8145 Y= 34.5020 Z= 10.9705
 Dated on Mar 31 07:49 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.004E-08	2922.2	0.0	0.0	0.45
2 Mg	107.499	2.004E-08	310.1	0.0	0.0	0.90
3 Ca	107.378	2.004E-08	49.8	0.0	0.0	3.17
4 Al	90.565	2.004E-08	70.0	0.0	0.0	1.89
5 Si	77.293	2.004E-08	206.4	0.0	0.0	1.10
6 Na	129.537	2.004E-08	-4.8	10.8	8.8	100.00 ?
7 Ti	87.741	2.004E-08	12991.4	0.0	0.0	0.44
8 Cr	159.466	2.004E-08	42.5	0.0	0.0	2.43
9 Mn	146.425	2.004E-08	65.0	0.0	0.0	1.96
10 Zn	99.946	2.004E-08	52.5	0.0	0.0	2.18
11 K	119.666	2.004E-08	19.4	0.0	0.0	3.59

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.336	4.2437	24.710	1.0658	1.0107	1.0549	0.9996
MgO	3.162	0.9082	1.740	1.8175	0.9448	1.8957	1.0148
CaO	0.184	0.0381	0.201	0.9196	0.9634	1.0000	0.9546
Al2O3	0.400	0.0908	0.335	1.1948	0.9449	1.2653	0.9994
SiO2	1.007	0.1940	0.935	1.0774	0.9384	1.1493	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.091	8.9971	59.666	1.0406	1.0149	1.0005	1.0248
Cr2O3	0.486	0.0740	0.452	1.0751	1.0102	1.0987	0.9686
MnO	0.611	0.0998	0.594	1.0298	1.0153	1.0145	0.9998
ZnO	0.504	0.0718	0.463	1.0893	1.0535	1.0340	1.0000
K2O	0.073	0.0180	0.085	0.8551	0.9420	0.9490	0.9566
Total	94.854	14.7354	89.180	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 3 Comment : 24/3
 Stage : X= 69.0140 Y= 34.4265 Z= 10.9705
 Dated on Mar 31 07:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	2.002E-08	2437.6	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	137.5	0.0	0.0	1.35
3 Ca	107.378	2.002E-08	81.7	0.0	0.0	2.47
4 Al	90.565	2.002E-08	267.6	0.0	0.0	0.97
5 Si	77.293	2.002E-08	415.0	0.0	0.0	0.78
6 Na	129.537	2.002E-08	-1.0	9.2	7.9	100.00 ?
7 Ti	87.741	2.002E-08	13370.4	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	45.0	0.0	0.0	2.36
9 Mn	146.425	2.002E-08	45.0	0.0	0.0	2.36
10 Zn	99.946	2.002E-08	52.5	0.0	0.0	2.18
11 K	119.666	2.002E-08	24.3	0.0	0.0	3.21

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	22.091	3.5342	20.633	1.0707	1.0122	1.0581	0.9996
MgO	1.378	0.3929	0.772	1.7839	0.9460	1.8588	1.0145
CaO	0.301	0.0618	0.329	0.9160	0.9647	0.9985	0.9510
Al2O3	1.488	0.3354	1.280	1.1621	0.9460	1.2294	0.9992
SiO2	1.999	0.3823	1.881	1.0624	0.9395	1.1320	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	64.204	9.2368	61.468	1.0445	1.0163	1.0000	1.0278
Cr2O3	0.521	0.0788	0.479	1.0876	1.0116	1.1040	0.9738
MnO	0.426	0.0690	0.411	1.0352	1.0168	1.0183	0.9998
ZnO	0.505	0.0713	0.464	1.0895	1.0553	1.0324	1.0000
K2O	0.092	0.0224	0.108	0.8523	0.9432	0.9470	0.9542
Total	93.005	14.1850	87.825	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 4 Comment : 24/4
 Stage : X= 68.6065 Y= 34.6670 Z= 10.9750
 Dated on Mar 31 07:57 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	2.003E-08	3695.4	0.0	0.0	0.45
2 Mg	107.499	2.003E-08	32.5	0.0	0.0	2.77
3 Ca	107.378	2.003E-08	45.0	0.0	0.0	3.33
4 Al	90.565	2.003E-08	97.5	0.0	0.0	1.60
5 Si	77.293	2.003E-08	220.1	0.0	0.0	1.07
6 Na	129.537	2.003E-08	-3.3	9.4	7.2	100.00 ?
7 Ti	87.741	2.003E-08	12071.5	0.0	0.0	0.44
8 Cr	159.466	2.003E-08	20.0	0.0	0.0	3.54
9 Mn	146.425	2.003E-08	97.5	0.0	0.0	1.60
10 Zn	99.946	2.003E-08	60.0	0.0	0.0	2.04
11 K	119.666	2.003E-08	21.9	0.0	0.0	3.38

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.043	5.5644	31.264	1.0569	1.0064	1.0506	0.9996
MgO	0.346	0.1037	0.182	1.8944	0.9413	1.9835	1.0147
CaO	0.167	0.0361	0.181	0.9234	0.9596	1.0028	0.9596
Al2O3	0.563	0.1337	0.466	1.2084	0.9413	1.2845	0.9994
SiO2	1.085	0.2184	0.997	1.0877	0.9349	1.1645	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.297	8.6767	55.468	1.0330	1.0109	1.0021	1.0197
Cr2O3	0.224	0.0357	0.213	1.0538	1.0060	1.0922	0.9591
MnO	0.909	0.1551	0.891	1.0206	1.0110	1.0097	0.9998
ZnO	0.576	0.0856	0.529	1.0878	1.0485	1.0374	1.0000
K2O	0.083	0.0213	0.097	0.8576	0.9384	0.9524	0.9596
Total	94.293	15.0308	90.289	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 5 Comment : 24/5
 Stage : X= 68.3020 Y= 35.2540 Z= 10.9750
 Dated on Mar 31 08:01 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	2720.7	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	25.0	0.0	0.0	3.16
3 Ca	107.378	2.002E-08	65.5	0.0	0.0	2.76
4 Al	90.565	2.002E-08	107.5	0.0	0.0	1.52
5 Si	77.293	2.002E-08	230.8	0.0	0.0	1.04
6 Na	129.537	2.002E-08	-1.0	9.1	7.8	100.00 ?
7 Ti	87.741	2.002E-08	13057.6	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	17.5	0.0	0.0	3.78
9 Mn	146.425	2.002E-08	237.6	0.0	0.0	1.03
10 Zn	99.946	2.002E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.002E-08	22.1	0.0	0.0	3.37

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.518	4.0765	23.029	1.0646	1.0083	1.0563	0.9996
MgO	0.258	0.0763	0.140	1.8344	0.9427	1.9177	1.0147
CaO	0.241	0.0514	0.264	0.9140	0.9612	0.9990	0.9518
Al2O3	0.605	0.1419	0.514	1.1772	0.9428	1.2494	0.9994
SiO2	1.116	0.2218	1.046	1.0664	0.9363	1.1401	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.281	9.3119	60.029	1.0375	1.0126	1.0001	1.0245
Cr2O3	0.201	0.0315	0.186	1.0774	1.0078	1.1017	0.9703
MnO	2.236	0.3765	2.172	1.0295	1.0129	1.0166	0.9998
ZnO	0.552	0.0810	0.508	1.0875	1.0509	1.0348	1.0000
K2O	0.083	0.0211	0.098	0.8503	0.9399	0.9475	0.9548
Total	92.091	14.3900	87.987	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 6 Comment : 24/6
 Stage : X= 69.5770 Y= 35.6615 Z= 10.9750
 Dated on Mar 31 08:05 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3589.0	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	50.0	0.0	0.0	2.24
3 Ca	107.378	2.002E-08	46.1	0.0	0.0	3.29
4 Al	90.565	2.002E-08	72.5	0.0	0.0	1.86
5 Si	77.293	2.002E-08	198.6	0.0	0.0	1.12
6 Na	129.537	2.002E-08	-4.4	9.7	9.2	100.00 ?
7 Ti	87.741	2.002E-08	12155.1	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	20.0	0.0	0.0	3.54
9 Mn	146.425	2.002E-08	72.5	0.0	0.0	1.86
10 Zn	99.946	2.002E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.002E-08	20.3	0.0	0.0	3.51

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.142	5.4338	30.379	1.0580	1.0067	1.0514	0.9996
MgO	0.530	0.1597	0.281	1.8874	0.9415	1.9756	1.0148
CaO	0.171	0.0371	0.186	0.9221	0.9599	1.0023	0.9585
Al2O3	0.419	0.0997	0.347	1.2065	0.9416	1.2821	0.9994
SiO2	0.977	0.1976	0.900	1.0854	0.9351	1.1618	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.763	8.7812	55.881	1.0337	1.0112	1.0018	1.0204
Cr2O3	0.225	0.0359	0.213	1.0566	1.0063	1.0935	0.9602
MnO	0.677	0.1160	0.663	1.0219	1.0113	1.0107	0.9998
ZnO	0.552	0.0824	0.508	1.0878	1.0489	1.0372	1.0000
K2O	0.077	0.0199	0.090	0.8566	0.9386	0.9517	0.9589
Total	93.533	14.9633	89.447	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 7 Comment : 24/7
 Stage : X= 68.9590 Y= 35.8695 Z= 10.9750
 Dated on Mar 31 08:09 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3227.8	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	140.0	0.0	0.0	1.34
3 Ca	107.378	2.002E-08	52.0	0.0	0.0	3.10
4 Al	90.565	2.002E-08	145.0	0.0	0.0	1.31
5 Si	77.293	2.002E-08	206.6	0.0	0.0	1.10
6 Na	129.537	2.002E-08	-3.6	9.2	8.0	100.00 ?
7 Ti	87.741	2.002E-08	13188.8	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	45.0	0.0	0.0	2.36
9 Mn	146.425	2.002E-08	87.5	0.0	0.0	1.69
10 Zn	99.946	2.002E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.002E-08	20.1	0.0	0.0	3.52

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.046	4.6074	27.322	1.0631	1.0089	1.0542	0.9996
MgO	1.451	0.4101	0.786	1.8445	0.9433	1.9271	1.0147
CaO	0.193	0.0391	0.209	0.9194	0.9618	1.0006	0.9554
Al2O3	0.828	0.1850	0.694	1.1928	0.9433	1.2652	0.9994
SiO2	1.010	0.1916	0.937	1.0786	0.9368	1.1524	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.917	8.9745	60.633	1.0377	1.0132	1.0009	1.0233
Cr2O3	0.512	0.0768	0.479	1.0692	1.0084	1.0975	0.9661
MnO	0.822	0.1320	0.800	1.0270	1.0135	1.0136	0.9998
ZnO	0.553	0.0774	0.508	1.0884	1.0514	1.0352	1.0000
K2O	0.076	0.0184	0.089	0.8548	0.9404	0.9497	0.9571
Total	97.408	14.7123	92.456	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 8 Comment : 24/8
 Stage : X= 68.1270 Y= 36.3330 Z= 10.9795
 Dated on Mar 31 08:13 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.850	2.002E-08	10831.2	0.0	0.0	0.44
2 Mg	107.499	2.002E-08	15.0	0.0	0.0	4.08
3 Ca	107.378	2.002E-08	36.2	0.0	0.0	3.72
4 Al	90.565	2.002E-08	72.5	0.0	0.0	1.86
5 Si	77.293	2.002E-08	222.5	0.0	0.0	1.06
6 Na	129.537	2.002E-08	-4.7	11.0	8.3	100.00 ?
7 Ti	87.741	2.002E-08	87.5	0.0	0.0	1.69
8 Cr	159.466	2.002E-08	25.0	0.0	0.0	3.16
9 Mn	146.425	2.002E-08	37.5	0.0	0.0	2.58
10 Zn	99.946	2.002E-08	70.0	0.0	0.0	1.89
11 K	119.666	2.002E-08	23.5	0.0	0.0	3.27

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	90.752	22.3727	91.681	0.9899	0.9880	1.0023	0.9995
MgO	0.199	0.0876	0.084	2.3654	0.9270	2.5146	1.0148
CaO	0.143	0.0451	0.146	0.9801	0.9444	1.0345	1.0032
Al2O3	0.501	0.1742	0.347	1.4450	0.9271	1.5589	0.9998
SiO2	1.262	0.3719	1.009	1.2508	0.9208	1.3584	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.388	0.0861	0.402	0.9656	0.9942	1.0205	0.9517
Cr2O3	0.208	0.0484	0.266	0.7811	0.9887	1.0117	0.7810
MnO	0.324	0.0808	0.343	0.9441	0.9931	0.9510	0.9997
ZnO	0.672	0.1462	0.618	1.0869	1.0267	1.0587	1.0000
K2O	0.094	0.0352	0.104	0.9034	0.9237	0.9922	0.9858
Total	94.543	23.4483	95.000	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 9 Comment : 25/1
 Stage : X= 63.5920 Y= 34.5590 Z= 10.9895
 Dated on Mar 31 08:17 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3112.5	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	30.0	0.0	0.0	2.89
3 Ca	107.378	2.002E-08	84.9	0.0	0.0	2.43
4 Al	90.565	2.002E-08	142.5	0.0	0.0	1.32
5 Si	77.293	2.002E-08	221.1	0.0	0.0	1.06
6 Na	129.537	2.002E-08	-2.0	10.8	8.2	100.00 ?
7 Ti	87.741	2.002E-08	13335.5	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	45.0	0.0	0.0	2.36
9 Mn	146.425	2.002E-08	57.5	0.0	0.0	2.09
10 Zn	99.946	2.002E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.002E-08	21.5	0.0	0.0	3.41

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.037	4.5003	26.346	1.0642	1.0084	1.0557	0.9996
MgO	0.311	0.0889	0.168	1.8448	0.9428	1.9283	1.0147
CaO	0.313	0.0644	0.342	0.9164	0.9613	0.9997	0.9535
Al2O3	0.807	0.1825	0.682	1.1830	0.9429	1.2554	0.9994
SiO2	1.074	0.2062	1.002	1.0717	0.9364	1.1455	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	63.625	9.1836	61.307	1.0378	1.0127	1.0007	1.0241
Cr2O3	0.514	0.0779	0.479	1.0725	1.0080	1.1001	0.9673
MnO	0.541	0.0879	0.526	1.0284	1.0130	1.0155	0.9998
ZnO	0.552	0.0783	0.508	1.0880	1.0509	1.0353	1.0000
K2O	0.081	0.0198	0.095	0.8521	0.9400	0.9485	0.9558
Total	95.855	14.4899	91.455	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 10 Comment : 25/2
 Stage : X= 63.3515 Y= 34.2910 Z= 10.9895
 Dated on Mar 31 08:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	10635.6	0.0	0.0	0.44
2 Mg	107.499	2.002E-08	17.5	0.0	0.0	3.78
3 Ca	107.378	2.002E-08	32.2	0.0	0.0	3.94
4 Al	90.565	2.002E-08	87.5	0.0	0.0	1.69
5 Si	77.293	2.002E-08	272.2	0.0	0.0	0.96
6 Na	129.537	2.002E-08	-4.3	10.4	8.3	100.00 ?
7 Ti	87.741	2.002E-08	105.0	0.0	0.0	1.54
8 Cr	159.466	2.002E-08	47.5	0.0	0.0	2.29
9 Mn	146.425	2.002E-08	52.5	0.0	0.0	2.18
10 Zn	99.946	2.002E-08	62.5	0.0	0.0	2.00
11 K	119.666	2.002E-08	28.1	0.0	0.0	2.98

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.194	22.0215	90.026	0.9908	0.9886	1.0026	0.9996
MgO	0.232	0.1020	0.098	2.3575	0.9274	2.5050	1.0147
CaO	0.127	0.0402	0.130	0.9807	0.9449	1.0345	1.0033
Al2O3	0.603	0.2100	0.419	1.4413	0.9276	1.5542	0.9998
SiO2	1.541	0.4550	1.234	1.2491	0.9212	1.3559	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.467	0.1036	0.483	0.9667	0.9947	1.0205	0.9524
Cr2O3	0.396	0.0925	0.505	0.7842	0.9892	1.0118	0.7836
MnO	0.453	0.1134	0.480	0.9448	0.9936	0.9511	0.9997
ZnO	0.600	0.1308	0.552	1.0873	1.0273	1.0583	1.0000
K2O	0.112	0.0423	0.124	0.9039	0.9242	0.9920	0.9859
Total	93.725	23.3113	94.050	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 11 Comment : 25/3
 Stage : X= 63.0670 Y= 34.3710 Z= 10.9895
 Dated on Mar 31 08:25 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3074.2	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	207.5	0.0	0.0	1.10
3 Ca	107.378	2.002E-08	63.3	0.0	0.0	2.81
4 Al	90.565	2.002E-08	90.0	0.0	0.0	1.67
5 Si	77.293	2.002E-08	260.7	0.0	0.0	0.98
6 Na	129.537	2.002E-08	-4.2	10.4	8.1	100.00 ?
7 Ti	87.741	2.002E-08	12729.4	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	55.0	0.0	0.0	2.13
9 Mn	146.425	2.002E-08	57.5	0.0	0.0	2.09
10 Zn	99.946	2.002E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.002E-08	19.9	0.0	0.0	3.55

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.690	4.5119	26.022	1.0641	1.0098	1.0542	0.9996
MgO	2.139	0.6214	1.166	1.8354	0.9440	1.9160	1.0147
CaO	0.235	0.0490	0.255	0.9207	0.9626	1.0007	0.9558
Al2O3	0.514	0.1181	0.431	1.1947	0.9441	1.2663	0.9994
SiO2	1.274	0.2482	1.182	1.0782	0.9376	1.1510	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.813	8.9106	58.521	1.0392	1.0141	1.0010	1.0237
Cr2O3	0.627	0.0965	0.585	1.0706	1.0093	1.0973	0.9667
MnO	0.540	0.0892	0.526	1.0278	1.0144	1.0134	0.9998
ZnO	0.553	0.0795	0.508	1.0890	1.0524	1.0347	1.0000
K2O	0.075	0.0187	0.088	0.8557	0.9412	0.9498	0.9573
Total	94.460	14.7432	89.283	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 12 Comment : 25/4
 Stage : X= 62.6505 Y= 34.3710 Z= 10.9895
 Dated on Mar 31 08:29 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	1788.3	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	57.5	0.0	0.0	2.09
3 Ca	107.378	2.002E-08	128.4	0.0	0.0	1.97
4 Al	90.565	2.002E-08	315.1	0.0	0.0	0.89
5 Si	77.293	2.002E-08	402.8	0.0	0.0	0.79
6 Na	129.537	2.002E-08	-2.7	10.2	10.1	100.00 ?
7 Ti	87.741	2.002E-08	14799.5	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	32.5	0.0	0.0	2.77
9 Mn	146.425	2.002E-08	42.5	0.0	0.0	2.43
10 Zn	99.946	2.002E-08	55.0	0.0	0.0	2.13
11 K	119.666	2.002E-08	31.0	0.0	0.0	2.84

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	16.317	2.5123	15.137	1.0780	1.0136	1.0639	0.9996
MgO	0.561	0.1539	0.323	1.7365	0.9470	1.8075	1.0145
CaO	0.469	0.0925	0.518	0.9056	0.9657	0.9948	0.9427
Al2O3	1.704	0.3698	1.508	1.1305	0.9470	1.1948	0.9991
SiO2	1.902	0.3502	1.826	1.0418	0.9405	1.1090	0.9988
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	71.337	9.8769	68.038	1.0485	1.0175	0.9982	1.0323
Cr2O3	0.383	0.0558	0.346	1.1078	1.0129	1.1141	0.9816
MnO	0.406	0.0633	0.389	1.0440	1.0181	1.0257	0.9998
ZnO	0.529	0.0719	0.486	1.0890	1.0570	1.0303	1.0000
K2O	0.116	0.0272	0.137	0.8442	0.9443	0.9422	0.9489
Total	93.724	13.5736	88.705	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 13 Comment : 25/5
 Stage : X= 62.8335 Y= 35.1530 Z= 10.9895
 Dated on Mar 31 08:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3386.5	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	25.0	0.0	0.0	3.16
3 Ca	107.378	2.002E-08	67.6	0.0	0.0	2.72
4 Al	90.565	2.002E-08	100.0	0.0	0.0	1.58
5 Si	77.293	2.002E-08	216.1	0.0	0.0	1.08
6 Na	129.537	2.002E-08	-3.8	9.5	8.0	100.00 ?
7 Ti	87.741	2.002E-08	12945.0	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	27.5	0.0	0.0	3.02
9 Mn	146.425	2.002E-08	90.0	0.0	0.0	1.67
10 Zn	99.946	2.002E-08	55.0	0.0	0.0	2.13
11 K	119.666	2.002E-08	19.3	0.0	0.0	3.60

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.413	4.9460	28.665	1.0610	1.0074	1.0536	0.9996
MgO	0.262	0.0760	0.140	1.8670	0.9420	1.9532	1.0147
CaO	0.250	0.0522	0.272	0.9187	0.9604	1.0008	0.9558
Al2O3	0.571	0.1309	0.478	1.1937	0.9421	1.2679	0.9994
SiO2	1.056	0.2053	0.980	1.0775	0.9356	1.1527	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.621	9.0116	59.512	1.0354	1.0118	1.0012	1.0222
Cr2O3	0.312	0.0479	0.293	1.0648	1.0069	1.0970	0.9639
MnO	0.843	0.1389	0.823	1.0251	1.0120	1.0132	0.9998
ZnO	0.528	0.0758	0.486	1.0878	1.0497	1.0363	1.0000
K2O	0.073	0.0181	0.085	0.8540	0.9392	0.9499	0.9572
Total	95.929	14.7027	91.735	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 14 Comment : 25/6
 Stage : X= 62.4185 Y= 35.1920 Z= 10.9895
 Dated on Mar 31 08:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3055.4	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	255.1	0.0	0.0	0.99
3 Ca	107.378	2.002E-08	60.0	0.0	0.0	2.89
4 Al	90.565	2.002E-08	80.0	0.0	0.0	1.77
5 Si	77.293	2.002E-08	218.2	0.0	0.0	1.07
6 Na	129.537	2.002E-08	-3.8	9.8	7.7	100.00 ?
7 Ti	87.741	2.002E-08	12732.0	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	25.0	0.0	0.0	3.16
9 Mn	146.425	2.002E-08	70.0	0.0	0.0	1.89
10 Zn	99.946	2.002E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.002E-08	20.9	0.0	0.0	3.46

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.517	4.4907	25.863	1.0640	1.0100	1.0539	0.9996
MgO	2.624	0.7634	1.433	1.8320	0.9442	1.9121	1.0147
CaO	0.223	0.0466	0.242	0.9207	0.9628	1.0007	0.9557
Al2O3	0.458	0.1054	0.383	1.1975	0.9443	1.2689	0.9994
SiO2	1.068	0.2084	0.989	1.0797	0.9378	1.1524	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.851	8.9301	58.533	1.0396	1.0143	1.0010	1.0240
Cr2O3	0.285	0.0440	0.266	1.0711	1.0095	1.0975	0.9667
MnO	0.658	0.1087	0.640	1.0281	1.0146	1.0136	0.9998
ZnO	0.553	0.0797	0.508	1.0891	1.0527	1.0346	1.0000
K2O	0.079	0.0197	0.093	0.8558	0.9414	0.9497	0.9572
Total	94.316	14.7967	88.948	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 15 Comment : 25/7
 Stage : X= 62.0040 Y= 35.1920 Z= 10.9895
 Dated on Mar 31 08:41 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3471.9	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	22.5	0.0	0.0	3.33
3 Ca	107.378	2.002E-08	42.6	0.0	0.0	3.43
4 Al	90.565	2.002E-08	72.5	0.0	0.0	1.86
5 Si	77.293	2.002E-08	187.6	0.0	0.0	1.15
6 Na	129.537	2.002E-08	-3.7	10.5	6.8	100.00 ?
7 Ti	87.741	2.002E-08	12692.6	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	22.5	0.0	0.0	3.33
9 Mn	146.425	2.002E-08	67.5	0.0	0.0	1.92
10 Zn	99.946	2.002E-08	62.5	0.0	0.0	2.00
11 K	119.666	2.002E-08	20.5	0.0	0.0	3.49

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.144	5.1554	29.388	1.0597	1.0068	1.0530	0.9996
MgO	0.237	0.0700	0.126	1.8782	0.9416	1.9657	1.0148
CaO	0.158	0.0335	0.172	0.9192	0.9600	1.0013	0.9563
Al2O3	0.416	0.0970	0.347	1.1991	0.9416	1.2742	0.9994
SiO2	0.919	0.1818	0.850	1.0802	0.9352	1.1562	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.358	8.9844	58.352	1.0344	1.0113	1.0012	1.0216
Cr2O3	0.254	0.0398	0.239	1.0618	1.0064	1.0961	0.9625
MnO	0.632	0.1059	0.617	1.0239	1.0114	1.0126	0.9997
ZnO	0.600	0.0877	0.552	1.0876	1.0491	1.0367	1.0000
K2O	0.077	0.0196	0.091	0.8545	0.9387	0.9505	0.9577
Total	94.795	14.7751	90.734	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 16 Comment : 25/8
 Stage : X= 61.1310 Y= 35.2175 Z= 10.9950
 Dated on Mar 31 08:45 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	2698.0	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	37.5	0.0	0.0	2.58
3 Ca	107.378	2.002E-08	84.8	0.0	0.0	2.43
4 Al	90.565	2.002E-08	95.0	0.0	0.0	1.62
5 Si	77.293	2.002E-08	230.9	0.0	0.0	1.04
6 Na	129.537	2.002E-08	-3.9	9.8	7.9	100.00 ?
7 Ti	87.741	2.002E-08	12982.6	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	17.5	0.0	0.0	3.78
9 Mn	146.425	2.002E-08	322.6	0.0	0.0	0.88
10 Zn	99.946	2.002E-08	55.0	0.0	0.0	2.13
11 K	119.666	2.002E-08	21.5	0.0	0.0	3.41

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.298	4.0386	22.837	1.0640	1.0081	1.0558	0.9996
MgO	0.387	0.1145	0.211	1.8355	0.9426	1.9191	1.0147
CaO	0.313	0.0666	0.342	0.9146	0.9611	0.9991	0.9525
Al2O3	0.536	0.1255	0.455	1.1789	0.9426	1.2514	0.9994
SiO2	1.117	0.2220	1.047	1.0670	0.9361	1.1410	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.895	9.2512	59.685	1.0370	1.0125	1.0003	1.0239
Cr2O3	0.200	0.0315	0.186	1.0766	1.0077	1.1009	0.9705
MnO	3.034	0.5107	2.949	1.0287	1.0127	1.0160	0.9998
ZnO	0.528	0.0775	0.486	1.0874	1.0507	1.0349	1.0000
K2O	0.081	0.0205	0.095	0.8506	0.9397	0.9477	0.9551
Total	92.389	14.4586	88.292	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 17 Comment : 25/9
 Stage : X= 63.2980 Y= 35.5590 Z= 10.9905
 Dated on Mar 31 08:49 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.002E-08	3477.1	0.0	0.0	0.45
2 Mg	107.499	2.002E-08	25.0	0.0	0.0	3.16
3 Ca	107.378	2.002E-08	49.9	0.0	0.0	3.17
4 Al	90.565	2.002E-08	135.0	0.0	0.0	1.36
5 Si	77.293	2.002E-08	357.0	0.0	0.0	0.84
6 Na	129.537	2.002E-08	-4.8	10.4	9.1	100.00 ?
7 Ti	87.741	2.002E-08	12558.4	0.0	0.0	0.44
8 Cr	159.466	2.002E-08	17.5	0.0	0.0	3.78
9 Mn	146.425	2.002E-08	180.0	0.0	0.0	1.18
10 Zn	99.946	2.002E-08	60.0	0.0	0.0	2.04
11 K	119.666	2.002E-08	39.3	0.0	0.0	2.52

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.170	5.0620	29.432	1.0591	1.0075	1.0516	0.9996
MgO	0.263	0.0761	0.140	1.8727	0.9421	1.9591	1.0146
CaO	0.185	0.0386	0.201	0.9230	0.9606	1.0025	0.9585
Al2O3	0.773	0.1769	0.646	1.1966	0.9422	1.2709	0.9993
SiO2	1.750	0.3397	1.619	1.0810	0.9357	1.1563	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.762	8.7275	57.735	1.0351	1.0119	1.0020	1.0209
Cr2O3	0.197	0.0303	0.186	1.0604	1.0071	1.0939	0.9625
MnO	1.684	0.2769	1.646	1.0230	1.0121	1.0110	0.9998
ZnO	0.576	0.0827	0.530	1.0881	1.0498	1.0365	1.0000
K2O	0.149	0.0369	0.174	0.8571	0.9393	0.9516	0.9589
Total	96.509	14.8476	92.308	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 18 Comment : 25/10
 Stage : X= 62.8955 Y= 35.5145 Z= 10.9905
 Dated on Mar 31 08:53 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.003E-08	3481.2	0.0	0.0	0.45
2 Mg	107.499	2.003E-08	22.5	0.0	0.0	3.33
3 Ca	107.378	2.003E-08	49.2	0.0	0.0	3.19
4 Al	90.565	2.003E-08	75.0	0.0	0.0	1.83
5 Si	77.293	2.003E-08	184.2	0.0	0.0	1.16
6 Na	129.537	2.003E-08	-3.4	9.3	7.5	100.00 ?
7 Ti	87.741	2.003E-08	12537.9	0.0	0.0	0.44
8 Cr	159.466	2.003E-08	25.0	0.0	0.0	3.16
9 Mn	146.425	2.003E-08	120.0	0.0	0.0	1.44
10 Zn	99.946	2.003E-08	57.5	0.0	0.0	2.09
11 K	119.666	2.003E-08	20.9	0.0	0.0	3.46

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.191	5.1945	29.452	1.0590	1.0066	1.0525	0.9996
MgO	0.238	0.0705	0.126	1.8812	0.9414	1.9693	1.0148
CaO	0.182	0.0389	0.198	0.9199	0.9598	1.0015	0.9570
Al2O3	0.431	0.1011	0.359	1.2007	0.9414	1.2761	0.9994
SiO2	0.903	0.1798	0.835	1.0813	0.9350	1.1576	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.554	8.9190	57.612	1.0337	1.0110	1.0014	1.0210
Cr2O3	0.282	0.0444	0.266	1.0602	1.0062	1.0952	0.9621
MnO	1.122	0.1892	1.097	1.0230	1.0112	1.0119	0.9998
ZnO	0.552	0.0811	0.507	1.0875	1.0488	1.0369	1.0000
K2O	0.079	0.0200	0.092	0.8548	0.9385	0.9508	0.9580
Total	94.534	14.8386	90.544	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 19 Comment : 25/11
 Stage : X= 62.6150 Y= 35.7645 Z= 10.9845
 Dated on Mar 31 08:57 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.003E-08	3998.3	0.0	0.0	0.45
2 Mg	107.499	2.003E-08	30.0	0.0	0.0	2.89
3 Ca	107.378	2.003E-08	41.7	0.0	0.0	3.46
4 Al	90.565	2.003E-08	67.5	0.0	0.0	1.92
5 Si	77.293	2.003E-08	196.4	0.0	0.0	1.13
6 Na	129.537	2.003E-08	-4.0	10.0	8.0	100.00 ?
7 Ti	87.741	2.003E-08	12170.5	0.0	0.0	0.44
8 Cr	159.466	2.003E-08	17.5	0.0	0.0	3.78
9 Mn	146.425	2.003E-08	132.5	0.0	0.0	1.37
10 Zn	99.946	2.003E-08	65.0	0.0	0.0	1.96
11 K	119.666	2.003E-08	19.8	0.0	0.0	3.55

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	35.674	5.8871	33.827	1.0546	1.0055	1.0493	0.9996
MgO	0.322	0.0947	0.168	1.9115	0.9405	2.0028	1.0148
CaO	0.155	0.0328	0.168	0.9248	0.9589	1.0036	0.9610
Al2O3	0.393	0.0913	0.323	1.2167	0.9406	1.2942	0.9995
SiO2	0.972	0.1918	0.890	1.0921	0.9341	1.1701	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.658	8.5564	55.923	1.0310	1.0101	1.0025	1.0182
Cr2O3	0.195	0.0304	0.186	1.0482	1.0052	1.0900	0.9567
MnO	1.233	0.2060	1.211	1.0181	1.0101	1.0082	0.9997
ZnO	0.624	0.0909	0.574	1.0875	1.0475	1.0382	1.0000
K2O	0.075	0.0189	0.088	0.8586	0.9376	0.9534	0.9605
Total	97.301	15.2004	93.357	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_24_9
 Unknown Specimen
 Group : silicates Sample : NAT92_24_9
 UNK No. : 20 Comment : 25/12
 Stage : X= 62.1570 Y= 35.7385 Z= 10.9845
 Dated on Mar 31 09:01 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.850	2.004E-08	3284.9	0.0	0.0	0.45
2 Mg	107.499	2.004E-08	110.0	0.0	0.0	1.51
3 Ca	107.378	2.004E-08	62.9	0.0	0.0	2.82
4 Al	90.565	2.004E-08	100.0	0.0	0.0	1.58
5 Si	77.293	2.004E-08	217.1	0.0	0.0	1.07
6 Na	129.537	2.004E-08	-1.1	9.9	7.4	100.00 ?
7 Ti	87.741	2.004E-08	12994.1	0.0	0.0	0.44
8 Cr	159.466	2.004E-08	45.0	0.0	0.0	2.36
9 Mn	146.425	2.004E-08	70.0	0.0	0.0	1.89
10 Zn	99.946	2.004E-08	60.0	0.0	0.0	2.04
11 K	119.666	2.004E-08	36.8	0.0	0.0	2.61

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.511	4.7561	27.778	1.0624	1.0084	1.0540	0.9996
MgO	1.144	0.3286	0.617	1.8534	0.9429	1.9372	1.0147
CaO	0.233	0.0481	0.253	0.9199	0.9613	1.0010	0.9560
Al2O3	0.571	0.1297	0.478	1.1947	0.9429	1.2677	0.9994
SiO2	1.060	0.2043	0.983	1.0782	0.9364	1.1525	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.897	8.9706	59.678	1.0372	1.0127	1.0012	1.0229
Cr2O3	0.511	0.0778	0.478	1.0674	1.0079	1.0972	0.9652
MnO	0.656	0.1071	0.639	1.0263	1.0130	1.0134	0.9998
ZnO	0.576	0.0820	0.529	1.0883	1.0508	1.0356	1.0000
K2O	0.139	0.0341	0.162	0.8547	0.9400	0.9498	0.9573
Total	96.298	14.7384	91.597	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 1 Comment : 25/13
 Stage : X= 62.1005 Y= 78.5445 Z= 10.5465
 Dated on Apr 5 11:21 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.969E-08	4852.6	35.8	34.2	0.45
2 Mg	107.494	1.969E-08	1.7	10.3	6.3	39.79 ?
3 Ca	107.418	1.969E-08	5.8	29.4	24.0	21.37
4 Al	90.574	1.969E-08	-0.7	19.8	16.6	100.00 ?
5 Si	77.315	1.969E-08	18.5	58.1	40.0	11.06
6 Na	129.537	1.969E-08	-2.8	2.9	2.6	100.00 ?
7 Ti	87.776	1.969E-08	11760.7	57.1	47.6	0.45
8 Cr	159.526	1.969E-08	-4.5	22.3	16.7	100.00 ?
9 Mn	146.434	1.969E-08	168.8	32.4	25.2	1.42
10 Zn	100.011	1.969E-08	-4.4	81.4	62.5	100.00 ?
11 K	119.716	1.969E-08	-98.2	20.8	205.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	37.138	6.3490	35.280	1.0527	1.0038	1.0487	1.0000
MgO	0.031	0.0095	0.016	1.9267	0.9391	2.0215	1.0149
CaO	0.022	0.0048	0.024	0.9216	0.9574	1.0027	0.9601
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.117	0.0239	0.107	1.0928	0.9327	1.1726	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.399	8.6703	54.921	1.0269	1.0084	1.0017	1.0166
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.434	0.2483	1.411	1.0163	1.0085	1.0078	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	95.141	15.3058	91.759	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 2 Comment : 25/14
 Stage : X= 62.0900 Y= 78.8470 Z= 10.5395
 Dated on Apr 5 11:27 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.969E-08	4282.2	37.5	33.3	0.45
2 Mg	107.494	1.969E-08	52.9	8.7	5.5	2.45
3 Ca	107.418	1.969E-08	14.6	29.1	21.6	8.89
4 Al	90.574	1.969E-08	29.0	21.7	15.3	4.43
5 Si	77.315	1.969E-08	21.7	57.0	39.6	9.40
6 Na	129.537	1.969E-08	-3.3	3.7	3.0	100.00 ?
7 Ti	87.776	1.969E-08	12114.3	54.7	45.3	0.45
8 Cr	159.526	1.969E-08	10.8	21.0	17.5	10.32
9 Mn	146.434	1.969E-08	65.6	29.5	24.3	2.66
10 Zn	100.011	1.969E-08	-6.3	76.3	71.2	100.00 ?
11 K	119.716	1.969E-08	-75.7	20.2	161.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.943	5.5979	31.133	1.0581	1.0062	1.0516	1.0000
MgO	0.945	0.2863	0.501	1.8850	0.9411	1.9738	1.0148
CaO	0.055	0.0120	0.060	0.9190	0.9594	1.0011	0.9568
Al2O3	0.235	0.0564	0.195	1.2091	0.9411	1.2853	0.9996
SiO2	0.137	0.0278	0.126	1.0858	0.9347	1.1627	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.374	8.9200	56.572	1.0318	1.0107	1.0008	1.0201
Cr2O3	0.114	0.0182	0.108	1.0558	1.0058	1.0941	0.9594
MnO	0.561	0.0965	0.548	1.0221	1.0108	1.0111	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.364	15.0150	89.243	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 3 Comment : 25/15
 Stage : X= 62.3850 Y= 78.8470 Z= 10.5380
 Dated on Apr 5 11:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.968E-08	3285.0	36.4	33.1	0.45
2 Mg	107.494	1.968E-08	13.1	8.4	5.3	6.23
3 Ca	107.418	1.968E-08	56.6	27.5	24.3	2.93
4 Al	90.574	1.968E-08	26.6	21.2	15.7	4.74
5 Si	77.315	1.968E-08	98.5	55.6	37.6	2.46
6 Na	129.537	1.968E-08	-3.0	3.2	2.8	100.00 ?
7 Ti	87.776	1.968E-08	12595.7	56.7	41.4	0.45
8 Cr	159.526	1.968E-08	1.1	20.2	17.6	89.65 ?
9 Mn	146.434	1.968E-08	249.8	28.6	22.0	1.10
10 Zn	100.011	1.968E-08	-3.2	68.8	62.7	100.00 ?
11 K	119.716	1.968E-08	-73.1	21.1	155.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.420	4.3651	23.895	1.0638	1.0074	1.0560	1.0000
MgO	0.230	0.0703	0.125	1.8406	0.9420	1.9255	1.0148
CaO	0.211	0.0464	0.231	0.9114	0.9604	0.9980	0.9508
Al2O3	0.210	0.0509	0.178	1.1801	0.9420	1.2534	0.9995
SiO2	0.609	0.1251	0.572	1.0655	0.9356	1.1401	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.922	9.4075	58.850	1.0352	1.0118	0.9995	1.0237
Cr2O3	0.012	0.0019	0.011	1.0745	1.0070	1.1016	0.9686
MnO	2.150	0.3739	2.089	1.0288	1.0120	1.0166	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.764	14.4410	85.951	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 4 Comment : 25/16
 Stage : X= 62.7305 Y= 79.4495 Z= 10.5210
 Dated on Apr 5 11:39 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.968E-08	4035.4	36.1	34.8	0.45
2 Mg	107.494	1.968E-08	-1.5	7.5	5.5	100.00 ?
3 Ca	107.418	1.968E-08	19.3	28.5	22.9	6.99
4 Al	90.574	1.968E-08	10.7	24.6	14.1	10.43
5 Si	77.315	1.968E-08	12.2	57.0	38.6	16.08
6 Na	129.537	1.968E-08	-3.7	4.0	3.3	100.00 ?
7 Ti	87.776	1.968E-08	12166.0	56.6	43.9	0.45
8 Cr	159.526	1.968E-08	-1.4	20.5	17.4	100.00 ?
9 Mn	146.434	1.968E-08	180.8	30.8	22.8	1.35
10 Zn	100.011	1.968E-08	2.6	67.1	67.6	94.74 ?
11 K	119.716	1.968E-08	-86.6	21.7	181.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.061	5.3838	29.353	1.0582	1.0052	1.0527	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.072	0.0160	0.079	0.9155	0.9586	1.0002	0.9549
Al2O3	0.086	0.0210	0.072	1.2016	0.9403	1.2785	0.9996
SiO2	0.077	0.0159	0.071	1.0794	0.9338	1.1570	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.582	9.1310	56.843	1.0306	1.0097	1.0004	1.0203
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.546	0.2714	1.512	1.0226	1.0099	1.0126	1.0000
ZnO	0.023	0.0036	0.021	1.0870	1.0473	1.0379	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.447	14.8426	87.951	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 14 Comment : 26/1
 Stage : X= 69.8285 Y= 83.1915 Z= 10.5140
 Dated on Apr 5 12:38 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.992E-08	4279.5	40.1	35.0	0.45
2 Mg	107.494	1.992E-08	-1.6	8.5	4.7	100.00 ?
3 Ca	107.418	1.992E-08	7.2	29.7	26.0	17.90
4 Al	90.574	1.992E-08	5.9	23.2	15.0	17.80
5 Si	77.315	1.992E-08	14.2	54.2	37.4	13.48
6 Na	129.537	1.992E-08	-2.8	3.0	2.6	100.00 ?
7 Ti	87.776	1.992E-08	11937.0	58.0	45.3	0.45
8 Cr	159.526	1.992E-08	0.2	20.9	18.8	665.41 ?
9 Mn	146.434	1.992E-08	365.1	32.0	23.2	0.89
10 Zn	100.011	1.992E-08	-1.5	73.6	69.3	100.00 ?
11 K	119.716	1.992E-08	-90.1	20.1	190.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.436	5.6521	30.754	1.0547	1.0041	1.0504	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.027	0.0059	0.029	0.9183	0.9576	1.0014	0.9576
Al2O3	0.047	0.0116	0.039	1.2107	0.9394	1.2894	0.9996
SiO2	0.088	0.0184	0.082	1.0854	0.9329	1.1644	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.622	8.8725	55.101	1.0276	1.0087	1.0010	1.0178
Cr2O3	0.002	0.0003	0.001	1.0516	1.0038	1.0923	0.9591
MnO	3.073	0.5424	3.017	1.0187	1.0088	1.0098	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.295	15.1032	89.023	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 15 Comment : 26/2
 Stage : X= 69.8215 Y= 83.8660 Z= 10.5105
 Dated on Apr 5 12:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.995E-08	12150.7	50.7	44.1	0.45
2 Mg	107.494	1.995E-08	-4.2	8.1	5.2	100.00 ?
3 Ca	107.418	1.995E-08	0.7	34.4	29.1	185.13 ?
4 Al	90.574	1.995E-08	5.6	24.6	14.2	18.81
5 Si	77.315	1.995E-08	7.0	62.2	43.9	30.11
6 Na	129.537	1.995E-08	-3.0	3.2	2.7	100.00 ?
7 Ti	87.776	1.995E-08	14.5	55.1	45.9	14.11
8 Cr	159.526	1.995E-08	-3.6	26.4	25.8	100.00 ?
9 Mn	146.434	1.995E-08	7.4	36.8	33.5	20.60
10 Zn	100.011	1.995E-08	-3.2	87.8	78.6	100.00 ?
11 K	119.716	1.995E-08	-244.9	25.0	504.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.077	23.8861	87.187	0.9873	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.003	0.0010	0.003	0.9765	0.9424	1.0337	1.0024
Al2O3	0.054	0.0211	0.037	1.4533	0.9253	1.5707	1.0000
SiO2	0.050	0.0166	0.040	1.2533	0.9189	1.3638	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.064	0.0160	0.067	0.9587	0.9921	1.0197	0.9477
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.057	0.0161	0.061	0.9416	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.305	23.9569	87.395	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 16 Comment : 26/3
 Stage : X= 68.7350 Y= 83.6865 Z= 10.5130
 Dated on Apr 5 12:50 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.997E-08	3584.9	35.5	33.5	0.45
2 Mg	107.494	1.997E-08	5.9	8.7	4.6	11.83
3 Ca	107.418	1.997E-08	27.5	29.3	25.7	5.31
4 Al	90.574	1.997E-08	39.6	19.8	16.1	3.47
5 Si	77.315	1.997E-08	28.1	55.1	38.7	7.24
6 Na	129.537	1.997E-08	-3.1	3.2	2.9	100.00 ?
7 Ti	87.776	1.997E-08	13181.6	55.3	45.5	0.45
8 Cr	159.526	1.997E-08	-1.4	20.3	17.5	100.00 ?
9 Mn	146.434	1.997E-08	89.4	28.2	23.1	2.11
10 Zn	100.011	1.997E-08	-1.8	76.6	62.1	100.00 ?
11 K	119.716	1.997E-08	-76.2	21.1	166.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.343	4.6065	25.698	1.0640	1.0072	1.0565	1.0000
MgO	0.101	0.0303	0.055	1.8469	0.9418	1.9324	1.0148
CaO	0.101	0.0217	0.111	0.9102	0.9602	0.9979	0.9500
Al2O3	0.309	0.0735	0.262	1.1821	0.9418	1.2557	0.9995
SiO2	0.172	0.0346	0.161	1.0675	0.9354	1.1424	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.816	9.5163	60.694	1.0350	1.0115	0.9991	1.0241
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.758	0.1294	0.737	1.0292	1.0118	1.0172	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 91.600 14.4123 87.716 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 17 Comment : 26/4
 Stage : X= 69.3655 Y= 83.9940 Z= 10.5095
 Dated on Apr 5 12:55 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.998E-08	3566.0	38.9	32.8	0.45
2 Mg	107.494	1.998E-08	5.2	8.2	6.3	13.38
3 Ca	107.418	1.998E-08	30.3	30.1	24.2	4.88
4 Al	90.574	1.998E-08	44.2	21.2	15.4	3.22
5 Si	77.315	1.998E-08	29.7	53.8	41.9	6.96
6 Na	129.537	1.998E-08	-3.4	3.3	3.5	100.00 ?
7 Ti	87.776	1.998E-08	13232.6	54.0	46.8	0.45
8 Cr	159.526	1.998E-08	2.6	20.9	18.9	39.58 ?
9 Mn	146.434	1.998E-08	186.0	27.9	25.3	1.32
10 Zn	100.011	1.998E-08	-4.0	72.4	65.5	100.00 ?
11 K	119.716	1.998E-08	-68.9	20.1	152.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.170	4.5423	25.550	1.0634	1.0069	1.0561	1.0000
MgO	0.091	0.0270	0.049	1.8478	0.9416	1.9338	1.0148
CaO	0.111	0.0238	0.122	0.9105	0.9600	0.9980	0.9504
Al2O3	0.346	0.0814	0.292	1.1824	0.9416	1.2563	0.9995
SiO2	0.181	0.0362	0.170	1.0679	0.9352	1.1431	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.989	9.4695	60.898	1.0343	1.0113	0.9992	1.0236
Cr2O3	0.028	0.0043	0.026	1.0729	1.0065	1.1018	0.9675
MnO	1.576	0.2668	1.532	1.0285	1.0116	1.0167	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 92.492 14.4514 88.638 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 18 Comment : 26/5
 Stage : X= 70.7675 Y= 83.9940 Z= 10.5095
 Dated on Apr 5 13:01 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.998E-08	4174.6	38.7	32.3	0.45
2 Mg	107.494	1.998E-08	0.5	8.1	5.8	109.28 ?
3 Ca	107.418	1.998E-08	13.6	29.7	23.1	9.66
4 Al	90.574	1.998E-08	5.5	23.4	15.7	19.36
5 Si	77.315	1.998E-08	11.5	55.1	41.8	17.14
6 Na	129.537	1.998E-08	-3.3	3.6	3.1	100.00 ?
7 Ti	87.776	1.998E-08	12559.2	56.0	44.5	0.45
8 Cr	159.526	1.998E-08	0.1	21.3	18.5	998.75 ?
9 Mn	146.434	1.998E-08	245.5	28.4	25.6	1.12
10 Zn	100.011	1.998E-08	-4.9	76.7	73.1	100.00 ?
11 K	119.716	1.998E-08	-98.0	21.3	209.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.633	5.3793	29.910	1.0576	1.0050	1.0524	1.0000
MgO	0.010	0.0029	0.005	1.8893	0.9400	1.9804	1.0149
CaO	0.050	0.0109	0.055	0.9156	0.9584	1.0002	0.9551
Al2O3	0.043	0.0104	0.036	1.2026	0.9401	1.2798	0.9996
SiO2	0.071	0.0145	0.066	1.0798	0.9336	1.1576	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.528	9.1030	57.798	1.0299	1.0095	1.0003	1.0199
Cr2O3	0.001	0.0002	0.001	1.0581	1.0047	1.0956	0.9613
MnO	2.067	0.3561	2.023	1.0220	1.0096	1.0122	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.403	14.8773	89.894	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 19 Comment : 26/6
 Stage : X= 70.6870 Y= 84.3385 Z= 10.5040
 Dated on Apr 5 13:07 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.998E-08	3426.3	37.7	34.0	0.45
2 Mg	107.494	1.998E-08	20.9	7.6	5.6	4.42
3 Ca	107.418	1.998E-08	21.7	29.3	22.3	6.34
4 Al	90.574	1.998E-08	220.7	24.8	14.0	1.15
5 Si	77.315	1.998E-08	699.6	53.4	38.6	0.65
6 Na	129.537	1.998E-08	-3.0	3.3	2.8	100.00 ?
7 Ti	87.776	1.998E-08	11852.9	58.3	43.6	0.45
8 Cr	159.526	1.998E-08	-3.3	20.0	16.6	100.00 ?
9 Mn	146.434	1.998E-08	392.1	28.7	22.4	0.85
10 Zn	100.011	1.998E-08	8.1	66.7	62.1	30.13
11 K	119.716	1.998E-08	38.0	20.5	153.6	10.25

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.081	4.2806	24.548	1.0624	1.0111	1.0508	0.9999
MgO	0.355	0.1040	0.195	1.8203	0.9452	1.8988	1.0143
CaO	0.081	0.0170	0.087	0.9278	0.9637	1.0031	0.9597
Al2O3	1.709	0.3953	1.459	1.1711	0.9452	1.2405	0.9988
SiO2	4.285	0.8409	4.002	1.0707	0.9387	1.1417	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.726	8.3724	54.548	1.0399	1.0153	1.0020	1.0221
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	3.315	0.5511	3.230	1.0261	1.0157	1.0103	1.0000
ZnO	0.070	0.0102	0.064	1.0903	1.0539	1.0345	1.0000
K2O	0.141	0.0353	0.164	0.8614	0.9424	0.9525	0.9598
Total	92.763	14.6067	88.299	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 20 Comment : 26/7
 Stage : X= 70.0930 Y= 84.3255 Z= 10.5070
 Dated on Apr 5 13:13 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.998E-08	5316.9	39.3	35.3	0.45
2 Mg	107.494	1.998E-08	1.0	7.4	5.6	59.16 ?
3 Ca	107.418	1.998E-08	-1.7	32.5	25.8	100.00 ?
4 Al	90.574	1.998E-08	-3.8	22.5	15.0	100.00 ?
5 Si	77.315	1.998E-08	-4.0	59.1	44.0	100.00 ?
6 Na	129.537	1.998E-08	-2.8	3.4	2.3	100.00 ?
7 Ti	87.776	1.998E-08	11509.3	59.5	47.5	0.45
8 Cr	159.526	1.998E-08	-4.3	25.3	18.3	100.00 ?
9 Mn	146.434	1.998E-08	318.5	30.8	27.6	0.97
10 Zn	100.011	1.998E-08	4.4	75.6	65.6	59.54 ?
11 K	119.716	1.998E-08	-107.3	21.8	227.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	39.941	6.8376	38.094	1.0485	1.0024	1.0460	1.0000
MgO	0.018	0.0056	0.009	1.9522	0.9380	2.0507	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	54.211	8.3454	52.967	1.0235	1.0072	1.0026	1.0135
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.654	0.4602	2.624	1.0116	1.0071	1.0044	1.0000
ZnO	0.038	0.0058	0.035	1.0867	1.0440	1.0409	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.862	15.6546	93.730	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 21 Comment : 26/8
 Stage : X= 70.4820 Y= 84.9925 Z= 10.5025
 Dated on Apr 5 13:19 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.998E-08	5428.6	41.7	36.2	0.45
2 Mg	107.494	1.998E-08	13.6	8.0	4.9	6.00
3 Ca	107.418	1.998E-08	1.8	30.2	26.2	69.31 ?
4 Al	90.574	1.998E-08	1.5	21.3	15.8	67.70 ?
5 Si	77.315	1.998E-08	0.5	59.3	39.8	405.13 ?
6 Na	129.537	1.998E-08	-3.1	3.8	2.4	100.00 ?
7 Ti	87.776	1.998E-08	11673.1	56.9	45.2	0.45
8 Cr	159.526	1.998E-08	1.4	23.4	18.8	74.55 ?
9 Mn	146.434	1.998E-08	40.9	32.2	26.0	3.95
10 Zn	100.011	1.998E-08	3.5	82.7	65.2	77.90 ?
11 K	119.716	1.998E-08	-105.8	23.3	223.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	40.856	6.9619	38.894	1.0504	1.0034	1.0469	1.0000
MgO	0.246	0.0748	0.127	1.9461	0.9388	2.0426	1.0149
CaO	0.007	0.0015	0.007	0.9250	0.9570	1.0041	0.9626
Al2O3	0.012	0.0028	0.010	1.2335	0.9389	1.3143	0.9997
SiO2	0.003	0.0006	0.003	1.1010	0.9324	1.1817	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	55.110	8.4447	53.721	1.0259	1.0081	1.0025	1.0151
Cr2O3	0.014	0.0023	0.014	1.0347	1.0031	1.0865	0.9494
MnO	0.342	0.0590	0.337	1.0137	1.0081	1.0056	1.0000
ZnO	0.030	0.0046	0.028	1.0874	1.0450	1.0405	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.620	15.5521	93.140	Total O = 24.0		Iteration = 4	

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 22 Comment : 26/9
 Stage : X= 69.5935 Y= 85.1560 Z= 10.5025
 Dated on Apr 5 13:25 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.997E-08	4015.4	36.2	32.9	0.45
2 Mg	107.494	1.997E-08	-1.9	8.1	5.6	100.00 ?
3 Ca	107.418	1.997E-08	19.0	29.1	23.0	7.14
4 Al	90.574	1.997E-08	39.3	20.7	15.8	3.51
5 Si	77.315	1.997E-08	23.4	51.1	37.2	8.21
6 Na	129.537	1.997E-08	-3.4	3.6	3.3	100.00 ?
7 Ti	87.776	1.997E-08	12434.0	53.8	46.4	0.45
8 Cr	159.526	1.997E-08	0.6	19.9	19.0	180.56 ?
9 Mn	146.434	1.997E-08	84.4	30.2	26.0	2.25
10 Zn	100.011	1.997E-08	-2.7	71.3	64.2	100.00 ?
11 K	119.716	1.997E-08	-84.6	21.6	182.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.506	5.2821	28.784	1.0598	1.0060	1.0535	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.070	0.0155	0.076	0.9148	0.9592	0.9998	0.9540
Al2O3	0.311	0.0758	0.260	1.1966	0.9409	1.2723	0.9996
SiO2	0.144	0.0298	0.134	1.0775	0.9344	1.1543	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.095	9.2013	57.251	1.0322	1.0104	1.0001	1.0214
Cr2O3	0.006	0.0009	0.005	1.0618	1.0056	1.0976	0.9621
MnO	0.713	0.1250	0.696	1.0244	1.0106	1.0136	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.845	14.7305	87.206	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 23 Comment : 26/10
 Stage : X= 69.1370 Y= 84.9980 Z= 10.5025
 Dated on Apr 5 13:31 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.997E-08	4242.6	39.9	31.9	0.45
2 Mg	107.494	1.997E-08	26.0	7.8	5.3	3.81
3 Ca	107.418	1.997E-08	9.0	32.3	24.7	14.80
4 Al	90.574	1.997E-08	26.7	22.1	14.5	4.71
5 Si	77.315	1.997E-08	13.5	55.3	37.7	14.28
6 Na	129.537	1.997E-08	-3.2	3.7	2.8	100.00 ?
7 Ti	87.776	1.997E-08	12506.7	57.8	43.8	0.45
8 Cr	159.526	1.997E-08	3.2	20.8	17.8	31.94
9 Mn	146.434	1.997E-08	49.0	27.9	24.1	3.27
10 Zn	100.011	1.997E-08	-6.1	72.8	69.3	100.00 ?
11 K	119.716	1.997E-08	-83.7	20.2	182.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.206	5.4799	30.412	1.0590	1.0060	1.0527	1.0000
MgO	0.457	0.1385	0.243	1.8825	0.9409	1.9715	1.0148
CaO	0.033	0.0072	0.036	0.9166	0.9593	1.0004	0.9552
Al2O3	0.213	0.0510	0.177	1.2034	0.9409	1.2794	0.9996
SiO2	0.084	0.0170	0.077	1.0816	0.9345	1.1585	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.424	9.0923	57.586	1.0319	1.0105	1.0004	1.0208
Cr2O3	0.033	0.0054	0.032	1.0587	1.0056	1.0961	0.9605
MnO	0.413	0.0712	0.404	1.0233	1.0106	1.0126	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.863	14.8625	88.966	Total O = 24.0	Iteration = 4		

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 24 Comment : 26/11
 Stage : X= 68.8470 Y= 84.9580 Z= 10.5025
 Dated on Apr 5 13:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.996E-08	4393.7	38.5	35.5	0.45
2 Mg	107.494	1.996E-08	1.0	8.0	5.1	62.39 ?
3 Ca	107.418	1.996E-08	14.8	32.4	23.0	9.24
4 Al	90.574	1.996E-08	12.3	22.4	13.1	8.92
5 Si	77.315	1.996E-08	21.4	53.7	38.4	9.17
6 Na	129.537	1.996E-08	-3.2	3.4	2.9	100.00 ?
7 Ti	87.776	1.996E-08	12532.9	62.4	47.5	0.45
8 Cr	159.526	1.996E-08	-2.6	22.1	18.0	100.00 ?
9 Mn	146.434	1.996E-08	102.4	29.2	26.0	1.96
10 Zn	100.011	1.996E-08	1.1	73.9	63.8	226.16 ?
11 K	119.716	1.996E-08	-83.9	21.9	181.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.323	5.6388	31.511	1.0575	1.0052	1.0521	1.0000
MgO	0.017	0.0051	0.009	1.8945	0.9402	1.9855	1.0149
CaO	0.055	0.0119	0.060	0.9168	0.9585	1.0007	0.9559
Al2O3	0.098	0.0233	0.081	1.2054	0.9403	1.2825	0.9996
SiO2	0.133	0.0269	0.123	1.0821	0.9338	1.1599	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.494	9.0531	57.735	1.0305	1.0097	1.0006	1.0199
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.863	0.1479	0.844	1.0218	1.0098	1.0119	1.0000
ZnO	0.010	0.0015	0.009	1.0873	1.0472	1.0382	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.993	14.9084	90.372	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 25 Comment : 26/12
 Stage : X= 68.1460 Y= 85.2640 Z= 10.5025
 Dated on Apr 5 13:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.996E-08	3946.0	36.5	35.4	0.45
2 Mg	107.494	1.996E-08	10.4	8.7	5.4	7.50
3 Ca	107.418	1.996E-08	23.3	29.5	24.0	6.06
4 Al	90.574	1.996E-08	27.7	23.0	16.6	4.68
5 Si	77.315	1.996E-08	29.0	56.1	36.0	6.98
6 Na	129.537	1.996E-08	-3.5	3.7	3.3	100.00 ?
7 Ti	87.776	1.996E-08	12513.6	60.7	40.9	0.45
8 Cr	159.526	1.996E-08	-0.6	22.6	18.6	100.00 ?
9 Mn	146.434	1.996E-08	180.3	30.5	24.0	1.35
10 Zn	100.011	1.996E-08	-0.3	70.1	65.6	100.00 ?
11 K	119.716	1.996E-08	-76.4	22.1	165.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.989	5.1464	28.300	1.0597	1.0060	1.0534	1.0000
MgO	0.183	0.0560	0.098	1.8744	0.9408	1.9632	1.0148
CaO	0.086	0.0188	0.094	0.9148	0.9592	0.9997	0.9540
Al2O3	0.219	0.0531	0.183	1.1967	0.9409	1.2725	0.9996
SiO2	0.179	0.0367	0.166	1.0770	0.9344	1.1537	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.490	9.1805	57.647	1.0320	1.0104	1.0001	1.0212
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.523	0.2647	1.487	1.0242	1.0106	1.0135	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.669	14.7562	87.974	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 46 Comment : 27/1
 Stage : X= 62.4290 Y= 34.2515 Z= 10.7315
 Dated on Mar 31 21:12 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.972E-08	4148.6	33.6	31.8	0.45
2 Mg	107.512	1.972E-08	8.2	19.9	13.8	12.55
3 Ca	107.422	1.972E-08	11.0	29.7	23.4	11.78
4 Al	90.572	1.972E-08	11.6	51.5	35.3	15.69
5 Si	77.290	1.972E-08	17.3	215.8	104.6	33.30
6 Na	129.537	1.972E-08	-4.0	9.6	8.4	100.00 ?
7 Ti	87.773	1.972E-08	11789.6	55.7	43.7	0.45
8 Cr	159.496	1.972E-08	3.6	20.9	17.0	28.67
9 Mn	146.382	1.972E-08	73.9	28.7	23.6	2.42
10 Zn	99.907	1.972E-08	1.7	68.9	57.7	141.52 ?
11 K	119.666	1.972E-08	-78.5	21.2	170.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	36.399	6.1915	34.520	1.0544	1.0044	1.0499	1.0000
MgO	0.089	0.0271	0.047	1.9169	0.9396	2.0103	1.0149
CaO	0.043	0.0094	0.047	0.9204	0.9579	1.0022	0.9589
Al2O3	0.069	0.0165	0.057	1.2174	0.9397	1.2960	0.9996
SiO2	0.088	0.0179	0.081	1.0902	0.9332	1.1693	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.460	8.7891	55.870	1.0285	1.0090	1.0014	1.0178
Cr2O3	0.040	0.0064	0.038	1.0467	1.0041	1.0913	0.9553
MnO	0.704	0.1212	0.691	1.0182	1.0090	1.0091	1.0000
ZnO	0.017	0.0025	0.015	1.0873	1.0462	1.0392	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.909	15.1816	91.365	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 47 Comment : 27/2
 Stage : X= 61.4800 Y= 34.4325 Z= 10.7315
 Dated on Mar 31 21:17 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.971E-08	3849.5	34.0	31.1	0.45
2 Mg	107.512	1.971E-08	1.1	21.2	16.5	85.70 ?
3 Ca	107.422	1.971E-08	15.9	27.3	25.8	8.36
4 Al	90.572	1.971E-08	28.1	49.5	34.4	6.73
5 Si	77.290	1.971E-08	37.5	205.4	114.7	15.24
6 Na	129.537	1.971E-08	-3.5	9.4	7.7	100.00 ?
7 Ti	87.773	1.971E-08	12121.8	52.1	45.8	0.45
8 Cr	159.496	1.971E-08	-3.8	20.0	17.6	100.00 ?
9 Mn	146.382	1.971E-08	129.7	27.7	23.0	1.64
10 Zn	99.907	1.971E-08	-0.8	68.5	58.1	100.00 ?
11 K	119.666	1.971E-08	-69.8	22.8	151.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.864	5.7042	32.048	1.0567	1.0050	1.0514	1.0000
MgO	0.012	0.0037	0.007	1.8982	0.9401	1.9896	1.0148
CaO	0.063	0.0135	0.068	0.9179	0.9584	1.0011	0.9567
Al2O3	0.165	0.0392	0.137	1.2072	0.9401	1.2846	0.9996
SiO2	0.189	0.0381	0.175	1.0838	0.9337	1.1618	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.193	8.9661	57.473	1.0299	1.0096	1.0009	1.0193
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.239	0.2114	1.214	1.0208	1.0097	1.0111	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.725	14.9762	91.121	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 48 Comment : 27/3
 Stage : X= 63.3390 Y= 35.1545 Z= 10.7355
 Dated on Mar 31 21:22 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.970E-08	5380.6	37.6	38.1	0.45
2 Mg	107.512	1.970E-08	4.6	20.8	15.0	21.84
3 Ca	107.422	1.970E-08	-4.2	33.0	25.5	100.00 ?
4 Al	90.572	1.970E-08	-2.7	54.0	36.4	100.00 ?
5 Si	77.290	1.970E-08	1.8	211.9	119.6	326.92 ?
6 Na	129.537	1.970E-08	-4.5	9.9	9.2	100.00 ?
7 Ti	87.773	1.970E-08	10697.4	54.9	46.0	0.45
8 Cr	159.496	1.970E-08	0.2	21.7	17.8	399.55 ?
9 Mn	146.382	1.970E-08	166.3	31.7	25.7	1.44
10 Zn	99.907	1.970E-08	9.5	71.3	64.8	27.08
11 K	119.666	1.970E-08	-96.3	21.0	206.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.780	7.9220	44.817	1.0438	1.0013	1.0425	0.9999
MgO	0.052	0.0158	0.026	1.9895	0.9372	2.0917	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.009	0.0019	0.008	1.1148	0.9308	1.1985	0.9993
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	51.795	7.8875	50.745	1.0207	1.0062	1.0041	1.0103
Cr2O3	0.003	0.0004	0.003	1.0172	1.0012	1.0791	0.9416
MnO	1.568	0.2689	1.558	1.0062	1.0061	1.0002	1.0000
ZnO	0.093	0.0140	0.086	1.0869	1.0427	1.0424	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.300	16.1104	97.243	Total O = 24.0	Iteration = 3		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 49 Comment : 27/4
 Stage : X= 62.6455 Y= 35.4145 Z= 10.7355
 Dated on Mar 31 21:28 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.968E-08	2297.2	23.9	22.8	0.45
2 Mg	107.512	1.968E-08	1088.7	25.8	14.4	0.49
3 Ca	107.422	1.968E-08	2627.8	23.1	17.8	0.45
4 Al	90.572	1.968E-08	2102.6	77.0	32.3	0.47
5 Si	77.290	1.968E-08	8835.8	181.1	104.2	0.46
6 Na	129.537	1.968E-08	76.6	9.3	7.6	2.00
7 Ti	87.773	1.968E-08	91.3	38.4	29.0	2.27
8 Cr	159.496	1.968E-08	-3.0	16.2	14.8	100.00 ?
9 Mn	146.382	1.968E-08	35.1	21.3	18.5	3.90
10 Zn	99.907	1.968E-08	-2.7	49.9	45.4	100.00 ?
11 K	119.666	1.968E-08	196.4	16.8	90.6	1.66

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	20.625	2.7107	19.154	1.0768	1.0627	1.0132	1.0000
MgO	8.924	2.0905	6.234	1.4314	0.9894	1.4335	1.0093
CaO	12.115	2.0400	11.269	1.0751	1.0100	1.0399	1.0236
Al2O3	10.764	1.9939	10.253	1.0498	0.9894	1.0708	0.9909
SiO2	43.775	6.8792	41.235	1.0616	0.9826	1.0809	0.9995
Na2O	1.050	0.3199	0.950	1.1051	1.0743	1.0323	0.9965
TiO2	0.499	0.0590	0.434	1.1515	1.0649	1.0529	1.0270
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.339	0.0451	0.329	1.0292	1.0669	0.9647	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.863	0.1730	0.893	0.9656	0.9873	0.9953	0.9826
Total	98.954	16.3113	90.751	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 50 Comment : 27/5
 Stage : X= 62.0765 Y= 35.9295 Z= 10.7330
 Dated on Mar 31 21:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.966E-08	3124.1	33.7	26.7	0.45
2 Mg	107.512	1.966E-08	23.3	19.8	13.6	5.11
3 Ca	107.422	1.966E-08	31.2	28.6	24.1	4.70
4 Al	90.572	1.966E-08	55.3	52.6	36.8	3.86
5 Si	77.290	1.966E-08	37.7	208.8	111.0	15.22
6 Na	129.537	1.966E-08	-3.8	9.5	8.1	100.00 ?
7 Ti	87.773	1.966E-08	12919.1	54.0	44.0	0.45
8 Cr	159.496	1.966E-08	5.8	20.6	17.9	18.29
9 Mn	146.382	1.966E-08	16.2	25.8	21.9	7.84
10 Zn	99.907	1.966E-08	-2.7	66.3	59.1	100.00 ?
11 K	119.666	1.966E-08	-54.9	20.2	129.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	27.762	4.6229	26.074	1.0647	1.0075	1.0568	1.0000
MgO	0.246	0.0731	0.134	1.8438	0.9421	1.9286	1.0148
CaO	0.122	0.0260	0.134	0.9103	0.9605	0.9978	0.9498
Al2O3	0.319	0.0749	0.270	1.1819	0.9421	1.2551	0.9995
SiO2	0.188	0.0374	0.176	1.0674	0.9357	1.1420	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	63.605	9.5244	61.409	1.0358	1.0119	0.9991	1.0245
Cr2O3	0.066	0.0104	0.062	1.0740	1.0071	1.1028	0.9670
MnO	0.156	0.0263	0.152	1.0298	1.0121	1.0175	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.464	14.3955	88.411	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 51 Comment : 27/6
 Stage : X= 61.2555 Y= 35.3265 Z= 10.7315
 Dated on Mar 31 21:39 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.966E-08	3605.8	35.9	31.8	0.45
2 Mg	107.512	1.966E-08	2.2	20.5	15.2	45.24 ?
3 Ca	107.422	1.966E-08	12.6	31.2	23.6	10.62
4 Al	90.572	1.966E-08	66.0	49.6	38.3	3.29
5 Si	77.290	1.966E-08	89.5	211.4	124.8	6.76
6 Na	129.537	1.966E-08	-4.5	11.0	8.0	100.00 ?
7 Ti	87.773	1.966E-08	12285.8	53.5	43.7	0.45
8 Cr	159.496	1.966E-08	-1.6	21.3	17.0	100.00 ?
9 Mn	146.382	1.966E-08	176.7	28.9	22.8	1.36
10 Zn	99.907	1.966E-08	-0.1	62.8	62.3	100.00 ?
11 K	119.666	1.966E-08	-59.1	22.0	131.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.854	5.3129	30.096	1.0584	1.0058	1.0523	1.0000
MgO	0.023	0.0069	0.012	1.8815	0.9407	1.9710	1.0148
CaO	0.050	0.0106	0.054	0.9168	0.9591	1.0005	0.9555
Al2O3	0.387	0.0909	0.322	1.1989	0.9408	1.2750	0.9995
SiO2	0.451	0.0900	0.418	1.0796	0.9343	1.1566	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.230	9.0334	58.399	1.0313	1.0103	1.0005	1.0203
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.696	0.2865	1.658	1.0228	1.0104	1.0122	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.691	14.8311	90.959	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 52 Comment : 27/7
 Stage : X= 60.6350 Y= 35.2635 Z= 10.7315
 Dated on Mar 31 21:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.965E-08	4875.0	36.7	33.2	0.45
2 Mg	107.512	1.965E-08	0.2	19.4	15.1	372.83 ?
3 Ca	107.422	1.965E-08	-3.5	32.6	24.4	100.00 ?
4 Al	90.572	1.965E-08	-1.4	50.6	37.3	100.00 ?
5 Si	77.290	1.965E-08	-8.6	224.7	127.5	100.00 ?
6 Na	129.537	1.965E-08	-1.0	10.0	7.1	100.00 ?
7 Ti	87.773	1.965E-08	10931.8	56.4	48.3	0.45
8 Cr	159.496	1.965E-08	-2.4	21.0	18.7	100.00 ?
9 Mn	146.382	1.965E-08	204.4	30.0	26.3	1.26
10 Zn	99.907	1.965E-08	1.0	71.2	56.9	249.45 ?
11 K	119.666	1.965E-08	-96.3	21.6	200.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	42.616	7.2950	40.709	1.0468	1.0021	1.0447	1.0000
MgO	0.003	0.0009	0.001	1.9664	0.9377	2.0662	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.162	8.1834	51.990	1.0225	1.0069	1.0031	1.0124
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.938	0.3360	1.919	1.0097	1.0068	1.0029	1.0000
ZnO	0.010	0.0014	0.009	1.0869	1.0435	1.0415	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	97.729	15.8166	94.627	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_8_30
 Unknown Specimen
 Group : silicates Sample : NAT92_8_30
 UNK No. : 53 Comment : 27/8
 Stage : X= 63.4350 Y= 35.9240 Z= 10.7350
 Dated on Mar 31 21:49 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.965E-08	4078.8	33.5	32.2	0.45
2 Mg	107.512	1.965E-08	2.9	19.2	14.9	32.62
3 Ca	107.422	1.965E-08	8.5	27.8	25.2	14.81
4 Al	90.572	1.965E-08	27.6	49.1	35.8	6.87
5 Si	77.290	1.965E-08	31.1	198.2	109.6	17.68
6 Na	129.537	1.965E-08	0.7	9.7	8.9	99.23 ?
7 Ti	87.773	1.965E-08	11830.7	58.3	47.9	0.45
8 Cr	159.496	1.965E-08	0.4	20.8	18.4	248.75 ?
9 Mn	146.382	1.965E-08	276.4	28.8	23.6	1.04
10 Zn	99.907	1.965E-08	4.8	65.9	59.5	49.41 ?
11 K	119.666	1.965E-08	-61.0	20.6	151.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	35.872	6.0048	34.060	1.0532	1.0040	1.0491	1.0000
MgO	0.032	0.0097	0.017	1.9176	0.9392	2.0119	1.0149
CaO	0.034	0.0072	0.036	0.9209	0.9575	1.0024	0.9595
Al2O3	0.164	0.0387	0.135	1.2172	0.9393	1.2964	0.9996
SiO2	0.159	0.0318	0.145	1.0906	0.9328	1.1702	0.9992
Na2O	0.014	0.0055	0.009	1.6228	1.0196	1.5916	1.0000
TiO2	57.791	8.6993	56.264	1.0271	1.0086	1.0015	1.0168
Cr2O3	0.004	0.0007	0.004	1.0463	1.0037	1.0901	0.9563
MnO	2.639	0.4474	2.595	1.0169	1.0086	1.0082	1.0000
ZnO	0.047	0.0070	0.044	1.0869	1.0458	1.0393	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	96.756	15.2520	93.310	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30

UNK No. : 54 Comment : 27/9

Stage : X= 62.7305 Y= 36.4570 Z= 10.7350

Dated on Mar 31 21:55 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.964E-08	2478.8	24.7	25.6	0.45
2 Mg	107.512	1.964E-08	939.3	23.8	14.7	0.53
3 Ca	107.422	1.964E-08	2425.3	23.3	17.3	0.45
4 Al	90.572	1.964E-08	2137.4	74.6	30.1	0.47
5 Si	77.290	1.964E-08	8353.6	191.6	99.0	0.46
6 Na	129.537	1.964E-08	103.8	9.9	7.5	1.68
7 Ti	87.773	1.964E-08	315.9	34.3	29.2	0.99
8 Cr	159.496	1.964E-08	-2.8	15.9	14.6	100.00 ?
9 Mn	146.382	1.964E-08	28.6	23.5	19.3	4.67
10 Zn	99.907	1.964E-08	-1.9	52.4	46.5	100.00 ?
11 K	119.666	1.964E-08	317.6	15.8	99.3	1.20

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	22.257	2.9696	20.710	1.0747	1.0600	1.0139	1.0000
MgO	7.887	1.8757	5.389	1.4636	0.9871	1.4688	1.0095
CaO	11.180	1.9111	10.422	1.0727	1.0076	1.0413	1.0224
Al2O3	11.044	2.0768	10.444	1.0574	0.9871	1.0805	0.9914
SiO2	41.717	6.6551	39.064	1.0679	0.9803	1.0899	0.9995
Na2O	1.460	0.4516	1.291	1.1310	1.0718	1.0587	0.9968
TiO2	1.722	0.2066	1.503	1.1457	1.0623	1.0514	1.0258
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.276	0.0373	0.269	1.0274	1.0642	0.9655	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	1.394	0.2837	1.448	0.9626	0.9850	0.9942	0.9831

Total 98.937 16.4675 90.540 Total O = 24.0 Iteration = 5

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen

Group : silicates Sample : NAT92_8_30

UNK No. : 55 Comment : 27/10

Stage : X= 62.2275 Y= 36.9000 Z= 10.7350

Dated on Mar 31 22:00 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.848	1.964E-08	3638.9	35.7	30.3	0.45
2 Mg	107.512	1.964E-08	3.9	18.9	13.4	24.69
3 Ca	107.422	1.964E-08	41.5	30.3	21.7	3.75
4 Al	90.572	1.964E-08	30.3	50.1	34.3	6.31
5 Si	77.290	1.964E-08	73.7	200.7	106.9	7.62
6 Na	129.537	1.964E-08	-1.4	9.3	8.5	100.00 ?
7 Ti	87.773	1.964E-08	12159.0	50.9	46.3	0.45
8 Cr	159.496	1.964E-08	-1.9	20.1	18.6	100.00 ?
9 Mn	146.382	1.964E-08	170.0	27.3	22.9	1.38
10 Zn	99.907	1.964E-08	3.0	64.0	50.0	72.43 ?
11 K	119.666	1.964E-08	-61.2	21.0	146.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.164	5.4099	30.402	1.0580	1.0055	1.0522	1.0000
MgO	0.042	0.0125	0.022	1.8869	0.9405	1.9770	1.0148
CaO	0.163	0.0352	0.178	0.9171	0.9588	1.0006	0.9560
Al2O3	0.178	0.0422	0.148	1.2017	0.9406	1.2783	0.9995
SiO2	0.373	0.0749	0.345	1.0802	0.9341	1.1575	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.659	9.0234	57.855	1.0312	1.0100	1.0008	1.0201
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.632	0.2781	1.597	1.0223	1.0102	1.0120	1.0000
ZnO	0.030	0.0044	0.027	1.0873	1.0476	1.0379	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 94.241 14.8806 90.575 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_8_30

Unknown Specimen
Group : silicates Sample : NAT92_8_30
UNK No. : 56 Comment : 27/11
Stage : X= 61.5235 Y= 36.7165 Z= 10.7350
Dated on Mar 31 22:06 1993
WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.848	1.963E-08	3304.6	32.4	32.6	0.45
2 Mg	107.512	1.963E-08	6.1	19.9	13.0	16.31
3 Ca	107.422	1.963E-08	18.7	27.4	25.3	7.23
4 Al	90.572	1.963E-08	58.0	48.4	35.7	3.58
5 Si	77.290	1.963E-08	29.4	214.6	116.6	20.02
6 Na	129.537	1.963E-08	-4.3	10.4	8.3	100.00 ?
7 Ti	87.773	1.963E-08	12437.1	51.5	42.6	0.45
8 Cr	159.496	1.963E-08	1.5	19.2	17.8	65.40 ?
9 Mn	146.382	1.963E-08	102.6	27.4	22.4	1.91
10 Zn	99.907	1.963E-08	-4.2	69.6	53.8	100.00 ?
11 K	119.666	1.963E-08	-57.4	21.5	128.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.321	4.9681	27.623	1.0614	1.0064	1.0547	1.0000
MgO	0.065	0.0196	0.035	1.8644	0.9412	1.9520	1.0148
CaO	0.073	0.0159	0.080	0.9130	0.9596	0.9990	0.9524
Al2O3	0.337	0.0806	0.283	1.1906	0.9412	1.2655	0.9996
SiO2	0.148	0.0299	0.138	1.0736	0.9348	1.1496	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	61.173	9.3208	59.208	1.0332	1.0109	0.9997	1.0224
Cr2O3	0.017	0.0028	0.016	1.0667	1.0060	1.0994	0.9644
MnO	0.990	0.1699	0.965	1.0262	1.0110	1.0150	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 92.124 14.6076 88.348 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen
Group : silicates Sample : NAT92_P1_34
UNK No. : 64 Comment : 28/2
Stage : X= 20.9870 Y= 83.8480 Z= 10.8780
Dated on Apr 1 22:36 1993
WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.047E-08	10528.3	45.2	42.9	0.45
2 Mg	107.512	2.047E-08	-1.5	16.4	11.6	100.00 ?
3 Ca	107.422	2.047E-08	2.1	33.5	27.4	64.24 ?
4 Al	90.572	2.047E-08	11.9	46.2	30.1	14.04
5 Si	77.295	2.047E-08	15.0	198.2	96.9	35.51 ?
6 Na	129.537	2.047E-08	-0.6	10.0	6.2	100.00 ?
7 Ti	87.781	2.047E-08	19.8	55.2	45.3	10.49
8 Cr	159.496	2.047E-08	-1.1	25.5	21.7	100.00 ?
9 Mn	146.389	2.047E-08	13.5	34.3	28.8	10.84
10 Zn	99.907	2.047E-08	-2.5	71.0	64.0	100.00 ?
11 K	119.666	2.047E-08	-171.6	23.2	355.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	81.298	23.8083	82.337	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.008	0.0031	0.008	0.9766	0.9425	1.0337	1.0024
Al2O3	0.081	0.0333	0.056	1.4526	0.9253	1.5699	1.0000
SiO2	0.084	0.0295	0.067	1.2530	0.9190	1.3634	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.086	0.0228	0.090	0.9590	0.9922	1.0197	0.9478
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.115	0.0342	0.122	0.9418	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 81.672 23.9311 82.680 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 65 Comment : 28/2
 Stage : X= 19.8160 Y= 83.7215 Z= 10.8765
 Dated on Apr 1 22:42 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.045E-08	1374.2	25.6	23.0	0.46
2 Mg	107.512	2.045E-08	2220.7	31.4	14.8	0.45
3 Ca	107.422	2.045E-08	2845.6	21.9	19.2	0.45
4 Al	90.572	2.045E-08	1575.5	69.7	32.5	0.47
5 Si	77.295	2.045E-08	10682.0	200.6	94.0	0.45
6 Na	129.537	2.045E-08	64.0	9.3	7.7	2.22
7 Ti	87.781	2.045E-08	133.5	34.9	28.2	1.70
8 Cr	159.496	2.045E-08	2.8	16.1	13.4	32.65
9 Mn	146.389	2.045E-08	28.0	20.6	18.5	4.63
10 Zn	99.907	2.045E-08	3.6	46.4	41.5	49.54 ?
11 K	119.666	2.045E-08	85.5	14.4	59.5	2.62

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	11.694	1.4467	10.758	1.0871	1.0725	1.0136	1.0000
MgO	15.902	3.5064	12.237	1.2995	0.9974	1.2913	1.0090
CaO	12.739	2.0190	11.744	1.0847	1.0186	1.0384	1.0256
Al2O3	7.693	1.3412	7.394	1.0405	0.9974	1.0544	0.9893
SiO2	49.601	7.3368	47.843	1.0367	0.9906	1.0471	0.9995
Na2O	0.746	0.2140	0.764	0.9760	1.0830	0.9056	0.9951
TiO2	0.713	0.0793	0.609	1.1701	1.0741	1.0534	1.0341
Cr2O3	0.031	0.0036	0.028	1.0758	1.0704	1.0312	0.9746
MnO	0.264	0.0331	0.254	1.0390	1.0765	0.9651	1.0000
ZnO	0.035	0.0038	0.031	1.1306	1.1222	1.0074	1.0000
K2O	0.365	0.0689	0.375	0.9750	0.9956	0.9963	0.9830
Total	99.783	16.0529	92.038	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 66 Comment : 28/3
 Stage : X= 19.2720 Y= 84.0095 Z= 10.8740
 Dated on Apr 1 22:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.043E-08	1399.8	21.4	19.1	0.46
2 Mg	107.512	2.043E-08	429.1	19.4	12.8	0.79
3 Ca	107.422	2.043E-08	92.9	19.0	15.3	1.92
4 Al	90.572	2.043E-08	7355.5	139.0	33.3	0.45
5 Si	77.295	2.043E-08	6886.0	148.1	77.1	0.46
6 Na	129.537	2.043E-08	152.5	8.5	6.5	1.34
7 Ti	87.781	2.043E-08	78.4	31.4	26.7	2.40
8 Cr	159.496	2.043E-08	-3.4	14.6	12.2	100.00 ?
9 Mn	146.389	2.043E-08	3.7	18.2	14.4	25.75
10 Zn	99.907	2.043E-08	0.6	43.8	40.0	267.38 ?
11 K	119.666	2.043E-08	-15.7	13.4	63.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	11.789	1.6231	10.968	1.0748	1.0701	1.0043	1.0000
MgO	3.041	0.7463	2.367	1.2848	0.9946	1.2867	1.0039
CaO	0.418	0.0738	0.384	1.0907	1.0159	1.0475	1.0250
Al2O3	32.188	6.2460	34.552	0.9316	0.9946	0.9442	0.9919
SiO2	35.853	5.9025	30.872	1.1614	0.9878	1.1756	1.0000
Na2O	1.733	0.5531	1.823	0.9502	1.0800	0.8842	0.9950
TiO2	0.407	0.0504	0.359	1.1343	1.0714	1.0280	1.0298
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.035	0.0048	0.034	1.0245	1.0741	0.9539	1.0000
ZnO	0.006	0.0008	0.005	1.1261	1.1202	1.0052	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	85.470	15.2007	81.364	Total O = 24.0	Iteration = 6		

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 67 Comment : 28/4
 Stage : X= 19.0585 Y= 84.5385 Z= 10.8740
 Dated on Apr 1 22:54 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.041E-08	5.5	21.0	18.1	19.36
2 Mg	107.512	2.041E-08	3.4	23.4	19.8	31.74
3 Ca	107.422	2.041E-08	3.3	18.6	14.7	28.57
4 Al	90.572	2.041E-08	343.4	73.1	45.4	1.08
5 Si	77.295	2.041E-08	26991.9	329.4	156.1	0.45
6 Na	129.537	2.041E-08	-0.2	17.7	12.7	100.00 ?
7 Ti	87.781	2.041E-08	-0.9	31.4	25.4	100.00 ?
8 Cr	159.496	2.041E-08	-1.9	12.2	11.6	100.00 ?
9 Mn	146.389	2.041E-08	-3.8	17.9	14.6	100.00 ?
10 Zn	99.907	2.041E-08	-2.9	48.2	42.5	100.00 ?
11 K	119.666	2.041E-08	47.7	13.4	11.2	2.82

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.047	0.0046	0.043	1.0983	1.0921	1.0056	1.0000
MgO	0.021	0.0036	0.019	1.1087	1.0135	1.0927	1.0012
CaO	0.016	0.0020	0.014	1.1283	1.0357	1.0587	1.0290
Al2O3	1.282	0.1774	1.615	0.7936	1.0135	0.8098	0.9670
SiO2	100.918	11.8537	121.130	0.8331	1.0066	0.8277	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.217	0.0325	0.209	1.0359	1.0121	1.0232	1.0003
Total	102.501	12.0738	123.030	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 68 Comment : 28/5
 Stage : X= 20.1840 Y= 84.5400 Z= 10.8740
 Dated on Apr 1 23:00 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.040E-08	5.3	21.1	18.3	19.94
2 Mg	107.512	2.040E-08	-1.5	19.9	13.1	100.00 ?
3 Ca	107.422	2.040E-08	77.6	17.2	12.7	2.11
4 Al	90.572	2.040E-08	28.5	53.1	34.8	6.86
5 Si	77.295	2.040E-08	24459.0	231.2	112.0	0.44
6 Na	129.537	2.040E-08	2.2	11.9	8.8	35.15 ?
7 Ti	87.781	2.040E-08	-4.1	30.7	22.4	100.00 ?
8 Cr	159.496	2.040E-08	-5.2	13.7	11.7	100.00 ?
9 Mn	146.389	2.040E-08	-3.3	16.6	15.0	100.00 ?
10 Zn	99.907	2.040E-08	-6.0	42.8	39.1	100.00 ?
11 K	119.666	2.040E-08	6.2	12.2	10.4	13.69

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.046	0.0050	0.042	1.0987	1.0923	1.0058	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.362	0.0511	0.321	1.1276	1.0359	1.0578	1.0290
Al2O3	0.107	0.0166	0.134	0.7941	1.0137	0.8107	0.9663
SiO2	90.778	11.9570	109.817	0.8266	1.0068	0.8211	1.0000
Na2O	0.021	0.0053	0.026	0.8093	1.1007	0.7392	0.9947
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.028	0.0047	0.027	1.0356	1.0123	1.0232	0.9998
Total	91.342	12.0397	110.367	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 69 Comment : 28/6
 Stage : X= 21.5835 Y= 84.5400 Z= 10.8775
 Dated on Apr 1 23:06 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.038E-08	568.8	20.2	18.0	0.68
2 Mg	107.512	2.038E-08	1209.1	25.5	14.7	0.46
3 Ca	107.422	2.038E-08	137.2	17.5	13.1	1.49
4 Al	90.572	2.038E-08	7492.4	146.5	31.2	0.45
5 Si	77.295	2.038E-08	7136.8	148.2	74.7	0.46
6 Na	129.537	2.038E-08	167.2	8.8	6.9	1.28
7 Ti	87.781	2.038E-08	151.0	28.3	24.8	1.50
8 Cr	159.496	2.038E-08	-4.9	14.1	10.6	100.00 ?
9 Mn	146.389	2.038E-08	-4.0	17.2	15.8	100.00 ?
10 Zn	99.907	2.038E-08	0.8	39.4	33.9	179.03 ?
11 K	119.666	2.038E-08	-10.2	13.8	31.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	4.839	0.6444	4.468	1.0830	1.0777	1.0049	1.0000
MgO	7.809	1.8538	6.685	1.1681	1.0008	1.1637	1.0031
CaO	0.625	0.1066	0.568	1.0995	1.0225	1.0473	1.0268
Al2O3	32.395	6.0805	35.282	0.9182	1.0008	0.9254	0.9914
SiO2	37.127	5.9121	32.075	1.1575	0.9939	1.1646	1.0000
Na2O	1.674	0.5168	2.003	0.8354	1.0867	0.7738	0.9935
TiO2	0.797	0.0954	0.692	1.1514	1.0785	1.0285	1.0380
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.008	0.0010	0.007	1.1287	1.1289	0.9998	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	85.274	15.2106	81.780	Total O =	24.0	Iteration =	6

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 70 Comment : 28/7
 Stage : X= 21.5835 Y= 85.5980 Z= 10.8750
 Dated on Apr 1 23:12 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.037E-08	91.2	19.4	18.2	1.97
2 Mg	107.512	2.037E-08	1.8	23.6	17.9	59.40 ?
3 Ca	107.422	2.037E-08	7.7	17.1	12.6	12.63
4 Al	90.572	2.037E-08	172.4	73.7	46.7	1.80
5 Si	77.295	2.037E-08	26665.2	300.6	143.9	0.45
6 Na	129.537	2.037E-08	-2.3	16.7	12.8	100.00 ?
7 Ti	87.781	2.037E-08	2.9	29.7	24.4	41.66 ?
8 Cr	159.496	2.037E-08	-2.2	12.6	11.9	100.00 ?
9 Mn	146.389	2.037E-08	-3.8	17.4	15.3	100.00 ?
10 Zn	99.907	2.037E-08	-0.5	47.7	38.3	100.00 ?
11 K	119.666	2.037E-08	28.7	12.5	10.2	3.95

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.787	0.0783	0.717	1.0976	1.0915	1.0056	1.0000
MgO	0.011	0.0019	0.010	1.1193	1.0130	1.1033	1.0014
CaO	0.036	0.0046	0.032	1.1271	1.0352	1.0583	1.0288
Al2O3	0.649	0.0910	0.812	0.7990	1.0130	0.8154	0.9672
SiO2	99.872	11.8830	119.900	0.8330	1.0061	0.8279	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.016	0.0014	0.013	1.1764	1.0920	1.0329	1.0429
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.130	0.0198	0.126	1.0352	1.0116	1.0231	1.0001
Total	101.501	12.0800	121.609	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 71 Comment : 28/8
 Stage : X= 20.2220 Y= 85.0480 Z= 10.8750
 Dated on Apr 1 23:18 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.035E-08	442.7	22.4	17.6	0.78
2 Mg	107.512	2.035E-08	317.7	20.7	14.2	0.93
3 Ca	107.422	2.035E-08	-4.8	17.8	16.7	100.00 ?
4 Al	90.572	2.035E-08	7535.7	149.3	32.8	0.45
5 Si	77.295	2.035E-08	9862.2	156.1	99.1	0.45
6 Na	129.537	2.035E-08	2.3	9.6	5.7	28.27
7 Ti	87.781	2.035E-08	61.6	27.8	24.0	2.75
8 Cr	159.496	2.035E-08	0.6	12.2	11.7	142.15 ?
9 Mn	146.389	2.035E-08	-3.1	19.5	16.6	100.00 ?
10 Zn	99.907	2.035E-08	-5.2	47.6	37.8	100.00 ?
11 K	119.666	2.035E-08	1338.9	13.3	25.8	0.46

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	3.787	0.4789	3.483	1.0875	1.0775	1.0093	1.0000
MgO	2.015	0.4541	1.759	1.1453	1.0008	1.1422	1.0019
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	30.061	5.3574	35.538	0.8459	1.0008	0.8555	0.9880
SiO2	47.552	7.1898	44.389	1.0713	0.9940	1.0782	0.9996
Na2O	0.024	0.0070	0.028	0.8439	1.0867	0.7809	0.9944
TiO2	0.331	0.0376	0.283	1.1690	1.0784	1.0424	1.0400
Cr2O3	0.006	0.0007	0.006	1.0894	1.0749	1.0241	0.9896
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	5.925	1.1430	5.890	1.0059	0.9992	1.0072	0.9995
Total	89.701	14.6685	91.376	Total O =	24.0	Iteration =	6

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 72 Comment : 28/9
 Stage : X= 20.5610 Y= 86.1855 Z= 10.8735
 Dated on Apr 1 23:23 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.034E-08	2230.6	27.2	26.0	0.45
2 Mg	107.512	2.034E-08	1276.3	23.7	13.6	0.46
3 Ca	107.422	2.034E-08	2588.3	24.8	20.1	0.45
4 Al	90.572	2.034E-08	2276.4	76.6	33.5	0.46
5 Si	77.295	2.034E-08	8986.2	201.2	87.9	0.46
6 Na	129.537	2.034E-08	92.0	9.5	6.6	1.79
7 Ti	87.781	2.034E-08	191.5	36.0	31.2	1.36
8 Cr	159.496	2.034E-08	-2.9	16.0	14.8	100.00 ?
9 Mn	146.389	2.034E-08	26.4	22.2	20.0	4.96
10 Zn	99.907	2.034E-08	1.9	52.0	44.2	98.78 ?
11 K	119.666	2.034E-08	249.5	14.0	82.1	1.33

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	18.929	2.4868	17.556	1.0782	1.0639	1.0135	1.0000
MgO	9.973	2.3354	7.071	1.4104	0.9903	1.4113	1.0092
CaO	11.566	1.9468	10.739	1.0769	1.0110	1.0406	1.0236
Al2O3	11.265	2.0859	10.741	1.0488	0.9903	1.0687	0.9910
SiO2	43.092	6.7695	40.466	1.0649	0.9835	1.0833	0.9995
Na2O	1.194	0.3636	1.104	1.0812	1.0753	1.0093	0.9963
TiO2	1.014	0.1198	0.879	1.1533	1.0660	1.0521	1.0283
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.249	0.0331	0.241	1.0306	1.0680	0.9650	1.0000
ZnO	0.019	0.0022	0.017	1.1264	1.1125	1.0125	1.0000
K2O	1.062	0.2129	1.098	0.9669	0.9883	0.9951	0.9832
Total	98.363	16.3560	89.913	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 73 Comment : 28/10
 Stage : X= 19.9580 Y= 85.6885 Z= 10.8735
 Dated on Apr 1 23:29 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.033E-08	10999.0	46.1	44.2	0.45
2 Mg	107.512	2.033E-08	-1.8	19.4	14.3	100.00 ?
3 Ca	107.422	2.033E-08	2.7	34.3	30.4	51.84 ?
4 Al	90.572	2.033E-08	9.9	57.6	37.6	19.66
5 Si	77.295	2.033E-08	-5.4	259.9	126.1	100.00 ?
6 Na	129.537	2.033E-08	0.2	11.6	7.9	281.07 ?
7 Ti	87.781	2.033E-08	19.0	53.9	48.0	10.98
8 Cr	159.496	2.033E-08	-3.2	27.9	23.6	100.00 ?
9 Mn	146.389	2.033E-08	22.3	38.5	27.0	7.07
10 Zn	99.907	2.033E-08	2.7	74.3	65.4	96.58 ?
11 K	119.666	2.033E-08	-174.5	24.5	369.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.502	23.8514	86.609	0.9872	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.011	0.0039	0.011	0.9764	0.9424	1.0337	1.0023
Al2O3	0.068	0.0268	0.047	1.4534	0.9252	1.5709	1.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.006	0.0041	0.003	2.1051	1.0041	2.0965	1.0000
TiO2	0.084	0.0210	0.087	0.9587	0.9920	1.0197	0.9477
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.192	0.0542	0.204	0.9416	0.9908	0.9503	1.0000
ZnO	0.026	0.0063	0.024	1.0861	1.0241	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	85.889	23.9677	86.985	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 74 Comment : 28/11
 Stage : X= 16.4490 Y= 43.2320 Z= 10.6965
 Dated on Apr 5 10:59 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.973E-08	-4.9	22.2	17.6	100.00 ?
2 Mg	107.494	1.973E-08	-3.9	7.8	4.9	100.00 ?
3 Ca	107.418	1.973E-08	42.6	15.2	14.7	3.16
4 Al	90.574	1.973E-08	3153.5	58.2	14.2	0.45
5 Si	77.315	1.973E-08	11571.7	63.8	34.0	0.45
6 Na	129.537	1.973E-08	479.9	3.1	2.6	0.73
7 Ti	87.776	1.973E-08	-1.7	29.2	24.2	100.00 ?
8 Cr	159.526	1.973E-08	-5.1	13.3	11.9	100.00 ?
9 Mn	146.434	1.973E-08	-3.1	17.1	14.0	100.00 ?
10 Zn	100.011	1.973E-08	-3.3	42.1	39.4	100.00 ?
11 K	119.716	1.973E-08	61.9	11.9	9.4	2.33

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.193	0.0286	0.173	1.1154	1.0295	1.0528	1.0290
Al2O3	18.133	2.9461	21.118	0.8587	1.0075	0.8674	0.9826
SiO2	66.365	9.1477	67.026	0.9901	1.0006	0.9895	1.0000
Na2O	9.224	2.4652	12.081	0.7635	1.0940	0.7013	0.9952
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.276	0.0485	0.270	1.0215	1.0061	1.0153	1.0000
Total	94.191	14.6361	100.669	Total O = 24.0		Iteration = 5	

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 5 Comment : 29/1 host
 Stage : X= 63.3800 Y= 82.9405 Z= 10.5210
 Dated on Apr 5 11:45 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.968E-08	12125.4	50.1	45.4	0.45
2 Mg	107.494	1.968E-08	-4.2	8.0	5.4	100.00 ?
3 Ca	107.418	1.968E-08	-5.5	33.7	27.2	100.00 ?
4 Al	90.574	1.968E-08	3.5	21.9	16.1	29.10
5 Si	77.315	1.968E-08	7.6	65.1	39.7	27.65
6 Na	129.537	1.968E-08	-2.8	3.0	2.5	100.00 ?
7 Ti	87.776	1.968E-08	5.7	54.3	44.4	34.59 ?
8 Cr	159.526	1.968E-08	38.0	25.6	23.5	3.89
9 Mn	146.434	1.968E-08	40.3	38.3	31.1	4.36
10 Zn	100.011	1.968E-08	-3.7	84.5	77.9	100.00 ?
11 K	119.716	1.968E-08	-221.6	24.0	454.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.104	23.7313	88.199	0.9876	0.9858	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.034	0.0131	0.024	1.4525	0.9252	1.5699	1.0000
SiO2	0.055	0.0180	0.044	1.2525	0.9189	1.3630	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.025	0.0062	0.026	0.9587	0.9921	1.0197	0.9478
Cr2O3	0.293	0.0754	0.380	0.7700	0.9865	1.0106	0.7724
MnO	0.317	0.0876	0.337	0.9415	0.9909	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.828 23.9316 89.011 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 6 Comment : 29/1 inclusion
 Stage : X= 63.3300 Y= 82.6740 Z= 10.5210
 Dated on Apr 5 11:51 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.891	1.968E-08	13.1	21.8	17.1	8.73
2 Mg	107.494	1.968E-08	-3.4	6.4	5.3	100.00 ?
3 Ca	107.418	1.968E-08	-2.2	17.3	12.1	100.00 ?
4 Al	90.574	1.968E-08	-4.7	24.4	15.0	100.00 ?
5 Si	77.315	1.968E-08	20894.6	103.1	43.5	0.44
6 Na	129.537	1.968E-08	-3.4	3.9	2.9	100.00 ?
7 Ti	87.776	1.968E-08	-2.1	29.4	24.9	100.00 ?
8 Cr	159.526	1.968E-08	-2.3	12.4	12.2	100.00 ?
9 Mn	146.434	1.968E-08	-4.2	18.6	14.9	100.00 ?
10 Zn	100.011	1.968E-08	-4.1	44.3	44.0	100.00 ?
11 K	119.716	1.968E-08	-3.7	11.3	11.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.104	0.0104	0.095	1.0985	1.0924	1.0055	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	100.174	11.9948	121.334	0.8256	1.0069	0.8200	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 100.278 12.0052 121.429 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 7 Comment : 29/2
 Stage : X= 63.4985 Y= 83.8700 Z= 10.5125
 Dated on Apr 5 11:57 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.968E-08	3367.8	36.0	31.7	0.45
2 Mg	107.494	1.968E-08	136.0	8.3	4.8	1.42
3 Ca	107.418	1.968E-08	27.0	30.8	20.2	5.28
4 Al	90.574	1.968E-08	20.6	20.1	13.8	5.68
5 Si	77.315	1.968E-08	39.0	56.0	36.0	5.34
6 Na	129.537	1.968E-08	-3.4	4.4	2.4	100.00 ?
7 Ti	87.776	1.968E-08	12518.0	50.2	43.1	0.45
8 Cr	159.526	1.968E-08	29.3	19.3	17.2	4.38
9 Mn	146.434	1.968E-08	73.9	28.7	23.6	2.42
10 Zn	100.011	1.968E-08	2.3	71.3	59.2	107.48 ?
11 K	119.716	1.968E-08	-69.3	20.5	148.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	26.100	4.4231	24.497	1.0654	1.0093	1.0556	1.0000
MgO	2.353	0.7109	1.289	1.8252	0.9436	1.9061	1.0148
CaO	0.101	0.0219	0.110	0.9145	0.9621	0.9985	0.9520
Al2O3	0.165	0.0393	0.138	1.1923	0.9436	1.2641	0.9995
SiO2	0.243	0.0493	0.226	1.0739	0.9371	1.1470	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	60.694	9.2494	58.487	1.0377	1.0136	0.9995	1.0244
Cr2O3	0.315	0.0504	0.293	1.0744	1.0088	1.1003	0.9679
MnO	0.636	0.1092	0.618	1.0298	1.0139	1.0157	1.0000
ZnO	0.020	0.0030	0.018	1.0888	1.0519	1.0350	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.627	14.6565	85.678	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 8 Comment : 29/3
 Stage : X= 64.0770 Y= 84.1960 Z= 10.5125
 Dated on Apr 5 12:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.968E-08	4125.2	38.2	33.8	0.45
2 Mg	107.494	1.968E-08	3.1	8.7	5.1	20.97
3 Ca	107.418	1.968E-08	22.6	27.9	21.9	6.02
4 Al	90.574	1.968E-08	30.1	19.9	15.0	4.24
5 Si	77.315	1.968E-08	18.5	60.7	37.3	11.12
6 Na	129.537	1.968E-08	-3.0	3.1	2.9	100.00 ?
7 Ti	87.776	1.968E-08	12253.3	53.7	42.4	0.45
8 Cr	159.526	1.968E-08	-1.8	19.9	18.8	100.00 ?
9 Mn	146.434	1.968E-08	92.8	29.1	25.3	2.08
10 Zn	100.011	1.968E-08	-5.0	74.6	70.4	100.00 ?
11 K	119.716	1.968E-08	-77.6	20.3	170.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.767	5.4547	30.006	1.0587	1.0056	1.0528	1.0000
MgO	0.055	0.0170	0.029	1.8852	0.9406	1.9750	1.0148
CaO	0.084	0.0186	0.092	0.9160	0.9589	1.0002	0.9550
Al2O3	0.242	0.0586	0.202	1.2011	0.9406	1.2774	0.9996
SiO2	0.116	0.0238	0.107	1.0801	0.9342	1.1573	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.052	9.1180	57.250	1.0315	1.0101	1.0004	1.0207
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.794	0.1381	0.776	1.0231	1.0103	1.0127	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.110	14.8288	88.464	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 9 Comment : 29/4
 Stage : X= 65.1220 Y= 84.4565 Z= 10.5105
 Dated on Apr 5 12:09 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.968E-08	12283.8	49.7	45.5	0.45
2 Mg	107.494	1.968E-08	-3.9	7.3	5.4	100.00 ?
3 Ca	107.418	1.968E-08	-0.5	33.2	27.7	100.00 ?
4 Al	90.574	1.968E-08	6.2	22.1	15.6	17.02
5 Si	77.315	1.968E-08	9.0	62.3	39.6	22.74
6 Na	129.537	1.968E-08	-3.5	4.1	2.9	100.00 ?
7 Ti	87.776	1.968E-08	26.8	57.4	44.1	7.97
8 Cr	159.526	1.968E-08	5.6	27.1	21.8	21.18
9 Mn	146.434	1.968E-08	12.6	36.2	28.7	11.76
10 Zn	100.011	1.968E-08	-2.7	86.7	73.7	100.00 ?
11 K	119.716	1.968E-08	-244.2	24.2	499.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.226	23.8215	89.351	0.9874	0.9859	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.060	0.0228	0.041	1.4528	0.9253	1.5702	1.0000
SiO2	0.066	0.0212	0.052	1.2530	0.9190	1.3634	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.120	0.0291	0.125	0.9589	0.9921	1.0197	0.9478
Cr2O3	0.043	0.0109	0.056	0.7689	0.9865	1.0108	0.7711
MnO	0.099	0.0271	0.105	0.9417	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.614	23.9327	89.731	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 10 Comment : 29/5
 Stage : X= 64.7200 Y= 85.2105 Z= 10.5040
 Dated on Apr 5 12:14 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.969E-08	4381.7	39.3	33.1	0.45
2 Mg	107.494	1.969E-08	5.9	7.7	5.6	11.83
3 Ca	107.418	1.969E-08	10.7	28.2	25.4	12.01
4 Al	90.574	1.969E-08	16.1	22.9	15.0	7.24
5 Si	77.315	1.969E-08	16.0	61.0	37.1	12.79
6 Na	129.537	1.969E-08	-3.5	3.7	3.3	100.00 ?
7 Ti	87.776	1.969E-08	12016.2	53.8	45.0	0.45
8 Cr	159.526	1.969E-08	-2.1	21.1	18.1	100.00 ?
9 Mn	146.434	1.969E-08	113.0	30.8	23.2	1.83
10 Zn	100.011	1.969E-08	-0.8	74.2	67.5	100.00 ?
11 K	119.716	1.969E-08	-83.8	21.6	176.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	33.653	5.7977	31.856	1.0564	1.0050	1.0512	1.0000
MgO	0.105	0.0324	0.055	1.9009	0.9400	1.9926	1.0149
CaO	0.040	0.0089	0.044	0.9182	0.9583	1.0012	0.9569
Al2O3	0.130	0.0316	0.108	1.2094	0.9401	1.2870	0.9996
SiO2	0.101	0.0207	0.093	1.0852	0.9336	1.1633	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.784	8.9520	56.114	1.0298	1.0095	1.0009	1.0192
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.964	0.1682	0.945	1.0205	1.0096	1.0108	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.777	15.0115	89.215	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 11 Comment : 29/6
 Stage : X= 63.6290 Y= 84.5030 Z= 10.5100
 Dated on Apr 5 12:20 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.972E-08	12034.3	48.3	46.5	0.45
2 Mg	107.494	1.972E-08	-4.9	8.3	6.4	100.00 ?
3 Ca	107.418	1.972E-08	-7.1	34.6	29.6	100.00 ?
4 Al	90.574	1.972E-08	6.0	22.8	15.3	17.64
5 Si	77.315	1.972E-08	12.4	61.4	38.9	16.59
6 Na	129.537	1.972E-08	-2.5	2.7	2.2	100.00 ?
7 Ti	87.776	1.972E-08	10.3	62.4	42.0	20.29
8 Cr	159.526	1.972E-08	5.3	25.5	23.9	22.16
9 Mn	146.434	1.972E-08	16.0	37.4	30.6	9.73
10 Zn	100.011	1.972E-08	1.8	78.3	73.1	153.35 ?
11 K	119.716	1.972E-08	-232.4	23.1	481.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.252	23.8290	87.359	0.9873	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.058	0.0226	0.040	1.4530	0.9253	1.5704	1.0000
SiO2	0.090	0.0296	0.072	1.2531	0.9190	1.3636	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.046	0.0115	0.048	0.9588	0.9921	1.0197	0.9477
Cr2O3	0.041	0.0106	0.053	0.7684	0.9865	1.0107	0.7707
MnO	0.126	0.0351	0.133	0.9417	0.9909	0.9503	1.0000
ZnO	0.016	0.0039	0.015	1.0862	1.0242	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.629	23.9423	87.719	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26
 Unknown Specimen
 Group : silicates Sample : NAT92_25_26
 UNK No. : 12 Comment : 29/7
 Stage : X= 63.2815 Y= 84.1885 Z= 10.5100
 Dated on Apr 5 12:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.981E-08	11966.2	48.2	46.3	0.45
2 Mg	107.494	1.981E-08	-1.2	8.0	4.5	100.00 ?
3 Ca	107.418	1.981E-08	-0.6	33.9	27.3	100.00 ?
4 Al	90.574	1.981E-08	6.8	21.8	14.6	15.28
5 Si	77.315	1.981E-08	29.0	62.1	44.8	7.70
6 Na	129.537	1.981E-08	-3.3	3.8	2.8	100.00 ?
7 Ti	87.776	1.981E-08	35.5	53.1	45.8	6.02
8 Cr	159.526	1.981E-08	12.8	25.6	23.9	9.80
9 Mn	146.434	1.981E-08	22.9	37.5	31.8	7.12
10 Zn	100.011	1.981E-08	-5.0	85.8	74.3	100.00 ?
11 K	119.716	1.981E-08	-231.7	22.7	480.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.410	23.6551	86.470	0.9877	0.9861	1.0017	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.066	0.0257	0.045	1.4514	0.9255	1.5684	1.0000
SiO2	0.210	0.0695	0.168	1.2521	0.9191	1.3622	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.158	0.0394	0.165	0.9594	0.9923	1.0197	0.9481
Cr2O3	0.098	0.0256	0.127	0.7703	0.9867	1.0108	0.7723
MnO	0.179	0.0502	0.190	0.9420	0.9912	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	86.121	23.8655	87.165	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_25_26

Unknown Specimen

Group : silicates Sample : NAT92_25_26

UNK No. : 13 Comment : 29/8

Stage : X= 62.7690 Y= 84.5175 Z= 10.5040

Dated on Apr 5 12:32 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.988E-08	12322.7	46.8	46.2	0.45
2 Mg	107.494	1.988E-08	-3.8	7.1	5.5	100.00 ?
3 Ca	107.418	1.988E-08	-1.5	34.7	28.3	100.00 ?
4 Al	90.574	1.988E-08	4.8	20.3	15.1	20.88
5 Si	77.315	1.988E-08	12.1	60.2	40.6	16.95
6 Na	129.537	1.988E-08	-3.2	2.7	3.7	100.00 ?
7 Ti	87.776	1.988E-08	23.9	53.9	48.3	8.86
8 Cr	159.526	1.988E-08	-3.2	27.0	24.5	100.00 ?
9 Mn	146.434	1.988E-08	20.5	40.4	28.6	7.86
10 Zn	100.011	1.988E-08	2.1	81.5	74.4	138.36 ?
11 K	119.716	1.988E-08	-238.2	23.3	488.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.607	23.8165	88.733	0.9873	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.046	0.0178	0.032	1.4530	0.9253	1.5703	1.0000
SiO2	0.087	0.0283	0.070	1.2530	0.9189	1.3634	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.106	0.0259	0.111	0.9588	0.9921	1.0197	0.9478
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.160	0.0440	0.170	0.9417	0.9909	0.9503	1.0000
ZnO	0.018	0.0043	0.016	1.0862	1.0242	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.024 23.9369 89.131 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 53 Comment : 30/1

Stage : X= 26.9200 Y= 83.6150 Z= 10.8860

Dated on Apr 1 21:37 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.077E-08	8923.4	43.3	41.3	0.45
2 Mg	107.512	2.077E-08	0.3	21.1	13.3	310.47 ?
3 Ca	107.422	2.077E-08	-2.7	34.3	26.2	100.00 ?
4 Al	90.572	2.077E-08	10.2	58.2	36.4	19.05
5 Si	77.295	2.077E-08	5.1	225.2	124.7	120.59 ?
6 Na	129.537	2.077E-08	-3.7	10.3	7.0	100.00 ?
7 Ti	87.781	2.077E-08	4109.4	56.0	49.1	0.45
8 Cr	159.496	2.077E-08	2.2	23.5	22.0	48.56 ?
9 Mn	146.389	2.077E-08	46.3	33.4	29.0	3.69
10 Zn	99.907	2.077E-08	-0.1	80.8	64.4	100.00 ?
11 K	119.666	2.077E-08	-140.6	23.0	298.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	69.446	16.1832	68.777	1.0097	0.9921	1.0177	1.0000
MgO	0.004	0.0015	0.002	2.2305	0.9301	2.3631	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.065	0.0213	0.047	1.3750	0.9302	1.4784	0.9999
SiO2	0.027	0.0075	0.022	1.1992	0.9238	1.2985	0.9998
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	18.293	3.8335	18.478	0.9900	0.9979	1.0135	0.9789
Cr2O3	0.020	0.0045	0.023	0.8923	0.9925	1.0377	0.8664
MnO	0.401	0.0946	0.415	0.9672	0.9971	0.9700	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.256 20.1461 87.764 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 54 Comment : 30/2
 Stage : X= 27.5960 Y= 84.0965 Z= 10.8860
 Dated on Apr 1 21:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.075E-08	5627.8	38.6	35.9	0.45
2 Mg	107.512	2.075E-08	-6.1	21.6	15.6	100.00 ?
3 Ca	107.422	2.075E-08	-5.7	32.6	28.8	100.00 ?
4 Al	90.572	2.075E-08	-0.7	54.0	37.4	100.00 ?
5 Si	77.295	2.075E-08	-4.3	224.5	119.2	100.00 ?
6 Na	129.537	2.075E-08	-2.7	11.0	9.3	100.00 ?
7 Ti	87.781	2.075E-08	10479.7	57.2	48.5	0.45
8 Cr	159.496	2.075E-08	-3.8	23.2	19.4	100.00 ?
9 Mn	146.389	2.075E-08	13.6	31.5	26.3	10.18
10 Zn	99.907	2.075E-08	-1.5	72.3	65.7	100.00 ?
11 K	119.666	2.075E-08	-92.2	23.2	196.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	45.322	8.2367	43.418	1.0438	1.0014	1.0424	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	48.158	7.8704	47.167	1.0210	1.0063	1.0042	1.0104
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.122	0.0225	0.122	1.0062	1.0062	1.0000	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.602	16.1296	90.707	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 55 Comment : 30/3
 Stage : X= 26.4945 Y= 84.1450 Z= 10.8860
 Dated on Apr 1 21:48 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.075E-08	2897.9	26.3	22.2	0.45
2 Mg	107.512	2.075E-08	240.0	20.5	14.7	1.09
3 Ca	107.422	2.075E-08	-4.4	21.5	17.2	100.00 ?
4 Al	90.572	2.075E-08	8571.5	179.4	35.8	0.45
5 Si	77.295	2.075E-08	4613.4	174.9	87.3	0.47
6 Na	129.537	2.075E-08	-2.9	8.2	7.6	100.00 ?
7 Ti	87.781	2.075E-08	-2.4	37.7	27.0	100.00 ?
8 Cr	159.496	2.075E-08	0.2	15.3	14.3	431.57 ?
9 Mn	146.389	2.075E-08	74.8	22.8	17.7	2.27
10 Zn	99.907	2.075E-08	-0.6	49.4	41.7	100.00 ?
11 K	119.666	2.075E-08	-53.7	15.5	111.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	23.702	3.3216	22.357	1.0601	1.0568	1.0032	1.0000
MgO	1.857	0.4640	1.303	1.4253	0.9836	1.4416	1.0051
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	39.360	7.7741	39.643	0.9929	0.9837	1.0142	0.9952
SiO2	25.234	4.2284	20.364	1.2391	0.9769	1.2684	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.002	0.0003	0.002	0.9934	1.0549	1.0138	0.9288
MnO	0.677	0.0961	0.670	1.0105	1.0609	0.9525	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.832	15.8844	84.340	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 56 Comment : 30/4

Stage : X= 27.2680 Y= 84.5590 Z= 10.8860

Dated on Apr 1 21:54 1993

WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.076E-08	2885.2	32.5	27.7	0.45
2 Mg	107.512	2.076E-08	34.3	21.2	15.3	3.88
3 Ca	107.422	2.076E-08	7483.4	29.0	25.9	0.45
4 Al	90.572	2.076E-08	666.8	64.8	37.8	0.68
5 Si	77.295	2.076E-08	8231.1	225.6	113.3	0.46
6 Na	129.537	2.076E-08	-0.8	9.6	6.9	100.00 ?
7 Ti	87.781	2.076E-08	179.9	42.5	32.8	1.46
8 Cr	159.496	2.076E-08	-0.1	18.9	16.3	100.00 ?
9 Mn	146.389	2.076E-08	153.8	26.4	21.1	1.46
10 Zn	99.907	2.076E-08	-6.2	63.7	58.8	100.00 ?
11 K	119.666	2.076E-08	-52.0	17.9	116.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	24.058	3.5553	22.249	1.0813	1.0527	1.0272	1.0000
MgO	0.291	0.0765	0.186	1.5629	0.9817	1.5744	1.0112
CaO	31.803	6.0214	30.423	1.0454	1.0017	1.0205	1.0226
Al2O3	3.213	0.6691	3.082	1.0422	0.9818	1.0705	0.9916
SiO2	36.430	6.4372	36.316	1.0032	0.9751	1.0302	0.9987
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.958	0.1273	0.809	1.1840	1.0558	1.0910	1.0278
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.430	0.2140	1.378	1.0377	1.0571	0.9817	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 98.183 17.1009 94.443 Total O = 24.0 Iteration = 5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 57 Comment : 30/5

Stage : X= 25.7740 Y= 84.4155 Z= 10.8845

Dated on Apr 1 21:59 1993

WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.075E-08	10961.0	46.9	48.7	0.45
2 Mg	107.512	2.075E-08	-2.8	20.9	14.7	100.00 ?
3 Ca	107.422	2.075E-08	-4.9	35.8	29.0	100.00 ?
4 Al	90.572	2.075E-08	2.6	59.9	39.8	74.98 ?
5 Si	77.295	2.075E-08	7.2	237.7	138.0	90.76 ?
6 Na	129.537	2.075E-08	-3.9	10.2	7.6	100.00 ?
7 Ti	87.781	2.075E-08	3.4	54.6	48.6	58.84 ?
8 Cr	159.496	2.075E-08	-1.1	27.9	24.3	100.00 ?
9 Mn	146.389	2.075E-08	-1.8	36.4	32.1	100.00 ?
10 Zn	99.907	2.075E-08	-1.8	83.9	69.7	100.00 ?
11 K	119.666	2.075E-08	-196.0	27.6	404.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	83.478	23.9543	84.564	0.9872	0.9858	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.018	0.0072	0.012	1.4539	0.9252	1.5715	1.0000
SiO2	0.040	0.0137	0.032	1.2534	0.9189	1.3640	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.015	0.0038	0.015	0.9586	0.9920	1.0197	0.9475
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 83.551 23.9790 84.623 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 58 Comment : 30/6
 Stage : X= 25.4735 Y= 85.1705 Z= 10.8835
 Dated on Apr 1 22:04 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.075E-08	11387.5	46.3	47.4	0.45
2 Mg	107.512	2.075E-08	-2.2	19.5	14.9	100.00 ?
3 Ca	107.422	2.075E-08	-2.1	33.6	30.6	100.00 ?
4 Al	90.572	2.075E-08	4.8	58.8	41.7	41.96 ?
5 Si	77.295	2.075E-08	23.6	245.4	122.4	27.70
6 Na	129.537	2.075E-08	-2.3	11.0	8.6	100.00 ?
7 Ti	87.781	2.075E-08	37.1	61.0	49.7	6.27
8 Cr	159.496	2.075E-08	-0.8	26.9	24.7	100.00 ?
9 Mn	146.389	2.075E-08	21.2	37.0	30.6	7.51
10 Zn	99.907	2.075E-08	2.2	83.0	62.7	123.84 ?
11 K	119.666	2.075E-08	-200.3	24.5	416.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.749	23.7625	87.854	0.9874	0.9859	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.032	0.0123	0.022	1.4526	0.9253	1.5698	1.0000
SiO2	0.131	0.0428	0.104	1.2526	0.9190	1.3630	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.160	0.0395	0.167	0.9590	0.9922	1.0197	0.9479
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.179	0.0496	0.190	0.9418	0.9910	0.9504	1.0000
ZnO	0.020	0.0049	0.019	1.0862	1.0243	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.271	23.9116	88.356	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 59 Comment : 30/7
 Stage : X= 26.0835 Y= 85.4175 Z= 10.8835
 Dated on Apr 1 22:10 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.074E-08	5808.1	41.3	37.2	0.45
2 Mg	107.512	2.074E-08	71.3	21.2	16.3	2.31
3 Ca	107.422	2.074E-08	-3.5	31.7	25.3	100.00 ?
4 Al	90.572	2.074E-08	0.9	52.0	41.2	195.61 ?
5 Si	77.295	2.074E-08	-8.1	236.1	130.2	100.00 ?
6 Na	129.537	2.074E-08	-2.7	10.7	9.6	100.00 ?
7 Ti	87.781	2.074E-08	10835.2	58.4	52.1	0.45
8 Cr	159.496	2.074E-08	-4.0	23.6	19.3	100.00 ?
9 Mn	146.389	2.074E-08	230.8	29.5	29.1	1.18
10 Zn	99.907	2.074E-08	1.6	70.8	66.1	162.94 ?
11 K	119.666	2.074E-08	-92.4	22.2	197.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.750	8.0270	44.831	1.0428	1.0016	1.0412	1.0000
MgO	0.770	0.2358	0.387	1.9898	0.9374	2.0916	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.005	0.0013	0.004	1.2600	0.9375	1.3445	0.9997
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	49.778	7.6857	48.790	1.0202	1.0064	1.0044	1.0092
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.080	0.3616	2.069	1.0049	1.0063	0.9986	1.0000
ZnO	0.015	0.0022	0.013	1.0873	1.0429	1.0425	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	99.398	16.3136	96.096	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 60 Comment : 30/8

Stage : X= 26.9555 Y= 85.0410 Z= 10.8835

Dated on Apr 1 22:15 1993

WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.070E-08	1917.0	27.9	27.0	0.46
2 Mg	107.512	2.070E-08	2385.4	34.5	15.3	0.45
3 Ca	107.422	2.070E-08	-2.2	24.8	19.5	100.00 ?
4 Al	90.572	2.070E-08	6112.8	132.8	34.9	0.45
5 Si	77.295	2.070E-08	-41.0	295.2	91.9	100.00 ?
6 Na	129.537	2.070E-08	-3.8	9.9	7.7	100.00 ?
7 Ti	87.781	2.070E-08	184.2	41.2	35.4	1.44
8 Cr	159.496	2.070E-08	2940.1	19.9	19.1	0.45
9 Mn	146.389	2.070E-08	19.2	24.0	22.7	6.70
10 Zn	99.907	2.070E-08	1.0	57.5	55.4	206.52 ?
11 K	119.666	2.070E-08	-35.6	16.7	79.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	16.043	2.2946	14.826	1.0821	1.0407	1.0398	1.0000
MgO	19.759	5.0373	12.986	1.5216	0.9700	1.5530	1.0101
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	33.814	6.8161	28.340	1.1932	0.9700	1.2300	1.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.861	0.1107	0.831	1.0359	1.0435	1.0155	0.9776
Cr2O3	30.551	4.1310	29.978	1.0191	1.0393	1.0091	0.9717
MnO	0.171	0.0247	0.172	0.9917	1.0450	0.9491	1.0000
ZnO	0.010	0.0013	0.009	1.1091	1.0872	1.0201	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 101.209 18.4157 87.142 Total O = 24.0 Iteration = 6

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 61 Comment : 30/9

Stage : X= 26.6825 Y= 85.9425 Z= 10.8835

Dated on Apr 1 22:20 1993

WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.063E-08	11429.5	46.9	46.1	0.45
2 Mg	107.512	2.063E-08	-2.5	20.2	14.8	100.00 ?
3 Ca	107.422	2.063E-08	-1.4	34.4	28.5	100.00 ?
4 Al	90.572	2.063E-08	8.5	60.4	37.7	23.53
5 Si	77.295	2.063E-08	16.4	255.3	127.1	41.35 ?
6 Na	129.537	2.063E-08	-0.8	9.8	6.7	100.00 ?
7 Ti	87.781	2.063E-08	17.5	58.4	46.6	12.18
8 Cr	159.496	2.063E-08	-1.1	24.6	22.6	100.00 ?
9 Mn	146.389	2.063E-08	13.1	35.2	28.6	11.18
10 Zn	99.907	2.063E-08	0.7	81.0	67.7	409.08 ?
11 K	119.666	2.063E-08	-194.5	24.6	404.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.566	23.8384	88.691	0.9873	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.057	0.0220	0.039	1.4530	0.9253	1.5703	1.0000
SiO2	0.091	0.0297	0.073	1.2531	0.9190	1.3635	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.076	0.0186	0.079	0.9588	0.9921	1.0197	0.9477
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.111	0.0307	0.118	0.9417	0.9910	0.9503	1.0000
ZnO	0.006	0.0015	0.006	1.0862	1.0242	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 87.907 23.9408 89.007 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 62 Comment : 30/10
 Stage : X= 27.6100 Y= 86.2645 Z= 10.8835
 Dated on Apr 1 22:25 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.052E-08	10055.2	44.8	42.8	0.45
2 Mg	107.512	2.052E-08	8.2	19.3	14.4	12.55
3 Ca	107.422	2.052E-08	57.5	32.6	27.3	3.06
4 Al	90.572	2.052E-08	235.9	58.2	40.2	1.32
5 Si	77.295	2.052E-08	858.1	260.4	120.8	0.96
6 Na	129.537	2.052E-08	0.1	10.9	9.0	1412.44 ?
7 Ti	87.781	2.052E-08	27.2	57.6	48.1	8.08
8 Cr	159.496	2.052E-08	-5.1	26.5	23.6	100.00 ?
9 Mn	146.389	2.052E-08	8.5	38.3	29.7	17.57
10 Zn	99.907	2.052E-08	-0.5	74.7	61.3	100.00 ?
11 K	119.666	2.052E-08	-144.4	22.4	381.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	78.133	20.0476	78.445	0.9960	0.9941	1.0020	1.0000
MgO	0.103	0.0471	0.045	2.3007	0.9321	2.4334	1.0144
CaO	0.234	0.0768	0.237	0.9874	0.9497	1.0350	1.0045
Al2O3	1.557	0.5632	1.103	1.4118	0.9322	1.5156	0.9992
SiO2	4.740	1.4543	3.830	1.2375	0.9258	1.3366	1.0000
Na2O	0.001	0.0007	0.001	2.0185	1.0118	1.9953	0.9998
TiO2	0.121	0.0278	0.124	0.9755	0.9999	1.0211	0.9554
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.073	0.0190	0.077	0.9500	0.9991	0.9509	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	84.962	22.2366	83.861	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 63 Comment : 30/11
 Stage : X= 28.3100 Y= 85.2300 Z= 10.8835
 Dated on Apr 1 22:31 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.050E-08	10506.3	42.4	42.1	0.45
2 Mg	107.512	2.050E-08	-2.9	20.1	15.7	100.00 ?
3 Ca	107.422	2.050E-08	-1.9	35.0	28.8	100.00 ?
4 Al	90.572	2.050E-08	8.2	54.6	38.9	23.14
5 Si	77.295	2.050E-08	13.9	246.8	130.4	47.61 ?
6 Na	129.537	2.050E-08	-4.4	11.1	7.7	100.00 ?
7 Ti	87.781	2.050E-08	1223.4	63.2	47.7	0.49
8 Cr	159.496	2.050E-08	-4.6	26.9	22.4	100.00 ?
9 Mn	146.389	2.050E-08	238.8	39.3	28.3	1.18
10 Zn	99.907	2.050E-08	-2.7	76.2	69.2	100.00 ?
11 K	119.666	2.050E-08	-176.7	24.7	363.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	81.502	20.9010	82.044	0.9934	0.9874	1.0061	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.055	0.0199	0.039	1.4280	0.9264	1.5414	1.0000
SiO2	0.077	0.0236	0.062	1.2356	0.9201	1.3430	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	5.395	1.2441	5.574	0.9679	0.9935	1.0178	0.9573
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.055	0.5338	2.166	0.9487	0.9924	0.9559	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.084	22.7224	89.884	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 36 Comment : 31/1
 Stage : X= 22.034 Y= 43.448 Z= 10.705
 Dated on Mar 18 19:29 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.999E-08	13086.9	57.7	50.3	0.45
2 Mg	107.930	1.999E-08	-3.8	22.1	15.4	100.00 ?
3 Ca	107.963	1.999E-08	-3.7	31.1	26.4	100.00 ?
4 Al	91.004	1.999E-08	-6.5	61.5	41.4	100.00 ?
5 Si	77.720	1.999E-08	-0.5	136.3	84.8	100.00 ?
6 Na	129.948	1.999E-08	-5.3	11.8	8.9	100.00 ?
7 Ti	88.392	1.999E-08	34.6	61.3	49.4	6.68
8 Cr	158.287	1.999E-08	0.5	28.5	25.6	259.70 ?
9 Mn	145.184	1.999E-08	-2.0	41.0	33.1	100.00 ?
10 Zn	98.703	1.999E-08	-1.4	94.0	78.7	100.00 ?
11 K	120.232	1.999E-08	-172.4	16.9	357.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.245	23.9230	90.397	0.9873	0.9857	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.157	0.0379	0.164	0.9587	0.9920	1.0197	0.9478
Cr2O3	0.003	0.0008	0.004	0.7664	0.9708	1.0073	0.7838
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.405	23.9617	90.565	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 37 Comment : 31/2
 Stage : X= 21.901 Y= 43.926 Z= 10.705
 Dated on Mar 18 19:34 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.000E-08	12988.8	50.8	49.9	0.45
2 Mg	107.930	2.000E-08	-5.1	22.7	17.5	100.00 ?
3 Ca	107.963	2.000E-08	-4.1	32.3	25.9	100.00 ?
4 Al	91.004	2.000E-08	33.3	56.2	37.2	6.20
5 Si	77.720	2.000E-08	6.4	143.3	88.8	64.58 ?
6 Na	129.948	2.000E-08	-5.0	10.7	9.3	100.00 ?
7 Ti	88.392	2.000E-08	15.2	59.4	45.2	13.91
8 Cr	158.287	2.000E-08	-1.9	30.6	28.2	100.00 ?
9 Mn	145.184	2.000E-08	27.8	43.5	35.8	6.51
10 Zn	98.703	2.000E-08	-5.4	88.0	82.7	100.00 ?
11 K	120.232	2.000E-08	-165.7	19.2	347.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.544	23.7638	89.674	0.9874	0.9859	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.222	0.0839	0.153	1.4522	0.9254	1.5693	1.0000
SiO2	0.035	0.0111	0.026	1.3222	0.9238	1.4296	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.069	0.0166	0.072	0.9589	0.9922	1.0197	0.9477
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.201	0.0548	0.214	0.9418	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.071	23.9303	90.139	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 38 Comment : 31/3
 Stage : X= 21.215 Y= 43.926 Z= 10.705
 Dated on Mar 18 19:40 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.998E-08	12748.3	54.3	51.3	0.45
2 Mg	107.930	1.998E-08	-1.9	23.6	15.1	100.00 ?
3 Ca	107.963	1.998E-08	-4.4	32.1	26.7	100.00 ?
4 Al	91.004	1.998E-08	8.5	56.1	41.9	23.19
5 Si	77.720	1.998E-08	16.0	137.5	80.5	24.79
6 Na	129.948	1.998E-08	-5.3	11.4	9.3	100.00 ?
7 Ti	88.392	1.998E-08	36.3	58.0	44.4	6.06
8 Cr	158.287	1.998E-08	-1.7	29.6	28.8	100.00 ?
9 Mn	145.184	1.998E-08	29.2	41.8	34.7	6.09
10 Zn	98.703	1.998E-08	-2.5	93.5	76.6	100.00 ?
11 K	120.232	1.998E-08	-183.8	18.4	379.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.993	23.7710	88.102	0.9874	0.9859	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.057	0.0218	0.039	1.4525	0.9253	1.5697	1.0000
SiO2	0.087	0.0283	0.066	1.3212	0.9238	1.4286	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.165	0.0405	0.172	0.9589	0.9922	1.0197	0.9478
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.212	0.0587	0.225	0.9418	0.9910	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.514	23.9203	88.604	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 39 Comment : 31/4
 Stage : X= 22.255 Y= 44.490 Z= 10.705
 Dated on Mar 18 19:45 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.998E-08	11707.9	53.8	47.0	0.45
2 Mg	107.930	1.998E-08	22.3	24.3	16.2	5.63
3 Ca	107.963	1.998E-08	-3.9	33.4	24.4	100.00 ?
4 Al	91.004	1.998E-08	10.6	60.6	43.3	19.70
5 Si	77.720	1.998E-08	-5.7	142.9	83.4	100.00 ?
6 Na	129.948	1.998E-08	-5.6	11.9	9.3	100.00 ?
7 Ti	88.392	1.998E-08	2124.7	59.6	48.0	0.47
8 Cr	158.287	1.998E-08	20.3	27.7	26.7	6.86
9 Mn	145.184	1.998E-08	-4.0	43.8	34.2	100.00 ?
10 Zn	98.703	1.998E-08	-4.3	84.7	79.0	100.00 ?
11 K	120.232	1.998E-08	-157.4	18.6	321.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	80.863	19.5259	80.912	0.9994	0.9894	1.0101	1.0000
MgO	0.271	0.1167	0.118	2.3026	0.9280	2.4450	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.069	0.0233	0.048	1.4140	0.9281	1.5236	0.9999
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	9.831	2.1348	10.060	0.9772	0.9954	1.0165	0.9658
Cr2O3	0.154	0.0352	0.184	0.8382	0.9742	1.0210	0.8427
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.188	21.8359	91.323	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 40 Comment : 31/5
 Stage : X= 21.706 Y= 44.458 Z= 10.705
 Dated on Mar 18 19:50 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.999E-08	12985.8	53.3	48.0	0.45
2 Mg	107.930	1.999E-08	-3.8	22.2	15.4	100.00 ?
3 Ca	107.963	1.999E-08	-2.6	29.9	25.2	100.00 ?
4 Al	91.004	1.999E-08	-0.2	60.2	40.3	100.00 ?
5 Si	77.720	1.999E-08	10.5	134.2	84.9	37.74 ?
6 Na	129.948	1.999E-08	-5.0	11.8	8.2	100.00 ?
7 Ti	88.392	1.999E-08	6.3	62.5	44.8	33.41 ?
8 Cr	158.287	1.999E-08	1.2	27.8	24.9	100.68 ?
9 Mn	145.184	1.999E-08	12.1	43.6	37.1	14.20
10 Zn	98.703	1.999E-08	-2.2	91.8	77.6	100.00 ?
11 K	120.232	1.999E-08	-175.7	19.7	361.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.548	23.9225	89.698	0.9872	0.9857	1.0014	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.056	0.0182	0.043	1.3218	0.9237	1.4293	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.029	0.0070	0.030	0.9585	0.9920	1.0197	0.9475
Cr2O3	0.008	0.0021	0.011	0.7657	0.9708	1.0071	0.7832
MnO	0.088	0.0240	0.093	0.9415	0.9908	0.9502	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.729	23.9737	89.875	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 41 Comment : 31/6
 Stage : X= 22.058 Y= 44.986 Z= 10.709
 Dated on Mar 18 19:56 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	1.998E-08	6435.1	44.3	39.8	0.45
2 Mg	107.930	1.998E-08	9.2	21.6	14.9	11.56
3 Ca	107.963	1.998E-08	-7.5	31.4	23.7	100.00 ?
4 Al	91.004	1.998E-08	-4.1	61.8	36.4	100.00 ?
5 Si	77.720	1.998E-08	-5.3	131.7	89.0	100.00 ?
6 Na	129.948	1.998E-08	-4.8	11.5	8.1	100.00 ?
7 Ti	88.392	1.998E-08	11022.7	58.2	45.3	0.45
8 Cr	158.287	1.998E-08	5.8	26.0	22.4	20.18
9 Mn	145.184	1.998E-08	56.6	36.4	30.4	3.24
10 Zn	98.703	1.998E-08	-1.3	84.5	73.1	100.00 ?
11 K	120.232	1.998E-08	-86.8	17.5	181.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	46.511	7.7966	44.472	1.0458	1.0020	1.0438	1.0000
MgO	0.097	0.0289	0.049	1.9789	0.9377	2.0793	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	53.360	8.0435	52.192	1.0224	1.0068	1.0036	1.0118
Cr2O3	0.054	0.0085	0.053	1.0185	0.9859	1.0773	0.9590
MnO	0.440	0.0746	0.436	1.0084	1.0067	1.0017	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.462	15.9522	97.201	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 42 Comment : 31/7
 Stage : X= 21.636 Y= 45.075 Z= 10.709
 Dated on Mar 18 20:01 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	1.999E-08	13111.1	53.6	51.8	0.45
2 Mg	107.930	1.999E-08	-4.2	22.9	15.5	100.00 ?
3 Ca	107.963	1.999E-08	-4.3	32.7	25.8	100.00 ?
4 Al	91.004	1.999E-08	35.8	56.8	41.6	6.00
5 Si	77.720	1.999E-08	10.7	147.5	91.1	40.02 ?
6 Na	129.948	1.999E-08	-4.4	11.2	7.6	100.00 ?
7 Ti	88.392	1.999E-08	11.2	59.2	43.5	18.47
8 Cr	158.287	1.999E-08	-2.2	29.0	25.5	100.00 ?
9 Mn	145.184	1.999E-08	8.7	41.0	31.6	18.02
10 Zn	98.703	1.999E-08	0.1	91.2	78.5	2572.27 ?
11 K	120.232	1.999E-08	-183.2	18.8	377.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	89.427	23.7878	90.564	0.9874	0.9860	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.238	0.0893	0.164	1.4522	0.9254	1.5693	1.0000
SiO2	0.058	0.0183	0.044	1.3224	0.9239	1.4297	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.051	0.0121	0.053	0.9591	0.9923	1.0197	0.9478
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.063	0.0170	0.067	0.9418	0.9911	0.9503	1.0000
ZnO	0.001	0.0002	0.001	1.0863	1.0244	1.0604	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	89.838	23.9249	90.892	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 43 Comment : 31/8
 Stage : X= 62.219 Y= 86.022 Z= 10.536
 Dated on Mar 19 15:48 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.163E-08	13871.6	58.3	53.7	0.45
2 Mg	107.942	2.163E-08	-0.3	22.1	18.4	100.00 ?
3 Ca	107.967	2.163E-08	-2.0	33.8	30.2	100.00 ?
4 Al	91.015	2.163E-08	13.6	66.1	41.7	16.01
5 Si	77.725	2.163E-08	21.5	152.7	89.5	20.42
6 Na	129.960	2.163E-08	-2.8	10.5	10.1	100.00 ?
7 Ti	88.424	2.163E-08	19.4	63.6	52.6	11.89
8 Cr	158.287	2.163E-08	10.1	31.2	28.6	13.69
9 Mn	145.203	2.163E-08	13.4	42.6	35.6	12.59
10 Zn	98.703	2.163E-08	-0.1	99.8	85.5	100.00 ?
11 K	120.226	2.163E-08	-191.8	22.0	396.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.251	23.7942	89.370	0.9875	0.9859	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.084	0.0318	0.058	1.4526	0.9253	1.5698	1.0000
SiO2	0.107	0.0344	0.081	1.3215	0.9238	1.4288	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.083	0.0200	0.086	0.9590	0.9922	1.0197	0.9478
Cr2O3	0.065	0.0165	0.085	0.7669	0.9709	1.0072	0.7843
MnO	0.090	0.0246	0.096	0.9418	0.9910	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.680	23.9215	89.775	Total O = 24.0		Iteration = 3	

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 44 Comment : 31/9
 Stage : X= 20.832 Y= 44.684 Z= 10.707
 Dated on Mar 18 20:12 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.000E-08	4514.5	41.0	37.0	0.45
2 Mg	107.930	2.000E-08	6.1	22.1	15.8	17.32
3 Ca	107.963	2.000E-08	5.4	28.2	21.0	21.94
4 Al	91.004	2.000E-08	17.0	56.1	39.9	11.73
5 Si	77.720	2.000E-08	18.3	120.9	82.6	20.27
6 Na	129.948	2.000E-08	-5.1	10.7	9.5	100.00 ?
7 Ti	88.392	2.000E-08	12028.9	57.4	44.6	0.45
8 Cr	158.287	2.000E-08	-4.8	23.5	21.1	100.00 ?
9 Mn	145.184	2.000E-08	85.3	33.0	26.4	2.28
10 Zn	98.703	2.000E-08	-3.0	77.4	73.7	100.00 ?
11 K	120.232	2.000E-08	-64.6	15.5	138.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.963	5.6657	31.168	1.0576	1.0052	1.0521	1.0000
MgO	0.061	0.0186	0.032	1.8946	0.9402	1.9856	1.0149
CaO	0.022	0.0049	0.024	0.9168	0.9586	1.0007	0.9557
Al2O3	0.094	0.0228	0.078	1.2058	0.9403	1.2829	0.9996
SiO2	0.085	0.0175	0.075	1.1416	0.9387	1.2159	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.631	9.0624	56.899	1.0304	1.0097	1.0005	1.0200
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.670	0.1167	0.656	1.0219	1.0099	1.0119	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.526	14.9087	88.932	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 45 Comment : 31/10
 Stage : X= 60.739 Y= 86.430 Z= 10.545
 Dated on Mar 19 15:57 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.158E-08	13591.2	55.7	54.4	0.45
2 Mg	107.942	2.158E-08	-4.0	25.0	18.0	100.00 ?
3 Ca	107.967	2.158E-08	-0.6	33.9	27.4	100.00 ?
4 Al	91.015	2.158E-08	11.2	69.2	43.4	19.97
5 Si	77.725	2.158E-08	59.8	144.9	90.6	7.30
6 Na	129.960	2.158E-08	-3.2	11.5	10.0	100.00 ?
7 Ti	88.424	2.158E-08	36.0	65.3	47.7	6.56
8 Cr	158.287	2.158E-08	3.5	29.3	28.6	36.58 ?
9 Mn	145.203	2.158E-08	41.2	43.0	34.6	4.55
10 Zn	98.703	2.158E-08	-1.8	98.3	90.2	100.00 ?
11 K	120.226	2.158E-08	-201.5	20.9	417.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.688	23.6062	87.767	0.9877	0.9861	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.069	0.0265	0.048	1.4510	0.9255	1.5678	1.0000
SiO2	0.297	0.0968	0.225	1.3203	0.9240	1.4273	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.153	0.0376	0.160	0.9594	0.9924	1.0197	0.9481
Cr2O3	0.023	0.0059	0.030	0.7682	0.9712	1.0073	0.7853
MnO	0.278	0.0766	0.295	0.9421	0.9912	0.9504	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.508	23.8495	88.524	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 46 Comment : 32/1
 Stage : X= 27.905 Y= 42.626 Z= 10.704
 Dated on Mar 18 20:23 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.005E-08	4758.9	38.1	35.6	0.45
2 Mg	107.930	2.005E-08	9.1	22.0	14.8	11.77
3 Ca	107.963	2.005E-08	1.2	31.2	21.5	102.30 ?
4 Al	91.004	2.005E-08	3.9	51.9	40.2	46.78 ?
5 Si	77.720	2.005E-08	8.2	124.7	79.0	45.32 ?
6 Na	129.948	2.005E-08	-2.4	11.4	8.4	100.00 ?
7 Ti	88.392	2.005E-08	11926.4	54.7	42.8	0.45
8 Cr	158.287	2.005E-08	-3.4	25.7	21.2	100.00 ?
9 Mn	145.184	2.005E-08	85.4	31.6	27.5	2.27
10 Zn	98.703	2.005E-08	3.1	78.5	70.2	87.02 ?
11 K	120.232	2.005E-08	-63.0	17.0	134.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.605	5.9416	32.773	1.0559	1.0047	1.0510	1.0000
MgO	0.091	0.0280	0.048	1.9070	0.9398	1.9994	1.0149
CaO	0.005	0.0011	0.005	0.9184	0.9581	1.0014	0.9572
Al2O3	0.022	0.0053	0.018	1.2124	0.9399	1.2904	0.9996
SiO2	0.038	0.0078	0.033	1.1459	0.9383	1.2209	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.920	8.9429	56.274	1.0293	1.0093	1.0009	1.0189
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.669	0.1163	0.655	1.0200	1.0094	1.0105	1.0000
ZnO	0.025	0.0038	0.023	1.0872	1.0466	1.0388	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.375	15.0467	89.830	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 47 Comment : 32/2
 Stage : X= 27.099 Y= 43.111 Z= 10.704
 Dated on Mar 18 20:28 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	11362.0	50.6	47.0	0.45
2 Mg	107.930	2.008E-08	17.4	23.4	16.8	6.90
3 Ca	107.963	2.008E-08	-5.3	30.9	24.6	100.00 ?
4 Al	91.004	2.008E-08	28.1	59.4	39.4	7.53
5 Si	77.720	2.008E-08	-8.3	148.0	93.7	100.00 ?
6 Na	129.948	2.008E-08	-3.0	11.7	9.4	100.00 ?
7 Ti	88.392	2.008E-08	2529.1	60.3	47.0	0.46
8 Cr	158.287	2.008E-08	29.6	29.3	26.4	5.02
9 Mn	145.184	2.008E-08	5.3	38.1	31.3	28.15
10 Zn	98.703	2.008E-08	0.1	86.0	78.8	2400.81 ?
11 K	120.232	2.008E-08	-167.6	17.9	342.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	78.274	18.7105	78.131	1.0018	0.9901	1.0118	1.0000
MgO	0.209	0.0892	0.092	2.2856	0.9285	2.4255	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.180	0.0607	0.128	1.4049	0.9286	1.5129	0.9999
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	11.682	2.5111	11.916	0.9804	0.9961	1.0159	0.9689
Cr2O3	0.228	0.0515	0.268	0.8507	0.9749	1.0238	0.8524
MnO	0.039	0.0094	0.041	0.9578	0.9951	0.9625	1.0000
ZnO	0.001	0.0002	0.001	1.0869	1.0293	1.0559	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	90.613	21.4327	90.576	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 48 Comment : 32/3
 Stage : X= 27.883 Y= 43.167 Z= 10.704
 Dated on Mar 18 20:33 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.008E-08	4056.7	38.3	35.1	0.45
2 Mg	107.930	2.008E-08	34.0	22.2	14.8	3.92
3 Ca	107.963	2.008E-08	8.1	27.3	21.6	14.93
4 Al	91.004	2.008E-08	18.3	58.1	40.3	11.16
5 Si	77.720	2.008E-08	16.9	129.1	87.2	23.18
6 Na	129.948	2.008E-08	-2.8	11.7	8.9	100.00 ?
7 Ti	88.392	2.008E-08	12758.7	56.5	41.6	0.45
8 Cr	158.287	2.008E-08	3.5	21.5	21.6	31.28
9 Mn	145.184	2.008E-08	78.6	31.0	26.9	2.39
10 Zn	98.703	2.008E-08	-2.7	78.9	66.6	100.00 ?
11 K	120.232	2.008E-08	-56.4	16.5	121.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.623	4.9700	27.896	1.0619	1.0066	1.0550	1.0000
MgO	0.333	0.0997	0.179	1.8627	0.9413	1.9499	1.0149
CaO	0.033	0.0071	0.036	0.9124	0.9597	0.9988	0.9519
Al2O3	0.100	0.0236	0.084	1.1922	0.9414	1.2670	0.9996
SiO2	0.078	0.0156	0.068	1.1317	0.9398	1.2041	1.0001
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.119	9.3719	60.111	1.0334	1.0110	0.9995	1.0227
Cr2O3	0.033	0.0053	0.031	1.0646	0.9902	1.0961	0.9809
MnO	0.618	0.1050	0.602	1.0268	1.0112	1.0154	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.937	14.5981	89.007	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 49 Comment : 32/4
 Stage : X= 27.108 Y= 44.045 Z= 10.704
 Dated on Mar 18 20:39 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	133.659	2.007E-08	3875.3	39.9	34.8	0.45
2 Mg	107.930	2.007E-08	19.2	21.1	15.5	6.15
3 Ca	107.963	2.007E-08	14.9	28.1	22.0	8.64
4 Al	91.004	2.007E-08	42.5	56.7	38.4	5.05
5 Si	77.720	2.007E-08	22.8	137.8	81.6	17.61
6 Na	129.948	2.007E-08	-1.5	10.4	7.7	100.00 ?
7 Ti	88.392	2.007E-08	12310.3	62.0	45.3	0.45
8 Cr	158.287	2.007E-08	-1.9	23.3	20.4	100.00 ?
9 Mn	145.184	2.007E-08	312.0	30.6	25.7	0.98
10 Zn	98.703	2.007E-08	-3.6	81.6	65.6	100.00 ?
11 K	120.232	2.007E-08	-50.2	15.8	114.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.268	4.8601	26.662	1.0603	1.0060	1.0540	1.0000
MgO	0.189	0.0579	0.101	1.8666	0.9408	1.9551	1.0148
CaO	0.061	0.0135	0.067	0.9133	0.9592	0.9992	0.9530
Al2O3	0.231	0.0560	0.194	1.1928	0.9408	1.2684	0.9996
SiO2	0.105	0.0216	0.093	1.1331	0.9393	1.2062	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.875	9.2572	58.027	1.0318	1.0104	0.9997	1.0215
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	2.451	0.4268	2.392	1.0249	1.0106	1.0142	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.180	14.6932	87.535	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 50 Comment : 32/5
 Stage : X= 28.601 Y= 44.154 Z= 10.707
 Dated on Mar 18 20:44 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	12988.5	53.4	48.6	0.45
2 Mg	107.930	2.008E-08	-4.0	23.0	14.9	100.00 ?
3 Ca	107.963	2.008E-08	-4.1	32.9	25.4	100.00 ?
4 Al	91.004	2.008E-08	4.1	59.6	42.3	49.58 ?
5 Si	77.720	2.008E-08	8.6	147.3	85.6	48.77 ?
6 Na	129.948	2.008E-08	-2.9	11.4	9.5	100.00 ?
7 Ti	88.392	2.008E-08	87.0	57.8	48.2	2.89
8 Cr	158.287	2.008E-08	3.5	31.0	27.0	36.83 ?
9 Mn	145.184	2.008E-08	63.5	43.8	34.3	3.19
10 Zn	98.703	2.008E-08	-1.3	94.1	78.4	100.00 ?
11 K	120.232	2.008E-08	-178.4	18.9	368.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	88.206	23.6321	89.315	0.9876	0.9858	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.027	0.0101	0.019	1.4515	0.9253	1.5688	1.0000
SiO2	0.046	0.0148	0.035	1.3203	0.9237	1.4277	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.393	0.0947	0.410	0.9591	0.9921	1.0196	0.9482
Cr2O3	0.024	0.0062	0.032	0.7695	0.9708	1.0076	0.7867
MnO	0.458	0.1244	0.487	0.9420	0.9909	0.9506	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 89.154 23.8823 90.297 Total O = 24.0 Iteration = 3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 51 Comment : 32/6
 Stage : X= 27.581 Y= 44.153 Z= 10.707
 Dated on Mar 19 14:42 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.153E-08	-3.1	3.1	3.1	100.00 ?
2 Mg	107.942	2.153E-08	-4.3	10.6	8.0	100.00 ?
3 Ca	107.967	2.153E-08	-2.4	2.7	2.1	100.00 ?
4 Al	91.015	2.153E-08	-4.4	32.2	21.5	100.00 ?
5 Si	77.725	2.153E-08	-2.3	104.1	45.5	100.00 ?
6 Na	129.960	2.153E-08	-1.7	4.6	3.8	100.00 ?
7 Ti	88.424	2.153E-08	-3.5	3.8	3.3	100.00 ?
8 Cr	158.287	2.153E-08	-2.5	2.6	2.4	100.00 ?
9 Mn	145.203	2.153E-08	-3.7	3.4	4.0	100.00 ?
10 Zn	98.703	2.153E-08	-3.0	6.6	9.5	100.00 ?
11 K	120.226	2.153E-08	721.7	1.3	1.5	0.59

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	3.059	48.0000	3.552	0.8613	0.9572	0.8996	1.0003

Total 3.059 48.0000 3.552 Total O = 24.0 Iteration = 2

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 52 Comment : 32/7
 Stage : X= 27.581 Y= 44.642 Z= 10.707
 Dated on Mar 18 20:55 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.009E-08	12622.2	51.9	54.2	0.45
2 Mg	107.930	2.009E-08	-3.2	22.0	14.4	100.00 ?
3 Ca	107.963	2.009E-08	-4.3	32.0	26.6	100.00 ?
4 Al	91.004	2.009E-08	4.0	62.0	40.1	51.12 ?
5 Si	77.720	2.009E-08	21.4	142.7	84.5	19.35
6 Na	129.948	2.009E-08	-2.4	11.5	8.4	100.00 ?
7 Ti	88.392	2.009E-08	213.3	58.3	45.3	1.43
8 Cr	158.287	2.009E-08	2.4	28.6	26.6	50.87 ?
9 Mn	145.184	2.009E-08	169.1	41.9	30.0	1.50
10 Zn	98.703	2.009E-08	-1.6	92.7	80.5	100.00 ?
11 K	120.232	2.009E-08	-174.4	20.1	358.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	85.731	23.1044	86.753	0.9882	0.9860	1.0023	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.026	0.0099	0.018	1.4476	0.9254	1.5644	1.0000
SiO2	0.114	0.0369	0.087	1.3174	0.9238	1.4244	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.964	0.2336	1.004	0.9599	0.9923	1.0193	0.9491
Cr2O3	0.017	0.0043	0.022	0.7759	0.9710	1.0084	0.7924
MnO	1.220	0.3331	1.295	0.9427	0.9911	0.9512	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.072	23.7223	89.179	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 53 Comment : 32/8
 Stage : X= 27.848 Y= 45.086 Z= 10.707
 Dated on Mar 18 21:00 1993
 WDS only

Element	Peak (nm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.008E-08	13009.8	53.2	49.8	0.45
2 Mg	107.930	2.008E-08	-3.9	22.6	15.2	100.00 ?
3 Ca	107.963	2.008E-08	1.5	31.8	25.2	85.37 ?
4 Al	91.004	2.008E-08	11.5	59.5	42.6	17.92
5 Si	77.720	2.008E-08	1.9	151.1	100.1	232.37 ?
6 Na	129.948	2.008E-08	-2.2	10.8	8.5	100.00 ?
7 Ti	88.392	2.008E-08	26.9	60.7	50.5	8.45
8 Cr	158.287	2.008E-08	0.9	27.7	25.5	127.68 ?
9 Mn	145.184	2.008E-08	21.8	38.4	33.0	7.56
10 Zn	98.703	2.008E-08	-1.1	95.8	76.5	100.00 ?
11 K	120.232	2.008E-08	-156.8	18.5	325.1	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation K (%)	ZAF	Z	A	F	
FeO	88.325	23.8432	89.462	0.9873	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.006	0.0022	0.007	0.9764	0.9424	1.0337	1.0023
Al2O3	0.076	0.0290	0.052	1.4530	0.9252	1.5705	1.0000
SiO2	0.010	0.0033	0.008	1.3218	0.9237	1.4293	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.122	0.0295	0.127	0.9588	0.9921	1.0197	0.9477
Cr2O3	0.006	0.0016	0.008	0.7667	0.9708	1.0072	0.7841
MnO	0.157	0.0430	0.167	0.9417	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	88.702	23.9519	89.831	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 54 Comment : 32/9
 Stage : X= 28.581 Y= 45.706 Z= 10.709
 Dated on Mar 18 21:06 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.009E-08	4500.3	38.1	34.8	0.45
2 Mg	107.930	2.009E-08	2.8	21.5	17.9	36.68 ?
3 Ca	107.963	2.009E-08	11.6	30.8	21.0	11.14
4 Al	91.004	2.009E-08	13.1	59.1	39.7	15.45
5 Si	77.720	2.009E-08	21.0	125.1	83.0	18.08
6 Na	129.948	2.009E-08	-3.0	11.5	9.5	100.00 ?
7 Ti	88.392	2.009E-08	12027.0	52.7	42.5	0.45
8 Cr	158.287	2.009E-08	0.3	24.7	19.7	352.33 ?
9 Mn	145.184	2.009E-08	222.1	33.2	27.7	1.21
10 Zn	98.703	2.009E-08	-3.0	81.9	74.1	100.00 ?
11 K	120.232	2.009E-08	-65.6	16.9	139.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	32.682	5.6106	30.931	1.0566	1.0048	1.0516	1.0000
MgO	0.028	0.0086	0.015	1.8973	0.9399	1.9891	1.0149
CaO	0.048	0.0105	0.052	0.9172	0.9582	1.0008	0.9563
Al2O3	0.072	0.0175	0.060	1.2069	0.9400	1.2845	0.9996
SiO2	0.097	0.0200	0.085	1.1422	0.9384	1.2169	1.0002
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.305	9.0008	56.636	1.0295	1.0094	1.0007	1.0192
Cr2O3	0.003	0.0005	0.003	1.0520	0.9886	1.0904	0.9760
MnO	1.736	0.3019	1.701	1.0208	1.0095	1.0112	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.971	14.9703	89.482	Total O =	24.0	Iteration =	4

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 55 Comment : 32/10
 Stage : X= 27.240 Y= 46.495 Z= 10.709
 Dated on Mar 18 21:11 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.010E-08	12814.0	55.5	49.8	0.45
2 Mg	107.930	2.010E-08	-2.6	24.0	16.1	100.00 ?
3 Ca	107.963	2.010E-08	-0.3	33.5	27.1	100.00 ?
4 Al	91.004	2.010E-08	7.0	62.2	38.7	28.84
5 Si	77.720	2.010E-08	13.7	140.9	91.7	30.43
6 Na	129.948	2.010E-08	-4.2	13.8	9.5	100.00 ?
7 Ti	88.392	2.010E-08	14.5	63.2	47.9	15.30
8 Cr	158.287	2.010E-08	12.2	28.7	26.8	10.88
9 Mn	145.184	2.010E-08	16.3	41.3	31.2	10.00
10 Zn	98.703	2.010E-08	0.6	92.1	81.8	548.42 ?
11 K	120.232	2.010E-08	-176.7	17.2	366.2	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	86.918	23.8260	88.028	0.9874	0.9858	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.047	0.0180	0.032	1.4530	0.9253	1.5703	1.0000
SiO2	0.074	0.0241	0.056	1.3215	0.9238	1.4290	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.065	0.0161	0.068	0.9588	0.9921	1.0197	0.9478
Cr2O3	0.085	0.0220	0.110	0.7668	0.9709	1.0071	0.7842
MnO	0.117	0.0326	0.125	0.9417	0.9909	0.9503	1.0000
ZnO	0.005	0.0011	0.004	1.0862	1.0242	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.311	23.9398	88.423	Total O =	24.0	Iteration =	3

Intensity & Wt. % Unknown Specimen
 Group : silicates Sample : NAT92_19_10_3
 UNK No. : 56 Comment : 32/11
 Stage : X= 67.490 Y= 87.764 Z= 10.493
 Dated on Mar 19 16:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	133.659	2.157E-08	13351.9	55.8	52.9	0.45
2 Mg	107.942	2.157E-08	-3.6	24.3	17.9	100.00 ?
3 Ca	107.967	2.157E-08	21.7	32.7	28.9	6.94
4 Al	91.015	2.157E-08	150.1	66.4	43.4	1.92
5 Si	77.725	2.157E-08	430.4	159.9	90.1	1.29
6 Na	129.960	2.157E-08	-3.4	12.5	9.4	100.00 ?
7 Ti	88.424	2.157E-08	-1.3	65.3	52.4	100.00 ?
8 Cr	158.287	2.157E-08	-2.0	31.0	28.0	100.00 ?
9 Mn	145.203	2.157E-08	-5.0	44.4	35.7	100.00 ?
10 Zn	98.703	2.157E-08	-6.5	106.2	86.8	100.00 ?
11 K	120.226	2.157E-08	-168.4	20.0	361.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	85.487	22.1482	86.261	0.9910	0.9894	1.0016	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.088	0.0291	0.089	0.9814	0.9456	1.0344	1.0034
Al2O3	0.915	0.3340	0.637	1.4351	0.9283	1.5464	0.9997
SiO2	2.133	0.6609	1.621	1.3158	0.9268	1.4181	1.0011
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 88.623 23.1721 88.609 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 31 Comment : 33/1
 Stage : X= 68.9995 Y= 75.2525 Z= 10.6850
 Dated on Apr 1 19:36 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.040E-08	6237.3	40.6	38.6	0.45
2 Mg	107.512	2.040E-08	8.9	21.8	15.5	12.14
3 Ca	107.422	2.040E-08	-4.1	33.5	24.8	100.00 ?
4 Al	90.572	2.040E-08	-6.2	58.4	38.9	100.00 ?
5 Si	77.295	2.040E-08	-9.4	231.6	127.4	100.00 ?
6 Na	129.537	2.040E-08	-4.2	10.7	7.8	100.00 ?
7 Ti	87.781	2.040E-08	10213.0	62.3	47.3	0.45
8 Cr	159.496	2.040E-08	-2.1	24.0	20.2	100.00 ?
9 Mn	146.389	2.040E-08	71.2	32.1	25.5	2.57
10 Zn	99.907	2.040E-08	-4.6	76.7	67.6	100.00 ?
11 K	119.666	2.040E-08	-95.5	23.0	202.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	50.900	8.8949	48.946	1.0399	1.0004	1.0395	1.0000
MgO	0.099	0.0308	0.049	2.0192	0.9365	2.1246	1.0149
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	47.597	7.4796	46.755	1.0180	1.0054	1.0052	1.0073
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.650	0.1151	0.649	1.0017	1.0052	0.9966	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 99.246 16.5204 96.399 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 32 Comment : 33/2
 Stage : X= 68.1565 Y= 75.5910 Z= 10.6850
 Dated on Apr 1 19:42 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.038E-08	3639.9	35.9	32.6	0.45
2 Mg	107.512	2.038E-08	26.1	22.4	15.5	4.85
3 Ca	107.422	2.038E-08	26.3	29.4	28.1	5.64
4 Al	90.572	2.038E-08	71.3	53.4	38.9	3.17
5 Si	77.295	2.038E-08	36.7	223.7	122.9	16.74
6 Na	129.537	2.038E-08	-4.4	10.7	8.1	100.00 ?
7 Ti	87.781	2.038E-08	13127.7	57.2	45.5	0.45
8 Cr	159.496	2.038E-08	8.0	21.1	17.9	13.55
9 Mn	146.389	2.038E-08	123.3	30.6	22.9	1.72
10 Zn	99.907	2.038E-08	1.6	65.9	55.9	147.21 ?
11 K	119.666	2.038E-08	-61.2	21.3	141.0	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	30.335	5.0106	28.591	1.0610	1.0065	1.0542	1.0000
MgO	0.269	0.0791	0.144	1.8657	0.9413	1.9532	1.0148
CaO	0.100	0.0211	0.109	0.9143	0.9597	0.9994	0.9533
Al2O3	0.401	0.0933	0.336	1.1931	0.9413	1.2680	0.9996
SiO2	0.178	0.0351	0.165	1.0757	0.9349	1.1517	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	62.152	9.2316	60.158	1.0331	1.0109	0.9999	1.0220
Cr2O3	0.088	0.0138	0.083	1.0653	1.0061	1.0984	0.9639
MnO	1.154	0.1930	1.125	1.0255	1.0111	1.0143	1.0000
ZnO	0.015	0.0022	0.014	1.0875	1.0488	1.0369	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	94.692	14.6798	90.725	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 33 Comment : 33/3
 Stage : X= 70.1450 Y= 75.8955 Z= 10.6820
 Dated on Apr 1 19:47 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.037E-08	3811.5	37.9	32.7	0.45
2 Mg	107.512	2.037E-08	2.1	20.6	15.1	45.24 ?
3 Ca	107.422	2.037E-08	13.3	31.5	26.9	10.43
4 Al	90.572	2.037E-08	24.3	53.6	37.8	8.12
5 Si	77.295	2.037E-08	19.6	220.7	120.3	30.78
6 Na	129.537	2.037E-08	-2.0	10.9	8.2	100.00 ?
7 Ti	87.781	2.037E-08	12407.7	54.0	50.3	0.45
8 Cr	159.496	2.037E-08	-3.6	22.0	20.1	100.00 ?
9 Mn	146.389	2.037E-08	136.6	27.8	24.0	1.59
10 Zn	99.907	2.037E-08	0.1	69.4	60.4	2588.81 ?
11 K	119.666	2.037E-08	-69.2	22.5	150.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	31.692	5.4701	29.954	1.0580	1.0053	1.0525	1.0000
MgO	0.022	0.0069	0.012	1.8890	0.9403	1.9796	1.0149
CaO	0.050	0.0112	0.055	0.9160	0.9586	1.0003	0.9552
Al2O3	0.138	0.0335	0.115	1.2026	0.9403	1.2795	0.9996
SiO2	0.095	0.0196	0.088	1.0805	0.9339	1.1581	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	58.627	9.0996	56.886	1.0306	1.0098	1.0004	1.0202
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.275	0.2230	1.248	1.0224	1.0099	1.0123	1.0000
ZnO	0.001	0.0001	0.001	1.0872	1.0473	1.0380	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.900	14.8640	88.358	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 34 Comment : 33/4

Stage : X= 69.6565 Y= 76.2415 Z= 10.6820

Dated on Apr 1 19:52 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.036E-08	10909.8	46.4	44.2	0.45
2 Mg	107.512	2.036E-08	-3.3	21.3	15.3	100.00 ?
3 Ca	107.422	2.036E-08	-1.2	35.9	26.5	100.00 ?
4 Al	90.572	2.036E-08	10.3	55.3	39.1	18.75
5 Si	77.295	2.036E-08	10.6	254.2	124.7	63.35 ?
6 Na	129.537	2.036E-08	-1.5	10.9	7.2	100.00 ?
7 Ti	87.781	2.036E-08	46.6	59.9	46.9	4.98
8 Cr	159.496	2.036E-08	13.6	26.3	21.6	9.18
9 Mn	146.389	2.036E-08	4.0	36.8	30.1	35.60 ?
10 Zn	99.907	2.036E-08	1.1	77.7	65.0	235.04 ?
11 K	119.666	2.036E-08	-180.5	23.0	377.9	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	84.720	23.7591	85.780	0.9876	0.9859	1.0018	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.071	0.0279	0.049	1.4524	0.9253	1.5696	1.0000
SiO2	0.060	0.0200	0.048	1.2527	0.9190	1.3631	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.205	0.0517	0.214	0.9593	0.9922	1.0197	0.9482
Cr2O3	0.108	0.0287	0.141	0.7701	0.9866	1.0109	0.7722
MnO	0.035	0.0099	0.037	0.9419	0.9910	0.9504	1.0000
ZnO	0.011	0.0026	0.010	1.0862	1.0243	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 85.210 23.8999 86.278 Total O = 24.0 Iteration = 3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 35 Comment : 33/5

Stage : X= 68.8075 Y= 76.1085 Z= 10.6835

Dated on Apr 1 19:58 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.034E-08	3560.8	32.8	31.7	0.45
2 Mg	107.512	2.034E-08	15.0	19.1	16.0	7.48
3 Ca	107.422	2.034E-08	17.7	26.7	23.0	7.40
4 Al	90.572	2.034E-08	66.7	53.6	38.0	3.34
5 Si	77.295	2.034E-08	97.0	217.0	119.1	6.29
6 Na	129.537	2.034E-08	-1.0	9.0	7.9	100.00 ?
7 Ti	87.781	2.034E-08	12479.9	52.0	49.0	0.45
8 Cr	159.496	2.034E-08	-2.1	20.0	19.2	100.00 ?
9 Mn	146.389	2.034E-08	205.8	28.4	25.1	1.24
10 Zn	99.907	2.034E-08	-3.2	72.3	59.1	100.00 ?
11 K	119.666	2.034E-08	-57.9	21.5	134.3	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	29.694	5.0795	28.025	1.0595	1.0062	1.0530	1.0000
MgO	0.155	0.0473	0.083	1.8717	0.9410	1.9600	1.0148
CaO	0.067	0.0147	0.073	0.9159	0.9594	1.0000	0.9546
Al2O3	0.376	0.0907	0.315	1.1951	0.9411	1.2706	0.9995
SiO2	0.470	0.0962	0.437	1.0770	0.9346	1.1535	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	59.144	9.0981	57.302	1.0322	1.0107	1.0002	1.0210
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.927	0.3339	1.882	1.0240	1.0108	1.0130	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 91.833 14.7604 88.117 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 36 Comment : 33/6
 Stage : X= 67.9350 Y= 76.3300 Z= 10.6835
 Dated on Apr 1 20:03 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.033E-08	4170.5	34.1	34.8	0.45
2 Mg	107.512	2.033E-08	6.5	19.0	13.0	15.09
3 Ca	107.422	2.033E-08	12.1	30.6	25.3	11.08
4 Al	90.572	2.033E-08	21.2	49.8	37.7	8.91
5 Si	77.295	2.033E-08	25.8	199.7	118.9	21.82
6 Na	129.537	2.033E-08	-3.7	10.5	6.9	100.00 ?
7 Ti	87.781	2.033E-08	12109.1	60.4	45.7	0.45
8 Cr	159.496	2.033E-08	-0.2	21.1	19.2	100.00 ?
9 Mn	146.389	2.033E-08	155.4	29.8	24.5	1.48
10 Zn	99.907	2.033E-08	-1.5	64.2	58.8	100.00 ?
11 K	119.666	2.033E-08	-72.2	20.8	158.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	34.644	5.9492	32.840	1.0550	1.0045	1.0502	1.0000
MgO	0.069	0.0211	0.036	1.9095	0.9397	2.0024	1.0149
CaO	0.046	0.0101	0.050	0.9195	0.9580	1.0018	0.9582
Al2O3	0.122	0.0294	0.100	1.2134	0.9397	1.2918	0.9996
SiO2	0.126	0.0259	0.116	1.0878	0.9333	1.1666	0.9991
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	57.219	8.8358	55.627	1.0286	1.0091	1.0012	1.0181
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	1.449	0.2519	1.422	1.0189	1.0092	1.0096	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	93.675	15.1235	90.191	Total O =	24.0	Iteration =	4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 37 Comment : 33/7
 Stage : X= 70.2830 Y= 76.5950 Z= 10.6810
 Dated on Apr 1 20:09 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg-(cps)	Bg+(cps)	S.D. (%)
1 Fe	134.855	2.032E-08	6396.2	39.9	34.4	0.45
2 Mg	107.512	2.032E-08	-2.4	19.6	15.2	100.00 ?
3 Ca	107.422	2.032E-08	5.9	32.1	26.0	22.22
4 Al	90.572	2.032E-08	15.2	52.6	37.1	12.44
5 Si	77.295	2.032E-08	-1.3	206.6	121.1	100.00 ?
6 Na	129.537	2.032E-08	-4.3	11.4	7.2	100.00 ?
7 Ti	87.781	2.032E-08	8607.5	61.0	45.1	0.45
8 Cr	159.496	2.032E-08	-1.7	22.4	21.0	100.00 ?
9 Mn	146.389	2.032E-08	16.2	30.2	27.4	8.64
10 Zn	99.907	2.032E-08	8.5	74.0	64.0	30.57
11 K	119.666	2.032E-08	-115.1	21.8	243.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	52.143	10.0308	50.391	1.0348	0.9991	1.0358	0.9999
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.023	0.0057	0.025	0.9408	0.9535	1.0114	0.9756
Al2O3	0.092	0.0250	0.072	1.2878	0.9356	1.3768	0.9998
SiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	40.128	6.9417	39.560	1.0143	1.0042	1.0068	1.0033
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.148	0.0288	0.148	0.9958	1.0039	0.9921	1.0000
ZnO	0.081	0.0138	0.075	1.0872	1.0399	1.0455	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	92.615	17.0458	90.270	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 38 Comment : 33/8

Stage : X= 69.9685 Y= 77.3345 Z= 10.6810

Dated on Apr 1 20:14 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.031E-08	4597.9	37.7	34.5	0.45
2 Mg	107.512	2.031E-08	20.0	20.3	14.8	5.88
3 Ca	107.422	2.031E-08	1.6	29.8	26.9	77.09 ?
4 Al	90.572	2.031E-08	19.2	52.6	34.0	9.79
5 Si	77.295	2.031E-08	24.7	195.0	125.7	22.74
6 Na	129.537	2.031E-08	-4.5	10.5	8.5	100.00 ?
7 Ti	87.781	2.031E-08	11939.4	57.4	42.4	0.45
8 Cr	159.496	2.031E-08	5.8	20.7	17.8	18.29
9 Mn	146.389	2.031E-08	21.7	29.2	22.4	6.34
10 Zn	99.907	2.031E-08	-3.1	74.7	61.5	100.00 ?
11 K	119.666	2.031E-08	-78.0	22.3	168.7	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	38.170	6.5030	36.241	1.0532	1.0042	1.0488	1.0000
MgO	0.213	0.0648	0.111	1.9262	0.9395	2.0202	1.0149
CaO	0.006	0.0014	0.007	0.9225	0.9578	1.0029	0.9603
Al2O3	0.111	0.0266	0.091	1.2232	0.9396	1.3024	0.9996
SiO2	0.122	0.0248	0.111	1.0946	0.9331	1.1740	0.9992
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	56.432	8.6457	54.901	1.0279	1.0089	1.0018	1.0170
Cr2O3	0.062	0.0100	0.060	1.0422	1.0040	1.0895	0.9528
MnO	0.202	0.0349	0.199	1.0167	1.0089	1.0077	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 95.318 15.3112 91.720 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34

Unknown Specimen

Group : silicates Sample : NAT92_P1_34

UNK No. : 39 Comment : 33/9

Stage : X= 69.2170 Y= 77.4905 Z= 10.6810

Dated on Apr 1 20:19 1993

WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.030E-08	3360.1	34.5	29.2	0.45
2 Mg	107.512	2.030E-08	40.3	20.5	14.0	3.40
3 Ca	107.422	2.030E-08	27.0	32.6	23.5	5.50
4 Al	90.572	2.030E-08	39.3	53.2	38.3	5.26
5 Si	77.295	2.030E-08	34.0	209.0	108.1	16.75
6 Na	129.537	2.030E-08	-4.4	10.7	8.1	100.00 ?
7 Ti	87.781	2.030E-08	13362.9	59.3	45.4	0.45
8 Cr	159.496	2.030E-08	1.1	20.0	17.8	89.65 ?
9 Mn	146.389	2.030E-08	48.3	29.2	24.2	3.34
10 Zn	99.907	2.030E-08	-6.0	70.4	56.6	100.00 ?
11 K	119.666	2.030E-08	-55.4	22.2	128.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	28.195	4.6711	26.498	1.0640	1.0074	1.0562	1.0000
MgO	0.413	0.1219	0.223	1.8469	0.9419	1.9321	1.0148
CaO	0.102	0.0217	0.112	0.9109	0.9604	0.9980	0.9503
Al2O3	0.220	0.0514	0.186	1.1849	0.9420	1.2585	0.9995
SiO2	0.164	0.0325	0.154	1.0688	0.9355	1.1436	0.9990
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	63.645	9.4820	61.477	1.0353	1.0117	0.9992	1.0241
Cr2O3	0.012	0.0019	0.011	1.0727	1.0069	1.1021	0.9666
MnO	0.455	0.0764	0.442	1.0291	1.0120	1.0169	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000

Total 93.206 14.4589 89.104 Total O = 24.0 Iteration = 4

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 40 Comment : 33/10
 Stage : X= 68.7075 Y= 77.0315 Z= 10.6835
 Dated on Apr 1 20:25 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.030E-08	11192.7	49.2	45.3	0.45
2 Mg	107.512	2.030E-08	0.6	20.7	13.0	142.57 ?
3 Ca	107.422	2.030E-08	1.5	34.2	27.7	87.28 ?
4 Al	90.572	2.030E-08	10.2	56.1	38.6	19.09
5 Si	77.295	2.030E-08	8.0	256.4	137.7	86.13 ?
6 Na	129.537	2.030E-08	-3.9	9.6	8.1	100.00 ?
7 Ti	87.781	2.030E-08	15.1	58.3	46.5	14.00
8 Cr	159.496	2.030E-08	-0.5	23.4	22.6	100.00 ?
9 Mn	146.389	2.030E-08	9.7	40.8	29.8	16.00
10 Zn	99.907	2.030E-08	-2.9	81.6	69.3	100.00 ?
11 K	119.666	2.030E-08	-200.8	27.1	414.6	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	87.144	23.8676	88.266	0.9873	0.9858	1.0015	1.0000
MgO	0.009	0.0042	0.004	2.3851	0.9251	2.5404	1.0149
CaO	0.006	0.0022	0.006	0.9765	0.9424	1.0337	1.0024
Al2O3	0.070	0.0269	0.048	1.4532	0.9253	1.5706	1.0000
SiO2	0.045	0.0148	0.036	1.2533	0.9189	1.3638	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.067	0.0164	0.069	0.9588	0.9921	1.0197	0.9477
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.084	0.0232	0.089	0.9417	0.9909	0.9503	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	87.425	23.9553	88.518	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 41 Comment : 33/11
 Stage : X= 68.0475 Y= 76.9880 Z= 10.6840
 Dated on Apr 1 20:30 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.030E-08	10743.7	46.6	44.7	0.45
2 Mg	107.512	2.030E-08	-1.5	18.8	14.3	100.00 ?
3 Ca	107.422	2.030E-08	-3.0	32.7	28.3	100.00 ?
4 Al	90.572	2.030E-08	7.8	54.9	39.5	24.53
5 Si	77.295	2.030E-08	11.2	226.5	136.1	56.22 ?
6 Na	129.537	2.030E-08	-3.8	9.5	8.0	100.00 ?
7 Ti	87.781	2.030E-08	6.3	60.3	47.1	33.35 ?
8 Cr	159.496	2.030E-08	1.5	24.7	22.3	73.41 ?
9 Mn	146.389	2.030E-08	16.9	36.6	29.7	9.12
10 Zn	99.907	2.030E-08	3.3	73.8	69.7	80.99 ?
11 K	119.666	2.030E-08	-169.0	23.2	349.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	83.641	23.8555	84.724	0.9872	0.9858	1.0015	1.0000
MgO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	0.054	0.0215	0.037	1.4534	0.9252	1.5709	1.0000
SiO2	0.063	0.0216	0.051	1.2533	0.9189	1.3639	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.028	0.0071	0.029	0.9587	0.9921	1.0197	0.9476
Cr2O3	0.012	0.0032	0.016	0.7681	0.9865	1.0106	0.7704
MnO	0.145	0.0420	0.154	0.9416	0.9909	0.9503	1.0000
ZnO	0.031	0.0079	0.029	1.0862	1.0242	1.0605	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	83.974	23.9589	85.040	Total O =	24.0	Iteration =	3

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 42 Comment : 34/1
 Stage : X= 62.5620 Y= 75.3245 Z= 10.6990
 Dated on Apr 1 20:36 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.029E-08	172.6	25.7	24.2	1.37
2 Mg	107.512	2.029E-08	30.7	18.9	14.7	4.13
3 Ca	107.422	2.029E-08	6847.2	26.9	23.8	0.45
4 Al	90.572	2.029E-08	666.6	58.6	34.3	0.67
5 Si	77.295	2.029E-08	7277.3	198.1	98.9	0.46
6 Na	129.537	2.029E-08	-3.8	9.6	8.0	100.00 ?
7 Ti	87.781	2.029E-08	6342.6	42.4	32.0	0.45
8 Cr	159.496	2.029E-08	-1.4	16.8	16.0	100.00 ?
9 Mn	146.389	2.029E-08	0.3	21.1	18.2	284.46 ?
10 Zn	99.907	2.029E-08	-0.3	58.8	46.8	100.00 ?
11 K	119.666	2.029E-08	-3.7	17.9	19.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	1.510	0.2002	1.362	1.1088	1.0536	1.0524	1.0000
MgO	0.239	0.0564	0.171	1.3997	0.9817	1.4098	1.0113
CaO	28.756	4.8836	28.481	1.0096	1.0020	1.0033	1.0044
Al2O3	3.017	0.5637	3.153	0.9570	0.9818	0.9828	0.9918
SiO2	30.872	4.8932	32.851	0.9398	0.9750	0.9656	0.9982
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	34.511	4.1137	29.194	1.1821	1.0562	1.0732	1.0429
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.003	0.0005	0.003	1.0710	1.0579	1.0124	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	98.908	14.7112	95.215	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 43 Comment : 34/2
 Stage : X= 62.0245 Y= 75.5920 Z= 10.6990
 Dated on Apr 1 20:41 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.028E-08	3032.0	24.8	26.9	0.45
2 Mg	107.512	2.028E-08	148.4	20.7	12.6	1.44
3 Ca	107.422	2.028E-08	-0.8	19.8	16.9	100.00 ?
4 Al	90.572	2.028E-08	8405.6	167.5	37.1	0.45
5 Si	77.295	2.028E-08	4398.1	169.0	79.6	0.47
6 Na	129.537	2.028E-08	-2.5	7.9	7.1	100.00 ?
7 Ti	87.781	2.028E-08	19.1	34.9	26.9	7.81
8 Cr	159.496	2.028E-08	-0.1	16.0	14.2	100.00 ?
9 Mn	146.389	2.028E-08	84.3	20.9	20.6	2.10
10 Zn	99.907	2.028E-08	-3.3	55.3	41.2	100.00 ?
11 K	119.666	2.028E-08	-50.1	15.4	109.8	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	25.333	3.5478	23.933	1.0585	1.0551	1.0032	1.0000
MgO	1.194	0.2981	0.825	1.4484	0.9822	1.4668	1.0053
CaO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Al2O3	39.713	7.8386	39.777	0.9984	0.9822	1.0211	0.9954
SiO2	24.667	4.1306	19.864	1.2418	0.9755	1.2729	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.097	0.0122	0.088	1.1003	1.0572	1.0256	1.0147
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.780	0.1106	0.773	1.0089	1.0592	0.9525	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	91.784	15.9379	85.259	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 44 Comment : 34/3
 Stage : X= 61.4335 Y= 75.9280 Z= 10.7010
 Dated on Apr 1 20:47 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.028E-08	2409.9	25.7	25.3	0.45
2 Mg	107.512	2.028E-08	1122.0	24.0	14.9	0.48
3 Ca	107.422	2.028E-08	2635.6	22.4	22.0	0.45
4 Al	90.572	2.028E-08	2118.6	76.4	33.9	0.47
5 Si	77.295	2.028E-08	9064.0	190.7	97.4	0.46
6 Na	129.537	2.028E-08	98.7	10.7	6.9	1.73
7 Ti	87.781	2.028E-08	316.6	37.2	29.9	0.99
8 Cr	159.496	2.028E-08	-0.8	16.1	15.5	100.00 ?
9 Mn	146.389	2.028E-08	30.6	24.3	19.6	4.47
10 Zn	99.907	2.028E-08	0.0	55.6	44.4	100.00 ?
11 K	119.666	2.028E-08	191.1	16.3	96.7	1.74

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	20.487	2.6840	19.023	1.0770	1.0622	1.0139	1.0000
MgO	8.954	2.0910	6.234	1.4363	0.9889	1.4388	1.0094
CaO	11.769	1.9755	10.968	1.0730	1.0096	1.0391	1.0228
Al2O3	10.549	1.9479	10.025	1.0523	0.9890	1.0737	0.9910
SiO2	43.452	6.8067	40.937	1.0614	0.9822	1.0812	0.9995
Na2O	1.314	0.3993	1.189	1.1057	1.0738	1.0333	0.9965
TiO2	1.676	0.1975	1.458	1.1497	1.0644	1.0515	1.0272
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.288	0.0383	0.280	1.0296	1.0664	0.9654	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.814	0.1626	0.843	0.9645	0.9869	0.9947	0.9826
Total	99.303	16.3027	90.959	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 45 Comment : 34/4
 Stage : X= 60.8330 Y= 75.3050 Z= 10.7010
 Dated on Apr 1 20:52 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.029E-08	2074.4	26.0	23.2	0.45
2 Mg	107.512	2.029E-08	1397.4	27.8	13.4	0.46
3 Ca	107.422	2.029E-08	2635.4	23.4	19.6	0.45
4 Al	90.572	2.029E-08	1990.5	72.9	30.9	0.47
5 Si	77.295	2.029E-08	9066.9	193.0	99.1	0.46
6 Na	129.537	2.029E-08	110.0	8.8	6.3	1.61
7 Ti	87.781	2.029E-08	255.6	35.3	28.7	1.12
8 Cr	159.496	2.029E-08	-0.5	16.9	14.2	100.00 ?
9 Mn	146.389	2.029E-08	44.7	21.9	18.7	3.27
10 Zn	99.907	2.029E-08	-1.6	52.3	45.9	100.00 ?
11 K	119.666	2.029E-08	257.4	16.5	83.8	1.31

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	17.669	2.3285	16.367	1.0795	1.0647	1.0140	1.0000
MgO	10.878	2.5551	7.761	1.4015	0.9909	1.4013	1.0094
CaO	11.809	1.9938	10.962	1.0772	1.0117	1.0402	1.0236
Al2O3	9.908	1.8403	9.415	1.0524	0.9909	1.0719	0.9908
SiO2	43.335	6.8286	40.930	1.0588	0.9842	1.0764	0.9995
Na2O	1.414	0.4321	1.324	1.0684	1.0760	0.9968	0.9962
TiO2	1.360	0.1611	1.176	1.1556	1.0667	1.0527	1.0291
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.423	0.0564	0.410	1.0320	1.0688	0.9656	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	1.098	0.2207	1.136	0.9665	0.9889	0.9944	0.9828
Total	97.894	16.4166	89.481	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 46 Comment : 34/5
 Stage : X= 63.1620 Y= 76.1770 Z= 10.6975
 Dated on Apr 1 20:58 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.028E-08	4.1	19.4	17.4	24.66
2 Mg	107.512	2.028E-08	4.5	20.0	16.0	22.36
3 Ca	107.422	2.028E-08	17.9	16.7	12.6	6.08
4 Al	90.572	2.028E-08	258.0	59.3	39.9	1.24
5 Si	77.295	2.028E-08	26700.7	275.5	127.1	0.44
6 Na	129.537	2.028E-08	0.2	10.8	8.8	351.78 ?
7 Ti	87.781	2.028E-08	-2.5	32.0	23.0	100.00 ?
8 Cr	159.496	2.028E-08	-5.1	13.1	12.1	100.00 ?
9 Mn	146.389	2.028E-08	-2.0	18.9	15.1	100.00 ?
10 Zn	99.907	2.028E-08	-3.6	44.9	37.2	100.00 ?
11 K	119.666	2.028E-08	33.6	12.7	10.2	3.54

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	0.036	0.0035	0.032	1.0984	1.0922	1.0057	1.0000
MgO	0.028	0.0049	0.025	1.1089	1.0136	1.0928	1.0012
CaO	0.084	0.0106	0.074	1.1281	1.0357	1.0585	1.0290
Al2O3	0.969	0.1354	1.221	0.7937	1.0136	0.8099	0.9668
SiO2	100.258	11.8830	120.592	0.8314	1.0067	0.8259	1.0000
Na2O	0.002	0.0004	0.002	0.8076	1.1006	0.7377	0.9946
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.153	0.0232	0.148	1.0359	1.0122	1.0233	1.0002
Total	101.530	12.0611	122.095	Total O =	24.0	Iteration =	3

Intensity & Wt. %
 Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 14 Comment : 34/6 repeat
 Stage : X= 21.4465 Y= 34.8210 Z= 10.5630
 Dated on Apr 5 15:37 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.947E-08	2736.9	29.8	24.7	0.45
2 Mg	107.494	1.947E-08	507.8	9.8	5.1	0.71
3 Ca	107.418	1.947E-08	2511.6	22.0	19.7	0.45
4 Al	90.574	1.947E-08	1547.3	42.4	14.9	0.46
5 Si	77.315	1.947E-08	6267.7	61.3	35.4	0.45
6 Na	129.537	1.947E-08	37.0	3.4	2.6	2.80
7 Ti	87.776	1.947E-08	510.2	36.4	28.7	0.75
8 Cr	159.526	1.947E-08	-0.5	16.4	14.7	100.00 ?
9 Mn	146.434	1.947E-08	36.2	23.3	19.4	3.88
10 Zn	100.011	1.947E-08	-1.5	56.6	51.4	100.00 ?
11 K	119.716	1.947E-08	130.5	15.5	123.6	2.74

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	21.622	2.9977	20.122	1.0745	1.0592	1.0145	1.0000
MgO	7.151	1.7671	4.868	1.4691	0.9864	1.4752	1.0095
CaO	11.062	1.9648	10.368	1.0669	1.0069	1.0374	1.0214
Al2O3	11.094	2.1676	10.500	1.0565	0.9864	1.0801	0.9916
SiO2	39.380	6.5280	36.789	1.0704	0.9797	1.0932	0.9995
Na2O	1.078	0.3466	0.944	1.1423	1.0711	1.0699	0.9968
TiO2	2.754	0.3434	2.410	1.1431	1.0616	1.0499	1.0256
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	0.314	0.0441	0.306	1.0274	1.0634	0.9662	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.554	0.1173	0.577	0.9605	0.9843	0.9938	0.9819
Total	95.009	16.2767	86.884	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 48 Comment : 34/7
 Stage : X= 63.5660 Y= 76.6560 Z= 10.6955
 Dated on Apr 1 21:09 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.033E-08	8087.9	37.6	39.6	0.45
2 Mg	107.512	2.033E-08	30.0	20.5	14.6	4.26
3 Ca	107.422	2.033E-08	117.1	30.1	25.7	1.79
4 Al	90.572	2.033E-08	63.6	48.5	34.4	3.30
5 Si	77.295	2.033E-08	617.3	212.2	119.4	1.14
6 Na	129.537	2.033E-08	-5.7	10.3	11.1	100.00 ?
7 Ti	87.781	2.033E-08	-0.2	47.5	43.0	100.00 ?
8 Cr	159.496	2.033E-08	-4.5	23.1	20.9	100.00 ?
9 Mn	146.389	2.033E-08	370.8	33.0	25.7	0.89
10 Zn	99.907	2.033E-08	0.8	67.7	60.7	296.81 ?
11 K	119.666	2.033E-08	-135.3	20.2	295.4	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	63.308	19.7409	63.687	0.9941	0.9921	1.0020	1.0000
MgO	0.383	0.2127	0.166	2.3048	0.9304	2.4417	1.0145
CaO	0.478	0.1911	0.486	0.9837	0.9479	1.0339	1.0037
Al2O3	0.425	0.1869	0.300	1.4172	0.9305	1.5240	0.9993
SiO2	3.429	1.2786	2.781	1.2330	0.9241	1.3341	1.0000
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
MnO	3.216	1.0158	3.392	0.9482	0.9971	0.9509	1.0000
ZnO	0.008	0.0021	0.007	1.0896	1.0313	1.0565	1.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	71.247	22.6280	70.820	Total O =	24.0	Iteration =	4

Intensity & Wt. %
 Unknown Specimen
 Group : silicates Sample : NAT92_1513
 UNK No. : 15 Comment : 34/8 repeat
 Stage : X= 62.5285 Y= 75.8825 Z= 10.5435
 Dated on Apr 5 15:43 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.891	1.946E-08	843.3	24.2	20.8	0.56
2 Mg	107.494	1.946E-08	1659.0	15.6	6.1	0.45
3 Ca	107.418	1.946E-08	1561.8	20.5	15.2	0.45
4 Al	90.574	1.946E-08	1880.0	43.3	14.8	0.46
5 Si	77.315	1.946E-08	6295.0	92.9	31.0	0.45
6 Na	129.537	1.946E-08	-2.4	3.1	1.8	100.00 ?
7 Ti	87.776	1.946E-08	6.7	33.1	28.6	20.62
8 Cr	159.526	1.946E-08	1055.7	15.9	15.2	0.49
9 Mn	146.434	1.946E-08	39.1	19.3	17.5	3.52
10 Zn	100.011	1.946E-08	-1.6	53.4	44.8	100.00 ?
11 K	119.716	1.946E-08	-18.7	13.8	43.5	100.00 ?

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	6.780	0.8355	6.204	1.0930	1.0690	1.0224	1.0000
MgO	20.429	4.4872	15.909	1.2841	0.9941	1.2801	1.0091
CaO	6.936	1.0950	6.450	1.0753	1.0152	1.0362	1.0222
Al2O3	13.694	2.3783	12.765	1.0728	0.9941	1.0878	0.9920
SiO2	40.579	5.9793	36.968	1.0977	0.9873	1.1121	0.9997
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
TiO2	0.036	0.0040	0.032	1.1336	1.0706	1.0376	1.0205
Cr2O3	11.478	1.3373	10.690	1.0738	1.0668	1.0208	0.9860
MnO	0.340	0.0424	0.331	1.0274	1.0730	0.9576	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
Total	100.272	16.1590	89.348	Total O =	24.0	Iteration =	5

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 50 Comment : 34/9
 Stage : X= 62.5365 Y= 77.2520 Z= 10.6970
 Dated on Apr 1 21:20 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.057E-08	2130.7	25.0	24.7	0.45
2 Mg	107.512	2.057E-08	1434.4	24.1	14.1	0.46
3 Ca	107.422	2.057E-08	2702.4	22.0	21.3	0.45
4 Al	90.572	2.057E-08	1932.5	71.8	34.4	0.47
5 Si	77.295	2.057E-08	9377.9	196.5	103.7	0.46
6 Na	129.537	2.057E-08	111.0	10.8	7.2	1.62
7 Ti	87.781	2.057E-08	262.7	35.5	29.3	1.11
8 Cr	159.496	2.057E-08	0.7	14.9	13.8	131.78 ?
9 Mn	146.389	2.057E-08	43.6	23.5	19.4	3.38
10 Zn	99.907	2.057E-08	-3.3	55.9	45.7	100.00 ?
11 K	119.666	2.057E-08	251.8	16.3	85.2	1.34

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	17.902	2.3383	16.582	1.0796	1.0647	1.0140	1.0000
MgO	11.024	2.5664	7.858	1.4028	0.9910	1.4024	1.0094
CaO	11.943	1.9985	11.088	1.0771	1.0117	1.0401	1.0236
Al2O3	9.498	1.7484	9.016	1.0534	0.9910	1.0729	0.9907
SiO2	44.104	6.8881	41.757	1.0562	0.9842	1.0737	0.9995
Na2O	1.410	0.4270	1.318	1.0699	1.0760	0.9981	0.9962
TiO2	1.378	0.1619	1.193	1.1556	1.0668	1.0526	1.0291
Cr2O3	0.007	0.0009	0.007	1.0547	1.0628	1.0318	0.9618
MnO	0.406	0.0538	0.394	1.0321	1.0688	0.9656	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	1.059	0.2111	1.096	0.9665	0.9890	0.9945	0.9827
Total	98.731	16.3944	90.309	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 51 Comment : 34/10
 Stage : X= 61.9390 Y= 76.8405 Z= 10.6995
 Dated on Apr 1 21:26 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.067E-08	1587.4	23.4	21.8	0.46
2 Mg	107.512	2.067E-08	2195.9	30.0	12.9	0.45
3 Ca	107.422	2.067E-08	2528.1	23.0	18.5	0.45
4 Al	90.572	2.067E-08	1565.2	63.6	32.1	0.47
5 Si	77.295	2.067E-08	10694.6	184.5	95.3	0.45
6 Na	129.537	2.067E-08	96.8	9.8	6.7	1.74
7 Ti	87.781	2.067E-08	218.0	34.6	29.6	1.24
8 Cr	159.496	2.067E-08	7.7	15.5	14.2	12.63
9 Mn	146.389	2.067E-08	19.7	22.8	17.9	6.25
10 Zn	99.907	2.067E-08	-1.8	47.7	45.8	100.00 ?
11 K	119.666	2.067E-08	52.8	16.1	63.3	4.02

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F
FeO	13.337	1.6492	12.294	1.0848	1.0712	1.0127	1.0000
MgO	15.821	3.4871	11.972	1.3215	0.9963	1.3145	1.0091
CaO	11.178	1.7710	10.322	1.0829	1.0174	1.0386	1.0249
Al2O3	7.637	1.3310	7.267	1.0509	0.9963	1.0660	0.9896
SiO2	49.439	7.3101	47.390	1.0432	0.9895	1.0548	0.9996
Na2O	1.135	0.3253	1.143	0.9925	1.0818	0.9218	0.9952
TiO2	1.145	0.1273	0.985	1.1627	1.0729	1.0495	1.0326
Cr2O3	0.083	0.0098	0.078	1.0684	1.0691	1.0296	0.9707
MnO	0.183	0.0230	0.177	1.0365	1.0752	0.9639	1.0000
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000
K2O	0.223	0.0421	0.229	0.9765	0.9944	0.9974	0.9845
Total	100.181	16.0759	91.857	Total O = 24.0	Iteration = 5		

Intensity & Wt. % Group : silicates Sample : NAT92_P1_34
 Unknown Specimen
 Group : silicates Sample : NAT92_P1_34
 UNK No. : 52 Comment : 34/11
 Stage : X= 61.3650 Y= 77.0060 Z= 10.6995
 Dated on Apr 1 21:32 1993
 WDS only

Element	Peak (mm)	Curr. (A)	Net (cps)	Bg- (cps)	Bg+ (cps)	S.D. (%)
1 Fe	134.855	2.074E-08	19.2	19.5	17.2	6.17
2 Mg	107.512	2.074E-08	18.8	23.6	18.9	6.60
3 Ca	107.422	2.074E-08	2.7	20.8	13.8	35.77 ?
4 Al	90.572	2.074E-08	407.8	70.2	44.7	0.95
5 Si	77.295	2.074E-08	27045.7	299.6	140.6	0.45
6 Na	129.537	2.074E-08	-1.2	15.2	12.1	100.00 ?
7 Ti	87.781	2.074E-08	-0.7	29.3	22.2	100.00 ?
8 Cr	159.496	2.074E-08	-2.8	13.6	12.0	100.00 ?
9 Mn	146.389	2.074E-08	-1.7	17.8	15.6	100.00 ?
10 Zn	99.907	2.074E-08	-4.1	49.5	43.8	100.00 ?
11 K	119.666	2.074E-08	84.6	14.6	11.2	1.96

ZAF Oxide Acc. Voltage : 20.0 (kV)

Element	Wt. (%)	Cation	K (%)	ZAF	Z	A	F	
FeO	0.162	0.0161	0.148	1.0981	1.0919	1.0057	1.0000	
MgO	0.113	0.0200	0.102	1.1102	1.0133	1.0943	1.0013	
CaO	0.012	0.0016	0.011	1.1285	1.0354	1.0592	1.0290	
Al2O3	1.501	0.2093	1.887	0.7954	1.0133	0.8114	0.9675	
SiO2	99.805	11.8099	119.441	0.8356	1.0064	0.8303	1.0000	
Na2O	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	
TiO2	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	
Cr2O3	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	
MnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	
ZnO	0.000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	
K2O	0.378	0.0571	0.365	1.0353	1.0119	1.0229	1.0002	
Total				101.971	12.1139	121.954	Total O = 24.0	Iteration = 3

APPENDIX B

GEOCHEMICAL DATA OF TILL MATRIX (<.063mm)

Site Name #	Samp#	Analytical results all samples. (A = samples analysed by AA, I = samples analysed by ICP)																			
		Ag/A ppm	Ag/I ppm	AgI-AgA ppm	Al/I %	As/I ppm	Au/I ppm	B/I ppm	Ba/I ppm	Be/I ppm	Bi/I ppm	Ca/I %	Cd/A ppm	Cd/I ppm	CdI-CdA ppm	Co/A ppm	Co/I ppm	Col-CoA ppm	Cr/I ppm	Cu/A ppm	Cu/I ppm
NAT92-1	1	<0.2	<0.1	nd	0.74	6.0	nd	n/a	157.0	<1	<3	0.26	<0.2	<1	nd	5.0	4.0	-1.0	12.0	30.0	22.0
NAT92-2	2	0.3	0.5	0.2	0.68	5.0	nd	n/a	269.0	1.0	<3	2.43	0.3	<1	nd	9.0	9.0	0.0	10.0	31.0	23.0
NAT92-3	3	0.2	0.4	0.2	0.48	11.0	nd	n/a	238.0	<1	<3	1.48	0.3	<1	nd	5.0	5.0	0.0	9.0	28.0	22.0
NAT92-4	4	0.2	0.6	0.4	0.73	8.0	nd	n/a	292.0	1.0	<3	2.17	0.3	<1	nd	9.0	9.0	0.0	11.0	35.0	26.0
NAT92-5	5	0.2	0.5	0.3	0.78	11.0	nd	n/a	663.0	1.0	<3	0.36	0.2	<1	nd	5.0	6.0	1.0	13.0	35.0	28.0
NAT92-6	6	0.2	0.8	0.6	1.05	4.0	nd	n/a	285.0	1.0	<3	2.68	0.3	<1	nd	9.0	10.0	1.0	17.0	38.0	31.0
NAT92-7	7	0.2	0.5	0.3	0.96	4.0	nd	n/a	176.0	1.0	<3	4.06	0.2	<1	nd	6.0	7.0	1.0	14.0	25.0	19.0
NAT92-8	8	<0.2	0.7	nd	1.09	4.0	nd	n/a	237.0	1.0	<3	4.34	0.2	<1	nd	8.0	8.0	0.0	16.0	30.0	27.0
NAT92-9	9	0.2	0.1	-0.1	0.80	4.0	nd	n/a	233.0	1.0	<3	7.61	0.3	<1	nd	9.0	8.0	-1.0	9.0	30.0	27.0
NAT92-10	10	0.3	0.6	0.3	0.64	9.0	nd	n/a	321.0	<1	<3	1.61	0.4	<1	nd	8.0	8.0	0.0	10.0	44.0	36.0
NAT92-11	11	0.2	0.6	0.4	0.68	12.0	nd	n/a	167.0	1.0	<3	1.77	0.7	1.0	0.3	13.0	13.0	0.0	10.0	37.0	32.0
NAT92-12	12	0.2	0.7	0.5	0.80	9.0	nd	n/a	470.0	1.0	<3	2.00	0.4	1.0	0.6	11.0	13.0	2.0	11.0	38.0	32.0
NAT92-13	13	0.3	0.8	0.5	0.73	12.0	nd	n/a	530.0	1.0	<3	1.65	0.4	1.0	0.6	10.0	12.0	2.0	11.0	38.0	34.0
NAT92-14	14	0.2	0.6	0.4	0.79	14.0	nd	n/a	409.0	1.0	<3	0.85	0.5	1.0	0.5	12.0	14.0	2.0	13.0	39.0	34.0
NAT92-15	15	0.2	0.6	0.4	0.72	11.0	nd	n/a	358.0	<1	<3	0.99	0.4	1.0	0.6	11.0	13.0	2.0	13.0	36.0	31.0
NAT92-16	16	0.3	0.6	0.3	0.82	9.0	nd	n/a	268.0	1.0	<3	1.67	0.5	1.0	0.5	11.0	13.0	2.0	13.0	39.0	36.0
NAT92-17	17	0.2	0.5	0.3	0.73	13.0	nd	n/a	173.0	1.0	<3	1.30	0.5	1.0	0.5	9.0	11.0	2.0	13.0	35.0	31.0
NAT92-18	18	0.2	0.4	0.2	0.86	13.0	nd	n/a	243.0	1.0	<3	1.00	0.4	1.0	0.6	14.0	16.0	2.0	15.0	37.0	32.0
NAT92-19	19	0.2	0.4	0.2	0.80	13.0	nd	n/a	425.0	1.0	<3	0.58	0.3	<1	nd	9.0	12.0	3.0	15.0	38.0	30.0
NAT92-20	20	0.3	0.7	0.4	0.60	10.0	nd	n/a	330.0	<1	<3	3.79	0.3	<1	nd	6.0	6.0	0.0	8.0	39.0	33.0
NAT92-21	21	0.2	0.4	0.2	0.86	17.0	nd	n/a	286.0	1.0	<3	0.71	0.3	1.0	0.7	10.0	12.0	2.0	14.0	36.0	29.0
NAT92-22	22	0.3	0.6	0.3	0.93	5.0	nd	n/a	340.0	1.0	<3	2.51	0.4	1.0	0.6	14.0	15.0	1.0	14.0	41.0	36.0
NAT92-23	23	0.2	0.6	0.4	0.85	9.0	nd	n/a	340.0	1.0	<3	1.81	0.4	<1	nd	12.0	13.0	1.0	13.0	36.0	30.0
NAT92-24	24	0.2	0.7	0.5	0.84	9.0	nd	n/a	210.0	1.0	<3	1.44	0.3	1.0	0.7	9.0	12.0	3.0	14.0	32.0	25.0
NAT92-25	25	0.2	0.2	0.0	0.38	2.0	nd	n/a	39.0	<1	<3	2.50	0.2	<1	nd	3.0	3.0	0.0	7.0	12.0	12.0
NAT92-26	26	0.2	<0.1	nd	0.46	6.0	nd	n/a	82.0	<1	<3	0.35	0.2	<1	nd	7.0	7.0	0.0	10.0	18.0	14.0
NAT92-27	27	0.2	0.4	0.2	0.59	6.0	nd	n/a	177.0	<1	<3	2.04	0.3	<1	nd	10.0	9.0	-1.0	10.0	26.0	19.0
NAT92-28	28	0.2	<0.1	nd	0.74	3.0	nd	n/a	156.0	1.0	6.0	0.16	<0.2	<1	nd	6.0	4.0	-2.0	13.0	28.0	22.0
NAT92-29	29	0.2	0.3	0.1	0.57	10.0	nd	n/a	222.0	<1	<3	1.09	0.3	<1	nd	9.0	8.0	-1.0	10.0	27.0	24.0
NAT92-30	30	<0.2	0.3	nd	0.74	4.0	nd	n/a	244.0	<1	<3	1.92	0.2	<1	nd	9.0	9.0	0.0	13.0	29.0	25.0
NAT92-31A	31	0.2	0.5	0.3	0.90	3.3	nd	n/a	201.8	1.0	<3	1.72	0.3	<1	nd	11.5	11.0	-0.5	16.5	31.8	27.8
NAT92-32	32	0.2	0.4	0.2	0.68	<2	nd	n/a	129.0	1.0	<3	2.34	0.3	<1	nd	9.0	8.0	-1.0	16.0	30.0	23.0
NAT92-33	33	<0.2	0.5	nd	0.66	<2	nd	n/a	136.0	1.0	<3	3.53	0.4	<1	nd	8.0	6.0	-2.0	15.0	25.0	23.0
Average		0.22	0.52	0.30	0.75	8.27			266.87	1.00	6.00	1.96	0.34	1.00	0.56	8.98	9.52	0.53	12.38	32.54	##
Standard Dev.		0.04	0.17	0.16	0.16	3.90			129.31	0.00		1.47	0.11	0.00	0.11	2.64	3.39	1.36	2.56	6.72	6.09
N		29	30	27	33	31			33	23	1	33	31	11	11	33	33	33	33	33	33
Max.		0.3	0.8	0.6	1.1	17.0			663.0	1.0	6.0	7.6	0.7	1.0	0.7	14.0	16.0	3.0	17.0	44.0	36.0
Min.		0.2	0.1	-0.1	0.4	2.0			39.0	1.0	6.0	0.2	0.2	1.0	0.3	3.0	3.0	-2.0	7.0	12.0	12.0
Std Dev/Av as %		18.7	32.3	52.7	20.8	47.1			48.5	0.0	0.0	75.0	33.1	0.0	19.9	29.4	35.7	256.0	20.7	20.6	22.4

Site Name #	CuI-CuA	F/A	Fe/A	Fe/I	Fel-FeA	Hg/A	Hg/I	La/I	LOI/A	Mg/I	Mn/A	Mn/I	Mnl-MnA	Mo/A	Mo/I	Mol-MoA	Na/I	Ni/A	Ni/I
	ppm	ppm	%	%	%	ppb	ppm	ppm		%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
NAT92-1	-8.0	470.0	2.0	2.18	0.2	80.0	nd	18.0	4.4	0.27	131.0	177.0	46.0	<2.0	<1	nd	0.01	ppm	ppm
NAT92-2	-8.0	540.0	2.2	2.20	0.0	80.0	nd	17.0	4.0	0.72	318.0	347.0	29.0	2.0	<1	nd	0.01	22.0	19.0
NAT92-3	-6.0	440.0	1.9	2.10	0.2	80.0	nd	13.0	3.1	0.66	134.0	161.0	27.0	2.0	1.0	-1.0	0.01	27.0	22.0
NAT92-4	-9.0	570.0	2.3	2.29	0.0	90.0	nd	16.0	5.0	0.70	235.0	264.0	29.0	2.0	<1	nd	0.01	29.0	24.0
NAT92-5	-7.0	540.0	2.1	2.61	0.5	110.0	nd	20.0	5.8	0.29	68.0	110.0	42.0	2.0	1.0	-1.0	0.01	26.0	25.0
NAT92-6	-7.0	680.0	1.9	2.16	0.3	100.0	nd	20.0	5.2	0.88	241.0	274.0	33.0	<2.0	<1	nd	0.03	30.0	26.0
NAT92-7	-6.0	620.0	1.7	1.86	0.2	50.0	nd	19.0	3.6	1.19	259.0	282.0	23.0	<2.0	<1	nd	0.02	20.0	15.0
NAT92-8	-3.0	620.0	1.8	2.03	0.2	60.0	nd	20.0	4.5	1.17	247.0	262.0	15.0	2.0	<1	nd	0.03	25.0	19.0
NAT92-9	-3.0	620.0	1.5	2.04	0.5	40.0	nd	15.0	4.0	1.83	390.0	412.0	22.0	3.0	<1	nd	0.01	29.0	20.0
NAT92-10	-8.0	780.0	2.1	2.26	0.2	120.0	nd	15.0	4.9	0.63	187.0	219.0	32.0	3.0	1.0	-2.0	0.01	31.0	27.0
NAT92-11	-5.0	740.0	2.2	2.52	0.3	80.0	nd	16.0	6.6	0.60	337.0	404.0	67.0	3.0	2.0	-1.0	0.01	46.0	45.0
NAT92-12	-6.0	690.0	2.3	2.51	0.2	80.0	nd	18.0	5.9	0.73	353.0	433.0	80.0	2.0	<1	nd	0.02	37.0	34.0
NAT92-13	-4.0	610.0	2.5	2.67	0.2	110.0	nd	17.0	5.1	0.59	291.0	354.0	63.0	2.0	1.0	-1.0	0.01	34.0	32.0
NAT92-14	-5.0	640.0	2.7	3.06	0.4	120.0	nd	18.0	5.2	0.55	338.0	469.0	131.0	2.0	1.0	-1.0	0.03	40.0	40.0
NAT92-15	-5.0	570.0	2.0	2.18	0.2	110.0	nd	17.0	4.4	0.72	221.0	293.0	72.0	<2.0	<1	nd	0.05	32.0	30.0
NAT92-16	-3.0	660.0	2.2	2.62	0.4	110.0	nd	17.0	4.4	0.66	335.0	436.0	101.0	<2.0	<1	nd	0.10	37.0	37.0
NAT92-17	-4.0	550.0	2.3	2.72	0.4	120.0	nd	15.0	4.6	0.60	205.0	278.0	73.0	<2.0	<1	nd	0.02	30.0	30.0
NAT92-18	-5.0	650.0	2.2	2.71	0.5	80.0	nd	13.0	5.7	0.61	297.0	417.0	120.0	2.0	<1	nd	0.02	41.0	40.0
NAT92-19	-8.0	610.0	2.5	2.86	0.4	120.0	nd	16.0	5.4	0.42	223.0	327.0	104.0	2.0	<1	nd	0.01	35.0	32.0
NAT92-20	-6.0	570.0	2.0	2.18	0.2	110.0	nd	14.0	4.4	0.81	203.0	235.0	32.0	2.0	<1	nd	0.02	25.0	20.0
NAT92-21	-7.0	580.0	2.4	2.76	0.4	100.0	nd	13.0	5.1	0.64	163.0	234.0	71.0	2.0	2.0	0.0	0.04	36.0	33.0
NAT92-22	-5.0	560.0	2.3	2.38	0.1	100.0	nd	16.0	4.6	0.67	635.0	680.0	45.0	<2.0	<1	nd	0.03	43.0	38.0
NAT92-23	-6.0	570.0	2.2	2.45	0.3	80.0	nd	17.0	5.2	0.63	368.0	451.0	83.0	2.0	<1	nd	0.01	38.0	35.0
NAT92-24	-7.0	570.0	2.2	2.33	0.1	70.0	nd	23.0	5.0	0.74	286.0	348.0	62.0	2.0	<1	nd	0.01	26.0	24.0
NAT92-25	0.0	260.0	0.9	0.92	0.1	30.0	nd	11.0	3.0	0.77	125.0	147.0	22.0	<2.0	<1	nd	0.01	10.0	8.0
NAT92-26	-4.0	380.0	1.6	1.85	0.3	50.0	nd	21.0	2.7	0.27	225.0	346.0	121.0	<2.0	<1	nd	0.01	14.0	13.0
NAT92-27	-7.0	480.0	2.0	2.02	0.0	50.0	nd	18.0	2.6	0.79	377.0	423.0	46.0	<2.0	<1	nd	0.01	24.0	20.0
NAT92-28	-6.0	490.0	1.4	1.76	0.4	70.0	nd	25.0	4.5	0.20	67.0	111.0	44.0	<2.0	<1	nd	0.01	17.0	15.0
NAT92-29	-3.0	520.0	2.2	2.37	0.2	70.0	nd	19.0	4.0	0.53	145.0	199.0	54.0	3.0	1.0	-2.0	0.01	22.0	20.0
NAT92-30	-4.0	480.0	2.0	1.99	0.0	60.0	nd	20.0	3.2	0.96	360.0	399.0	39.0	<2.0	<1	nd	0.01	28.0	24.0
NAT92-31A	-4.0	530.0	1.9	2.12	0.2	55.0	nd	19.3	4.4	1.05	424.5	517.0	92.5	<2.0	<1	nd	0.02	30.8	28.0
NAT92-32	-7.0	530.0	1.7	1.71	0.0	50.0	nd	23.0	3.9	1.12	388.0	440.0	52.0	2.0	<1	nd	0.01	22.0	20.0
NAT92-33	-2.0	490.0	1.3	1.43	0.1	40.0	nd	20.0	3.8	1.77	397.0	448.0	51.0	<2.0	<1	nd	0.01	23.0	18.0
Average	-5.39	563.94	2.01	2.24	0.22	81.06		17.55	4.49	0.75	271.92	330.21	58.29	2.21	1.25	-1.13	0.02	28.78	25.76
Standard Dev.	2.03	100.71	0.38	0.43	0.15	26.92		3.13	0.94	0.36	118.24	127.72	31.51	0.42	0.46	0.64	0.02	8.37	8.85
N	33	33	33	33	33	33		33	33	33	33	33	33	19	8	8	33	33	33
Max.	0.0	780.0	2.7	3.1	0.5	120.0		25.0	6.6	1.8	635.0	680.0	131.0	3.0	2.0	0.0	0.1	46.0	45.0
Min.	-9.0	260.0	0.9	0.9	0.0	30.0		11.0	2.6	0.2	67.0	110.0	15.0	2.0	1.0	-2.0	0.0	10.0	8.0
Std Dev/Av as %	-37.6	17.9	18.9	19.3	68.6	33.2		17.8	21.0	48.3	43.5	38.7	54.1	18.9	37.0	-57.0	93.3	29.1	34.4

Site Name #	Nil-NiA	P/I	Pb/A	Pb/I	Pbl-PbA	Sb/I	Si/I	Sr/I	Ti/I	U/I	V/A	V/I	VI-VA	W/I	Zn/A	Zn/I	Znl-ZnA
	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
NAT92-1	-3.0	0.06	10.0	10.0	0.0	<2	0.01	23.0	<0.01	n/a	26.0	16.0	-10.0	<2	60.0	51.0	-9.0
NAT92-2	-5.0	0.07	12.0	9.0	-3.0	<2	0.01	42.0	<0.01	n/a	25.0	15.0	-10.0	<2	84.0	77.0	-7.0
NAT92-3	-3.0	0.07	10.0	9.0	-1.0	<2	0.01	39.0	<0.01	n/a	23.0	13.0	-10.0	<2	85.0	80.0	-5.0
NAT92-4	-5.0	0.07	14.0	11.0	-3.0	<2	0.01	72.0	<0.01	n/a	29.0	17.0	-12.0	<2	92.0	86.0	-6.0
NAT92-5	-1.0	0.08	15.0	15.0	0.0	<2	0.01	42.0	<0.01	n/a	24.0	17.0	-7.0	<2	89.0	87.0	-2.0
NAT92-6	-4.0	0.08	12.0	9.0	-3.0	<2	0.01	91.0	<0.01	n/a	34.0	22.0	-12.0	<2	82.0	80.0	-2.0
NAT92-7	-5.0	0.03	8.0	10.0	2.0	<2	0.01	70.0	0.0	n/a	21.0	13.0	-8.0	<2	48.0	47.0	-1.0
NAT92-8	-6.0	0.05	10.0	13.0	3.0	<2	0.01	97.0	<0.01	n/a	34.0	18.0	-16.0	<2	65.0	63.0	-2.0
NAT92-9	-9.0	0.03	11.0	9.0	-2.0	<2	0.01	121.0	<0.01	n/a	26.0	11.0	-15.0	<2	71.0	67.0	-4.0
NAT92-10	-4.0	0.09	15.0	10.0	-5.0	<2	0.01	59.0	<0.01	n/a	24.0	16.0	-8.0	<2	119.0	114.0	-5.0
NAT92-11	-1.0	0.07	15.0	12.0	-3.0	<2	0.01	58.0	<0.01	n/a	22.0	15.0	-7.0	<2	136.0	141.0	5.0
NAT92-12	-3.0	0.08	14.0	12.0	-2.0	<2	0.01	64.0	<0.01	n/a	23.0	17.0	-6.0	<2	110.0	113.0	3.0
NAT92-13	-2.0	0.08	15.0	14.0	-1.0	<2	0.01	53.0	<0.01	n/a	25.0	17.0	-8.0	<2	124.0	122.0	-2.0
NAT92-14	0.0	0.09	16.0	17.0	1.0	<2	0.01	62.0	<0.01	n/a	24.0	19.0	-5.0	<2	132.0	138.0	6.0
NAT92-15	-2.0	0.09	14.0	14.0	0.0	<2	0.01	73.0	<0.01	n/a	21.0	17.0	-4.0	<2	110.0	111.0	1.0
NAT92-16	0.0	0.08	15.0	14.0	-1.0	<2	0.01	72.0	<0.01	n/a	26.0	20.0	-6.0	<2	121.0	125.0	4.0
NAT92-17	0.0	0.09	14.0	13.0	-1.0	<2	0.01	64.0	<0.01	n/a	29.0	20.0	-9.0	<2	124.0	129.0	5.0
NAT92-18	-1.0	0.08	16.0	16.0	0.0	<2	0.01	56.0	<0.01	n/a	27.0	21.0	-6.0	<2	115.0	121.0	6.0
NAT92-19	-3.0	0.09	15.0	15.0	0.0	2.0	0.01	47.0	<0.01	n/a	28.0	22.0	-6.0	<2	122.0	122.0	0.0
NAT92-20	-5.0	0.08	11.0	9.0	-2.0	<2	0.01	80.0	<0.01	n/a	29.0	16.0	-13.0	<2	94.0	91.0	-3.0
NAT92-21	-3.0	0.08	14.0	11.0	-3.0	<2	0.01	68.0	<0.01	n/a	34.0	25.0	-9.0	<2	121.0	124.0	3.0
NAT92-22	-5.0	0.06	15.0	11.0	-4.0	<2	0.01	70.0	<0.01	n/a	29.0	20.0	-9.0	<2	90.0	91.0	1.0
NAT92-23	-3.0	0.07	14.0	14.0	0.0	<2	0.01	64.0	<0.01	n/a	25.0	19.0	-6.0	<2	99.0	102.0	3.0
NAT92-24	-2.0	0.08	13.0	12.0	-1.0	<2	0.01	38.0	<0.01	n/a	26.0	18.0	-8.0	<2	89.0	92.0	3.0
NAT92-25	-2.0	0.02	6.0	5.0	-1.0	<2	0.01	27.0	0.0	n/a	17.0	12.0	-5.0	<2	14.0	18.0	4.0
NAT92-26	-1.0	0.06	10.0	9.0	-1.0	<2	0.01	19.0	<0.01	n/a	14.0	10.0	-4.0	<2	59.0	58.0	-1.0
NAT92-27	-4.0	0.06	11.0	9.0	-2.0	<2	0.01	31.0	<0.01	n/a	23.0	14.0	-9.0	<2	63.0	62.0	-1.0
NAT92-28	-2.0	0.05	13.0	13.0	0.0	<2	0.01	19.0	<0.01	n/a	23.0	19.0	-4.0	<2	54.0	51.0	-3.0
NAT92-29	-2.0	0.08	13.0	13.0	0.0	<2	0.01	35.0	<0.01	n/a	19.0	16.0	-3.0	<2	83.0	89.0	6.0
NAT92-30	-4.0	0.08	12.0	9.0	-3.0	<2	0.01	38.0	<0.01	n/a	23.0	17.0	-6.0	<2	70.0	70.0	0.0
NAT92-31A	-2.8	0.08	10.8	9.3	-1.5	<2	0.01	52.5	<0.01	n/a	28.5	20.0	-8.5	<2	82.0	83.8	1.8
NAT92-32	-2.0	0.08	12.0	7.0	-5.0	<2	0.01	32.0	<0.01	n/a	25.0	18.0	-7.0	<2	65.0	64.0	-1.0
NAT92-33	-5.0	0.06	9.0	7.0	-2.0	<2	0.01	41.0	0.0	n/a	26.0	17.0	-9.0	<2	60.0	59.0	-1.0
Average	-3.02	0.07	12.57	11.22	-1.35		0.01	55.14	0.01		25.23	17.18	-8.05		88.85	88.75	-0.10
Standard Dev.	1.96	0.02	2.46	2.81	1.80		0.00	23.20	0.00		4.40	3.27	3.09		28.53	30.14	3.96
N	33	33	33	33	33		33	33	3		33	33	33	30	33	33	33
Max.	0.0	0.1	16.0	17.0	3.0	2.0	0.0	121.0	<0.01		34.0	25.0	-3.0	<2	136.0	141.0	6.0
Min.	-9.0	0.0	6.0	5.0	-5.0	<2	0.0	19.0	0.0		14.0	10.0	-16.0	<2	14.0	18.0	-7.0
Std Dev/Av as %	-64.9	25.5	19.5	25.0	-133.2		0.0	42.1	0.0		17.5	19.1	-38.4		32.1	34.0	-4020.6