

GEOLOGICAL SURVEY OF CANADA

OPEN FILE 2844

Regional kimberlite indicator mineral data and till geochemistry from the Wekusko Lake area (63J), north-central Manitoba

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1994

**REGIONAL KIMBERLITE INDICATOR MINERAL DATA AND TILL
GEOCHEMISTRY FROM THE WEKUSKO LAKE AREA, NORTH-CENTRAL
MANITOBA**

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I. McMartin and G. Pringle

**CONTRIBUTION TO THE
NATMAP SHIELD MARGIN PROJECT**

Project 910022

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INTRODUCTION

Purpose

In the Snow Lake area, north-central Manitoba, the release of public news on August 27, 1992, about the discovery of kimberlitic rocks by Falconbridge Ltd. has stimulated new diamond prospecting activities. The kimberlite bodies were found by drilling through the Precambrian rocks near the Shield margin in the Wekusko Lake area. In view of that discovery, a reconnaissance kimberlite indicator mineral sampling program was carried out as part of a regional surficial mapping and drift prospecting project centred in the Flin Flon-Snow Lake area. This project was initiated in 1991 under the NATMAP Shield Margin Program by the Geological Survey of Canada. Heavy mineral concentrates were recovered from 60 large bulk till samples collected in 1992 over a 4000 km² area. This report presents the chemistry of kimberlite indicator minerals that were identified and confirmed by microprobe analysis. Trace element geochemistry analysis on the clay fraction of the selected till samples is also presented.

The indicator mineral tracing approach was very suitable for diamond prospecting in the study area, namely for the following reasons:

1. The area is underlain by the North American craton. South of Wekusko Lake, the geology consists of flat-lying sedimentary platform rocks where the occurrence of kimberlites is known to be more common (Kirkley et al., 1992).
2. In the general area, the drift is relatively abundant, averaging 0 to 2m on the Shield and 1 to 5m on the Paleozoic cover. The till, which is the preferred sampling medium, consists of generally one stratigraphic unit which can be easily distinguished from the upper glaciolacustrine unit.
3. Well defined southwestward dispersal trains of carbonates have been mapped from Paleozoic outliers west of Wekusko Lake (McMartin et al., 1993), and these trains parallel the main regional ice flow events from the NE for the Shield portion (Gobert and Nielsen, 1991; McMartin, 1994a). On the Paleozoic cover, the dominant ice flow is given by the direction of numerous streamlined landforms, oriented towards the WSW.

Location

The study area encompasses the Paleozoic/Precambrian contact in north-central Manitoba,

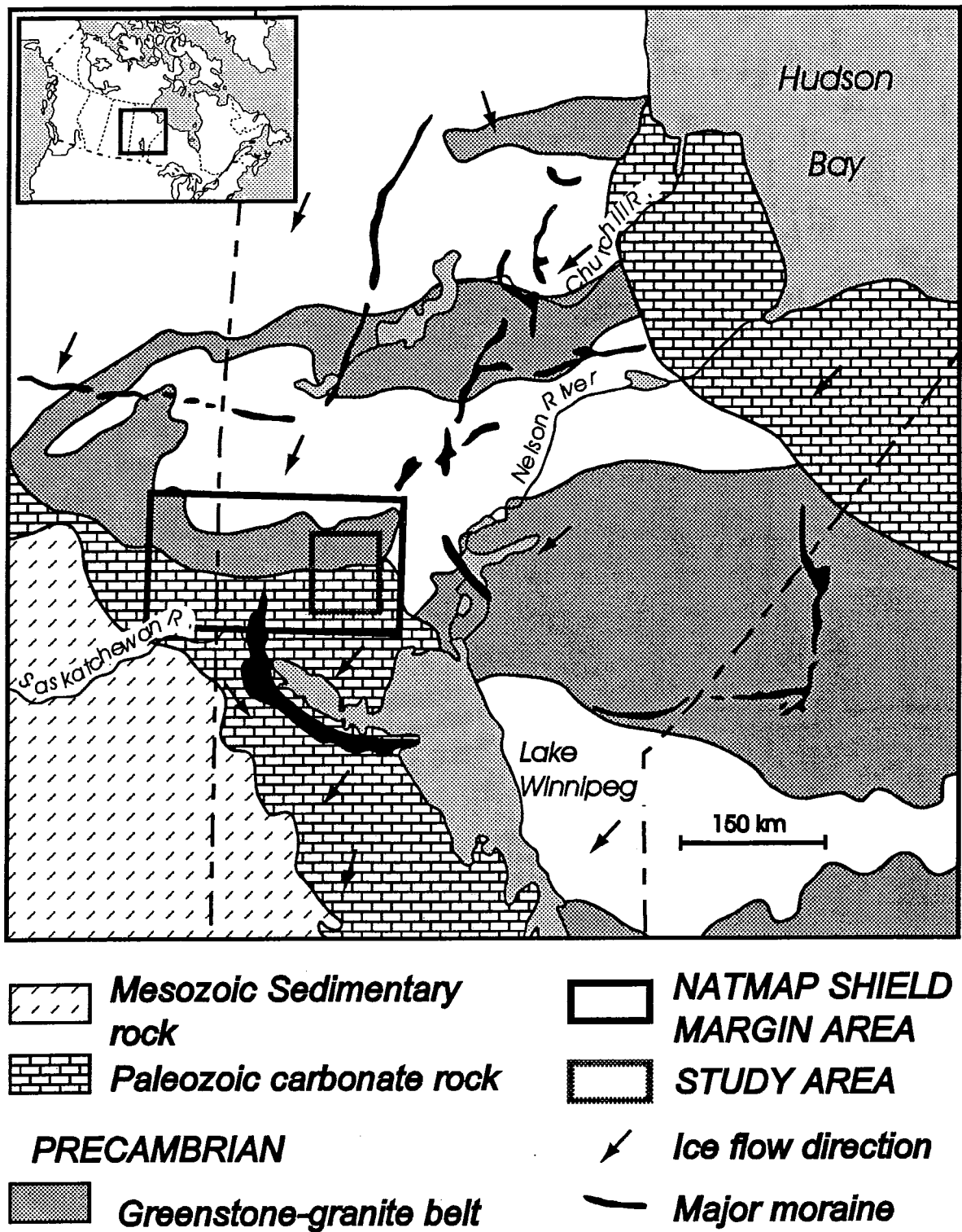


Figure 1. Location map of the study area.

approximately between latitudes 54°10' and 55° and longitudes 99°10' and 100°15' (Fig. 1). The city of Thompson is located 150 km NE of the study area. The town of Snow Lake is located in the northwest corner of the area while Ponton lies at the eastern edge. Wekusko Lake and Hargrave Lake are the largest lakes in the area, the first one surrounded by Shield rocks except at its southern edge and the second entirely enclosed within the Paleozoic cover (Fig. 2).

PREVIOUS WORK

Within the NATMAP Shield Margin Project area (Fig. 1), all analytical data available on till and humus trace element geochemistry have been compiled by I. McMartin and released in digital format (Broome, Viljoen et al., 1993). This published database also includes the description of the field sites and ice flow indicators recorded at sample sites. Gobert and Nielsen (1991) and Nielsen and Groom (1989) have released reports on till geochemistry of areas respectively to the NW and to the west of the study area. In 1992, Monopros Ltd. was involved in a kimberlite prospecting study in the Cranberry Portage area to the west, using till samples collected by Erik Nielsen and Heather Groom of the Manitoba Energy and Mines Department (E. Nielsen, personal communication).

REGIONAL GEOLOGY

Bedrock geology

The Paleozoic/Precambrian contact is located immediately south of Wekusko Lake which lies in the NW part of the study area (Fig. 2). The Shield portion is underlain predominantly by the Flin Flon-Snow Lake greenstone belt and in minor parts by the Kiseeynew metasedimentary gneiss belt (Bailes, 1971; Manitoba Energy and Mines, 1993). Several sites of gold and base metal mineralization have been reported (Manitoba Energy and Mines, 1993) and a few base metal mines are still in operation. The Proterozoic rocks are overlain by a Phanerozoic platform composed of subhorizontal Paleozoic carbonate rocks up to 115m thick at the southern edge of the study area (A. Leclair, personal communication). Known Paleozoic outliers are common in the area, both east and west of Wekusko Lake. Several Precambrian inliers located SE of Wekusko Lake have been recently mapped (Manitoba Energy and Mines, 1993).

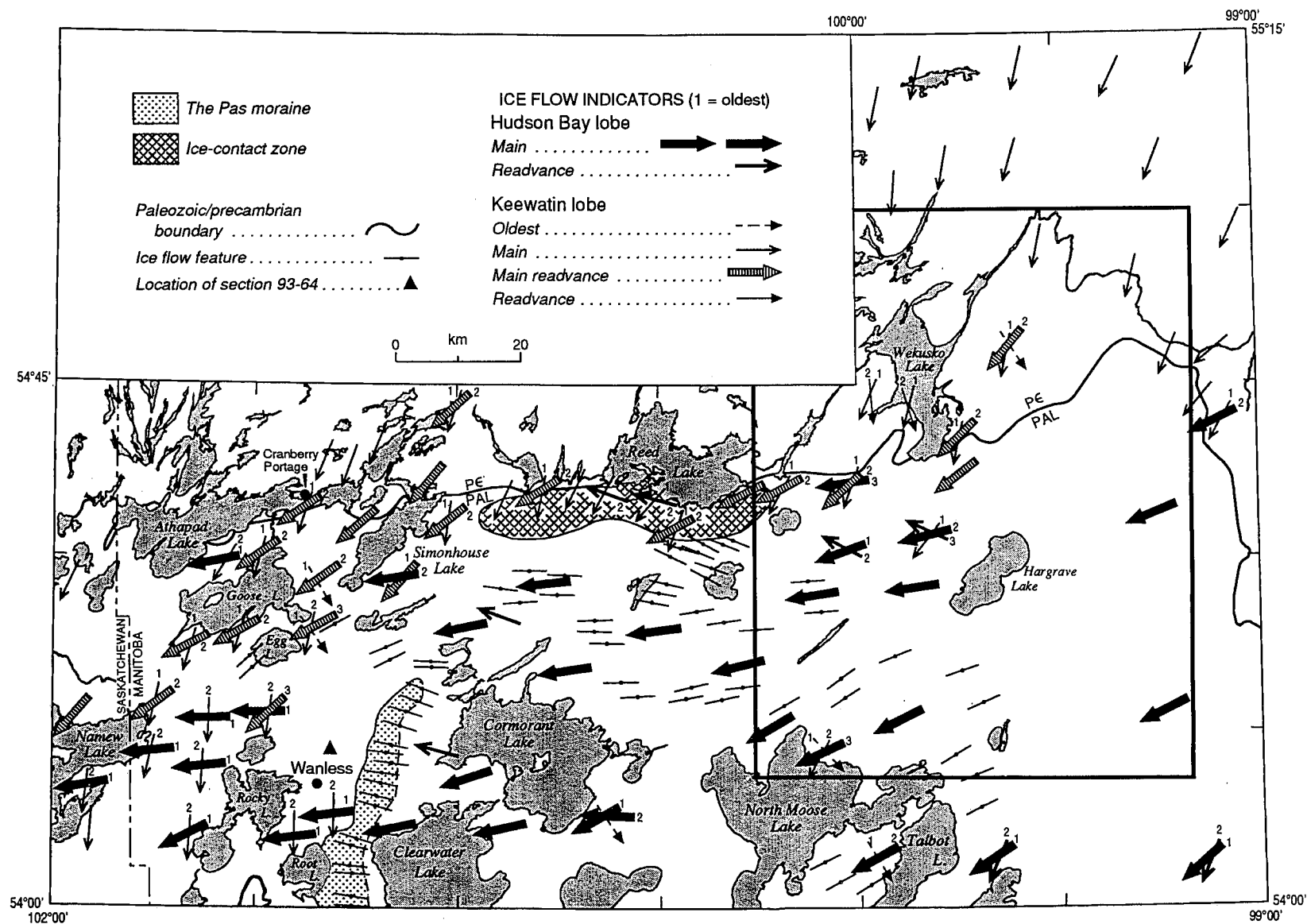


Figure 2. Ice flow indicator map for study area and adjacent areas.

Glacial geology

The study area is located in the zone of confluence of two major Late Wisconsinan ice lobes (Prest, 1983), where ice flowing from the Keewatin Sector of the Laurentide Ice Sheet (northern provenance) competed with ice flowing out of Hudson Bay from the Labrador Sector (northeastern provenance). The detailed mapping of surficial sediments in the NATMAP Shield Margin area has led to a comprehensive study of ice flow events and till stratigraphy for the Cormorant Lake - Wekusko Lake area (McMartin, 1994a).

The Keewatin Sector events and associated till units dominate the Shield portion and the area immediately south of the Shield margin (Fig. 2). In this area, the dominant ice flow trend is south-southwestward, and till composition reflects a northern provenance, closely related to the local bedrock. South of the Shield margin, major ice flow events trend more westerly, and till composition indicates an eastern and distal provenance (Hudson ice). Several glacial readvances, some in glacial Lake Agassiz, were recorded west of the study area (McMartin, 1994a). In the Wekusko Lake area, these readvances were also recorded, mostly along the Shield margin. The main readvance towards the SW caused a confluent and parallel ice flow between the two lobes in this area. This event was followed by minor readvances towards the SE and towards the W-NW. Till units related to these minor deglacial events are rarely observed and have not been sampled within this study.

Within the study area and as part of the NATMAP Shield Margin Project, The Talbot Lake surficial geology map (NTS 63J/3 to J/6) was compiled at a scale of 1:100 000 (McMartin, 1993; Broome, Viljoen et al., 1993). The Mitishto River map (NTS 63J/11, 12, 14) has recently been published at the same scale (McMartin, 1994b).

On the Shield, relief is low to moderate, and drift cover is generally thin (<2m) and discontinuous, with thickest till accumulations occurring on the lee-side of bedrock highs. South of the Shield margin, the drift cover is thick in places, and commonly forms fluted landforms up to 15m high. A large paleo-basin filled with glaciolacustrine laminated sediments forms a north-south trending belt east of Hargrave Lake, masking both Shield and Paleozoic terrane.

METHODS

Sample collection

In 1992, 150 bulk till samples (4 to 9kg) were collected from hand dug pits (1m deep) as part of a regional drift prospecting program (4 samples/100km²). From these, 60 samples located in the Wekusko Lake area were chosen for indicator mineral analysis. A sample location map is shown in Figure 3. The general description of the samples is given in Appendix A.

Sample processing

For the indicator mineral study, the till samples were processed at the Saskatchewan Research Council Sedimentary Lab with the following procedures:

- 1) Samples were disaggregated in a cement mixer, and screened at 10 mesh (1.7mm), yielding an average of 4.4 kg of sand per sample. The coarse fraction was stored.
- 2) The finer fraction (-10 mesh) was reduced by pre-concentration of heavy minerals with the shaking table. The table reject was retabled once to improve heavy mineral recovery.
- 3) Heavy mineral concentration using a Magstream separator at specific gravity of 3.0g/cm³ and 4.1g/cm³ was achieved on the reduced fraction. Ferromagnetic minerals were removed with a hand magnet.
- 4) The concentrates with SG 3.0 to 4.1 were screened at 60 mesh (0.25mm) and the coarse fraction was submitted for hand picking (0.25-1.7mm).
- 5) The concentrates with SG > 4.1 were separated using a Frantz isodynamic separator (once). The very weakly paramagnetic portion was recovered and screened at 60 mesh. The coarse fraction was submitted for hand picking. The weight data for each heavy mineral concentrate is listed in Appendix B.

The clay-sized fraction (<0.002mm) of till was separated by centrifuge and decantation at the Geological Survey of Canada. Geochemical analyses for a number of major and trace elements were conducted on the clay fraction by Chemex Ltd., using inductively coupled plasma atomic emission spectrometry following an aqua regia digestion. Mercury was analyzed by cold vapour atomic absorption, following aqua regia digestion.

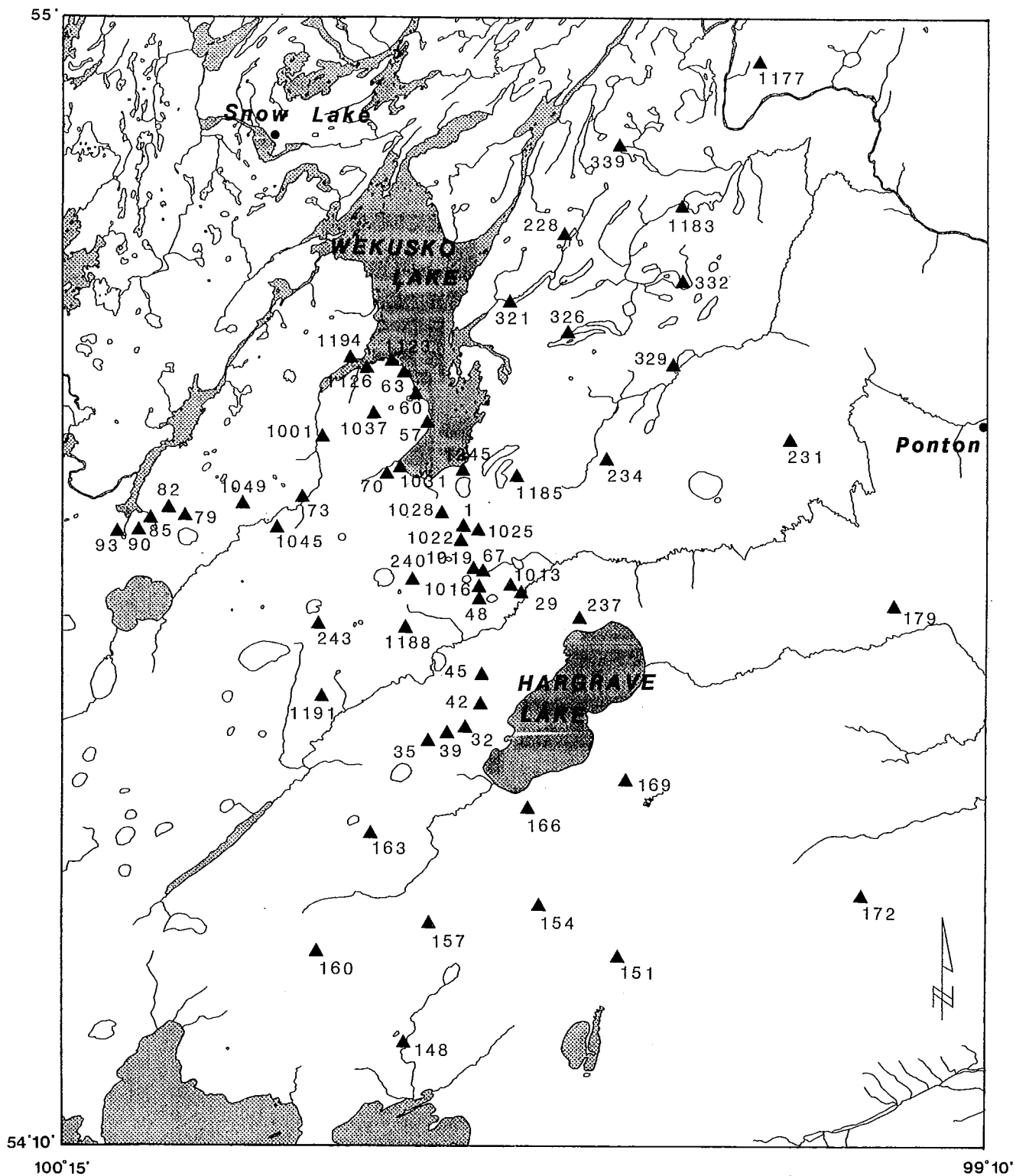


Figure 3. Location of till samples.

Indicator mineral picking and mounting

Concentrates (1 to 70g/sample) of heavy minerals were examined under a stereoscopic microscope by Consorminex Ltd. All the grains considered to have possible kimberlitic affinities were hand picked and mounted on polished grain mounts (app. 1700 grains), in preparation for electron microprobe analysis at the Geological Survey of Canada. These grains included potential purple peridotitic garnets, orange eclogitic garnets, emerald green clinopyroxenes, black ilmenites and chromites. Regional background grains of each indicator mineral species were also hand picked in several samples and mounted for analysis, providing a quality control on the mineral picking.

Microprobe analysis

The analyses were done at the Geological Survey of Canada with a four spectrometer Cameca SX50 electron microprobe. The raw data was processed with the Camaca PAP program (Pouchou and Pichoir, 1984). The standards and operating conditions are given in Table 1. The calculated detection limits and counting times are given in Table 2.

All the grains were initially analyzed using the "diamond" routine. This routine was developed in order to analyze the trace elements. Major element analyses with this routine are not of optimum quality because of the high count rates. This could have been overcome by using a two operating condition routine, however this would have more than doubled the time required to do an analysis. Therefore, after the initial data was examined, selected grains were reanalysed using routines with normal operating conditions (eg. "pyroxene" routine).

With the "diamond" routine some new methods of operation had to be developed. When operating at 200 nanoamp (nA) beam current, the count rates are extremely high for the major elements and the dead time correction is no longer linear. To overcome some of this effect, the calibration on the standards was made at 50 nA for the majors and at 10 nA for the trace elements. Also, the dead time correction formula (Willis, 1993) had been previously changed for this SX50. This resulted in increased linearity at higher count rates. Sodium was analyzed using a PCO crystal resulting in a better detection limit for Na, however, the peak is wide and the background is not flat. To correct this problem the background for the standard must be measured at a greater distance from the peak centroid than the background for the samples which

Table 1. Operating conditions and standards.

SUMMARY OF CONDITIONS IN DIAMOND.EXP AND DIAMOND.PHY

CALIBRATION DATA :

SPC XTAL POS.				+BG. OFFSET	-BG. OFFSET	BG SLOPE	PK-BG C/s/nA	SIGMA	PK_TIM s	% REQ. ACCUR.	BG_TIM ms
Na	1	PCO	26870	2500	-2500	0.00	1726.28	0.3	10	0.1	5000
Si	2	TAP	27732	1500	0	1.00	1355.22	0.4	10	0.1	5000
K	3	PET	42754	1000	0	1.00	294.67	0.3	10	0.5	5000
Fe	4	LIF	48082	1050	0	1.00	346.77	0.1	10	0.1	5000
Al	2	TAP	32467	1000	0	1.00	1406.70	0.1	10	0.1	5000
Ca	3	PET	38385	2000	0	1.00	364.78	0.3	10	0.1	5000
Mn	4	LIF	52208	1200	0	1.00	450.00	0.6	10	0.5	4495
Mg	2	TAP	38512	1000	0	1.00	1171.61	0.1	10	0.1	5000
Ti	3	PET	31421	1000	0	1.00	795.16	0.2	10	0.1	5000
Cr	3	PET	26190	1000	0	1.00	369.87	0.2	10	0.1	5000
Ni	4	LIF	41166	1000	0	1.00	552.43	0.5	10	0.5	3672
Zn	4	LIF	35627	1000	0	1.00	442.73	0.2	10	0.1	5000
Nb	3	PET	65434	2000	0	1.00	129.79	0.7	10	0.5	5000
Co	4	LIF	44428	1000	0	1.00	561.43	0.3	10	0.5	3617
V	4	LIF	62185	800	0	1.00	258.50	0.1	10	0.1	5000

STANDARD DATA:

	STD	WT	LINE	kV	BEAM
Na	NACL7	0.3930	Ka	20.0	200.0
Si	QTZ1	0.4674	Ka	20.0	200.0
K	KBR7	0.3290	Ka	20.0	200.0
Fe	MAG1	0.7236	Ka	20.0	200.0
Al	COR1	0.5290	Ka	20.0	200.0
Ca	WOL1	0.3432	Ka	20.0	200.0
Mn	MN	1.0000	Ka	20.0	200.0
Mg	MGO1	0.6032	Ka	20.0	200.0
Ti	RUT1	0.5895	Ka	20.0	200.0
Cr	CHR1	0.2504	Ka	20.0	200.0
Ni	NI	1.0000	Ka	20.0	200.0
Zn	ZN	1.0000	Ka	20.0	200.0
Nb	NB	1.0000	La	20.0	200.0
Co	CO	1.0000	Ka	20.0	200.0
V	V	1.0000	Ka	20.0	200.0

NACL7	Na	0.3930	Cl	0.6070						
QTZ1	Si	0.4674	O	0.5326						
KBR7	K	0.3290	Br	0.6710						
MAG1	Fe	0.7236	O	0.2764						
COR1	Al	0.5290	O	0.4710						
WOL1	Ca	0.3432	Fe	0.0030	Mn	0.0012	Si	0.2399	O	0.4127
MN	Mn	1.0000								
MGO1	Mg	0.6032	O	0.3968						
RUT1	Ti	0.5895	Fe	0.0050	Nb	0.0050	O	0.4005		
CHR1	Cr	0.2504	Al	0.0762	Fe	0.2985	Mg	0.0434	Ti	0.0054
	Mn	0.0015	Ni	0.0012	Si	0.0011	O	0.3211	V	0.0012
NI	Ni	1.0000								
ZN	Zn	1.0000								
NB	Nb	1.0000								
CO	Co	1.0000								
V	V	1.0000								

Table 1. (continued)

SUMMARY OF CONDITIONS IN PYROXENE.EXP AND PYROXENE.PHY

CALIBRATION DATA :

	SPC	XTAL	POS.	+BG. OFFSET	-BG. OFFSET	BG SLOPE	PK-BG C/s/nA	SIGMA	PK_TIM s	% REQ. ACCUR.	BG_TIM ms
Na	1	PCO	26849	2000	-2000	0.00	1541.32	0.2	20	0.1	10000
K	3	PET	42751	512	0	1.00	189.94	0.3	20	0.1	10000
Fe	4	LIF	48083	512	0	1.00	153.26	0.7	20	0.1	10000
Mg	2	TAP	38512	912	0	1.00	988.55	0.3	20	0.1	10000
Si	2	TAP	27735	1531	0	1.00	978.80	0.3	10	0.1	5000
Ca	3	PET	38393	531	0	1.00	210.78	0.2	10	0.1	5000
Mn	4	LIF	52197	631	0	1.00	50.69	1.6	10	0.1	5000
Ti	3	PET	31425	831	0	1.00	424.40	0.2	10	0.1	5000
Cr	4	LIF	56872	531	0	1.00	41.88	0.3	10	0.1	5000
Al	2	TAP	32469	1431	0	1.00	1089.17	0.2	10	0.1	5000
Ni	4	LIF	41165	531	0	1.00	128.92	0.5	10	0.1	5000

STANDARD DATA:

	STD	WT	LINE	kV	BEAM
Na	NACL7	0.3930	Ka	15.0	10.0
K	KBR7	0.3290	Ka	15.0	10.0
Fe	MAG1	0.7236	Ka	15.0	10.0
Mg	MGO1	0.6032	Ka	15.0	10.0
Si	QTZ1	0.4674	Ka	15.0	30.0
Ca	WOL1	0.3432	Ka	15.0	30.0
Mn	RHOD1	0.2854	Ka	15.0	30.0
Ti	RUT1	0.5895	Ka	15.0	30.0
Cr	CHR1	0.2504	Ka	15.0	30.0
Al	COR1	0.5290	Ka	15.0	30.0
Ni	NIS4	0.6457	Ka	15.0	30.0

NACL7	Na	0.3930	Cl	0.6070					
KBR7	K	0.3290	Br	0.6710					
MAG1	Fe	0.7236	O	0.2764					
MGO1	Mg	0.6032	O	0.3968					
QTZ1	Si	0.4674	O	0.5326					
WOL1	Ca	0.3432	Fe	0.0030	Mn	0.0012	Si	0.2399	O 0.4127
RHOD1	Mn	0.2854	Al	0.0003	Fe	0.0131	Si	0.2178	Mg 0.0052 Ca 0.0469
	Na	0.0010	K	0.0007	Zn	0.0574	O	0.3722	
RUT1	Ti	0.5895	Fe	0.0050	Nb	0.0050	O	0.4005	
CHR1	Cr	0.2504	Al	0.0762	Fe	0.2985	Mg	0.0434	Ti 0.0054 V 0.0012
	Mn	0.0015	Ni	0.0012	Si	0.0011	O	0.3211	
COR1	Al	0.5290	O	0.4710					
NIS4	Ni	0.6457	Fe	0.0010	S	0.3533			

Table 2. Counting times for the sample and the calculated minimum detection limits for the trace element routine "diamond".

Element	Counting Time (sec.)	Minimum Detection Limit (ppm)
Na	25	60
Si	5	60
K	10	100
Fe	4	300
Al	5	60
Ca	3	100
Mn	4	300
Mg	5	80
Ti	5	200
Cr	5	200
Ni	10	200
Zn	10	300
Nb	10	400
Co	3	300
V	3	500

contain trace amounts of Na. There is always concern regarding the stability of samples that are exposed to high beam current. Tests were conducted to check for the migration of elements and sample stability. No problems were observed with pyroxenes, garnets, chromites and ilmenites, the minerals of interest in this study.

Mineral identification

The data from the initial run was first sorted in a database to assign provisional mineral names for each grain and then structural formulae were calculated. The quality of the analyses and the mineral identifications were judged on the basis of analytical total and calculated mineral stoichiometry during a visual scan of the results. The category labels arrived at by the database program during the initial sorting proved to be better than 90% accurate, leaving 10% of the grains to be manually labelled. The possible combinations are sufficiently complex that the manual step can never be eliminated, unless a 10% rate of unknowns and misidentifications is acceptable.

If a grain was classified as one of the indicator species and had a composition potentially related to diamond environments, it was automatically marked to be revisited and reanalysed. All grains that exhibited a reasonable total and stoichiometry and that were not an indicator species were presumed to be properly characterized. A few of these will represent a minor phase attached to or included in a larger grain and others may represent one phase in a multiple phase fragment. There is no certainty that an analysis represents the real nature of a given grain, since only one spot was chosen for the original run. Homogeneity may only be demonstrated with further investigation.

Grains that were identified as one of the indicator species (garnet, chromite, ilmenite, clinopyroxene) but lacked an indicator composition were marked for reanalysis if they exhibited a poor total and/or stoichiometry. Grains that were identified as a species other than an indicator species and exhibited a poor total and/or stoichiometry were presumed to be properly characterized.

The initial sorting in the database separated a large number of poorly defined Fe-Ti oxide grains. Some of these grains were revisited and many proved to be ilmenites altered all or in

part to fine mixtures. Among other things, the mixtures contained some hematite and rutile. Other examples of these grains proved to be unaltered complex exsolutions and mixtures, involving some or all of magnetite, ilmenite, hematite, rutile and a high Ti phase. Generally those mixtures with greater than 53% TiO₂ have been labelled as altered ilmenite. The remaining Fe-Ti oxide grains are somewhat arbitrarily divided into ilmenites and magnetites. Again some of these grains were revisited in order to better understand their nature. Commonly the ilmenites have unmixed magnetite and the magnetites have unmixed ilmenite and/or ulvospinel. These materials form a continuous series.

Grains that failed to classify were marked to be revisited in the microprobe and reanalysed, where appropriate.

RESULTS AND DISCUSSION

The results of the best chemical analysis are given in Appendix C. 2084 grains were analyzed, including 1698 possible indicator minerals and 386 background grains. Only the results for the possible indicator minerals are listed in Appendix C and considered for this study. 25 mineralogical groups were identified, including 42% ilmenites, 7% pyroxenes, 5% garnets, 2% chromites, and the remaining were mostly magnetites, altered ilmenites and silicate minerals (Table 3). Results for indicator minerals are listed in Table 4 and summarized in Table 5. Of the 1698 grains analyzed, 78 were classified as kimberlite indicator minerals, mostly as Cr-diopsides, and as Mg-ilmenites and pyrope garnets. Clay fraction geochemical data are presented in Table 6.

Cr-diopside

Cr₂O₃ values form a continuous range of composition for Cr-diopsides and it becomes difficult to discriminate between kimberlitic Cr-diopsides and Cr-rich diopsides found in ultramafic rocks. In their analysis of pyroxenes from kimberlites, Stephens and Dawson (1977) have found a mean of 1.45 wt% for the emerald green Cr-diopside, with a range of 0.21 to 2.81. Fipke (1989) used a threshold of 0.5 wt% Cr₂O₃ to identify Cr-diopside, similar to the compositional range of eclogitic diamond inclusion clinopyroxenes. Although ultramafic rocks

Table 3. List of mineral species and occurrences

Species	Number of Occurrences
altilmenite	126
amphibole	62
apatite	9
chlorite	2
chromite	25
composite	4
corundum	2
Cr-diopside	70
epidote	1
feldspar	4
garnet	87
goethite	3
hematite	25
ilmenite	720
magnetite	454
Mg-ilmenite	5
olivine	1
orthopyroxene	2
plucked	1
pumpellyite	2
pyroxene	48
quartz	7
rutile	5
sphene	1
spinel	14
staurolite	16
tourmaline	2

1698

TABLE 4. Kimberlite indicator minerals - chemical analysis
(wt% of the element oxide)

NATMAP SHIELD MARGIN PROJECT

Kimberlite Indicator Sampling

Terrain Sciences Division Geological Survey of Canada

Note 1: "NA" is inserted where the grain has been reanalysed with a routine other than "diamond" (element not available).

Note 2: Values below detection limit are indicated as "0".

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	COO	V2O3	TOTAL
17	92MOB0042	Cr-diopside	0.998	51.963	0	3.56	2.226	22.74	0.10	15.464	0.19	1.15	0.13	0.03	0	0	98.57
77	92MOB0045	Cr-diopside	0.749	52.851	0.01	3.63	2.328	22.58	0.13	16.759	0.17	0.76	0.05	0	0	0.07	100.10
80	92MOB0045	Cr-diopside	0.519	51.843	0	4.64	1.755	23.26	0.18	15.748	0.07	0.53	0.03	0	0.03	0.05	98.66
130	92MOB0035	Cr-diopside	0.422	52.111	0.01	4.01	1.621	23.15	0.20	16.210	0.06	0.86	0.03	0	0	0	98.69
131	92MOB0035	Cr-diopside	0.402	52.479	0.01	3.56	1.279	23.22	0.14	16.502	0.18	0.70	0.12	0	0.03	0	98.66
132	92MOB0035	Cr-diopside	0.353	53.133	0	3.42	1.328	23.54	0.08	16.752	0.03	0.60	0.02	0	0	0	99.27
138	92MOB0035	Cr-diopside	0.398	51.967	0	4.29	1.665	22.84	0.22	15.983	0.14	0.93	0.02	0.04	0.04	0	98.52
227	92MOB0029	Cr-diopside	0.334	53.621	0.01	0.30	1.230	25.34	0.35	17.538	0.17	0.66	0	0	0	0.15	99.72
254	92MOB0032	Cr-diopside	0.535	52.624	0.01	3.62	1.489	23.21	0.15	16.147	0.17	1.06	0.17	0	0.04	0	99.25
308	92MOB0048	Garnet	0.112	41.192	0	8.58	20.311	4.43	0.31	21.269	1.20	1.86	0.02	0	0.05	0	99.39
338	92MOB0057	Cr-diopside	0.271	52.156	0.01	7.61	0.433	23.63	0.52	13.869	0	0.57	0.02	0.04	0.04	0	99.21
400	92MOB0063	Cr-diopside	1.007	53.339	0	3.20	2.069	22.94	0.14	15.530	0.19	1.48	0.10	0	0	0	100.03
401	92MOB0063	Cr-diopside	0.983	53.381	0	2.99	1.916	23.00	0.11	15.844	0.18	1.41	0.10	0	0	0.08	100.00
402	92MOB0063	Cr-diopside	1.000	53.024	0.01	3.14	2.001	23.01	0.12	15.375	0.19	1.32	0.07	0	0.04	0	99.36
450	92MOB0070	Cr-diopside	0.275	53.195	0.01	3.47	1.069	24.43	0.17	16.202	0.05	0.60	0.03	0	0	0	99.54
452	92MOB0070	Cr-diopside	0.470	52.577	0	6.14	1.502	22.88	0.24	14.952	0.03	0.53	0.05	0.03	0	0.06	99.46
453	92MOB0070	Cr-diopside	0.226	51.786	0.01	5.87	3.110	18.84	0.17	18.537	0.25	1.13	0.05	0	0.03	0	99.86
456	92MOB0070	Cr-diopside	0.313	53.337	0	3.25	1.151	23.64	0.19	16.676	0	0.70	0.11	0.03	0.04	0	99.46
490	92MOB0073	Cr-diopside	0.373	52.705	0.01	3.73	1.837	23.66	0.14	16.733	0.16	0.84	0.06	0	0	0	100.26
492	92MOB0073	Cr-diopside	0.370	54.090	0	3.72	1.280	23.53	0.12	16.050	0.06	0.70	0.08	NA	NA	NA	100.00
494	92MOB0073	Cr-diopside	0.332	54.156	0.01	3.35	1.591	22.67	0.18	17.341	0.09	0.99	0.14	0	0	0	100.83
525	92MOB0079	Garnet	0	40.604	0	8.71	21.195	5.36	0.56	19.396	0.05	2.83	0	0.05	0	0	98.81
527	92MOB0079	Cr-diopside	0.274	51.570	0.01	4.81	2.538	21.31	0.16	17.165	0.20	1.05	0.06	0	0	0.08	99.24
528	92MOB0079	Cr-diopside	0.421	53.627	0	3.30	1.306	23.81	0.11	16.643	0.05	0.78	0.01	0.03	0.04	0	100.12
659	92MOB0172	Cr-diopside	0.793	52.477	0.01	3.94	2.536	23.10	0.13	15.676	0.17	0.71	0.07	0	0	0	99.62
669	92MOB0148	Cr-diopside	0.547	52.382	0.01	3.43	1.449	23.48	0.16	16.142	0.11	1.07	0.08	0	0	0	98.92
671	92MOB0148	Cr-diopside	0.681	52.532	0	5.16	1.820	22.65	0.33	15.069	0.13	0.99	0.05	0.03	0	0.07	99.52
673	92MOB0148	Cr-diopside	0.755	52.323	0	3.70	2.840	23.36	0.15	15.423	0.22	1.09	0.06	0	0.05	0.07	100.04
674	92MOB0148	Cr-diopside	0.681	51.976	0.01	5.33	1.901	22.79	0.36	14.756	0.14	1.04	0.04	0	0	0.05	99.09
675	92MOB0148	Cr-diopside	0.849	52.678	0	3.51	2.449	23.01	0.11	15.796	0.17	1.09	0.14	0	0.03	0	99.85
676	92MOB0148	Cr-diopside	1.339	52.894	0	3.98	2.118	22.24	0.12	15.016	0.26	1.58	0.14	0.05	0	0.07	99.81
677	92MOB0148	Cr-diopside	1.144	53.491	0	2.89	2.029	22.40	0.09	16.038	0.04	1.67	0.09	0.04	0.03	0	99.97
678	92MOB0148	Cr-diopside	0.772	52.776	0	3.81	2.453	22.60	0.12	16.046	0.08	0.77	0.06	0	0.04	0	99.55
704	92MOB0151	Cr-diopside	0.755	52.445	0.01	4.14	2.723	23.58	0.16	15.365	0.09	0.93	0.12	0.03	0.03	0	100.36
705	92MOB0151	Cr-diopside	0.842	52.543	0	2.30	2.434	23.71	0.07	15.945	0.17	1.65	0.07	0	0	0.08	99.84
706	92MOB0151	Cr-diopside	1.659	52.678	0.01	3.84	3.169	21.80	0.11	14.902	0.25	1.40	0.07	0	0	0	99.93
707	92MOB0151	Cr-diopside	0.706	52.780	0	3.77	2.436	23.80	0.10	15.595	0.09	0.55	0.04	0	0	0.06	99.96

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	COO	V2O3	TOTAL
708	92MOB0151	Cr-diopside	1.572	52.770	0.01	3.30	2.885	22.01	0.11	15.071	0.09	1.33	0.07	0	0	0	99.29
709	92MOB0151	Cr-diopside	0.814	52.545	0	4.21	1.969	22.89	0.20	15.501	0.23	1.27	0.12	0	0.04	0	99.81
743	92MOB0154	Cr-diopside	1.092	53.127	0.01	2.60	2.065	23.08	0.09	15.917	0.09	1.43	0.07	0	0	0.08	99.67
744	92MOB0154	Cr-diopside	0.756	52.877	0.01	3.67	2.322	23.16	0.13	15.746	0.23	0.82	0.06	0	0	0	99.84
745	92MOB0154	Cr-diopside	0.783	52.132	0.01	3.57	2.963	23.56	0.13	15.326	0.17	0.84	0.08	0	0.04	0	99.65
746	92MOB0154	Cr-diopside	0.802	53.578	0.01	3.55	1.820	20.79	0.15	17.918	0.13	1.27	0.10	0	0	0.07	100.20
747	92MOB0154	Cr-diopside	1.035	52.971	0	2.86	1.856	23.34	0.10	15.736	0.15	1.42	0.08	0	0	0	99.60
748	92MOB0154	Cr-diopside	0.840	53.891	0	3.24	1.485	23.15	0.14	16.160	0.09	0.95	0.15	0	0.03	0	100.14
1026	92MOB0228	Cr-diopside	0.772	51.779	0.01	4.31	2.980	23.28	0.14	15.214	0.06	0.76	0.08	0	0	0.05	99.46
1084	92MOB0326	Cr-diopside	0.610	53.070	0	4.67	2.100	22.17	0.26	15.070	0	1.56	0.06	NA	NA	NA	99.58
1185	92MOB1001	Cr-diopside	0.355	53.463	0	3.33	1.168	22.86	0.11	17.845	0.12	0.57	0.13	0	0	0	99.98
1186	92MOB1001	Cr-diopside	0.350	53.380	0.04	5.80	1.410	22.78	0.25	15.170	0.10	0.90	0	NA	NA	NA	100.18
1187	92MOB1001	Cr-diopside	0.336	53.138	0	3.12	1.056	23.33	0.17	17.160	0.07	0.51	0.17	0	0	0	99.07
1188	92MOB1001	Cr-diopside	0.454	53.176	0.01	2.54	1.173	24.04	0.19	16.595	0.08	0.87	0.13	0	0	0	99.30
1190	92MOB1001	Cr-diopside	0.208	51.469	0.01	5.04	2.921	19.10	0.16	18.621	0.24	1.22	0.08	0	0	0	99.10
1191	92MOB1001	Cr-diopside	0.439	52.845	0.01	4.35	1.389	23.32	0.14	15.807	0.11	0.88	0.06	0	0	0	99.39
1258	92MOB1037	Cr-diopside	0.407	56.319	0	3.20	1.325	23.74	0.23	17.847	0.12	1.20	0.13	0	0	0	104.54
1259	92MOB1037	Cr-diopside	0.290	53.890	0	2.90	1.050	23.60	0.16	16.780	0.04	0.51	0.22	NA	NA	NA	99.44
1260	92MOB1037	Cr-diopside	0.334	53.390	0.01	3.06	1.102	24.00	0.17	16.867	0.05	0.54	0.16	0.04	0	0	99.72
1261	92MOB1037	Cr-diopside	0.380	53.270	0.01	2.96	1.153	23.86	0.17	16.585	0.05	0.74	0.14	0	0.03	0	99.36
1275	92MOB1045	Cr-diopside	0.321	52.560	0	3.39	1.308	23.87	0.14	16.200	0.17	0.95	0.16	0.03	0.03	0	99.13
1277	92MOB1045	Cr-diopside	0.481	52.720	0.01	4.58	1.653	23.35	0.25	15.315	0.06	0.85	0.07	0	0	0	99.35
1312	92MOB1025	Cr-diopside	0.859	54.087	0.02	3.41	1.959	23.11	0.10	16.295	0.22	1.03	0.09	0.03	0.03	0.06	101.30
1326	92MOB1028	Mg-ilmenite	0.013	0.032	0	32.14	0.227	0.01	0.37	11.960	50.61	3.61	0.15	0.03	0.04	0.55	99.74
1329	92MOB1028	Cr-diopside	0.369	53.185	0.01	3.58	1.113	23.39	0.19	16.656	0.08	0.69	0.07	0.03	0.04	0	99.42
1354	92MOB1031	Cr-diopside	0.408	53.091	0.01	3.23	1.466	23.67	0.15	16.232	0.11	0.93	0.13	0	0	0	99.47
1363	92MOB1031	Mg-ilmenite	0	0.068	0.01	35.19	0.686	0.03	0.26	11.012	50.59	0.47	0.13	0.05	0.06	0.57	99.13
1373	92MOB1016	Cr-diopside	0.586	51.893	0.01	6.55	0.754	23.47	0.43	14.104	0.04	0.52	0.03	0	0	0	98.44
1396	92MOB1019	Cr-diopside	0.468	53.587	0	2.78	0.574	24.15	0.09	16.799	0.10	0.54	0.04	0	0.04	0	99.22
1397	92MOB1019	Cr-diopside	0.398	53.381	0.01	3.70	1.103	23.69	0.24	16.326	0.11	0.55	0.09	0.03	0	0	99.65
1406	92MOB1022	Mg-ilmenite	0	0.028	0.01	40.22	0.028	0.03	0.65	5.328	52.67	0.22	0.09	0.05	0.06	0.52	99.90
1422	92MOB1022	Mg-ilmenite	0	0.049	0.01	38.76	0.523	0.03	0.28	8.982	49.06	0.18	0.07	0	0.06	0.57	98.59
1471	92MOB1245	Mg-ilmenite	0	0.047	0.01	38.30	0.484	0.04	0.28	8.719	49.88	0.23	0.07	0.06	0.06	0.53	98.69
1569	92MOB1049	Cr-diopside	0.931	51.060	0.01	2.95	1.680	22.98	0.09	15.872	0.04	0.79	0.05	0.03	0	0	96.50
1594	92MOB1123	Cr-diopside	0.570	51.360	0	4.26	1.353	23.05	0.11	16.033	0.10	0.76	0.14	0	0.04	0	97.82
1615	92MOB1126	Cr-diopside	0.359	53.354	0.01	0.78	1.147	25.11	0.33	17.069	0.08	0.88	0	0.03	0.00	0	99.19
1616	92MOB1126	Cr-diopside	0.443	52.853	0.01	3.44	0.990	23.39	0.16	16.109	0.05	1.13	0.14	0	0	0	98.76
1617	92MOB1126	Cr-diopside	0.536	52.528	0.01	3.96	1.204	21.43	0.23	17.260	0.16	1.16	0.13	0	0	0	98.66
1640	92MOB1177	Cr-diopside	0.644	52.487	0	4.69	1.589	23.30	0.26	15.323	0.23	0.60	0.13	0.06	0	0.05	99.34
1645	92MOB1177	Garnet	0.020	40.480	0.01	7.55	18.276	5.71	0.42	19.629	0.24	6.28	0.03	0	0	0.05	98.72
1674	92MOB1183	Cr-diopside	1.078	51.593	0	5.48	1.446	22.06	0.12	14.804	0.04	0.68	0.13	0	0	0	97.46

TABLE 5. Kimberlite indicator minerals - summary

NATMAP SHIELD MARGIN PROJECT

Kimberlite Indicator Sampling

Terrain Sciences Division Geological Survey of Canada

Sample	CrDiopside	MgIlmenite	P-Garnet	TOTAL
92MOB0029	1	0	0	1
92MOB0032	1	0	0	1
92MOB0035	4	0	0	4
92MOB0042	1	0	0	1
92MOB0045	2	0	0	2
92MOB0048	0	0	1	1
92MOB0057	1	0	0	1
92MOB0063	3	0	0	3
92MOB0070	4	0	0	4
92MOB0073	3	0	0	3
92MOB0079	2	0	1	3
92MOB0148	8	0	0	8
92MOB0151	6	0	0	6
92MOB0154	6	0	0	6
92MOB0172	1	0	0	1
92MOB0228	1	0	0	1
92MOB0326	1	0	0	1
92MOB1001	6	0	0	6
92MOB1016	1	0	0	1
92MOB1019	2	0	0	2
92MOB1022	0	2	0	2
92MOB1025	1	0	0	1
92MOB1028	1	1	0	2
92MOB1031	1	1	0	2
92MOB1037	4	0	0	4
92MOB1045	2	0	0	2
92MOB1049	1	0	0	1
92MOB1123	1	0	0	1
92MOB1126	3	0	0	3
92MOB1177	1	0	1	2
92MOB1183	1	0	0	1
92MOB1245	0	1	0	1
	<hr/>	<hr/>	<hr/>	<hr/>
	70	5	3	78

TABLE 6. Trace element geochemistry of the clay fraction of till

NATMAP SHIELD MARGIN PROJECT

Kimberlite Indicator Sampling

Elements Ag, Al, As, Ba, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, La, Mg, Mn, Mo, Na, Ni, Pb, Sb, Sc, Sr, Te, Ti, Tl, U, V, Zn.

Carbonate content (wt% CO₃) of silt + clay fraction by Atomic Absorption Spectroscopy

Sample ID	Ag ppm	Al %	As ppm	Ba ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %
92MOB0001	0.1	3.15	4	210	6.80	0.25	14	106	46	3.54	20	0.62	30	3.66	460	0.5	0.43
92MOB0029	0.1	2.49	1	160	8.09	0.25	14	98	52	3.21	40	0.66	20	5.33	480	0.5	0.46
92MOB0032	0.1	1.94	1	150	11.30	0.25	8	70	52	1.93	40	0.47	5	7.10	230	0.5	0.32
92MOB0035	0.1	2.30	1	170	9.50	0.25	12	88	57	2.51	40	0.63	5	6.20	305	0.5	0.39
92MOB0039	0.1	2.16	1	150	11.74	0.25	9	78	45	2.35	30	0.47	20	6.14	315	0.5	0.37
92MOB0042	0.1	1.87	1	120	11.63	0.25	8	69	43	1.84	40	0.25	5	7.47	205	0.5	0.42
92MOB0045	0.1	3.13	1	180	5.63	0.25	15	104	55	3.56	20	0.79	20	4.66	420	0.5	0.45
92MOB0048	0.1	2.79	1	160	8.29	0.25	14	97	57	3.08	30	0.74	5	6.14	420	0.5	0.47
92MOB0057	0.1	5.27	34	360	0.41	0.25	23	140	188	6.25	50	1.27	30	2.10	375	0.5	0.55
92MOB0060	0.2	4.56	104	260	0.35	0.25	24	66	265	6.54	50	0.90	60	2.28	445	1.0	0.55
92MOB0063	0.1	5.52	62	100	0.17	0.25	19	81	86	5.66	40	0.41	5	1.60	380	0.5	0.56
92MOB0067	0.1	2.10	1	110	12.84	0.25	10	68	54	2.15	30	0.42	5	6.57	345	0.5	0.54
92MOB0070	0.1	4.34	48	230	2.47	0.25	26	91	225	5.57	40	1.03	20	2.50	480	0.5	0.60
92MOB0073	0.1	3.73	78	180	3.44	0.25	22	68	216	4.87	40	0.91	20	3.51	435	0.5	0.62
92MOB0079	0.1	5.74	78	300	0.53	0.25	33	123	119	6.93	70	0.66	30	2.75	530	0.5	0.73
92MOB0082	0.1	4.14	58	260	5.94	0.25	19	97	91	5.10	50	0.62	5	4.97	400	0.5	0.56
92MOB0085	0.1	3.82	18	270	5.27	0.25	16	100	79	4.19	60	0.42	30	2.49	330	0.5	0.51
92MOB0090	0.1	3.69	36	180	2.68	0.25	21	67	128	5.07	60	0.67	20	3.47	410	0.5	0.59
92MOB0093	0.1	3.96	308	240	1.29	0.50	32	91	194	6.11	70	1.02	20	2.43	565	0.5	0.74
92MOB0148	0.1	1.59	1	130	13.10	0.25	9	91	46	1.77	50	0.30	5	6.06	250	0.5	0.41
92MOB0151	0.1	2.67	1	140	6.65	0.25	15	143	63	3.09	50	0.53	30	5.77	295	0.5	0.65
92MOB0154	0.1	2.67	1	140	8.72	0.25	11	103	51	2.60	70	0.47	20	5.76	340	0.5	0.45
92MOB0157	0.1	2.28	1	120	9.85	0.25	14	105	65	2.70	60	0.41	20	5.30	320	0.5	0.57
92MOB0160	0.1	2.87	2	170	6.65	0.25	13	103	46	3.14	60	0.55	20	4.07	360	0.5	0.48
92MOB0163	0.1	2.36	2	170	9.50	0.25	11	110	47	2.46	50	0.70	20	5.80	285	0.5	0.34
92MOB0166	0.1	3.52	1	230	4.08	0.25	17	128	59	4.00	40	0.69	30	3.72	455	0.5	0.51
92MOB0169	0.1	3.05	1	190	7.89	0.25	12	115	65	2.85	50	0.68	5	5.41	250	0.5	0.44
92MOB0172	0.1	1.79	1	100	10.85	0.25	11	101	48	1.97	50	0.32	5	6.96	335	0.5	0.38
92MOB0179	0.1	1.47	1	120	11.62	0.25	12	92	44	1.86	50	0.41	5	6.75	310	0.5	0.33
92MOB0228	0.1	6.08	8	180	0.13	0.25	16	113	67	4.41	40	0.43	20	1.38	255	0.5	0.61
92MOB0231	0.1	2.88	1	200	10.47	0.25	14	114	60	2.93	30	0.86	5	4.10	290	0.5	0.37
92MOB0234	0.1	3.52	1	310	7.00	0.25	19	131	80	4.13	30	1.10	20	2.39	435	0.5	0.52
92MOB0237	0.1	3.28	2	230	7.68	0.25	17	134	79	3.60	30	0.84	20	4.18	300	0.5	0.47

Sample ID	Ag ppm	Al %	As ppm	Ba ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %
92MOB0240	0.1	1.77	1	80	11.60	0.25	9	47	30	1.92	30	0.30	5	7.78	445	0.5	0.35
92MOB0243	0.1	2.07	1	100	10.04	0.25	12	58	39	2.36	40	0.30	5	6.30	425	0.5	0.55
92MOB0321	0.1	3.84	36	290	7.19	0.25	21	113	153	4.24	60	1.08	30	2.03	455	0.5	0.64
92MOB0326	0.1	4.63	12	240	0.27	0.25	26	146	111	5.33	40	1.15	20	2.05	330	0.5	0.63
92MOB0329	0.1	4.12	1	290	4.34	0.25	22	150	68	4.52	20	1.40	20	2.57	420	0.5	0.52
92MOB0332	0.1	6.87	12	140	0.35	0.25	26	155	135	6.11	30	0.74	5	2.18	365	6.0	0.68
92MOB0339	0.1	8.09	40	210	0.35	0.25	31	143	215	6.28	70	0.46	20	1.39	350	1.0	0.92
92MOB1001	0.1	4.71	42	240	0.94	0.25	41	65	225	6.24	60	1.15	20	2.78	640	0.5	0.61
92MOB1013	0.1	2.16	6	120	10.67	0.25	14	82	77	2.61	40	0.39	5	6.52	360	0.5	0.47
92MOB1016	0.1	3.20	4	150	7.91	0.25	22	102	105	3.78	60	0.60	30	4.30	620	0.5	0.85
92MOB1019	0.1	1.43	1	100	15.00	0.25	10	57	50	1.85	40	0.26	5	5.71	420	0.5	0.45
92MOB1022	0.1	1.80	2	90	13.83	0.25	12	57	33	2.28	40	0.30	20	6.23	445	0.5	0.50
92MOB1025	0.1	2.41	1	110	11.97	0.25	13	63	34	2.63	30	0.49	20	7.06	465	0.5	0.47
92MOB1028	0.1	3.05	4	210	8.88	0.25	21	65	71	3.63	40	0.91	30	5.53	510	0.5	0.44
92MOB1031																	
92MOB1037	0.1	6.60	46	150	0.19	0.25	23	98	161	6.38	40	0.43	20	1.87	330	0.5	0.52
92MOB1045	0.1	4.47	36	250	2.66	0.25	27	66	180	6.20	40	0.87	5	3.18	555	0.5	0.73
92MOB1049	0.1	3.63	1	230	5.73	0.25	28	99	121	5.94	20	0.71	20	3.71	715	0.5	0.38
92MOB1123	0.1	5.98	102	180	0.18	0.25	35	84	223	7.02	40	0.58	30	1.86	315	0.5	0.74
92MOB1126	0.1	4.71	42	110	0.18	0.25	18	79	103	5.48	40	0.45	20	1.65	305	2.0	0.54
92MOB1177	0.1	6.36	14	180	0.27	0.25	18	129	47	5.96	40	0.56	20	1.62	310	1.0	0.85
92MOB1183	0.1	7.90	36	240	0.37	0.25	35	151	226	6.40	40	0.80	20	1.88	535	1.0	0.68
92MOB1185	0.1	7.58	6	290	0.42	0.25	25	157	53	6.49	60	0.61	30	1.70	440	0.5	0.89
92MOB1188	0.1	1.59	1	90	15.00	0.25	9	56	41	1.82	40	0.37	5	5.76	305	0.5	0.38
92MOB1191	0.1	2.26	4	170	11.10	0.25	11	81	62	2.45	30	0.60	5	6.16	320	0.5	0.44
92MOB1194	0.1	4.31	14	130	0.30	0.25	20	112	38	4.88	30	0.57	20	1.77	410	0.5	0.54
92MOB1245	0.1	4.57	74	280	0.84	0.25	26	93	198	7.57	50	1.36	70	2.59	535	4.0	0.81

TABLE 6. (continued)

Sample ID	Ni ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	V ppm	Zn ppm	CO3 (wt%)	Easting	Northing	UTM zone	NTS
92MOB0001	49	16	4	10	39	79	86	48.61	449581	6050986	14	63J12
92MOB0029	44	8	1	8	37	69	68	57.11	452837	6045904	14	63J12
92MOB0035	36	4	4	7	27	65	56	49.44	445619	6034922	14	63J05
92MOB0039	32	8	1	7	35	57	54	53.47	447492	6035510	14	63J05
92MOB0042	29	0	1	5	26	46	34	56.91	450709	6039200	14	63J05
92MOB0045	48	6	4	9	31	76	88	40.97	450629	6039708	14	63J12
92MOB0048	52	6	1	8	28	70	68	49.16	450100	6045550	14	63J12
92MOB0057	68	16	2	20	18	141	140	2.92	445872	6060150	14	63J12
92MOB0060	52	16	1	21	19	113	152	3.93	445073	6061536	14	63J12
92MOB0063	41	2	2	12	14	100	104	2.43	444010	6063119	14	63J12
92MOB0067	34	6	2	6	34	47	44	47.13	450027	6047298	14	63J12
92MOB0070	53	14	1	16	27	108	144	8.70	443205	6055708	14	63J12
92MOB0073	53	4	2	13	18	83	140	8.48	436653	6054329	14	63J12
92MOB0079	74	12	1	31	13	130	84	3.19	427408	6053204	14	63K09
92MOB0082	50	6	2	20	28	95	62	13.94	427112	6053360	14	63K09
92MOB0085	43	14	1	13	29	85	88	5.96	424796	6052367	14	63K09
92MOB0090	34	1	2	17	17	98	94	10.43	424098	6051745	14	63K09
92MOB0093	56	2	2	16	16	116	152	4.66	423569	6051703	14	63K09
92MOB0148	49	2	1	5	45	42	36	51.86	460238	6017459	14	63J05
92MOB0151	91	8	1	10	26	62	60	47.45	453458	6020735	14	63J05
92MOB0154	56	14	1	7	31	54	54	48.66	444994	6020132	14	63J05
92MOB0157	54	6	2	8	35	59	50	50.13	436664	6018105	14	63J05
92MOB0160	48	6	1	8	39	67	72	43.16	441387	6027536	14	63J05
92MOB0163	47	4	1	7	31	64	58	47.29	453410	6029461	14	63J05
92MOB0166	69	8	2	11	34	82	96	28.59	460195	6031098	14	63J05
92MOB0169	48	8	2	9	28	73	66	42.00	479828	6021839	14	63J06
92MOB0172	58	6	1	6	33	42	38	61.49	480115	6015181	14	63J06
92MOB0179	38	1	2	6	29	41	34	61.42	490062	6063102	14	63J11
92MOB0228	51	12	2	12	20	76	76	2.57	473950	6057628	14	63J11
92MOB0231	52	12	1	9	46	80	72	33.61	460605	6055996	14	63J12
92MOB0234	49	4	1	12	49	109	104	23.05	456780	6043730	14	63J12
92MOB0237	53	14	1	10	31	93	88	33.14	444463	6046879	14	63J12
92MOB0240	23	6	1	4	27	35	38	66.87	437296	6044050	14	63J12
92MOB0243	29	12	1	6	28	46	52	59.09	447067	6037421	14	63J05
92MOB0321	62	14	2	14	55	102	112	24.36	452900	6067950	14	63J13
92MOB0326	65	10	1	16	15	144	122	2.10	465650	6063550	14	63J12
92MOB0329	67	8	2	14	45	110	142	16.50	466005	6069900	14	63J13
92MOB0332	120	16	2	14	11	150	124	1.82	461250	6075250	14	63J13

Sample ID	Ni ppm	Pb ppm	Sb ppm	Sc ppm	Sr ppm	V ppm	Zn ppm	CO3 (wt%)	Easting	Northing	UTM zone	NTS
92MOB0339	92	16	6	20	12	133	70	0.96	467970	6086450	14	63J14
92MOB1001	45	14	1	21	18	111	132	6.43	488133	5986132	14	63J03
92MOB1013	43	6	1	7	27	57	46	48.19	450336	6046454	14	63J12
92MOB1016	60	14	2	9	28	71	82	37.51	449871	6047711	14	63J12
92MOB1019	27	8	2	4	37	41	34	60.95	449401	6050524	14	63J12
92MOB1022	26	8	2	5	37	45	44	71.89	450463	6050864	14	63J12
92MOB1025	32	6	2	6	34	47	48	61.66	447536	6052245	14	63J12
92MOB1028	36	8	1	9	27	65	72	42.04	443918	6055391	14	63J12
92MOB1031								3.49	443918	6055391	14	63J12
92MOB1037	48	14	2	20	12	111	102	2.70	433231	6052330	14	63K09
92MOB1045	42	10	2	20	13	109	140	10.88	434168	6051494	14	63K09
92MOB1049	42	6	1	18	54	95	72	14.92	429743	6053092	14	63K09
92MOB1123	64	18	1	14	13	91	120	2.76	443601	6063696	14	63J12
92MOB1126	48	18	1	10	15	77	106	1.74	441511	6063631	14	63J12
92MOB1177	77	20	2	12	18	132	130	1.17	472957	6086600	14	63J14
92MOB1183	152	18	2	17	13	153	102	1.41	466628	6075287	14	63J13
92MOB1185	84	18	1	16	20	130	88	1.54	452797	6055250	14	63J12
92MOB1188	25	4	1	4	40	39	34	53.26	444487	6043305	14	63J12
92MOB1191	37	4	1	7	38	61	54	40.17	437390	6038430	14	63J05
92MOB1194	53	10	4	11	20	101	114	1.95	439712	6063811	14	63J12
92MOB1245	16	1	15	20	90	222	99	20.61	448917	6055007	14	63J12

are present both in the Flin Flon Volcanic Belt and even more importantly in the Churchill-Superior Boundary Zone up-ice (northeast) from the study area, it is not known whether these rocks contain Cr-diopside of similar composition to kimberlitic Cr-diopside. Cr-diopside is known to be a very useful mineral for detecting and tracing kimberlites in regional till sampling programs (Fipke, 1989), therefore the cut-off of 0.5 wt% Cr_2O_3 was used for defining a potential kimberlitic origin for the clinopyroxenes in this study.

All the clinopyroxenes identified (118) are in or near the diopside field in the pyroxene quadrilateral. 70 diopsides with $\text{Cr}_2\text{O}_3 > 0.5$ wt% and $\text{CaO} > 17$ wt% were classified as Cr-diopsides (Fig. 4). Three samples with a large number of Cr-diopside occur north of North Moose Lake. In fact, the Cr-diopsides found in this area have the highest Cr_2O_3 content of all the diopsides analyzed, five of them with more than 1.4 wt%. The surface till in that area consists of a silty diamicton with up to 52% carbonates in the silt and clay fraction and 81% carbonate debris in the pebble fraction. The till commonly overlies bedrock striated and grooved towards 240° , parallel to numerous drumlins found in the area (McMartin, 1993). Clast composition and carbonate content of associated tills located east of the study area reflect long distance transport out of Hudson Bay. However, transport of local bedrock lithologies is evidenced in the clast composition, suggesting that the till consists of a mixture of local and distal sources.

A concentration of Cr-diopsides occurs SE of Wekusko Lake. In that area, till composition and dispersal trains of carbonate debris from Paleozoic outliers indicate a NE provenance, presumably related to striae trending 204° to 214° . This suggest that deglacial events towards the WSW, the SE and the west did not have a great influence on the dominant SW glacial transport.

Mg-Ilmenite

Nearly half of the grains mounted were black ilmenites which had a strong vitreous lustre ($n = 720$). All grains except 5 had < 3.0 wt% MgO (Fig. 5). The composition of the 5 MgO-rich ilmenites (Mg-ilmenite) provides an indication of the redox conditions of their crystallization environment, which in turn reflects the diamond potential of the host kimberlite (Mitchell, 1973). 4 of them have high MgO content (> 8 wt%) and one has particularly high Cr_2O_3 . The

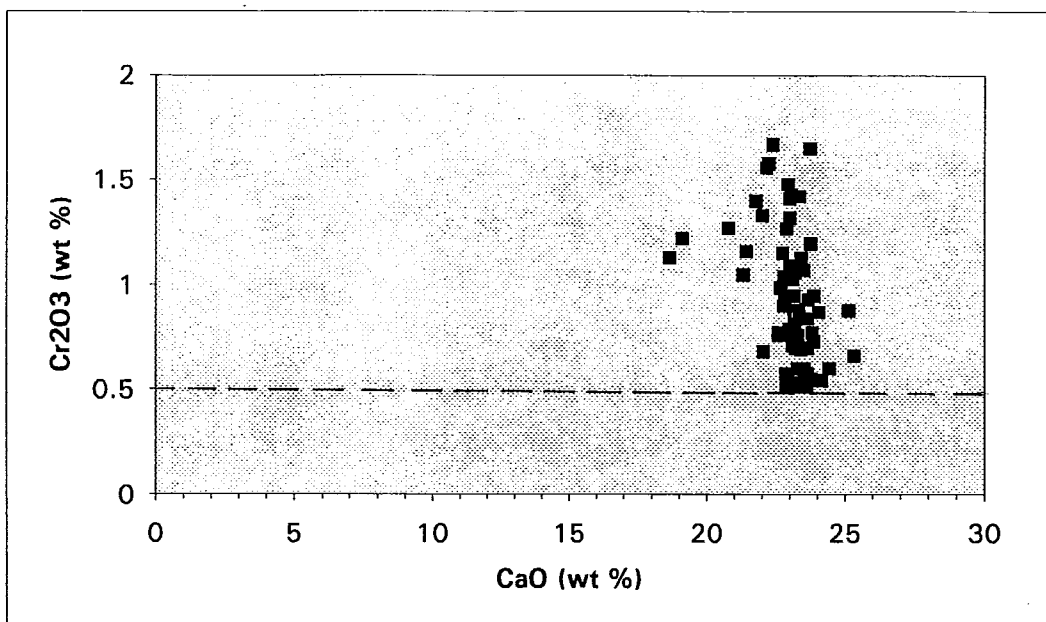


Figure 4. CaO-Cr₂O₃ diagram for Cr-diopsides.

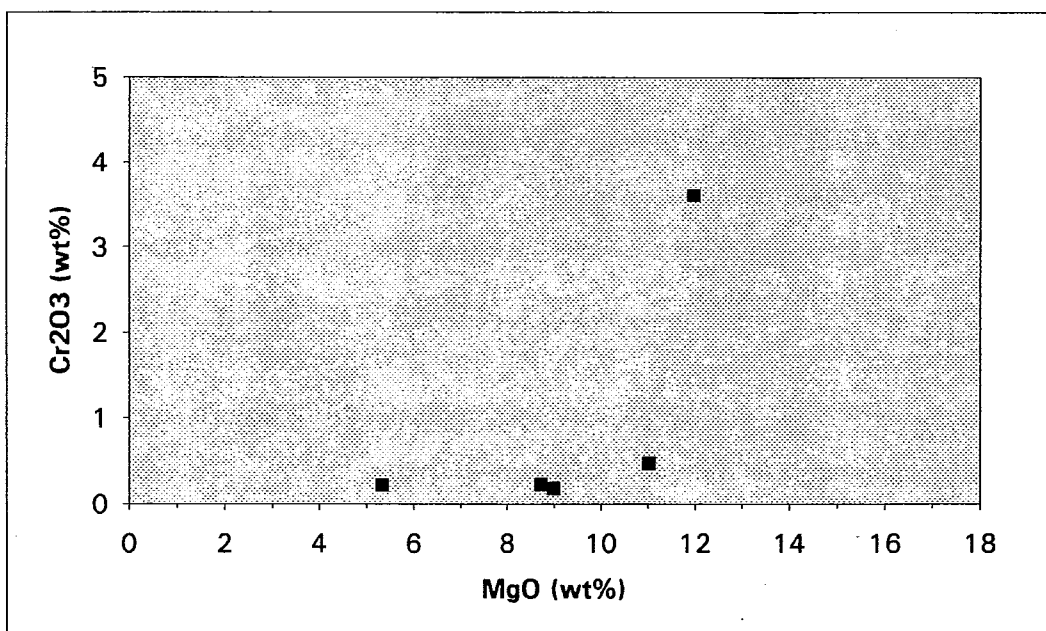


Figure 5. MgO-Cr₂O₃ diagram for Mg-ilmenites.

Mg-ilmenites are concentrated in a relatively small area, immediately south of Wekusko Lake. The most pervasive ice flow was towards the SW in this area and till composition indicates a NE provenance with little glacial transport of source lithologies southeastward. All other ilmenites did not have high MgO content and were considered having a crustal origin.

Garnet

Out of 87 garnets analyzed, nearly half of them (45%) were classified as grossulars of crustal origin (Table 7), having more than 30 wt% CaO. Two of them were transitional to uvarovite (> 2 wt% Cr_2O_3). The other calcium rich garnets consisted of andradites transitional to grossular (6%) and of one true emerald-green uvarovite (> 15 wt% CaO) of crustal origin (> 30 wt% CaO). The other half of the garnet grains were classified predominantly as almandines (44%) and spessartine (one grain). All garnets of the almandine-spessartine group are of crustal origin (< 6 wt% MgO). Although half of the almandines fall into the eclogitic class of Schulze (1993) ($3.3\% < \text{wt\% CaO} < 15\%$), they are probably of crustal eclogitic origin since they are Fe-rich (> 25 wt% FeO) and titanium poor ($< 0.07\% \text{ TiO}_2$). All the garnets mentioned above probably have a crustal origin, and are derived from the rocks exposed both in the Churchill and the Superior Provinces up-ice from the study area. The abundance of crustal almandines in the background garnets (99%) is probably related to the glacial dispersal of metasedimentary rocks exposed both in the Kisseynew gneiss belt to the north and in the Churchill-Superior boundary zone.

The 3 pyropes analyzed were classified as kimberlitic garnets of peridotitic origin. They are plotted on a Cr_2O_3 -CaO diagram on Figure 6. These grains were further subdivided into the Dawson & Stephens (1975) classification using the flow chart method. The high-Ti pyrope "G2" garnet contains 1.2 wt% TiO_2 and 22.3 wt% MgO, indicative of a mantle source, and falls near the limit of eclogitic garnets as defined by Gurney's (1984) criteria. The two Cr-pyrope "G9" garnets have high MgO (> 18 wt%) and relatively high Cr_2O_3 , which suggests they are derived from garnet lherzolites and are reliable indicators of kimberlites.

The peridotitic garnets are dispersed throughout the study area. The two G9 garnets are located in tills having a NE provenance (Keewatin ice lobe). The G2 garnet was sampled from a till which has its source to the ENE (Hudson ice lobe).

TABLE 7. List of garnets identified by species and by class

Grain	Species	Class (Schulze, 1993)
1	almandine	eclogitic
2	almandine	crustal
3	almandine	crustal
4	almandine	crustal
5	almandine	crustal
6	almandine	eclogitic
7	almandine	eclogitic
8	almandine	crustal
9	almandine	crustal
11	almandine	eclogitic
12	grossularite	grossularitic
14	almandine	crustal
64	almandine	crustal
67	grossularite	grossularitic
68	almandine	eclogitic
69	almandine	crustal
71	almandine	eclogitic
72	almandine	eclogitic
73	almandine	eclogitic
74	almandine	eclogitic
116	grossularite	grossularitic
117	grossularite	grossularitic
118	grossularite	grossularitic
119	almandine	eclogitic
120	grossularite	grossularitic
121	grossularite	grossularitic
122	grossularite	grossularitic
123	grossularite	grossularitic
124	grossularite	grossularitic
125	grossularite	grossularitic
126	grossularite	grossularitic
128	grossularite	uvarovitic
218	grossularite	grossularitic
230	almandine	crustal
231	grossularite	grossularitic
232	grossularite	grossularitic
233	spessartine	eclogitic
234	almandine	eclogitic
246	almandine	eclogitic
247	almandine	eclogitic
248	grossularite	grossularitic
249	grossularite	grossularitic
295	andradite	grossularitic
306	grossularite	grossularitic
307	almandine	eclogitic
308	pyrope	lherzolite
342	grossularite	grossularitic
406	almandine	eclogitic
438	almandine	crustal
457	almandine	eclogitic
495	grossularite	grossularitic
496	grossularite	grossularitic
497	andradite	grossularitic
525	pyrope	lherzolite
529	grossularite	grossularitic
530	grossularite	grossularitic
531	grossularite	grossularitic
533	almandine	eclogitic
574	almandine	eclogitic
584	almandine	crustal
683	andradite	grossularitic
710	grossularite	grossularitic
749	andradite	grossularitic

Grain	Species	Class (Schulze, 1993)
872	grossularite	grossularitic
873	grossularite	grossularitic
879	grossularite	uvarovitic
941	almandine	crustal
1025	grossularite	grossularitic
1054	grossularite	grossularitic
1103	grossularite	grossularitic
1104	grossularite	grossularitic
1158	grossularite	grossularitic
1160	almandine	crustal
1192	uvarovite	uvarovitic
1193	grossularite	grossularitic
1313	almandine	crustal
1324	almandine	crustal
1330	grossularite	grossularitic
1331	almandine	crustal
1370	grossularite	grossularitic
1394	grossularite	grossularitic
1454	andradite	grossularitic
1477	almandine	crustal
1642	almandine	crustal
1644	grossularite	grossularitic
1645	pyrope	lherzolite
1676	almandine	eclogitic

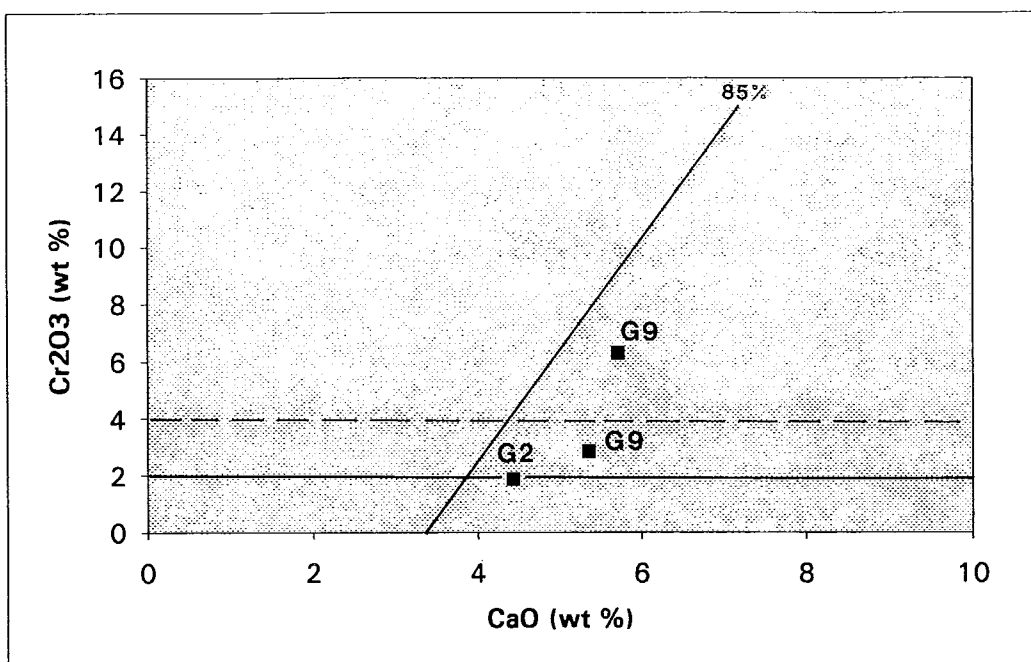


Figure 6a. CaO-Cr₂O₃ diagram for pyrope garnets.

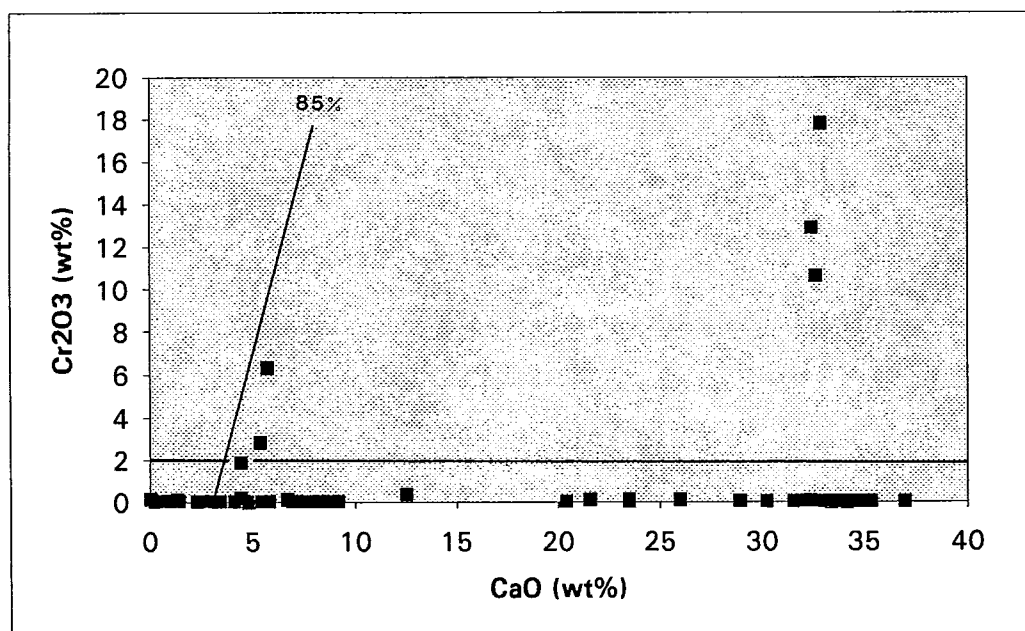


Figure 6b. CaO-Cr₂O₃ diagram for all garnets.

Chromite

High-Cr (> 62.5 wt%) and high MgO (12-17 wt%) chromites are considered good diamond indicators (Fipke, 1989). Although the 25 chromites analyzed have a relatively high average Cr_2O_3 content (54 wt%), their poor MgO content (all < 10 wt%) precludes that they were derived from chromite-bearing harzburgite.

Clay geochemistry

Regional till geochemistry within the study area reflects till provenance, more specifically carbonate content, and patterns of glacial dispersal from distinctive bedrock lithologies (Table 6). Carbonate content (wt% CO_3) influences till geochemistry as trace element concentrations are generally suppressed in highly calcareous tills, mainly from the dilution by Paleozoic debris.

Overlying Phanerozoic rocks, Keewatin lobe till is slightly enriched in Al, Cr, Ni, Mn, Cu and Zn relative to the Hudson lobe till. On the Shield, till derived from intrusive lithologies is depleted in most base metals compared to the total population, particularly in Pb, Cu, Ni and Cr. Till derived from mafic volcanic lithologies is enriched in Cu, Ni, Cr and Zn.

CONCLUSION

Heavy mineral concentrates were recovered from 60 large bulk samples collected in the Wekusko Lake area, and a total of 78 potential kimberlite indicator minerals were recovered. Three peridotitic garnets were identified and particularly one high-Cr pyrope G9 was found in a site located in the northeast part of the study area. All other garnets appeared to have a crustal origin. Cr-diopsides with high CaO content and $\text{Cr}_2\text{O}_3 > 0.5 \text{ wt\%}$ are abundant in the area ($n = 70$), with high concentrations SE of Wekusko Lake and particularly north of North Moose Lake, where the diopsides are highly enriched in $\text{Cr}_2\text{O}_3 (> 1.4 \text{ wt\%})$. Ilmenites with high MgO content that would indicate a good degree of diamond preservation are concentrated in 4 sites directly south of Wekusko Lake. All other ilmenites and all chromites did not have high MgO content and were considered to have a crustal origin. From the 60 sites sampled, 4 sites have more than one type of indicator mineral, and two of these sites are located immediately south of Wekusko Lake. The greatest concentration of indicator minerals occurs at three sites north of North Moose Lake where 20 high-Cr diopsides were recovered.

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APPENDICES

Appendix A. Till sample locations and descriptions	p. 33
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Appendix C. Mineral chemistry data	p. 39

Appendix A. Till sample locations and descriptions

Legend

HCl

HCl reaction of till matrix

S - strong reaction, highly calcareous

W - weak reaction, moderately calcareous

N - no reaction, non calcareous

Bedrock

Bedrock unit under sample site (based on MEM, 1993)

DLMT - dolomite

BCIV - basic intrusive

BRCC - breccia

MSDM - metasediments

GRNS - granitoid rocks

GRNT - granite

BEXV - basic extrusive

AEXV - acid extrusive

APPENDIX A. Till sample locations and descriptions

NATMAP SHIELD MARGIN PROJECT

Kimberlite Indicator Sampling

Terrain Sciences Division Geological Survey of Canada

Sample ID	Easting	Northing	NTS	UTM	Air photo	Alt. (m)	Depth (m)	Texture	Color	Munsell color	HCI	Bedrock
92MOB0001	449581	6050986	63J12	14	A25325005	280	0.90	Silty	Light grey	10YR 7/2	S	DLMT
92MOB0029	452837	6045904	63J12	14	A25325003	274	0.75	Stony	Pale yellow	5Y 8/3	S	DLMT
92MOB0032	448548	6035727	63J05	14	A25325020	277	0.60	Silty	Light grey	10YR 7/1	S	DLMT
92MOB0035	445619	6034922	63J05	14	A24477221	277	0.60	Silty	Light grey	5Y 7/2	S	DLMT
92MOB0039	447492	6035510	63J05	14	A24477221	277	0.45	Stony	Light grey	2.5Y 7/2	S	DLMT
92MOB0042	451250	6039200	63J05	14	A25325002	282	0.50	Silty	Light grey	10YR 7/1	S	DLMT
92MOB0045	450629	6039708	63J12	14	A25325003	284	0.70	Silty	Light grey	10YR 7/1	W	DLMT
92MOB0048	450100	6045550	63J12	14	A25325003	282	1.10	Silty	Light grey	2.5Y 7/2	S	DLMT
92MOB0057	445872	6060150	63J12	14	A25325058	282	0.60	Sandy	Olive	5Y 5/3	N	BCIV
92MOB0060	445073	6061536	63J12	14	A25325057	259	0.30	Sandy	Olive	5Y 4/3	N	BRCC
92MOB0063	444010	6063119	63J12	14	A25325057	282	0.25	Sandy	Olive grey	5Y 5/2	N	BRCC
92MOB0067	450027	6047298	63J12	14	A25325003	274	0.30	Silty	Light grey	10YR 7/2	S	DLMT
92MOB0070	443205	6055708	63J12	14	A25325003	271	0.45	Sandy	Light grey	5Y 7/2	S	MSDM
92MOB0073	436653	6054329	63J12	14	A24478057	267	0.60	Sandy	Light grey	5Y 7/2	W	DLMT
92MOB0079	427408	6053204	63K09	14	A24478058	284	0.70	Sandy	Pale brown	10YR 6/3	N	DLMT
92MOB0082	427112	6053360	63K09	14	A24478059	284	0.50	Sandy	Pale yellow	5Y 7/3	S	DLMT
92MOB0085	424796	6052367	63K09	14	A24478059	276	0.60	Silty	Pale olive	5Y 6/3	S	DLMT
92MOB0090	424098	6051745	63K09	14	A24478059	284	1.00	Sandy-silty	Light grey	5Y 7/2	N	DLMT
92MOB0093	423569	6051703	63K09	14	A24478059	290	0.60	Sandy	Light grey	5Y 7/2	W	DLMT
92MOB0148	443035	6011620	63J05	14	A24477153	271	0.50	Silty	White	10YR 8/1	S	DLMT
92MOB0151	460238	6017459	63J05	14	A24477157	273	1.10	Silty	Light grey	5Y 7/2	S	DLMT
92MOB0154	453458	6020735	63J05	14	A24477198	288	0.60	Silty	White	5Y 8/1	S	DLMT
92MOB0157	444994	6020132	63J05	14	A24477196	273	0.70	Sandy	White	2.5Y 8/2	S	DLMT
92MOB0160	436664	6018105	63J05	14	A24477194	288	0.50	Silty-clayey	Light grey	10YR 7/1	W	DLMT
92MOB0163	441387	6027536	63J05	14	A24477195	276	1.00	Silty	Light grey	5Y 7/1	S	DLMT
92MOB0166	453410	6029461	63J05	14	A24477221	274	0.90	Silty	Light grey	5Y 7/2	S	DLMT
92MOB0169	460195	6031098	63J05	14	A24477220	271	0.60	Silty	Light grey	5Y 7/2	S	DLMT
92MOB0172	479828	6021839	63J06	14	A24477202	268	0.60	Silty	White	5Y 8/1	S	DLMT
92MOB0179	482162	6044295	63J11	14	A24995203	255	0.65	Sandy	White	10YR 8/1	S	DLMT
92MOB0228	457229	6074244	63J13	14	A24995146	297	1.00	Sandy	Very pale brown	10YR 7/3	N	GRNS
92MOB0231	473950	6057628	63J11	14	A25325150	265	0.75	Silty	Light grey	5Y 7/2	S	DLMT
92MOB0234	460605	6055996	63J12	14	A24995149	267	0.95	Sandy	Light grey	5Y 7/2	S	GRNT
92MOB0237	456780	6043730	63J12	14	A24995152	274	0.55	Silty	Light grey	5Y 7/2	S	DLMT
92MOB0240	444463	6046879	63J12	14	A25325059	282	0.50	Stony	White	10YR 8/2	S	DLMT
92MOB0243	437296	6044050	63J12	14	A24478029	282	0.70	Silty	White	10YR 8/2	S	DLMT
92MOB0321	452900	6067950	63J13	14	A24995159	279	1.00	Silty	White	10YR 8/1	S	MSDM

Sample ID	Easting	Northing	NTS	UTM	Air photo	Alt. (m)	Depth (m)	Texture	Color	Munsell color	HCL	Bedrock
92MOB0326	457650	6065725	63J12	14	A24995147	274	0.55	Sandy	Light grey	10YR 7/1	N	MSDM
92MOB0329	465650	6063550	63J12	14	A25325170	250	0.35	Sandy	Grey	10YR 6/1	S	GRNS
92MOB0332	466005	6069900	63J13	14	A25325169	276	0.50	Silty	Light brownish grey	2.5Y 6/2	N	MSDM
92MOB0339	462075	6080250	63J13	14	A24995145	282	0.60	Sandy	Very pale brown	10YR 7/3	N	MSDM
92MOB1001	437763	6058408	63J12	14	A24478112	274	0.50	Sandy			W	BEXV
92MOB1013	452428	6046513	63J12	14	A25325004	274	0.70	Silty	White	5Y 8/2	S	DLMT
92MOB1016	450336	6046454	63J12	14	A25325005	274	1.50	Sandy	Very pale brown	10YR 7/3	S	DLMT
92MOB1019	449871	6047711	63J12	14	A25325005	274	0.60	Silty	White	10YR 8/2	S	DLMT
92MOB1022	449401	6050524	63J12	14	A25325006	277	0.70	Silty	White	2.5Y 8/2	S	DLMT
92MOB1025	450463	6050864	63J12	14	A25325006	274	0.65	Silty	Light grey	10YR 7/2	S	DLMT
92MOB1028	447536	6052245	63J12	14	A25325006	280	0.70	Silty	Light grey	10YR 7/2	S	DLMT
92MOB1031	443918	6055391	63J12	14	A25325058	274	0.70	Sandy	Light greyish brown	10YR 6/2	W	GRNS
92MOB1037	440586	6060315	63J12	14	A25325057	290	0.50	Sandy	Light brownish grey	2.5YR 6/2	N	GRNT
92MOB1045	434168	6051494	63K09	14	A24478058	290	1.35	Sandy	Light brownish grey	2.5Y 6/2	S	DLMT
92MOB1049	432046	6053177	63K09	14	A24478058	282	1.60	Silty	Light olive grey	5Y 6/2	S	DLMT
92MOB1123	443601	6063696	63J12	14	A25325058	267	0.80	Sandy	Olive grey	5Y 5/2	W	BCIV
92MOB1126	441511	6063631	63J12	14	A25325058	267	0.70	Sandy	Olive grey	5Y 5/2	N	GRNT
92MOB1177	472957	6086600	63J14	14	A25325157	282	0.60	Sandy	Light grey	10YR 7/2	N	AEXV
92MOB1183	466628	6075287	63J13	14	A25325168	274	0.85	Sandy	Light yellowish brown	2.5Y 6/4	N	AEXV
92MOB1185	452797	6055250	63J12	14	A25325006	274	0.60	Silty-fine sand	Light yellowish brown	10YR 6/4	W	DLMT
92MOB1188	444487	6043305	63J12	14	A25325061	279	0.70	Silty	Light grey	10YR 7/2	S	DLMT
92MOB1191	437390	6038430	63J05	14	A24477224	278	0.90	Silty	Light grey	10YR 7/2	S	DLMT
92MOB1194	439712	6063811	63J12	14	A25325058	266	0.60	Sandy	Light gray	10YR 7/1	N	MSDM
92MOB1245	448917	6055007	63J12	14	A25325006	282	0.60	Sandy	Light yellowish brown	2.5Y 6/4	W	DLMT

Appendix B. Sample and concentrate weight data**Legend**

WET	Wet weight of sample in grams
DRY	Dry weight of sample in grams
+ 1.7	+ 1.7mm material weight in grams
MAG	Weight of magnetic minerals in table concentrate in grams
MIDS	Weight of Magstream mid fraction (SG 3.0 to 4.1) in grams
HEAVY	Weight of Magstream heavy fraction (SG > 4.1) in grams

APPENDIX B. Sample and concentrate weight data

NATMAP SHIELD MARGIN PROJECT

Kimberlite Indicator Sampling

Terrain Sciences Division Geological Survey of Canada

Sample	WET	DRY	+ 1.7	MAG	MIDS	HEAVY
92MOB0001	4359	3609	608	1.01	1.55	2.41
92MOB0029	7644	6994	2697	0.62	6.12	13.97
92MOB0032	7889	4477	552	1.33	5.87	27.20
92MOB0035	7951	7088	1276	3.36	7.92	30.01
92MOB0039	5748	5171	1081	1.64	4.77	18.37
92MOB0042	7157	6420	1304	0.49	6.04	24.93
92MOB0045	6292	5526	751	1.50	7.40	26.76
92MOB0048	5326	5041	1646	1.77	6.19	9.05
92MOB0057	5064	4564	772	3.46	11.90	20.51
92MOB0060	5094	4634	1653	1.25	6.58	5.48
92MOB0063	5158	4654	1809	1.07	3.31	4.81
92MOB0067	5527	5129	1502	3.30	3.44	5.22
92MOB0070	6063	5512	1084	3.02	5.82	7.80
92MOB0073	7854	7217	1606	8.77	9.22	32.88
92MOB0079	6262	5742	1394	6.60	34.71	36.37
92MOB0082	3967	3502	400	4.48	21.65	22.87
92MOB0085	5601	5056	514	29.32	54.58	17.41
92MOB0090	4805	4318	805	5.16	6.88	9.05
92MOB0093	6907	6376	713	16.35	22.04	26.78
92MOB0148	6568	5864	417	24.30	12.83	7.54
92MOB0151	6418	5759	713	13.03	33.45	7.68
92MOB0154	5807	5217	787	10.90	8.46	4.84
92MOB0157	5516	4940	473	7.45	0.57	0.04
92MOB0160	3859	3289	75	21.02	0.89	0.45
92MOB0163	7366	6242	90	14.48	6.52	2.25
92MOB0166	5116	4350	296	7.06	5.83	3.24
92MOB0169	3945	3465	386	6.20	5.71	7.11
92MOB0172	4990	4573	1422	10.30	7.61	4.45
92MOB0179	6534	5936	933	7.35	14.29	15.46
92MOB0228	6841	5913	1526	5.09	11.19	25.87
92MOB0231	6562	5778	695	3.89	7.24	18.79
92MOB0234	7693	6810	876	8.06	13.95	22.93
92MOB0237	8310	7495	1267	4.49	9.52	45.29
92MOB0240	7354	6868	2797	2.03	1.75	2.03
92MOB0243	6982	6479	2588	2.78	2.11	4.53
92MOB0321	5127	4526	756	4.75	5.14	12.51
92MOB0326	4585	4081	891	6.98	11.27	24.16
92MOB0329	9462	8401	1452	5.38	8.81	23.45
92MOB0332	5059	4834	378	3.03	8.21	10.41
92MOB0339	5935	5396	647	29.25	8.57	25.96
92MOB1001	8204	7524	1868	5.77	6.39	23.09
92MOB1013	5202	4762	1216	2.73	8.98	20.07

Sample	WET	DRY	+ 1.7	MAG	MIDS	HEAVY
92MOB1016	7892	7430	3093	8.61	7.01	6.70
92MOB1019	8195	7555	1354	5.01	2.74	5.92
92MOB1022	5785	5282	1222	1.50	1.30	1.11
92MOB1025	6353	5809	1881	3.18	2.82	1.85
92MOB1028	7246	6566	1749	4.76	3.39	3.39
92MOB1031	6320	5650	1319	3.01	4.39	7.65
92MOB1037	6259	5619	1877	2.53	2.98	10.40
92MOB1045	4035	3655	616	3.44	4.95	14.70
92MOB1049	6405	5818	1106	7.14	8.89	19.39
92MOB1123	6202	5531	1598	1.38	1.90	4.50
92MOB1126	7736	7089	3053	4.27	5.54	24.81
92MOB1177	7367	7138	3236	1.81	8.72	9.49
92MOB1183	4675	4417	1255	8.60	7.88	22.34
92MOB1185	6905	6623	931	9.63	26.96	12.46
92MOB1188	5272	4650	906	3.10	4.57	6.53
92MOB1191	6535	5998	1017	5.87	7.03	18.19
92MOB1194	6441	6143	2816	3.28	2.87	43.80
92MOB1245	5613	5122	1508	7.00	6.21	12.26

Appendix C. Mineral chemistry data

Not all elements were included where the grain has been reanalysed with a routine other than "diamond". In these cases, "NA" is inserted in the table. The table excludes grains identified as apatite, chlorite, composite, corundum, epidote, feldspar, olivine, quartz, rutile, staurolite and tourmaline. Values below detection limit are indicated as "0".

APPENDIX C. Mineral chemistry data
(wt% of the element oxide)

NATMAP SHIELD MARGIN PROJECT

Kimberlite Indicator Sampling

Terrain Sciences Division Geological Survey of Canada

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1	92MOB0042	garnet	0.020	36.901	0	30.37	20.885	4.93	1.05	5.041	0.05	0.04	0	0.03	0	0.05	0	99.36
2	92MOB0042	garnet	0	35.256	0.01	36.25	20.078	2.56	1.74	2.414	0.03	0.04	0.02	0.03	0	0.06	0	98.50
3	92MOB0042	garnet	0.012	36.381	0.01	31.80	20.670	2.91	1.01	5.828	0.04	0.03	0.03	0	0	0.04	0	98.80
4	92MOB0042	garnet	0.008	35.083	0	37.38	19.918	2.93	2.79	0.521	0.02	0.02	0.03	0.03	0	0.07	0	98.84
5	92MOB0042	garnet	0	35.804	0.01	36.05	20.430	2.43	1.41	2.767	0.04	0.03	0.03	0.07	0	0	0	99.05
6	92MOB0042	garnet	0.008	35.710	0	32.68	20.269	4.12	3.40	2.487	0.05	0.02	0	0	0	0.06	0	98.86
7	92MOB0042	garnet	0	36.007	0	29.79	20.439	7.75	2.97	1.494	0.03	0.03	0.02	0.05	0	0.05	0	98.67
8	92MOB0042	garnet	0	36.353	0.01	32.79	20.541	3.18	1.83	4.257	0.03	0.04	0	0.03	0	0.07	0	99.15
9	92MOB0042	garnet	0	35.979	0	36.41	20.222	2.81	2.40	1.945	0.05	0.04	0.02	0	0	0.04	0	99.96
10	92MOB0042	garnet	0	35.596	0	33.50	20.881	1.00	3.13	3.746	0.02	0.02	0	0	0	0.05	0	97.99
11	92MOB0042	garnet	0	36.172	0	29.72	20.649	8.91	0.72	2.532	0.06	0.02	0.02	0.03	0	0	0	98.89
12	92MOB0042	garnet	0	38.033	0.01	6.17	20.486	32.99	0.63	0.121	0.18	0.03	0	0	0	0	0	98.70
14	92MOB0042	garnet	0.009	35.126	0	36.44	19.954	2.35	4.29	0.620	0.03	0.03	0.02	0.03	0	0.03	0	98.91
15	92MOB0042	pyroxene	0.124	52.068	0	5.87	0.652	25.27	0.23	14.602	0.03	0.14	0.06	0	0	0.04	0	99.13
16	92MOB0042	amphibole	0.466	53.476	0.10	5.08	3.159	11.73	0.15	20.694	0.08	0.81	0.10	0	0	0.03	0	95.92
17	92MOB0042	Cr-diopside	0.996	51.963	0	3.56	2.226	22.74	0.10	15.464	0.19	1.15	0.13	0.03	0	0	0	98.57
18	92MOB0042	pyroxene	0.189	51.865	0.01	5.64	1.939	23.32	0.23	15.704	0.02	0.23	0.04	0	0	0	0	99.21
19	92MOB0042	amphibole	1.694	46.714	0.35	4.48	14.714	11.70	0.09	18.696	0.04	0.33	0.07	0.04	0	0	0.05	98.97
20	92MOB0042	amphibole	1.089	47.531	0.22	5.02	6.457	11.32	0.11	18.580	0.10	1.45	0.15	0	0	0	0	92.07
21	92MOB0042	amphibole	0.301	54.838	0.09	5.40	1.655	11.87	0.15	21.153	0.04	0.50	0.08	0.03	0	0	0	96.14
22	92MOB0042	amphibole	0.412	54.256	0.09	4.89	2.470	12.28	0.13	21.336	0.03	0.48	0.10	0	0	0	0.06	96.54
23	92MOB0042	amphibole	0.821	49.266	0.26	7.90	6.704	12.49	0.18	17.200	0.12	0.48	0.04	0	0	0.06	0.07	95.59
24	92MOB0042	amphibole	1.507	46.970	0.53	4.84	10.020	12.78	0.11	18.149	0.10	0.41	0.05	0	0	0	0.06	95.53
25	92MOB0042	amphibole	0.288	53.275	0.12	6.52	2.662	11.67	0.26	20.014	0.04	0.93	0.12	0	0	0.04	0	95.95
27	92MOB0042	ilmenite	0	0.043	0.01	45.16	0.021	0.01	0.18	0.924	52.59	0.16	0.04	0.07	0	0.09	0.61	99.90
28	92MOB0042	ilmenite	0	0.030	0	47.39	0.043	0.02	0.67	0.199	50.98	0.04	0.03	0	0	0.07	0.32	99.80
29	92MOB0042	ilmenite	0	0.058	0.01	47.33	0.021	0.03	0.65	0.247	51.32	0.03	0.02	0.06	0	0.07	0.41	100.25
30	92MOB0042	magnetite	0	0.062	0	71.19	0.130	0	0.20	0.053	20.67	0.28	0.02	0	0	0.04	0.37	93.00
31	92MOB0042	ilmenite	0	0.053	0	47.08	0.028	0.01	0.11	0.315	51.60	0.07	0.05	0.03	0	0.07	0.58	100.00
32	92MOB0042	ilmenite	0.026	0.088	0.01	45.81	0.028	0.04	0.44	0.370	49.03	0.04	0.02	0.09	0	0.07	0.50	96.56
33	92MOB0042	ilmenite	0	0.036	0	47.08	0.036	0.03	0.61	0.090	51.29	0.04	0	0.08	0	0.07	0.43	99.80
34	92MOB0042	alt.ilmen.	0	0.255	0.01	33.33	0.104	0.06	0.13	0.118	58.87	0.08	0.02	0.03	0	0.07	0.49	93.56
35	92MOB0042	ilmenite	0	0.086	0.01	47.07	0.072	0.02	0.71	0.187	51.15	0.04	0.03	0.06	0	0.08	0.27	99.78
36	92MOB0042	ilmenite	NA	0	NA	46.42	0.030	0.03	0.43	0.390	51.85	0.07	0.06	0.06	NA	0.06	0.55	99.95
37	92MOB0042	ilmenite	0.016	0.013	0.01	47.04	0.038	0.02	0.46	0.408	50.85	0.07	0.03	0.06	0	0.06	0.55	99.61
38	92MOB0042	ilmenite	0	0.028	0.01	47.14	0.049	0.01	0.66	0.269	51.10	0.03	0	0.07	0	0.07	0.33	99.76
39	92MOB0042	ilmenite	0	0.049	0	47.00	0.047	0.01	0.48	0.428	51.06	0.04	0.02	0.09	0	0.03	0.44	99.68
40	92MOB0042	ilmenite	0.026	0.160	0.03	46.59	0.161	0.02	0.57	0.255	50.96	0.04	0.02	0.03	0	0.09	0.38	99.33

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
41	92MOB0042	ilmenite	0	0.036	0	47.81	0.051	0.01	0.67	0.172	50.86	0.04	0.03	0.07	0	0.06	0.32	100.14
42	92MOB0042	ilmenite	0	0.096	0	46.61	0.042	0.02	0.48	0.511	51.43	0.05	0.02	0.07	0	0.07	0.49	99.87
43	92MOB0042	ilmenite	0	0.024	0	46.16	0.030	0	1.06	0.292	51.51	0.08	0.03	0.05	0	0.10	0.40	99.74
44	92MOB0042	ilmenite	0	0.036	0	47.55	0.043	0.01	0.54	0.272	51.09	0.04	0.03	0.06	0	0.05	0.40	100.13
45	92MOB0042	ilmenite	0	0.026	0	47.08	0.032	0.01	0.51	0.300	51.12	0.06	0.02	0.07	0	0.06	0.41	99.70
46	92MOB0042	ilmenite	0	0.028	0.01	47.12	0.042	0.01	0.59	0.267	51.29	0.03	0.03	0.06	0	0.06	0.42	99.95
47	92MOB0042	ilmenite	0	0.034	0	46.70	0.043	0	0.47	0.473	51.01	0.07	0.05	0.06	0	0.03	0.45	99.39
48	92MOB0042	ilmenite	0	0.043	0	46.66	0.036	0	0.55	0.522	51.22	0.08	0.06	0.04	0	0.10	0.43	99.74
49	92MOB0042	alt.ilmen.	0	6.798	0	24.46	0.272	7.35	2.42	0.078	57.32	0.08	0	0	0	0.03	0.51	99.34
50	92MOB0042	ilmenite	0	0.032	0.01	46.86	0.043	0.02	0.81	0.479	51.06	0.09	0	0.03	0	0.08	0.48	100.00
51	92MOB0042	ilmenite	0.038	0.086	0.01	44.62	0.077	0.01	0.64	0.151	50.17	0.04	0	0.07	0	0.03	0.34	96.28
52	92MOB0042	ilmenite	0	0.030	0	46.70	0.040	0.02	1.15	0.169	50.84	0.10	0.03	0.05	0	0.05	0.64	99.80
53	92MOB0042	ilmenite	0	0.028	0.01	47.07	0.040	0	0.61	0.250	51.32	0.02	0.02	0.05	0	0.04	0.35	99.81
54	92MOB0042	ilmenite	0	0.032	0	47.44	0.045	0.01	0.73	0.216	51.28	0.03	0.03	0.08	0	0.05	0.31	100.26
55	92MOB0042	pyroxene	0.170	50.000	0.03	16.34	0.950	21.12	0.28	9.600	0.17	0	0	NA	NA	NA	NA	98.67
56	92MOB0042	alt.ilmen.	0.011	1.204	0.07	28.48	0.903	0.11	0.11	0.292	56.52	0.12	0.04	0.04	0	0.04	0.58	88.52
57	92MOB0042	ilmenite	0	0.034	0.01	47.19	0.032	0.01	0.51	0.317	50.94	0.04	0.02	0.08	0	0.07	0.38	99.64
58	92MOB0042	ilmenite	0	0.030	0.01	47.24	0.053	0.02	0.62	0.171	51.36	0.04	0	0.04	0	0.07	0.36	100.00
59	92MOB0042	ilmenite	0	0.036	0	47.55	0.032	0.01	0.49	0.207	51.06	0.05	0.02	0.04	0	0.06	0.50	100.05
60	92MOB0042	ilmenite	0	0.026	0.01	47.28	0.045	0.01	0.76	0.118	51.02	0.04	0.02	0	0	0.05	0.39	99.78
61	92MOB0042	ilmenite	0	0.024	0.01	46.60	0.021	0.02	0.51	0.410	51.48	0.10	0.03	0.04	0	0.06	0.43	99.73
62	92MOB0042	ilmenite	0	0	0	46.38	0.051	0.01	0.59	0.696	51.15	0.12	0.02	0.03	0	0.06	0.65	99.78
63	92MOB0042	ilmenite	0	0.028	0	46.42	0.042	0	1.11	0.114	51.37	0.05	0.03	0.05	0	0.07	0.34	99.63
64	92MOB0045	garnet	0	36.700	0.01	32.70	21.017	1.13	0.95	6.493	0.04	0.06	0.02	0.04	0	0.05	0	99.22
67	92MOB0045	garnet	0	38.118	0.01	5.00	20.660	34.07	0.52	0.143	0.26	0.02	0	0	0	0	0	98.84
68	92MOB0045	garnet	0	36.407	0	29.62	20.473	8.10	2.19	2.426	0.05	0.03	0	0	0	0.06	0	99.38
69	92MOB0045	garnet	0	37.626	0	27.33	21.312	3.14	0.81	8.916	0.04	0.02	0.02	0	0	0.04	0	99.29
71	92MOB0045	garnet	0	35.958	0.01	31.81	20.360	6.93	1.42	2.335	0.03	0.03	0.02	0.04	0	0.05	0	99.00
72	92MOB0045	garnet	0	36.140	0	30.84	20.073	5.23	3.23	3.378	0.04	0.02	0.02	0	0	0	0	99.03
73	92MOB0045	garnet	0	36.202	0	28.80	20.369	7.63	1.17	4.059	0.06	0	0	0	0	0.03	0	98.38
74	92MOB0045	garnet	0	36.163	0.01	30.91	20.486	7.35	0.27	3.291	0.07	0.02	0.03	0	0	0	0	98.67
75	92MOB0045	amphibole	1.355	47.075	0.32	3.86	13.064	12.55	0.09	18.651	0.05	0.37	0.07	0	0	0.05	0	97.54
77	92MOB0045	Cr-diopside	0.749	52.851	0.01	3.63	2.328	22.58	0.13	16.759	0.17	0.76	0.05	0	0	0	0.07	100.10
78	92MOB0045	amphibole	0.644	53.078	0.19	4.45	4.847	11.77	0.09	21.112	0.05	1.24	0.12	0.03	0	0	0	97.66
79	92MOB0045	amphibole	0.500	52.385	0.14	5.41	4.941	11.66	0.14	20.342	0.06	0.82	0.11	0	0	0.05	0	96.58
80	92MOB0045	Cr-diopside	0.519	51.843	0	4.64	1.755	23.26	0.18	15.748	0.07	0.53	0.03	0	0	0.03	0.05	98.66
81	92MOB0045	amphibole	0.983	51.167	0.27	6.08	6.166	11.64	0.19	19.578	0.04	0.52	0.08	0.03	0	0.03	0.05	96.81
82	92MOB0045	amphibole	0.658	51.831	0.20	5.11	5.565	11.96	0.13	19.978	0.05	0.75	0.12	0	0	0.03	0	96.42
85	92MOB0045	ilmenite	0	0.041	0	47.19	0.053	0.02	0.97	0.126	51.01	0.03	0.02	0	0	0.05	0.36	99.89
86	92MOB0045	ilmenite	0	0.034	0	45.18	0.043	0.04	2.54	0.406	51.43	0.04	0.02	0.05	0	0.06	0.33	100.16
87	92MOB0045	ilmenite	0	0.028	0.01	47.71	0.040	0	1.33	0.197	49.59	0.06	0.02	0.04	0	0.08	0.43	99.53
88	92MOB0045	alt.ilmen.	0	0.569	0.01	32.38	0.325	0.14	0.18	0.171	59.84	0.11	0	0.05	0	0.09	0.45	94.32
89	92MOB0045	ilmenite	0.007	0.024	0	46.33	0.021	0.01	1.28	0.313	51.01	0.03	0	0.05	0	0.05	0.34	99.48
90	92MOB0045	ilmenite	0	0.028	0	47.90	0.049	0	0.87	0.277	49.87	0.06	0.04	0	0	0.06	0.49	99.65
91	92MOB0045	ilmenite	0	0.034	0.01	47.17	0.040	0.01	0.69	0.244	51.41	0.03	0.02	0.08	0	0.07	0.35	100.15
92	92MOB0045	ilmenite	0	0.015	0	47.86	0.034	0	0.20	0.032	51.37	0.04	0.02	0.03	0	0.06	0.39	100.06
93	92MOB0045	ilmenite	0	0.043	0.01	48.53	0.057	0.01	0.85	0.230	49.30	0.06	0.03	0	0	0	0.51	99.64

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
94	92MOB0045	ilmenite	0	0.045	0	46.22	0.055	0.01	1.02	0.322	52.05	0.04	0.02	0.03	0	0.08	0.34	100.22
95	92MOB0045	chromite	0.028	0.036	0.01	27.14	8.650	0.02	0.32	7.828	0.07	54.45	0.14	0.33	0	0.16	0.06	99.23
96	92MOB0045	ilmenite	0	0.015	0.01	47.58	0.059	0.01	0.78	0.476	49.75	0.04	0.03	0.06	0	0.05	0.48	99.34
97	92MOB0045	alt.ilmen.	0.008	1.309	0.03	34.60	0.459	0.09	0.45	0.401	55.14	0.05	0.02	0	0	0.03	0.47	93.09
98	92MOB0045	ilmenite	0	0.021	0.01	46.78	0.045	0.01	0.30	0.196	52.30	0.03	0.03	0.11	0	0.07	0.33	100.20
99	92MOB0045	alt.ilmen.	0	1.562	0.16	31.26	0.620	0.07	1.64	0.202	57.51	0.08	0.02	0.03	0	0.03	0.45	93.63
100	92MOB0045	alt.ilmen.	0	0.338	0	34.81	0.043	0.06	0.34	0.546	57.03	0.11	0.04	0.04	0	0.03	0.43	93.83
101	92MOB0045	ilmenite	NA	0	NA	46.45	0.060	0	1.01	0.050	51.74	0.08	0.05	0.03	NA	0.14	0.45	100.06
102	92MOB0045	ilmenite	0	0.036	0	46.33	0.034	0	0.62	0.488	51.38	0.05	0.03	0.07	0	0.08	0.33	99.45
103	92MOB0045	spinel	0.007	0.032	0.01	30.06	40.102	0.01	0.36	8.558	0.33	18.38	0.19	0.18	0	0.08	0.18	98.47
104	92MOB0045	ilmenite	0	0.026	0	50.30	0.051	0	0.83	0.196	47.12	0.04	0	0.04	0	0.07	0.43	99.12
105	92MOB0045	alt.ilmen.	0	0.278	0.01	36.67	0.128	0.06	0.07	0.096	56.08	0.05	0.03	0.03	0	0.04	0.56	94.11
106	92MOB0045	ilmenite	0.023	0.034	0.01	47.31	0.060	0	2.14	0.153	48.90	0.04	0	0.03	0	0.04	0.34	99.10
107	92MOB0045	ilmenite	0	0.021	0.01	45.42	0.034	0.03	0.19	1.144	52.31	0.18	0.06	0.14	0	0.06	0.47	100.06
108	92MOB0045	alt.ilmen.	0	0.203	0.01	34.54	0.074	0.05	0.10	0.104	57.97	0.05	0.04	0	0	0.05	0.56	93.77
109	92MOB0045	ilmenite	0	0.047	0	48.03	0.043	0.01	1.06	0.167	49.87	0.06	0	0.04	0	0.07	0.39	99.80
110	92MOB0045	ilmenite	0	0.045	0.01	45.93	0.040	0.01	0.33	0.703	51.92	0.27	0.02	0.11	0	0.08	0.63	100.09
111	92MOB0045	ilmenite	0	0.053	0	42.68	0.051	0.02	1.02	0.506	53.36	0.06	0	0.03	0	0.10	0.40	98.29
112	92MOB0045	alt.ilmen.	0	0.439	0.01	25.88	0.265	0.12	0.06	0.219	65.08	0.08	0.03	0	0	0	0.65	92.86
113	92MOB0045	alt.ilmen.	0	0.143	0	31.07	0.100	0.05	0.11	0.270	60.07	0.05	0.03	0.05	0	0.04	0.59	92.57
114	92MOB0045	magnetite	0	0.039	0.01	83.96	0.119	0	0.18	0.098	7.29	0.21	0.04	0.05	0	0.07	0.25	92.31
115	92MOB0045	ilmenite	0	0.079	0.01	42.22	0.026	0.02	2.26	0.284	53.11	0.05	0.04	0.04	0	0.06	0.37	98.56
116	92MOB0035	garnet	0	37.943	0	6.97	20.090	33.40	0.10	0.081	0.14	0.04	0	0	0	0	0.05	98.83
117	92MOB0035	garnet	0	37.842	0.01	6.98	19.869	33.41	0.15	0.078	0.05	0	0	0	0	0	0	98.46
118	92MOB0035	garnet	0	37.757	0	7.77	19.203	32.77	0.74	0.041	0.22	0.05	0.02	0	0	0	0.13	98.70
119	92MOB0035	garnet	0	35.519	0	32.31	20.007	5.33	4.16	1.418	0.02	0.04	0.02	0	0	0	0	98.87
120	92MOB0035	garnet	0	38.737	0	1.73	21.690	36.98	0.11	0.078	0.08	0.03	0	0.03	0	0	0.05	99.55
121	92MOB0035	garnet	0	37.930	0	6.81	20.513	32.74	0.45	0.108	0.04	0.03	0	0	0	0.05	0	98.72
122	92MOB0035	garnet	0	38.189	0	4.31	20.711	34.98	0.36	0.106	0.26	0.03	0	0.03	0	0	0.05	99.02
123	92MOB0035	garnet	0	37.688	0	7.97	19.270	32.92	0.36	0.040	0.26	0.04	0.02	0	0	0	0	98.59
124	92MOB0035	garnet	0	37.785	0	7.17	17.936	34.63	0.68	0.076	0.37	0.03	0.02	0.03	0	0.04	0.07	98.82
125	92MOB0035	garnet	0	37.763	0	7.46	19.007	33.20	0.51	0.235	0.20	0.04	0	0	0	0.03	0.10	98.57
126	92MOB0035	garnet	0	38.043	0.01	5.67	20.086	34.19	0.40	0.090	0.26	0	0	0.05	0	0.03	0.08	98.91
127	92MOB0035	ilmenite	0	0.017	0.01	46.80	0.053	0	0.40	0.396	51.29	0.06	0.03	0.05	0	0.05	0.66	99.82
128	92MOB0035	garnet	0	36.229	0	4.58	10.389	32.47	0.56	0.171	0.30	12.92	0	0	0	0	0.48	98.12
129	92MOB0035	pyroxene	0.412	52.919	0.01	3.65	1.357	23.37	0.16	16.714	0.06	0.45	0.03	0	0	0.03	0	99.16
130	92MOB0035	Cr-diopside	0.422	52.111	0.01	4.01	1.621	23.15	0.20	16.210	0.06	0.86	0.03	0	0	0	0	98.69
131	92MOB0035	Cr-diopside	0.402	52.479	0.01	3.56	1.279	23.22	0.14	16.502	0.18	0.70	0.12	0	0	0.03	0	98.66
132	92MOB0035	Cr-diopside	0.353	53.133	0	3.42	1.328	23.54	0.08	16.752	0.03	0.60	0.02	0	0	0	0	99.27
133	92MOB0035	pyroxene	0.364	51.349	0.01	7.78	1.857	22.51	0.38	14.433	0.05	0.10	0.03	0.03	0	0	0	98.88
134	92MOB0035	amphibole	0.235	55.206	0.09	5.83	1.064	12.14	0.33	21.031	0.05	0.30	0.10	0	0	0	0	96.43
135	92MOB0035	amphibole	0.206	55.119	0.09	5.76	0.964	12.22	0.31	21.029	0.03	0.23	0.08	0.03	0	0	0	96.09
136	92MOB0035	pyroxene	0.318	52.136	0	5.74	1.495	22.32	0.26	16.189	0.07	0.09	0	0.05	0	0	0	98.69
137	92MOB0035	pyroxene	0.373	52.320	0.01	5.23	1.570	23.46	0.21	15.661	0.04	0.22	0.03	0	0	0	0	99.17
138	92MOB0035	Cr-diopside	0.398	51.967	0	4.29	1.665	22.84	0.22	15.983	0.14	0.93	0.02	0.04	0	0.04	0	98.52
139	92MOB0035	pyroxene	0.433	53.409	0	4.28	1.202	23.17	0.19	16.731	0.06	0.35	0.05	0.03	0	0.04	0	99.97
140	92MOB0035	ilmenite	0	0.024	0	48.95	0.070	0.01	0.62	0.844	49.09	0.10	0.03	0.03	0	0.11	0.56	100.44

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
141	92MOB0035	ilmenite	0	0.041	0.01	46.99	0.042	0	0.73	0.376	51.41	0.04	0.02	0.06	0	0.05	0.40	100.15
142	92MOB0035	ilmenite	0	0.024	0	46.35	0.060	0.01	0.57	0.614	52.03	0.13	0.04	0.04	0	0.06	0.46	100.37
143	92MOB0035	magnetite	0	0.028	0	78.45	0.214	0	0.10	0.050	12.50	0.25	0.03	0.05	0	0.06	0.34	92.07
144	92MOB0035	ilmenite	0	0.026	0.01	47.51	0.051	0.02	0.51	0.234	50.72	0.09	0	0.03	0	0.06	0.48	99.74
145	92MOB0035	ilmenite	0	0.024	0.01	47.42	0.034	0	0.48	0.214	50.92	0.08	0	0.05	0	0.06	0.49	99.78
146	92MOB0035	ilmenite	0	0.026	0.01	46.93	0.038	0.02	0.72	0.381	50.87	0.08	0.02	0	0	0.05	0.40	99.54
147	92MOB0035	ilmenite	0	0.058	0.01	46.30	0.042	0.01	0.19	0.670	52.12	0.10	0.02	0.04	0	0.07	0.39	100.00
148	92MOB0035	ilmenite	0	0.015	0.01	47.07	0.045	0.01	0.80	0.416	50.99	0.06	0.02	0.05	0	0.05	0.42	99.95
149	92MOB0035	ilmenite	0	0.017	0	46.78	0.032	0.02	0.29	0.290	51.81	0.11	0.02	0.07	0	0.04	0.44	99.92
150	92MOB0035	ilmenite	0	0.030	0	47.65	0.021	0.01	0.37	0.080	51.52	0.06	0.03	0.04	0	0.03	0.41	100.25
151	92MOB0035	ilmenite	0	0.019	0	48.21	0.053	0.02	1.03	0.095	49.81	0.04	0.02	0	0	0.03	0.36	99.70
152	92MOB0035	ilmenite	0	0.026	0.01	47.77	0.036	0.01	1.07	0.060	50.35	0.05	0.02	0.03	0	0.07	0.51	100.01
153	92MOB0035	ilmenite	0	0.026	0	46.21	0.025	0.20	0.98	0.116	51.94	0.07	0.05	0.06	0	0.03	0.42	100.12
154	92MOB0035	ilmenite	0.016	0.026	0.01	45.76	0.032	0.01	0.11	0.948	52.38	0.14	0.04	0.17	0	0.05	0.69	100.38
155	92MOB0035	ilmenite	0	0.026	0	46.38	0.043	0.01	0.15	0.562	52.11	0.08	0.04	0.04	0	0.03	0.37	99.83
156	92MOB0035	ilmenite	0	0.036	0.01	47.81	0.093	0.01	1.36	0.161	50.16	0.05	0.03	0	0	0.06	0.40	100.19
157	92MOB0035	ilmenite	0	0.030	0	45.82	0.049	0.01	0.16	0.953	52.07	0.12	0.04	0.09	0	0.05	0.37	99.77
158	92MOB0035	ilmenite	0	0.041	0	46.72	0.062	0.02	1.22	0.464	50.20	0.12	0.04	0.03	0	0.07	0.50	99.49
159	92MOB0035	ilmenite	0	0.026	0	47.71	0.040	0	2.15	1.408	47.04	0.05	0	0.03	0	0.06	0.48	99.00
160	92MOB0035	ilmenite	0	0.036	0.01	47.32	0.040	0	0.43	0.232	51.24	0.19	0.03	0.04	0	0.10	0.71	100.38
161	92MOB0035	ilmenite	0	0.032	0.01	49.36	0.042	0.01	0.67	0.328	48.11	0.07	0.02	0.04	0	0.06	0.43	99.19
162	92MOB0035	ilmenite	0	0.028	0.01	46.05	0.040	0.02	0.20	0.761	52.26	0.10	0.04	0.11	0	0.05	0.46	100.12
163	92MOB0035	ilmenite	0	0.039	0.01	46.88	0.040	0	0.17	0.391	52.16	0.09	0.04	0.04	0	0.06	0.40	100.31
164	92MOB0035	ilmenite	0	0.049	0.01	46.48	0.042	0.05	1.21	0.230	51.20	0.02	0.03	0	0	0.05	0.32	99.71
165	92MOB0035	ilmenite	0.008	0.051	0	47.08	0.040	0.01	0.13	0.063	51.84	0.07	0.04	0.07	0	0.06	0.37	99.84
166	92MOB0035	magnetite	0	0.017	0	77.98	0.106	0	0.16	0.065	12.22	0.21	0.02	0.04	0	0.11	0.23	91.17
167	92MOB0039	ilmenite	0	0.030	0	47.73	0.051	0.02	0.51	0.473	50.29	0.04	0	0.04	0	0.05	0.38	99.62
168	92MOB0039	ilmenite	0	0.039	0	47.74	0.051	0.02	0.60	0.424	49.85	0.08	0.03	0	0	0.05	0.73	99.63
169	92MOB0039	ilmenite	0	0.032	0.01	47.84	0.068	0.02	0.72	0.502	49.48	0.06	0.04	0.04	0	0.06	0.42	99.27
170	92MOB0039	magnetite	0	0.034	0	82.18	0.153	0	0.18	0.113	8.17	0.25	0.06	0.05	0	0.09	0.20	91.47
171	92MOB0039	ilmenite	0	0.030	0.01	46.30	0.045	0.03	0.33	0.428	52.12	0.10	0.03	0.05	0	0.05	0.44	99.95
172	92MOB0039	ilmenite	0	0.019	0	47.84	0.051	0	0.57	0.227	49.69	0.14	0.03	0.04	0	0.05	0.68	99.33
173	92MOB0039	ilmenite	0	0.024	0.01	45.18	0.038	0	0.13	1.345	52.42	0.13	0.04	0.05	0	0.05	0.54	99.95
174	92MOB0039	alt.ilmen.	0	4.800	0.05	37.40	3.569	0.19	1.09	0.735	46.79	0.08	0.02	0.05	0	0	0.37	95.14
175	92MOB0039	ilmenite	0	0.024	0	45.79	0.051	0.01	1.58	0.272	51.65	0.05	0.02	0.04	0	0.07	0.34	99.89
176	92MOB0039	ilmenite	0	0.024	0.01	46.69	0.032	0	0.32	0.420	51.90	0.17	0.03	0	0	0.07	0.62	100.28
177	92MOB0039	ilmenite	0	0.030	0.01	48.43	0.059	0.02	0.60	0.260	49.62	0.09	0	0.04	0	0.05	0.50	99.71
178	92MOB0039	ilmenite	0	0.028	0	47.87	0.047	0.02	2.16	0.041	48.72	0.06	0.03	0.06	0	0.05	0.46	99.53
179	92MOB0039	ilmenite	0	0.079	0	42.23	0.094	0.02	2.77	0.325	50.97	0.05	0.02	0	0	0.09	0.38	97.05
180	92MOB0039	ilmenite	0	0.041	0	44.39	0.045	0.01	4.18	0.048	49.98	0.02	0.02	0.05	0	0.06	0.30	99.15
181	92MOB0039	ilmenite	0	0.064	0.01	46.46	0.062	0.03	1.53	0.043	50.20	0.06	0.03	0.05	0	0.09	0.50	99.13
182	92MOB0039	ilmenite	0	0.017	0.01	47.04	0.025	0	0.68	0.292	51.79	0.05	0.02	0.06	0	0.06	0.47	100.51
183	92MOB0039	magnetite	0.009	0.030	0	82.41	0.261	0.01	0.09	0.053	8.73	0.18	0.03	0	0	0.09	0.23	92.14
184	92MOB0039	ilmenite	0	0.045	0	45.11	0.049	0.01	0.47	1.464	51.66	0.19	0.04	0.08	0	0.09	0.46	99.67
185	92MOB0039	ilmenite	0	0.030	0.01	52.90	0.064	0.01	0.31	0.658	44.04	0.14	0.04	0.05	0	0.08	0.50	98.84
186	92MOB0039	ilmenite	0	0.024	0	49.31	0.038	0	0.45	0.292	48.31	0.25	0	0.04	0	0.05	0.80	99.57
187	92MOB0039	ilmenite	0	0.032	0	46.59	0.040	0.02	0.64	0.325	51.53	0.14	0.06	0.03	0	0.06	0.47	99.94

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
188	92MOB0039	ilmenite	0	0.024	0.01	47.24	0.043	0.03	0.58	0.252	50.87	0.15	0.04	0.03	0	0.05	0.67	99.98
189	92MOB0039	ilmenite	0	0.028	0.01	45.56	0.049	0	1.02	0.963	51.86	0.09	0.03	0	0	0.06	0.51	100.17
190	92MOB0039	ilmenite	0	0.021	0	47.50	0.045	0.01	0.29	0.066	51.35	0.04	0.03	0.04	0	0.05	0.43	99.87
191	92MOB0039	ilmenite	0	0.032	0	46.66	0.034	0.01	0.88	0.182	51.14	0.22	0.02	0.04	0	0.05	0.72	100.00
192	92MOB0039	ilmenite	0	0.041	0.01	46.79	0.047	0.04	0.67	0.212	50.84	0.10	0.03	0.05	0	0	0.73	99.57
193	92MOB0039	ilmenite	0	0.034	0	45.81	0.053	0	0.16	1.106	51.79	0.09	0.03	0.04	0	0.07	0.44	99.64
194	92MOB0039	ilmenite	NA	0	NA	49.06	0.040	0	0.88	0.050	48.88	0	0	0	NA	0	0	99.40
195	92MOB0001	amphibole	0.217	55.681	0.06	4.40	1.820	12.65	0.22	21.739	0.03	0.08	0.29	0	0	0.04	0	97.24
196	92MOB0001	amphibole	0.794	51.067	0.05	5.83	6.746	12.89	0.20	18.421	0.03	0.30	0.03	0.04	0	0	0	96.41
197	92MOB0001	amphibole	0.247	54.487	0.03	6.34	2.383	12.48	0.08	20.201	0.07	0.57	0.11	0.03	0	0.03	0	97.09
198	92MOB0001	amphibole	0.070	55.740	0.03	5.75	0.830	12.29	0.20	21.030	0	0.13	0.08	NA	NA	NA	NA	96.16
200	92MOB0001	pyroxene	0.209	52.451	0	7.11	0.879	24.48	0.23	13.977	0.06	0.03	0.02	0	0	0	0	99.47
201	92MOB0001	pyroxene	0.348	52.581	0	6.04	1.170	23.20	0.23	15.438	0.03	0.19	0.03	0	0	0	0	99.33
202	92MOB0001	pyroxene	0.412	53.886	0.01	3.49	0.338	25.01	0.07	16.396	0.03	0	0.02	0.03	0	0	0.06	99.77
203	92MOB0001	pyroxene	0.383	52.207	0.01	4.88	1.714	24.60	0.20	15.051	0.15	0.11	0.02	0.03	0	0	0	99.38
204	92MOB0001	pyroxene	0.415	52.522	0	5.98	1.102	24.05	0.22	14.779	0.06	0.07	0.04	0	0	0	0	99.26
205	92MOB0001	pyroxene	0.795	52.549	0.01	6.78	0.701	23.67	0.35	13.940	0.04	0.17	0.03	0	0	0.03	0.05	99.12
206	92MOB0001	amphibole	0.295	54.226	0.07	7.44	2.320	9.71	0.18	21.775	0.06	0.29	0.06	0.03	0	0	0	96.49
207	92MOB0001	pyroxene	0.337	51.730	0.01	6.14	0.799	24.37	0.55	14.201	0.06	0.03	0.03	0	0	0	0	98.31
208	92MOB0001	magnetite	0	0.021	0.01	80.27	0.094	0	0.13	0.056	10.34	0.19	0.06	0.03	0	0.09	0.25	91.55
209	92MOB0001	ilmenite	0	0.017	0.01	46.68	0.038	0	0.93	0.098	51.15	0.05	0.03	0.06	0	0.05	0.32	99.43
210	92MOB0001	ilmenite	0	0.026	0	46.70	0.040	0.01	0.89	0.099	50.95	0.07	0	0.03	0	0.05	0.42	99.29
211	92MOB0001	ilmenite	0	0.024	0	45.86	0.079	0.02	0.44	1.234	50.52	0.05	0.03	0.05	0	0.06	0.53	98.89
212	92MOB0001	goethite	0	2.826	0.06	82.35	1.374	0.08	0.05	1.091	0.83	0.17	0.05	0	0	0.07	1.12	90.10
213	92MOB0001	ilmenite	0	0.045	0.01	47.02	0.049	0	0.20	0.337	51.73	0.07	0.05	0.06	0	0.09	0.42	100.06
214	92MOB0001	ilmenite	0	0.036	0	47.41	0.032	0.01	0.45	0.051	51.27	0.09	0.03	0.03	0	0.07	0.37	99.84
215	92MOB0001	alt.ilmen.	0	0.672	0.04	30.06	0.293	0.06	2.74	0.265	58.93	0.04	0.02	0.05	0	0.04	0.47	93.69
216	92MOB0001	ilmenite	0	0.021	0	46.69	0.036	0.01	1.10	0.078	51.40	0.07	0.02	0.07	0	0.07	0.41	99.97
217	92MOB0001	magnetite	0	0.019	0	82.03	0.096	0	0.12	0.071	8.71	0.15	0.04	0.03	0	0.06	0.29	91.62
218	92MOB0001	garnet	0	36.578	0	11.91	13.609	34.74	0.42	0.071	0.45	0.05	0	0	0	0.03	0.06	97.92
220	92MOB0001	amphibole	0.315	54.040	0.13	6.36	1.759	11.75	0.16	20.571	0.09	0.59	0.03	0	0	0	0	95.80
221	92MOB0029	chromite	0.008	0.036	0.01	29.36	1.653	0.02	0.56	5.439	0.04	61.22	0.03	0.17	0	0.08	0.09	98.71
223	92MOB0029	amphibole	3.451	53.583	0.59	5.09	2.764	9.36	0.15	20.465	0.07	0.66	0.10	0.04	0	0.04	0	96.35
224	92MOB0029	amphibole	0.842	49.317	0.07	6.88	8.223	12.69	0.19	17.630	0.07	0.31	0.08	0	0	0.03	0	96.38
225	92MOB0029	pyroxene	0.344	51.950	0	6.57	0.780	24.54	0.27	14.104	0.07	0.04	0.03	0	0	0.03	0	98.78
226	92MOB0029	amphibole	0.268	52.934	0.03	5.15	4.556	12.49	0.13	20.379	0.03	0.34	0.08	0	0	0	0	96.41
227	92MOB0029	Cr-diopside	0.334	53.621	0.01	0.30	1.230	25.34	0.35	17.538	0.17	0.66	0	0	0	0	0.15	99.72
228	92MOB0029	amphibole	0.439	54.085	0.08	7.36	3.280	12.08	0.20	19.487	0.05	0.44	0.02	0	0	0.04	0	97.60
230	92MOB0029	garnet	0	35.949	0	33.33	20.683	1.10	1.77	5.195	0.04	0.04	0	0.03	0	0.03	0.05	98.21
231	92MOB0029	garnet	0	37.286	0	13.66	20.524	25.99	0.13	0.585	0.20	0.07	0	0	0	0	0.11	98.59
232	92MOB0029	garnet	0	37.729	0	9.57	18.083	33.04	0.17	0.048	0.07	0.02	0	0	0	0.04	0	98.80
233	92MOB0029	garnet	0	35.571	0	15.45	20.110	6.71	19.96	0.900	0.08	0.12	0	0	0	0	0.10	99.02
234	92MOB0029	garnet	0.011	35.399	0	28.18	19.757	4.80	8.85	1.411	0.02	0	0.02	0	0	0	0	98.46
235	92MOB0029	alt.ilmen.	0	0.178	0.01	33.41	0.132	0.06	0.10	0.148	59.30	0.05	0.03	0	0	0.03	0.34	93.79
236	92MOB0029	alt.ilmen.	0	0.276	0.02	34.52	0.136	0.08	0.45	0.096	59.30	0.03	0.04	0.05	0	0.05	0.45	95.47
237	92MOB0029	alt.ilmen.	0	0.556	0.08	34.70	0.189	0.05	0.24	0.169	56.57	0.02	0.02	0.03	0	0.03	0.54	93.19
238	92MOB0029	alt.ilmen.	0	0.310	0.01	29.48	0.197	0.09	0.08	0.053	61.98	0.04	0	0.03	0	0.03	0.45	92.76

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
239	92MOB0029	chromite	0.062	0.049	0.01	24.26	6.169	0.01	0.40	6.049	0.05	61.24	0.05	0.54	0	0.08	0	98.98
240	92MOB0029	ilmenite	0	0.030	0	45.83	0.043	0	0.88	0.429	51.82	0.03	0.05	0.05	0	0.07	0.38	99.62
241	92MOB0029	ilmenite	0	0.034	0	47.14	0.053	0	0.64	0.108	51.42	0.05	0.02	0.03	0	0.05	0.41	99.97
242	92MOB0029	ilmenite	0	0.043	0	47.09	0.040	0.01	1.15	0.066	50.62	0.04	0	0.05	0	0.05	0.34	99.49
243	92MOB0029	ilmenite	0	0.034	0.01	45.55	0.038	0.02	0.92	0.705	52.24	0.08	0.03	0.03	0	0.05	0.42	100.11
244	92MOB0029	ilmenite	0	0.028	0	46.73	0.028	0.01	1.63	0.166	51.23	0.05	0.02	0	0	0.04	0.40	100.35
245	92MOB0029	alt.ilmen.	0	0.828	0.05	31.92	0.472	0.07	0.93	0.201	58.33	0.08	0.02	0.07	0	0.07	0.54	93.57
246	92MOB0032	garnet	0	36.871	0	28.20	20.940	9.16	1.01	3.371	0.06	0.03	0.02	0.03	0	0.05	0	99.74
247	92MOB0032	garnet	0	36.112	0	28.85	20.437	8.06	2.12	2.882	0.06	0.03	0.03	0	0	0.04	0	98.63
248	92MOB0032	garnet	0	37.847	0	8.63	19.183	32.47	0.51	0.050	0.09	0	0.02	0	0	0.04	0	98.87
249	92MOB0032	garnet	0	37.994	0.01	7.85	19.889	32.27	0.61	0.070	0.22	0.02	0	0	0	0	0.17	99.14
250	92MOB0032	amphibole	1.182	47.678	0.68	4.93	8.603	12.59	0.07	18.618	0.06	1.33	0.05	0	0	0	0	95.82
251	92MOB0032	amphibole	1.623	45.616	0.33	4.92	12.159	12.62	0.11	17.669	0.05	0.50	0.06	0	0	0.03	0	95.69
252	92MOB0032	pyroxene	0.349	51.942	0.01	7.44	1.538	21.22	0.30	15.738	0.05	0.22	0	0	0	0	0	98.86
253	92MOB0032	amphibole	0.904	52.519	0.11	4.59	5.907	11.67	0.11	20.258	0.10	1.57	0.08	0	0	0	0	97.83
254	92MOB0032	Cr-diopside	0.535	52.624	0.01	3.62	1.489	23.21	0.15	16.147	0.17	1.06	0.17	0	0	0.04	0	99.25
255	92MOB0032	pyroxene	0.377	52.038	0	4.59	1.772	23.39	0.16	16.041	0.14	0.39	0.06	0	0	0	0.05	99.02
257	92MOB0032	ilmenite	0	0.036	0	46.71	0.036	0.01	0.30	0.431	51.46	0.22	0	0.05	0	0.05	0.69	99.99
258	92MOB0032	ilmenite	0	0.034	0.01	47.98	0.028	0.01	0.47	0.342	50.20	0.07	0.02	0.06	0	0.08	0.42	99.71
259	92MOB0032	ilmenite	0	0.036	0.01	47.44	0.059	0	0.68	0.141	50.49	0.06	0.02	0.04	0	0.09	0.43	99.49
260	92MOB0032	ilmenite	0	0.036	0	46.41	0.051	0.02	1.65	0.065	51.10	0.06	0.04	0.05	0	0.06	0.46	100.00
261	92MOB0032	ilmenite	0	0.032	0	46.02	0.045	0.01	2.82	0.032	50.25	0.05	0	0.03	0	0.07	0.57	99.94
262	92MOB0032	ilmenite	0	0.036	0.01	46.67	0.043	0.02	1.12	0.104	51.61	0.03	0.03	0.08	0	0.05	0.40	100.18
263	92MOB0032	ilmenite	0	0.113	0	39.12	0.042	0.04	0.64	0.191	53.17	0.05	0.04	0	0	0.05	0.43	93.90
264	92MOB0032	sphene	0	30.394	0	0.44	1.580	29.62	0.09	0	37.96	0.09	0	0	0.05	0	0.28	100.51
265	92MOB0032	ilmenite	0	0.036	0	46.97	0.055	0.01	0.64	0.363	51.33	0.05	0.04	0.06	0	0	0.46	100.02
266	92MOB0032	alt.ilmen.	0	0.081	0.01	40.81	0.070	0.05	0.70	0.076	55.51	0.16	0.03	0.06	0	0.05	0.60	98.19
267	92MOB0032	ilmenite	0	0.028	0.01	48.89	0.051	0.01	0.65	0.259	49.23	0.09	0.02	0	0	0.07	0.54	99.84
268	92MOB0032	alt.ilmen.	0.007	0.126	0.01	30.79	0.189	0.07	1.26	0.411	58.95	0.12	0.03	0	0	0.04	0.41	92.41
269	92MOB0032	ilmenite	0	0.028	0	46.87	0.040	0.02	0.89	0.313	51.06	0.06	0.04	0.06	0	0.09	0.34	99.79
270	92MOB0032	ilmenite	0.019	0.026	0	46.12	0.019	0.01	0.29	0.560	51.85	0.08	0.02	0.23	0	0.05	0.65	99.93
271	92MOB0032	ilmenite	0	0.026	0	45.64	0.038	0	0.13	1.071	52.15	0.08	0.03	0.14	0	0.08	0.48	99.86
272	92MOB0032	alt.ilmen.	0	0.222	0	39.81	0.145	0.07	0.42	0.348	55.85	0.03	0.03	0.05	0	0.05	0.44	97.46
273	92MOB0032	ilmenite	0	0.036	0.01	47.35	0.034	0.01	0.95	0.099	50.85	0.05	0.02	0.06	0	0.09	0.40	99.96
274	92MOB0032	alt.ilmen.	0	0.235	0.01	27.20	0.255	0.12	0.28	0.151	63.30	0.18	0.04	0.03	0	0	0.69	92.52
275	92MOB0032	ilmenite	0	0.032	0	48.94	0.040	0.03	1.73	0.065	47.55	0.11	0	0.04	0	0.06	0.51	99.12
276	92MOB0032	alt.ilmen.	0	0.163	0.01	38.31	0.102	0.02	0.96	0.146	55.40	0.05	0.02	0.03	0	0.04	0.44	95.69
277	92MOB0032	ilmenite	0.036	0.043	0.01	46.19	0.040	0.03	0.10	0.468	52.23	0.06	0.05	0.31	0	0.07	0.36	99.98
278	92MOB0032	alt.ilmen.	0	0.578	0.01	27.13	0.242	0.18	0.24	0.187	64.11	0.28	0.03	0.04	0	0	0.57	93.63
279	92MOB0032	ilmenite	0	0.032	0	46.77	0.023	0	1.38	0.104	51.21	0.04	0.04	0.07	0	0.07	0.35	100.09
280	92MOB0032	spinel	0.023	0.034	0.01	27.70	41.249	0.02	0.26	11.110	0.22	16.89	0.26	0.29	0	0.11	0.08	98.24
281	92MOB0032	alt.ilmen.	0	0.357	0.01	36.96	0.123	0.09	0.32	0.166	57.46	0.11	0.03	0.05	0	0.05	0.52	96.26
282	92MOB0032	ilmenite	0	0.024	0	48.28	0.040	0.01	1.58	0.529	47.87	0.08	0.02	0.04	0	0.04	0.39	98.91
283	92MOB0001	alt.ilmen.	0.007	0.291	0	30.98	0.117	0.08	0.10	0.138	61.30	0.06	0.03	0.04	0	0.05	0.41	93.59
284	92MOB0001	alt.ilmen.	0	0.347	0.01	24.84	0.263	0.10	0.07	0.267	59.41	0.06	0.03	0.04	0	0	0.56	86.03
285	92MOB0001	alt.ilmen.	0	0.261	0.01	38.04	0.119	0.06	0.37	0.070	56.61	0.04	0.02	0	0	0.03	0.44	96.09
286	92MOB0001	ilmenite	0	0.026	0.01	46.57	0.043	0.01	0.16	0.385	51.60	0.07	0.03	0.13	0	0.07	0.44	99.54

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
287	92MOB0001	alt.ilmen.	0	0.344	0.02	30.11	0.180	0.05	2.74	0.154	58.85	0.07	0.02	0	0	0.04	0.59	93.19
288	92MOB0001	chromite	0.027	0.051	0.01	23.34	6.005	0	0.48	7.085	0.04	62.20	0.05	0.30	0	0.11	0.07	99.77
289	92MOB0001	magnetite	0	0.034	0	82.73	0.093	0	0.13	0.073	8.92	0.18	0.04	0.04	0	0.08	0.37	92.70
290	92MOB0001	magnetite	0	0.034	0.01	69.31	0.096	0.02	0.18	0.013	23.34	0.33	0.02	0	0	0.06	0.36	93.81
291	92MOB0001	chromite	0.252	0.105	0.01	35.91	14.468	0.02	0.85	0.902	0.22	44.80	0	1.81	0	0.10	0.11	99.57
292	92MOB0001	magnetite	0	0.041	0	80.60	0.070	0	0.08	0.056	10.29	0.22	0.02	0.04	0	0.13	0.35	91.89
294	92MOB0048	alt.ilmen.	0.035	0.255	0.01	30.59	0.285	0.05	1.30	0.116	58.76	0.03	0	0.39	0	0.05	0.37	92.23
295	92MOB0048	garnet	0	34.835	0	24.40	3.469	32.48	0.60	0.149	0.61	0.05	0.02	0	0	0.05	0.14	96.82
296	92MOB0048	ilmenite	0	0.045	0	46.74	0.042	0.01	0.84	0.189	51.43	0.04	0.03	0.06	0	0.04	0.38	99.84
297	92MOB0048	amphibole	0.693	53.640	0.08	3.32	3.962	12.47	0.13	21.911	0.06	0.24	0.11	0	0	0.03	0	96.68
298	92MOB0048	amphibole	0.474	52.671	0.08	5.63	3.900	11.26	0.08	20.457	0.12	1.11	0.13	0	0	0	0.09	96.00
301	92MOB0048	amphibole	0.671	53.801	0.19	3.73	3.169	11.81	0.08	21.841	0.08	0.62	0.14	0	0	0	0	96.16
302	92MOB0048	pyroxene	0.294	52.147	0.00	6.47	1.480	23.10	0.20	15.185	0.07	0.26	0.02	0.03	0	0.03	0.09	99.36
303	92MOB0048	pyroxene	0.163	51.204	0	7.93	1.521	25.17	0.21	12.582	0.10	0.27	0.05	0	0	0.03	0	99.26
304	92MOB0048	amphibole	0.611	53.713	0.19	3.82	3.618	11.88	0.10	21.704	0.06	0.79	0.06	0	0	0.05	0	96.65
306	92MOB0048	garnet	0	37.800	0	7.42	19.780	31.60	1.96	0.184	0.32	0.03	0	0	0	0	0	99.17
307	92MOB0048	garnet	0	36.445	0	25.21	20.711	5.81	6.78	4.008	0.06	0.04	0.02	0	0	0.06	0.06	99.21
308	92MOB0048	garnet	0.112	41.192	0	8.58	20.311	4.43	0.31	21.269	1.20	1.86	0.02	0	0	0.05	0	99.39
310	92MOB0048	hematite	0	0.053	0.01	88.98	0.038	0.01	0.17	0.010	0.02	0.06	0.05	0.10	0	0.10	0.10	89.69
311	92MOB0048	chromite	0.089	0.135	0	36.79	9.469	0	0.47	3.358	1.03	46.30	0.12	0.71	0	0.10	0.46	99.04
312	92MOB0048	chromite	0.175	0.028	0	30.95	5.578	0.03	0.42	3.210	0.16	57.32	0.10	1.29	0	0.06	0.10	99.42
313	92MOB0048	magnetite	0	0.032	0.01	75.06	2.039	0	0.21	0.056	14.31	0.21	0	0.06	0	0.09	0.33	92.41
314	92MOB0048	magnetite	0	0.024	0	80.98	0.249	0.02	0.07	0.050	10.00	0.09	0.03	0	0	0.10	0.15	91.78
315	92MOB0048	ilmenite	0	0.028	0	46.62	0.036	0.03	1.96	0.104	50.22	0.05	0.03	0.07	0	0.09	0.40	99.63
316	92MOB0048	magnetite	0	0.030	0.01	78.14	0.142	0	0.09	0.065	12.97	0.14	0.03	0	0	0.08	0.24	91.96
317	92MOB0048	magnetite	0	0.032	0	72.22	0.229	0.02	0.16	0.055	20.21	0.18	0.04	0.04	0	0.10	0.36	93.64
318	92MOB0048	magnetite	0	0.028	0.01	76.48	0.076	0.02	0.13	0.061	15.68	0.19	0.03	0	0	0.11	0.29	93.12
319	92MOB0048	alt.ilmen.	0	0.447	0.02	24.61	0.365	0.20	0.13	0.161	64.81	0.08	0	0	0	0	0.58	91.45
320	92MOB0048	ilmenite	0	0.043	0	48.30	0.036	0.03	0.76	0.045	48.60	0.03	0.02	0.12	0	0.03	0.35	98.36
321	92MOB0048	ilmenite	0	0.032	0	47.01	0.053	0.02	0.43	0.322	50.65	0.16	0.02	0.04	0	0.07	0.89	99.69
322	92MOB0048	ilmenite	0	0.030	0.01	43.34	0.045	0.02	1.81	0.512	52.71	0.06	0.05	0.05	0	0.08	0.34	99.04
323	92MOB0048	ilmenite	0	0.030	0	50.88	0.032	0	0.74	0.239	46.50	0.12	0.04	0.03	0	0.05	0.43	99.10
324	92MOB0048	hematite	0	0.706	0.06	87.47	0.573	0.03	0	0.134	0.31	0.06	0.02	0.05	0	0.08	0.34	89.86
325	92MOB0048	magnetite	0	0.045	0.01	78.95	0.115	0	0.08	0.051	12.61	0.33	0.04	0.03	0	0.05	0.29	92.60
326	92MOB0048	magnetite	0	0.034	0.01	75.44	0.225	0	0.10	0.045	16.39	0.25	0.03	0	0	0.09	0.38	93.00
327	92MOB0048	magnetite	0	0.039	0	81.04	0.287	0	0.08	0.073	10.42	0.04	0.03	0	0	0.08	0.10	92.22
328	92MOB0048	ilmenite	0	0.041	0	47.28	0.064	0.01	1.29	0.146	50.63	0.03	0.03	0.07	0	0.03	0.39	100.02
329	92MOB0057	magnetite	0.007	0.036	0	78.77	0.202	0.01	0.09	0.066	12.14	0.26	0.03	0.03	0	0.11	0.28	92.03
330	92MOB0057	ilmenite	0	0.019	0.01	47.95	0.059	0.02	0.55	0.380	50.05	0.10	0.02	0.06	0	0.08	0.56	99.83
331	92MOB0057	ilmenite	0	0.032	0.01	47.14	0.038	0.02	0.34	0.204	50.33	0.12	0.05	0.16	0	0.03	1.15	99.60
332	92MOB0057	ilmenite	0	0.017	0	46.80	0.045	0	0.37	0.063	52.06	0.05	0.05	0.09	0	0.05	0.37	99.97
333	92MOB0057	ilmenite	0	0.043	0.01	47.70	0.089	0.03	1.02	0.859	49.03	0.05	0	0	0	0.05	0.35	99.25
334	92MOB0057	pyroxene	0.408	51.672	0.01	9.86	0.918	23.78	0.81	12.105	0.06	0.08	0.03	0.04	0	0.03	0	99.79
335	92MOB0057	pyroxene	0.720	52.107	0.01	5.09	2.233	23.27	0.16	15.351	0.12	0.20	0.05	0	0	0.03	0.06	99.40
336	92MOB0057	amphibole	0.348	55.110	0.12	5.69	1.495	11.92	0.23	21.266	0.06	0.23	0.09	0	0	0.03	0	96.60
337	92MOB0057	pyroxene	0.290	53.159	0	5.36	0.794	24.60	0.20	15.348	0.05	0.05	0.03	0	0	0	0	99.92
338	92MOB0057	Cr-diopside	0.271	52.156	0.01	7.61	0.433	23.63	0.52	13.869	0.01	0.57	0.02	0.04	0	0.04	0	99.21

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
339	92MOB0057	amphibole	1.588	52.504	0.14	3.62	4.193	10.16	0.07	21.865	0.36	1.84	0.17	0	0	0	0	96.56
340	92MOB0057	pyroxene	0.566	52.969	0	4.81	1.173	24.05	0.21	15.499	0.07	0.03	0.03	0	0	0	0.05	99.46
341	92MOB0057	pyroxene	0.302	53.411	0	0.37	1.304	25.60	0.23	17.150	0.06	0.35	0	0	0	0	0.64	99.45
342	92MOB0057	garnet	0	37.391	0.01	10.68	19.625	28.93	1.35	0.131	0.29	0.05	0	0	0	0	0.16	98.61
343	92MOB0057	ilmenite	0	0.049	0	49.41	0.049	0	1.16	0.322	47.55	0.04	0.02	0.03	0	0.08	0.47	99.18
344	92MOB0057	magnetite	0	0.026	0	73.03	0.079	0	0.17	0.058	19.43	0.25	0.03	0.04	0	0.09	0.36	93.56
345	92MOB0057	alt.ilmen.	0	0.954	0.01	29.75	0.565	0.14	0.25	0.293	63.02	0.16	0.02	0	0	0.07	0.72	95.99
346	92MOB0057	ilmenite	0	0.030	0	46.52	0.042	0.01	0.66	0.134	51.91	0.03	0.02	0.08	0	0.08	0.36	99.87
347	92MOB0057	ilmenite	0	0.026	0.01	46.41	0.030	0.01	0.13	0.542	52.03	0.09	0.05	0.11	0	0.06	0.40	99.89
348	92MOB0057	magnetite	0.094	0.039	0.01	75.07	2.154	0	0.31	0.244	13.98	0.21	0.04	0.54	0	0.06	0.26	93.01
349	92MOB0057	ilmenite	0	0.017	0	46.38	0.036	0.01	0.23	0.398	52.17	0.18	0.02	0.10	0	0.05	0.66	100.24
350	92MOB0057	ilmenite	0	0.036	0.01	47.56	0.038	0.01	0.75	0.158	51.32	0.05	0.02	0.05	0	0.07	0.36	100.42
351	92MOB0057	ilmenite	0	0.019	0.01	45.30	0.055	0.01	2.30	0.045	51.79	0.05	0	0	0	0.07	0.39	100.07
352	92MOB0057	ilmenite	0	0.060	0.01	47.09	0.072	0.02	1.08	0.113	50.09	0.06	0.03	0.12	0	0.05	0.31	99.10
353	92MOB0057	ilmenite	0.009	0.034	0	46.39	0.040	0.02	0.15	0.565	52.34	0.18	0.02	0.14	0	0.07	0.47	100.42
354	92MOB0057	ilmenite	0	0.026	0.01	45.72	0.036	0.02	4.33	0.022	48.46	0.05	0.02	0.10	0	0.07	0.35	99.21
355	92MOB0057	ilmenite	0	0.032	0	46.87	0.038	0	0.51	0.376	51.65	0.11	0.02	0.06	0	0.09	0.46	100.22
356	92MOB0057	ilmenite	0	0.024	0.01	53.73	0.096	0.01	0.06	0.012	40.51	0.03	0.03	0.04	0	0.05	0.46	95.05
357	92MOB0057	ilmenite	0	0.019	0.01	45.29	0.051	0.01	0.66	0.768	52.06	0.11	0	0.06	0	0.06	0.46	99.57
358	92MOB0057	ilmenite	0	0.026	0	46.96	0.059	0.03	0.61	0.779	50.70	0.17	0	0.05	0	0.03	0.60	100.03
359	92MOB0057	ilmenite	0	0.218	0.04	36.68	0.102	0.05	1.79	0.027	51.80	0.05	0	0.03	0	0	0.33	91.14
360	92MOB0057	ilmenite	0	0.028	0	47.77	0.057	0.01	1.66	0.345	49.14	0.04	0	0.03	0	0.05	0.41	99.56
361	92MOB0057	amphibole	1.666	42.241	1.35	24.56	9.867	10.90	0.64	6.334	1.83	0.03	0	0.08	0	0.03	0	99.57
362	92MOB0057	ilmenite	0	0.034	0.01	46.30	0.038	0	1.72	0.090	51.08	0.08	0.02	0.08	0	0.06	0.37	99.88
363	92MOB0057	ilmenite	0	0.041	0.01	50.12	0.025	0.01	1.42	0.292	46.38	0.05	0.03	0.06	0	0.07	0.38	98.88
364	92MOB0057	magnetite	0	0.043	0	83.30	0.291	0	0.17	0.114	6.56	0.24	0.04	0.06	0	0.09	0.22	91.11
365	92MOB0057	ilmenite	0	0.043	0	46.38	0.042	0.02	0.67	0.148	51.80	0.08	0	0.10	0	0.05	0.46	99.80
366	92MOB0057	ilmenite	0	0.032	0.01	46.56	0.051	0.01	1.23	0.116	51.53	0.22	0.05	0.04	0	0.08	0.45	100.38
367	92MOB0060	ilmenite	0	0.024	0	46.81	0.051	0.01	1.73	0.045	50.30	0.05	0	0.05	0	0.06	0.31	99.45
368	92MOB0060	ilmenite	0	0.028	0.01	44.80	0.060	0.02	0.15	0.895	53.05	0.19	0.05	0.03	0	0.07	0.63	99.98
369	92MOB0060	ilmenite	0	0.045	0.01	46.30	0.038	0.01	0.12	0.852	52.04	0.05	0.03	0.11	0	0.06	0.42	100.08
370	92MOB0060	ilmenite	0	0.028	0	50.14	0.042	0	0.78	0.310	47.41	0.07	0.03	0.05	0	0.05	0.36	99.27
371	92MOB0060	ilmenite	0	0.032	0.01	53.39	0.028	0	1.17	0.192	43.39	0.09	0.02	0.05	0	0.04	0.36	98.76
372	92MOB0060	magnetite	0	0.030	0	71.30	13.314	0	0.80	0.221	13.12	0.21	0.03	0.04	0	0.06	0.29	99.42
373	92MOB0060	magnetite	0	0.034	0	82.24	0.163	0.02	0.07	0.038	8.98	0.20	0.04	0	0	0.09	0.28	92.14
374	92MOB0060	magnetite	0	0.030	0	75.21	0.119	0.02	0.13	0.046	19.04	0.19	0.04	0	0	0.06	0.33	95.23
375	92MOB0060	magnetite	0	0.041	0	76.74	0.089	0	0.04	0.030	14.97	0.23	0.02	0.04	0	0.05	0.30	92.55
376	92MOB0060	magnetite	0	0.071	0	76.58	0.104	0.02	4.39	0.022	9.57	0.11	0.05	0.16	0	0.09	0.26	91.42
377	92MOB0060	amphibole	0.421	52.937	0.27	9.62	3.985	12.91	0.19	16.971	0.12	0.29	0.03	0.03	0	0.03	0.06	97.86
378	92MOB0060	amphibole	1.380	49.931	0.13	4.70	7.057	11.45	0.18	19.392	0.21	1.45	0.24	0.03	0	0.05	0	96.22
379	92MOB0060	amphibole	0.071	55.131	0.01	10.44	1.041	12.98	0.34	17.101	0.04	0.06	0.02	0	0	0	0	97.26
380	92MOB0060	amphibole	0.584	54.075	0.11	6.22	2.974	11.98	0.15	20.057	0.08	0.46	0.02	0.04	0	0	0.07	96.84
384	92MOB0060	magnetite	0	0.028	0	79.30	0.214	0	0.05	0.013	12.24	0.21	0.03	0.05	0	0.05	0.22	92.40
385	92MOB0060	spinel	NA	0.080	NA	27.75	60.070	0	0.04	7.850	0.02	0.61	0.18	2.87	NA	0.10	0.18	99.75
386	92MOB0060	ilmenite	0	0.024	0.01	46.35	0.043	0	0.38	0.237	52.30	0.15	0.04	0.10	0	0.08	0.68	100.38
387	92MOB0060	magnetite	0	0.026	0.01	76.14	0.108	0	0.50	0.101	15.48	0.21	0.03	0.03	0	0.06	0.31	92.98
388	92MOB0060	magnetite	0	0.047	0	81.37	0.174	0	0.19	0.058	9.20	0.16	0.03	0.04	0	0.09	0.36	91.72

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
389	92MOB0060	magnetite	0	0.015	0.01	83.85	0.368	0	0	0.118	6.77	0.19	0.03	0	0	0.11	0.23	91.72
390	92MOB0060	ilmenite	0	0.019	0	50.91	0.043	0	0.73	0.350	46.53	0.05	0.06	0.04	0	0.07	0.38	99.18
391	92MOB0060	ilmenite	0	0.032	0	48.43	0.049	0.02	2.98	0.484	46.00	0.03	0.02	0.07	0	0.06	0.32	98.49
392	92MOB0060	magnetite	0	0.026	0	76.07	0.094	0.01	0.45	0.118	15.04	0.06	0.03	0	0	0.08	0.21	92.19
393	92MOB0060	ilmenite	0	0.028	0	45.25	0.030	0.02	2.70	0.053	50.81	0.09	0.03	0.03	0	0.04	0.47	99.54
394	92MOB0063	ilmenite	0	0.032	0	46.75	0.034	0	1.22	0.164	51.62	0.05	0.04	0.05	0	0.06	0.32	100.33
395	92MOB0063	magnetite	0	0.068	0	81.42	0.164	0	0.09	0.028	10.13	0.16	0.03	0	0	0.08	0.27	92.47
396	92MOB0063	ilmenite	0	0.019	0	46.61	0.053	0	0.24	0.544	51.55	0.16	0.03	0.04	0	0.03	0.59	99.86
397	92MOB0063	magnetite	0	0.034	0	75.00	0.072	0	0.92	0.080	17.83	0.07	0.04	0.05	0	0.10	0.31	94.51
398	92MOB0063	ilmenite	0	0.032	0.01	47.43	0.030	0.02	0.53	0.163	51.03	0.08	0.03	0.06	0	0.07	0.44	99.91
399	92MOB0063	ilmenite	0	0.030	0	46.08	0.043	0.01	2.04	0.055	51.26	0.14	0.02	0	0	0.03	0.46	100.17
400	92MOB0063	Cr-diopside	1.007	53.339	0	3.20	2.069	22.94	0.14	15.530	0.19	1.48	0.10	0	0	0	0	100.03
401	92MOB0063	Cr-diopside	0.983	53.381	0	2.99	1.916	23.00	0.11	15.844	0.18	1.41	0.10	0	0	0	0.08	100.00
402	92MOB0063	Cr-diopside	1	53.024	0.01	3.14	2.001	23.01	0.12	15.375	0.19	1.32	0.07	0	0	0.04	0	99.36
406	92MOB0067	garnet	0.009	36.110	0	24.97	19.632	8.25	9.51	0.740	0.05	0.03	0	0	0	0.03	0	99.34
408	92MOB0067	amphibole	0.702	53.441	0.14	5.34	5.858	11.54	0.11	20.215	0.06	0.73	0.12	0.03	0	0	0.05	98.34
409	92MOB0067	pumpellyite	0	37.400	0.01	2.77	25.640	22.95	0.45	3.350	0.05	0.02	0.03	NA	NA	NA	NA	92.67
410	92MOB0067	pyroxene	0.344	51.054	0	8.22	1.763	24.33	0.32	12.610	0.07	0.12	0.03	0	0	0.06	0.10	99.04
411	92MOB0067	amphibole	0.740	53.200	0.55	8.06	2.600	12.23	0.27	18.890	0.12	0.26	0	NA	NA	NA	NA	96.92
412	92MOB0067	amphibole	0.383	55.427	0.13	4.35	1.833	12.23	0.16	22.015	0.06	0.46	0.19	0.03	0	0.03	0	97.33
413	92MOB0067	ilmenite	0	0.041	0.01	47.45	0.028	0.01	2.38	0.108	49.16	0.03	0.04	0.04	0	0.05	0.33	99.66
414	92MOB0067	ilmenite	0.027	1.063	0.01	47.47	0.338	0.01	1.31	0.366	48.72	0.10	0.02	0.03	0	0.07	0.49	100.02
415	92MOB0067	magnetite	0	0.047	0	82.99	0.257	0	0.24	0.083	6.35	0.31	0.05	0.06	0	0.05	0.24	90.68
416	92MOB0067	ilmenite	0	0.024	0	47.28	0.032	0	0.71	0.222	50.99	0.18	0.02	0.03	0	0.04	1.02	100.55
417	92MOB0067	magnetite	0	0.009	0	79.45	0.128	0.01	0.12	0.051	11.76	0.16	0.02	0.06	0	0.10	0.36	92.22
418	92MOB0067	magnetite	0	0.021	0.01	77.63	0.217	0	0.13	0.053	12.74	0.29	0.05	0.04	0	0.08	0.33	91.58
419	92MOB0067	magnetite	0	0.015	0.01	81.72	0.157	0	0.13	0.035	9.54	0.31	0.03	0	0	0.06	0.43	92.46
420	92MOB0067	alt.ilmen.	0.020	0.329	0.02	28.26	0.295	0.16	0.09	0.076	62.49	0.05	0	0.04	0	0.05	0.50	92.38
421	92MOB0067	magnetite	0	0.039	0	81.10	0.134	0	0.25	0.078	9.32	0.22	0.02	0.04	0	0.10	0.42	91.72
422	92MOB0067	magnetite	0	0.101	0	83.82	0.367	0.01	0.22	0.095	7.09	0.20	0.04	0.06	0	0.12	0.23	92.35
423	92MOB0067	magnetite	0	0.034	0	72.88	0.098	0	0.33	0.302	19.16	0.21	0.04	0.04	0	0.06	0.43	93.58
424	92MOB0067	ilmenite	0	0.028	0	49.34	0.036	0	1.92	0.164	47.09	0.07	0	0.04	0	0.06	0.40	99.16
425	92MOB0067	magnetite	0	0.039	0	82.13	0.085	0	0.24	0.070	10.10	0.07	0.06	0.03	0	0.06	0.32	93.21
426	92MOB0067	magnetite	0	0.043	0	81.83	0.176	0.01	0.22	0.048	9.41	0.36	0.04	0.03	0	0.06	0.35	92.56
427	92MOB0067	magnetite	0	0.026	0	81.62	0.147	0.02	0.17	0.028	8.66	0.69	0.05	0.04	0	0.10	0.27	91.80
428	92MOB0067	magnetite	0	0.045	0.01	80.35	0.191	0	0.13	0.046	11.17	0.26	0.03	0.03	0	0.12	0.37	92.74
429	92MOB0067	ilmenite	0	0.024	0.01	46.85	0.043	0.01	1.69	0.212	50.21	0.02	0	0.06	0	0.09	0.35	99.57
430	92MOB0067	magnetite	0	0.051	0.01	81.13	0.128	0	0.06	0.032	9.68	0.27	0.03	0.05	0	0.09	0.24	91.77
431	92MOB0067	magnetite	0	0.034	0	79.60	0.110	0.01	0.23	0.121	13.14	0.07	0.04	0	0	0.08	0.21	93.66
432	92MOB0067	ilmenite	0	0.024	0	47.98	0.030	0	1.42	0.204	49.64	0.04	0.02	0.08	0	0.05	0.36	99.84
433	92MOB0067	ilmenite	0	0.043	0	46.78	0.038	0.01	0.18	0.363	51.74	0.14	0.03	0.10	0	0.07	0.53	100.02
434	92MOB0067	alt.ilmen.	0.011	0.800	0.02	25.14	0.397	0.26	0.18	0.156	66.05	0.07	0.02	0.04	0	0.05	0.62	93.82
435	92MOB0067	magnetite	0	0.041	0.01	80.01	0.225	0	0.08	0.036	10.92	0.35	0.03	0.04	0	0.06	0.38	92.17
436	92MOB0067	magnetite	0	0	0	80.41	0.140	0	0.06	0	11.34	0.24	0.04	0.03	0	0.11	0.34	92.70
437	92MOB0067	magnetite	0	0.041	0.01	80.44	0.115	0	0.48	0.050	10.98	0.33	0.02	0.03	0	0.10	0.37	92.97
438	92MOB0067	garnet	0	35.686	0	34.18	20.394	3.39	3.31	1.821	0.07	0.02	0	0	0	0.03	0	98.96
439	92MOB0067	ilmenite	0	0.021	0	46.18	0.036	0.01	4.27	0.050	48.53	0.04	0.02	0.04	0	0.07	0.38	99.63

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
440	92MOB0067	alt.ilmen.	0.012	0.150	0.01	29.19	0.104	0.07	0.26	0.104	60.45	0.04	0	0.03	0	0.03	0.52	90.96
441	92MOB0067	ilmenite	0	0.019	0.01	47.43	0.034	0.02	1.20	0.041	50.61	0.03	0	0.03	0	0	0.33	99.76
442	92MOB0070	ilmenite	0	0.028	0	46.84	0.055	0.02	0.11	0.333	51.39	0.09	0.03	0.04	0	0.03	0.37	99.34
443	92MOB0070	ilmenite	0	0.019	0.01	46.27	0.040	0	0.15	0.753	51.46	0.22	0.02	0.08	0	0.05	0.69	99.75
444	92MOB0070	ilmenite	NA	0	NA	48.08	0.030	0.05	0.68	0.140	50.29	0	0.07	0.14	NA	0	0.34	99.82
445	92MOB0070	chromite	0.012	0.017	0	25.65	9.043	0.01	0.46	6.745	0.12	56.62	0.03	0.26	0	0.08	0.21	99.27
446	92MOB0070	ilmenite	0	0.043	0	46.96	0.038	0.01	0.37	0.172	51.94	0.05	0	0.09	0	0.03	0.29	100.02
447	92MOB0070	ilmenite	0	0.032	0.01	46.61	0.036	0.01	1.04	0.109	51.51	0.06	0.02	0.04	0	0.06	0.43	99.98
448	92MOB0070	magnetite	0	0.026	0.01	80.88	0.168	0	0.03	0	10.92	0.15	0.03	0	0	0.08	0.22	92.54
449	92MOB0070	chromite	0.011	0.032	0.01	32.72	4.637	0	0.41	5.374	0.07	55.24	0.09	0.27	0	0.13	0.12	99.10
450	92MOB0070	Cr-diopside	0.275	53.195	0.01	3.47	1.069	24.43	0.17	16.202	0.05	0.60	0.03	0	0	0	0	99.54
451	92MOB0070	pyroxene	0.410	53.630	0.01	5.68	0.841	23.16	0.20	15.890	0.07	0.22	0.04	0	0	0	0.06	100.22
452	92MOB0070	Cr-diopside	0.470	52.577	0	6.14	1.502	22.88	0.24	14.952	0.03	0.53	0.05	0.03	0	0	0.06	99.46
453	92MOB0070	Cr-diopside	0.226	51.786	0.01	5.87	3.110	18.64	0.17	18.537	0.25	1.13	0.05	0	0	0.03	0	99.86
454	92MOB0070	pyroxene	0.191	53.048	0	5.55	0.748	24.06	0.26	15.608	0.06	0.09	0	0	0	0	0.05	99.71
455	92MOB0070	pyroxene	0.414	53.031	0	6.69	0.741	24.01	0.29	14.191	0.06	0.15	0.03	0	0	0	0	99.62
456	92MOB0070	Cr-diopside	0.313	53.337	0	3.25	1.151	23.64	0.19	16.676	0	0.70	0.11	0.03	0	0.04	0	99.46
457	92MOB0070	garnet	0.015	35.930	0	31.77	19.727	5.80	5.05	0.985	0.03	0.03	0	0	0	0.06	0	99.42
459	92MOB0070	alt.ilmen.	0.013	0.573	0.01	30.33	0.418	0.10	0.12	0.143	59.28	0.10	0.04	0.12	0	0.06	0.53	91.83
460	92MOB0070	magnetite	0	0.064	0	81.64	0.094	0.01	0.23	0.229	9.55	0.29	0.03	0.04	0	0.11	0.37	92.66
461	92MOB0070	magnetite	0	0.034	0	83.47	0.336	0.02	0.12	0.056	7.18	0.21	0.05	0	0	0.09	0.26	91.84
462	92MOB0070	magnetite	0	0.032	0	77.32	0.108	0.01	0.25	0.071	13.66	0.32	0.03	0.04	0	0.13	0.23	92.19
463	92MOB0070	ilmenite	0	0.024	0.01	53.40	0.108	0.01	0.05	0.017	40.12	0.20	0	0.05	0	0	0.43	94.43
464	92MOB0070	ilmenite	0	0.034	0	52.10	0.042	0.01	0.67	0.532	46.40	0.43	0.09	0.03	0	0.09	0.43	100.86
465	92MOB0070	magnetite	0	0.034	0	74.52	0.085	0	0.11	0.081	15.95	0.28	0.04	0.03	0	0.06	0.33	91.51
466	92MOB0070	magnetite	0	0.047	0	83.03	0.136	0	0.18	0.073	9.39	0.20	0.04	0	0	0.07	0.26	93.44
467	92MOB0070	ilmenite	0	0.017	0	47.77	0.042	0.01	1.13	0.075	50.63	0.07	0.03	0	0	0.04	0.44	100.27
468	92MOB0070	alt.ilmen.	0.013	7.960	0.01	17.23	0.935	7.81	0.41	0.410	58.75	0.09	0.03	0	0	0	0.68	94.38
469	92MOB0070	magnetite	0	0.030	0.01	79.96	0.102	0	0.07	0.025	11.45	0.12	0.05	0.04	0	0.09	0.33	92.28
470	92MOB0070	ilmenite	0	0.019	0.01	46.42	0.030	0	0.68	0.721	51.57	0.05	0.04	0.06	0	0.05	0.42	100.05
471	92MOB0070	ilmenite	0	0.034	0.01	47.63	0.047	0.01	0.65	0.250	50.59	0.11	0.02	0.03	0	0.06	0.78	100.21
472	92MOB0070	alt.ilmen.	0	0.171	0.01	37.03	0.104	0.08	1.47	0.046	55.60	0.05	0.02	0	0	0.04	0.46	95.12
473	92MOB0070	magnetite	0	0.030	0.01	71.68	4.299	0	1.18	0.046	10.86	0.08	0.03	0.05	0	0.10	0.34	88.71
474	92MOB0070	magnetite	0	0.039	0.01	83.96	0.265	0	0.17	0.086	6.78	0.20	0.03	0.07	0	0.06	0.22	91.89
475	92MOB0070	ilmenite	0	0.017	0	47.66	0.025	0.01	0.48	0.239	51.54	0.06	0	0.06	0	0.04	0.42	100.55
476	92MOB0070	magnetite	0	0.051	0	81.37	0.121	0.01	0.08	0.015	11.24	0.19	0.02	0	0	0.11	0.19	93.40
477	92MOB0070	magnetite	0	0.056	0.01	78.44	0.096	0	0.09	0.012	13.03	0.30	0.04	0.06	0	0.10	0.30	92.52
478	92MOB0070	ilmenite	0	0.019	0	58.37	0.480	0	0.61	0.284	34.94	0.26	0.08	0	0	0.08	0.26	95.39
479	92MOB0067	magnetite	0	0.032	0	81.09	0.140	0.03	0.24	0.046	10.42	0.31	0.05	0.03	0	0.08	0.34	92.79
480	92MOB0073	ilmenite	0	0.036	0.01	47.21	0.009	0.02	0.12	0.058	51.91	0.10	0.03	0.03	0	0.04	0.44	100.03
481	92MOB0073	magnetite	0	0.060	0.01	77.31	0.102	0	0.27	0.045	16.51	0.25	0.02	0.06	0	0.10	0.21	94.94
482	92MOB0073	ilmenite	0.009	0.039	0.00	47.06	0.040	0.01	0.20	0.292	51.81	0.06	0.04	0.13	0	0.06	0.39	100.14
483	92MOB0073	magnetite	0	0.066	0	81.15	0.215	0.01	0.28	0.123	8.30	0.14	0.04	0	0	0.09	0.29	90.71
484	92MOB0073	magnetite	0.032	0.026	0.02	67.39	0.087	0	0.14	0.053	24.62	0.21	0.04	0	0	0.05	0.46	93.14
485	92MOB0073	ilmenite	0	0.058	0	46.35	0.038	0	1.37	0.103	51.38	0.02	0.03	0.12	0	0.03	0.39	99.89
486	92MOB0073	ilmenite	0	0.030	0	46.42	0.045	0	0.11	0.778	51.92	0.10	0.03	0.04	0	0.06	0.51	100.03
487	92MOB0073	magnetite	0	0.058	0.01	80.36	0.106	0.02	0.12	0.098	11.49	0.22	0.04	0.06	0	0.10	0.32	92.99

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
488	92MOB0073	pyroxene	0.210	50.703	0	14.06	1.470	18.63	1.46	12.736	0.06	0.04	0.02	0.03	0	0.03	0	99.44
489	92MOB0073	pyroxene	0.074	51.084	0	11.09	1.670	23.96	0.25	11.692	0.05	0.03	0	0	0	0	0	99.98
490	92MOB0073	Cr-diopside	0.373	52.705	0.01	3.73	1.837	23.66	0.14	16.733	0.16	0.84	0.06	0	0	0	0	100.26
491	92MOB0073	pyroxene	0.322	53.946	0.01	2.70	1.168	24.05	0.17	16.980	0.05	0.46	0.14	0	0	0	0	100.04
492	92MOB0073	Cr-diopside	0.370	54.090	0	3.72	1.280	23.53	0.12	16.050	0.06	0.70	0.08	NA	NA	NA	NA	100.00
493	92MOB0073	pyroxene	0.435	54.105	0.01	3.23	0.750	23.75	0.13	16.951	0.06	0.46	0.11	0	0	0	0.05	100.08
494	92MOB0073	Cr-diopside	0.332	54.156	0.01	3.35	1.591	22.67	0.18	17.341	0.09	0.99	0.14	0	0	0	0	100.83
495	92MOB0073	garnet	0	38.009	0	7.88	18.089	34.63	0.19	0.080	0.12	0.04	0	0.04	0	0	0	99.12
496	92MOB0073	garnet	0	38.189	0.01	7.87	20.158	31.98	0.34	0.139	0.23	0.04	0	0	0	0.03	0.17	99.16
497	92MOB0073	garnet	0	34.903	0.01	23.64	4.344	32.25	1.03	0.159	0.67	0.05	0.02	0.03	0	0.05	0.12	97.26
498	92MOB0073	ilmenite	0	0.024	0	46.47	0.011	0	1.44	0.126	50.71	0.06	0.03	0.05	0	0.05	0.50	99.46
499	92MOB0073	magnetite	0	0.032	0	81.77	0.089	0	0.14	0.078	10.54	0.22	0.03	0.03	0	0.09	0.11	93.12
500	92MOB0073	magnetite	0	0.079	0.01	79.54	0.102	0.02	0.24	0.126	11.09	0.15	0.04	0	0	0.09	0.33	91.85
501	92MOB0073	ilmenite	0	0.024	0	48.77	0.025	0.02	3.68	0.078	46.01	0.10	0.06	0.04	0	0.03	0.38	99.21
502	92MOB0073	magnetite	0	0.058	0	77.06	0.144	0.02	0.32	0.187	15.51	0.08	0.03	0.04	0	0.07	0.55	94.09
503	92MOB0073	magnetite	0.116	0.068	0.01	66.84	4.032	0	0.40	0.222	20.75	0.23	0.03	1.35	0	0.12	0.32	94.48
504	92MOB0073	magnetite	0	0.032	0.01	83.28	0.130	0	0.16	0.096	8.59	0.33	0.04	0.03	0	0.05	0.19	92.93
505	92MOB0073	magnetite	0	0.043	0.01	68.01	0.070	0	0.78	0.088	24.84	0.06	0.05	0	0	0.07	0.37	94.40
506	92MOB0073	ilmenite	0	0.036	0	46.45	0.047	0.03	1.27	0.063	51.62	0.04	0.04	0.10	0	0.03	0.30	100.03
507	92MOB0073	ilmenite	0	0.041	0	46.21	0.032	0.02	1.21	0.148	51.98	0.06	0.04	0.06	0	0.05	0.34	100.19
508	92MOB0073	magnetite	0	0.032	0.01	78.59	0.134	0	0.12	0.043	12.99	0.54	0.03	0.04	0	0.04	0.37	92.94
509	92MOB0073	magnetite	0	0.028	0	85.19	0.336	0.01	0.20	0.065	6.02	0.18	0.04	0.03	0	0.07	0.19	92.35
510	92MOB0073	ilmenite	0	0.043	0.01	46.79	0.038	0.01	0.79	0.149	51.30	0.05	0.03	0.05	0	0.08	0.42	99.75
511	92MOB0073	ilmenite	0	0.043	0.01	46.32	0.025	0.02	0.18	0.599	51.91	0.15	0.03	0.07	0	0.06	0.62	100.04
512	92MOB0073	alt.ilmen.	0	0.062	0.01	38.63	0.072	0.01	0.03	0.018	50.24	0.23	0.03	0.04	0	0.07	0.56	90.00
513	92MOB0073	ilmenite	0.042	0.103	0.01	41.43	0.043	0.01	0.11	1.821	50.78	0.16	0	0.06	0	0.06	0.56	95.21
514	92MOB0073	ilmenite	0	0.053	0	47.09	0.034	0	0.70	0.293	51.28	0.05	0.04	0.05	0	0.06	0.43	100.10
515	92MOB0073	ilmenite	0	0.056	0	47.68	0.038	0.02	0.59	0.114	50.76	0.12	0.02	0	0	0.05	0.40	99.86
517	92MOB0073	ilmenite	0	0.030	0.01	54.13	0.040	0.01	1.32	0.269	42.45	0.10	0.03	0.04	0	0.04	0.39	98.85
518	92MOB0073	magnetite	0	0.026	0	81.07	0.164	0	0.19	0.055	10.32	0.25	0.04	0.04	0	0.14	0.35	92.64
519	92MOB0073	ilmenite	0	0.030	0	50.89	0.040	0.02	1.48	0.242	45.91	0.05	0.02	0.08	0	0	0.35	99.14
520	92MOB0073	ilmenite	0	0.021	0	46.89	0.051	0.02	0.54	0.496	51.11	0.11	0.02	0.03	0	0.07	0.62	99.97
521	92MOB0073	magnetite	0	0.032	0	82.36	0.346	0	0.20	0.073	8.01	0.17	0.04	0.05	0	0.07	0.22	91.56
522	92MOB0073	magnetite	0	0.086	0	76.41	0.121	0	0.04	0.020	15.08	0.18	0.04	0.04	0	0.07	0.31	92.38
523	92MOB0073	magnetite	0	0.039	0	84.69	0.340	0.01	0.18	0.106	6.05	0.18	0.05	0	0	0.10	0.24	92.01
524	92MOB0073	alt.ilmen.	0	0.216	0.01	35.94	0.125	0.06	0.46	0.081	56.89	0.09	0	0	0	0.04	0.58	94.50
525	92MOB0079	garnet	0	40.604	0	8.71	21.195	5.36	0.56	19.396	0.05	2.83	0	0.05	0	0	0	98.81
526	92MOB0079	spinel	0.028	0.060	0.01	5.62	65.960	0.03	0.19	23.800	0.05	0.09	0	0.43	0	0	0.08	96.38
527	92MOB0079	Cr-diopside	0.274	51.570	0.01	4.81	2.538	21.31	0.16	17.165	0.20	1.05	0.06	0	0	0	0.08	99.24
528	92MOB0079	Cr-diopside	0.421	53.627	0	3.30	1.306	23.81	0.11	16.643	0.05	0.78	0	0.03	0	0.04	0	100.12
529	92MOB0079	garnet	0	38.441	0.01	4.86	19.060	35.13	1.52	0.211	0.31	0.03	0.02	0	0	0	0.05	99.67
530	92MOB0079	garnet	0	38.677	0.01	3.96	20.876	35.29	0.62	0.113	0.19	0.03	0.02	0	0	0	0	99.83
531	92MOB0079	garnet	0	38.356	0.01	7.46	20.388	32.60	0.61	0.146	0.34	0.02	0.02	0.03	0	0	0.09	100.06
533	92MOB0079	garnet	0	37.778	0	18.27	20.468	5.42	16.48	2.099	0.10	0.04	0	0.04	0	0	0.09	100.82
534	92MOB0079	ilmenite	0	0.039	0.01	47.12	0.043	0.02	0.13	0.338	51.77	0.11	0.03	0.06	0	0.06	0.54	100.27
535	92MOB0079	ilmenite	0	0.058	0	44.65	0.047	0.03	2.81	0.179	49.44	0.07	0.04	0.03	0	0.05	0.39	97.78
536	92MOB0079	magnetite	0.009	0.041	0.05	76.41	0.062	0.01	0.05	0.119	13.36	0.43	0.03	0.05	0	0.07	0.44	91.13

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
537	92MOB0079	alt.ilmen.	0.007	0.272	0.01	35.94	0.187	0.06	0.21	0.098	55.44	0.05	0.02	0	0	0.06	0.59	92.98
538	92MOB0079	magnetite	0	0.041	0	79.57	0.501	0	0.10	0.063	11.04	0.24	0.04	0.05	0	0.08	0.29	92.02
539	92MOB0079	ilmenite	0	0.058	0	47.39	0.043	0.09	1.57	0.129	50.24	0.03	0.03	0.03	0	0.07	0.36	100.03
540	92MOB0079	magnetite	0	0.034	0	76.25	0.115	0	0.13	0.065	15.92	0.21	0.03	0.04	0	0.08	0.46	93.33
541	92MOB0079	magnetite	0	0.030	0.01	78.63	0.157	0.01	0.13	0.035	11.53	0.15	0.03	0	0	0.10	0.27	91.08
542	92MOB0079	ilmenite	0	0.056	0.01	46.68	0.032	0.02	1.49	0.093	51.01	0.12	0	0	0	0.03	0.46	100.00
543	92MOB0079	ilmenite	0	0.047	0.01	48.11	0.042	0	0.75	0.095	50.23	0.06	0.02	0.06	0	0.04	0.29	99.77
544	92MOB0079	ilmenite	0	0.064	0	45.31	0.045	0.04	3.29	0.071	50.61	0.05	0.03	0.10	0	0.10	0.32	100.03
545	92MOB0079	ilmenite	0.022	0.056	0.01	46.64	0.042	0.01	0.55	0.211	51.22	0.02	0	0.09	0	0.09	0.38	99.35
546	92MOB0079	alt.ilmen.	0	0.406	0.01	31.63	0.278	0.10	0.18	0.095	60.43	0.07	0.02	0	0	0.03	0.64	93.90
547	92MOB0079	ilmenite	0	0.036	0.01	47.03	0.047	0.01	0.61	0.159	51.37	0.09	0.03	0.06	0	0.07	0.43	99.94
548	92MOB0079	ilmenite	0	0.053	0.01	47.34	0.043	0.02	0.58	0.352	50.52	0.05	0.02	0.04	0	0.04	0.48	99.53
549	92MOB0079	ilmenite	0	0.066	0	47.17	0.042	0.04	1.35	0.058	51.21	0.09	0	0.03	0	0.08	0.44	100.59
550	92MOB0079	ilmenite	0	0.026	0.01	48.82	0.040	0.03	0.97	0.088	49.16	0.07	0.03	0.18	0	0.07	0.41	99.89
551	92MOB0079	magnetite	0	0.051	0	80.62	0.159	0	0.47	0.154	9.03	0.21	0.02	0	0	0.11	0.29	91.13
552	92MOB0082	magnetite	0	0.045	0	77.50	0.138	0	0.19	0.063	14.49	1.04	0.04	0.05	0	0.09	0.42	94.07
553	92MOB0082	alt.ilmen.	0.018	0.184	0.02	32.66	0.180	0.03	0.78	0.149	58.83	0.07	0.02	0.06	0	0.03	0.41	93.43
554	92MOB0082	ilmenite	0	0.036	0	49.15	0.043	0.02	1.43	0.551	47.70	0.06	0.03	0.09	0	0.06	0.43	99.60
555	92MOB0082	ilmenite	0	0.039	0.01	47.32	0.038	0.02	0.43	0.040	51.71	0.05	0	0.06	0	0.06	0.37	100.16
556	92MOB0082	ilmenite	0	0.021	0.01	46.51	0.051	0.01	0.28	0.381	52.02	0.12	0.05	0.11	0	0.09	0.52	100.15
558	92MOB0082	magnetite	0	0.041	0.01	79.26	0.121	0.01	0.07	0.025	15.31	0.17	0.02	0.03	0	0.08	0.45	95.59
559	92MOB0082	ilmenite	0	0.021	0.01	46.42	0.053	0.01	0.63	0.323	51.76	0.08	0.03	0.08	0	0.04	0.41	99.87
560	92MOB0082	magnetite	0	0.019	0	61.65	0.111	0.02	0.54	0.134	28.14	0.18	0.03	0.05	0	0.09	0.45	91.41
562	92MOB0082	ilmenite	0	0.026	0.01	47.39	0.025	0.02	0.84	0.046	51.83	0.03	0	0.09	0	0.07	0.33	100.72
563	92MOB0082	magnetite	0	0.045	0.01	81.06	0.125	0	0.34	0.121	10.35	0.18	0.04	0.06	0	0.10	0.23	92.67
564	92MOB0082	magnetite	0	0.041	0	81.74	0.149	0	0.22	0.020	10.01	0.14	0.05	0.04	0	0.09	0.28	92.76
565	92MOB0082	magnetite	0	0.051	0.01	80.71	0.119	0	0.08	0.058	10.78	0.49	0.05	0.04	0	0.06	0.38	92.81
566	92MOB0082	magnetite	0	0.045	0.01	74.29	0.093	0	0.10	0.030	20.46	0.36	0.02	0.03	0	0.09	0.42	95.94
567	92MOB0082	magnetite	0	0.105	0	81.09	0.023	0.01	0.10	0.040	11.16	0.30	0.05	0.04	0	0.10	0.32	93.32
568	92MOB0082	magnetite	0	0.068	0.01	62.87	0.028	0.01	0.04	0.018	26.58	0.11	0.02	0.03	0	0.07	0.28	90.13
569	92MOB0082	magnetite	0	0.053	0.01	78.80	0.002	0.04	0.15	0.065	11.82	0.05	0.03	0	0	0.07	0.17	91.26
570	92MOB0082	ilmenite	0	0.039	0.01	47.19	0.028	0.02	0.51	0.244	51.62	0.09	0.02	0.06	0	0.07	0.59	100.49
571	92MOB0082	ilmenite	0	0.034	0	47.18	0.025	0.01	0.33	0.108	51.70	0.03	0.02	0.08	0	0.07	0.39	99.99
572	92MOB0082	ilmenite	0	0.017	0	46.51	0.043	0.01	0.15	0.701	52.30	0.06	0.03	0.06	0	0.06	0.34	100.27
573	92MOB0082	hematite	0	0.056	0	88.84	0.087	0.01	0.46	0.028	0.06	0.10	0.05	0.03	0	0.10	0.31	90.15
574	92MOB0082	garnet	0	36.189	0	24.50	20.549	5.46	9.24	2.567	0.15	0.03	0	0.06	0	0.05	0	98.80
575	92MOB0082	ilmenite	0	0.045	0	47.12	0.026	0.01	0.55	0.217	50.72	0.09	0.03	0.04	0	0.04	0.80	99.71
577	92MOB0082	magnetite	0	0.032	0.01	80.54	0.125	0.02	0.46	0.028	10.37	0.46	0.03	0	0	0.09	0.34	92.52
578	92MOB0082	ilmenite	0	0.068	0	46.12	0.030	0.03	3.06	0.058	46.46	0.07	0	0	0	0.04	0.56	96.54
579	92MOB0082	magnetite	0	0.049	0.01	81.03	0.115	0	0.10	0.046	11.66	0.16	0.03	0.05	0	0.06	0.36	93.67
580	92MOB0082	ilmenite	0	0.030	0	46.92	0.040	0.01	0.71	0.174	50.23	0.09	0.03	0	0	0.07	0.44	98.75
581	92MOB0082	magnetite	0	0.019	0.01	82.58	0.208	0	0.32	0.061	8.44	0.22	0.03	0	0	0.09	0.26	92.25
582	92MOB0082	ilmenite	0	0.122	0	45.43	0.042	0.01	0.12	1.162	52.17	0.15	0.03	0.18	0	0.08	0.63	100.12
583	92MOB0082	magnetite	0	0.034	0.01	79.27	0.159	0	0.23	0.053	12.53	0.18	0.03	0.03	0	0.08	0.22	92.81
584	92MOB0082	garnet	0	37.569	0	33.39	21.513	3.12	3.30	2.811	0.03	0.05	0	0	0	0	0	101.83
585	92MOB0157	ilmenite	0	0.148	0	45.70	0.110	0.02	5.08	0.682	47.99	0.15	0.04	0.06	0	0.09	0.46	100.52
586	92MOB0157	ilmenite	0	0.032	0	47.14	0.045	0.01	1.29	0.109	51.47	0.04	0	0	0	0.04	0.35	100.56

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
587	92MOB0160	amphibole	1.693	44.500	0.93	14.88	8.431	11.53	0.22	12.386	2.16	0.13	0.02	0.03	0	0.04	0.16	97.11
588	92MOB0160	amphibole	1.177	42.487	1.43	16.80	10.617	11.75	0.18	9.854	2.49	0.13	0.02	0.03	0	0.03	0.28	97.25
589	92MOB0163	alt.ilmen.	0.015	0.105	0	32.88	0.106	0.04	0.71	0.375	58.60	0.05	0.02	0.05	0	0.06	0.54	93.55
590	92MOB0163	magnetite	0	0.036	0	81.09	0.093	0	0.28	0.065	10.01	0.35	0.02	0.03	0	0.06	0.39	92.42
591	92MOB0163	goethite	0	2.009	0.01	86.39	0.030	0.06	0.03	0.323	0.03	0.02	0.05	0.03	0	0.11	0	89.10
592	92MOB0163	ilmenite	0	0.034	0.01	48.03	0.040	0.04	0.57	0.172	50.67	0.04	0.03	0.06	0	0.07	0.38	100.13
593	92MOB0163	ilmenite	0	0.043	0.01	47.64	0.045	0.02	0.56	0.169	50.71	0.03	0	0.04	0	0.05	0.32	99.64
594	92MOB0163	alt.ilmen.	0.015	0.212	0.01	29.58	0.210	0.08	0.66	0.660	59.86	0.21	0	0.04	0	0.04	0.81	92.40
595	92MOB0163	ilmenite	0	0.034	0	48.35	0.030	0.01	3.36	0.085	45.88	0.03	0.03	0.14	0	0.04	0.36	98.35
596	92MOB0163	ilmenite	0	0.045	0	47.04	0.040	0.01	1.52	0.342	49.57	0.11	0.02	0.09	0	0.05	0.32	99.13
597	92MOB0163	ilmenite	0	0.036	0.01	45.04	0.042	0.02	2.65	0.095	51.94	0.03	0.03	0.05	0	0.05	0.32	100.28
598	92MOB0163	ilmenite	0	0.041	0	46.50	0.040	0	0.78	0.400	52.18	0.05	0.03	0.05	0	0.08	0.42	100.58
599	92MOB0163	ilmenite	0	0.032	0	47.45	0.026	0	0.55	0.347	51.66	0.06	0	0.06	0	0.06	0.56	100.82
600	92MOB0166	ilmenite	0	0.043	0	46.41	0.060	0.01	0.82	0.416	52.15	0.02	0.04	0.04	0	0	0.37	100.40
601	92MOB0166	alt.ilmen.	0	0.556	0.02	33.42	0.155	0.13	0.12	0.297	57.27	0.20	0.04	0	0	0.06	0.66	92.93
602	92MOB0166	ilmenite	0	0.081	0	45.75	0.032	0.02	0.17	0.638	52.60	0.08	0.03	0.07	0	0.08	0.40	99.93
603	92MOB0166	ilmenite	0	0.160	0	37.54	0.098	0.06	2.55	0.265	52.15	0.14	0.03	0.05	0	0.05	0.45	93.53
604	92MOB0166	alt.ilmen.	0.046	2.300	0.06	31.31	0.576	0.15	0.05	1.608	58.74	0.09	0.04	0.04	0	0.03	0.58	95.61
605	92MOB0166	hematite	0	0.255	0.01	88.79	0.265	0.01	0.12	0.022	0.09	0.04	0.04	0	0	0.09	0.22	99.97
606	92MOB0166	ilmenite	0	0.071	0.01	41.76	0.064	0.02	1.17	0.141	52.12	0.04	0.04	0	0	0.03	0.38	95.87
607	92MOB0166	goethite	0.059	1.842	0.07	84.15	0.824	0.21	0	0.245	0.13	0.07	0.04	0.05	0	0.07	0.31	88.08
608	92MOB0166	amphibole	1.220	40.709	1.80	17.56	11.562	11.89	0.27	9.707	1.75	0.07	0	0.04	0	0	0.13	96.72
609	92MOB0166	alt.ilmen.	0	0.158	0	36.48	0.106	0.05	0.15	0.099	55.74	0.04	0.02	0	0	0.06	0.48	93.42
610	92MOB0166	hematite	0.007	0.171	0.01	89.77	0.091	0.04	0.06	0.028	0.19	0.10	0.05	0.05	0	0.10	0.22	90.87
611	92MOB0166	ilmenite	0	0.024	0.01	47.92	0.045	0.01	0.62	0.036	50.48	0.05	0.03	0.11	0	0.05	0.31	99.68
612	92MOB0166	ilmenite	0	0.036	0	47.35	0.034	0.02	0.16	0.275	50.93	0.35	0.02	0.08	0	0.10	0.79	100.15
613	92MOB0166	hematite	0	0.111	0	89.10	0.219	0.02	0.07	0.017	0.06	0.25	0.04	0	0	0.07	0.36	90.33
614	92MOB0166	magnetite	0.009	0.881	0.03	86.89	0.489	0.03	0	0.181	0.09	0.08	0.04	0	0	0.09	0.29	89.10
615	92MOB0166	alt.ilmen.	0.013	0.319	0.01	26.16	0.272	0.13	0.96	0.161	63.10	0.07	0.03	0.03	0	0.08	0.63	91.96
616	92MOB0166	alt.ilmen.	0.020	0.768	0.04	32.91	0.342	0.07	0.73	0.350	53.71	0.08	0.03	0.03	0	0.03	0.51	89.63
617	92MOB0166	hematite	0	0.060	0.01	90.16	0.123	0	0.07	0.038	0.06	0.07	0.05	0.05	0	0.09	0.33	91.11
618	92MOB0166	ilmenite	0	0.036	0.01	47.13	0.038	0	0.68	0.153	51.91	0.12	0.04	0	0	0.10	0.47	100.71
619	92MOB0166	ilmenite	0	0.024	0	46.75	0.011	0	1.03	0.201	51.42	0.07	0.03	0.04	0	0.08	0.39	100.05
620	92MOB0166	ilmenite	0	0.139	0	41.02	0.026	0.04	0.70	0.121	53.55	0.05	0.02	0.04	0	0.06	0.41	96.17
621	92MOB0166	ilmenite	0	0.045	0.01	51.66	0	0.01	2.79	0.090	43.62	0.05	0.02	0.08	0	0.07	0.38	98.83
622	92MOB0169	magnetite	0	0.030	0	80.27	0	0	0.13	0.025	12.29	0.16	0.02	0	0	0.10	0.34	93.38
623	92MOB0169	magnetite	0	0.043	0.01	79.84	0.136	0.01	0.06	0.015	10.66	0.47	0.02	0	0	0.09	0.37	91.72
624	92MOB0169	ilmenite	0.008	0.041	0.01	46.63	0.040	0	0.58	0.051	51.51	0.05	0.02	0.15	0	0.05	0.37	99.51
625	92MOB0169	ilmenite	0	0.047	0.01	47.10	0.030	0.01	0.55	0.051	52.20	0.02	0	0.16	0	0.08	0.41	100.68
626	92MOB0169	hematite	0.009	0.235	0.01	88.09	0.231	0.03	0.15	0.033	0.11	0.16	0.06	0.08	0	0.10	0.12	89.41
627	92MOB0169	alt.ilmen.	0	0.184	0.01	34.01	0.174	0.06	0	0.040	58.48	0.05	0.02	0.05	0	0.03	0.33	93.45
628	92MOB0169	ilmenite	0	0.026	0	47.38	0.059	0.01	0.55	0.290	50.92	0.16	0.02	0.03	0	0.06	0.84	100.34
629	92MOB0169	magnetite	0	0.062	0	81.24	0.172	0	0.43	0.051	10.57	0.22	0.04	0	0	0.10	0.29	93.19
630	92MOB0169	ilmenite	0	0.032	0	46.55	0.047	0	0.75	0.499	51.22	0.08	0.03	0.03	0	0.07	0.56	99.89
631	92MOB0169	alt.ilmen.	0	0.103	0.01	35.33	0.072	0.06	0.18	0.028	57.08	0.05	0.02	0.04	0	0	0.34	93.33
632	92MOB0169	ilmenite	0.019	0.139	0.01	45.46	0.076	0.01	0.52	1.061	51.54	0.16	0.02	0.03	0	0.06	0.54	99.63
633	92MOB0169	magnetite	0	0.026	0	81.87	0.115	0	0.18	0.027	10.09	0.39	0.02	0.05	0	0.10	0.36	93.23

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
634	92MOB0169	ilmenite	0.019	0.216	0.01	45.46	0.093	0.04	3.38	0.139	50.62	0.05	0.04	0	0	0.08	0.32	100.49
635	92MOB0166	hematite	0	0.421	0.03	87.62	0.276	0.01	0.06	0.174	0.34	0.10	0.03	0.04	0	0.07	0.30	89.47
636	92MOB0169	ilmenite	0	0.024	0	47.34	0.049	0.03	0.37	0.070	52.03	0.04	0.02	0	0	0.08	0.45	100.52
637	92MOB0169	ilmenite	0	0.507	0.05	46.51	0.348	0.02	0.65	0.340	50.61	0.08	0.02	0.04	0	0.05	0.38	99.59
638	92MOB0169	magnetite	0	0.051	0	80.96	0.123	0	0.13	0.060	10.60	0.36	0.03	0	0	0.10	0.34	92.76
639	92MOB0169	magnetite	0	0.034	0	80.75	0.110	0.02	0.18	0.046	10.40	0.48	0.03	0.03	0	0.07	0.39	92.54
640	92MOB0169	magnetite	0	0.030	0	81.44	0.104	0.01	0.14	0.053	9.23	0.41	0.04	0.04	0	0.11	0.37	91.97
641	92MOB0169	magnetite	0	0.062	0	81.20	0.074	0	0.11	0.032	10.26	0.38	0.02	0.03	0	0.10	0.40	92.67
642	92MOB0169	ilmenite	0	0.049	0.01	47.47	0	0.01	0.55	0.015	51.62	0.06	0.04	0.03	0	0.05	0.32	100.22
643	92MOB0169	magnetite	0	0.032	0.01	79.22	0.128	0	0.04	0.048	12.14	0.12	0.03	0.05	0	0.08	0.36	92.25
644	92MOB0169	magnetite	0	0.036	0	81.69	0.157	0	0.34	0.091	9.75	0.50	0.03	0	0	0.07	0.32	93.00
645	92MOB0169	magnetite	0	0.041	0	76.33	0.102	0.01	0.09	0.013	14.93	0.45	0.05	0	0	0.07	0.41	92.51
646	92MOB0172	ilmenite	0	0.021	0	47.26	0.034	0.02	0.60	0.293	51.44	0.06	0.02	0.06	0	0.06	0.47	100.34
647	92MOB0172	alt.ilmen.	0	0.116	0	30.76	0.149	0.08	1.43	0.051	58.98	0.12	0.03	0.03	0	0.05	0.48	92.28
648	92MOB0172	alt.ilmen.	0.009	0.126	0.01	31.00	0.127	0.09	2.93	0.148	58.24	0.11	0	0.15	0	0.07	0.36	93.35
649	92MOB0172	alt.ilmen.	0	0.124	0.01	30.76	0.181	0.06	0.30	1.343	59.34	0.19	0.02	0.08	0	0.04	0.61	93.07
650	92MOB0172	ilmenite	0	0.047	0.01	47.54	0.008	0	0.63	0.866	49.94	0.04	0.03	0	0	0.06	0.49	99.65
651	92MOB0172	ilmenite	0	0.289	0.01	46.21	0	0.03	0.69	0.907	50.61	0.03	0.02	0.05	0	0.07	0.38	99.30
652	92MOB0172	alt.ilmen.	0	0.143	0.01	26.42	0.144	0.05	0.26	2.220	61.71	0.23	0.04	0.03	0	0.06	0.55	91.84
653	92MOB0172	ilmenite	0	0.049	0	45.24	0.028	0.01	0.12	1.894	52.85	0.15	0.02	0	0	0.08	0.67	101.13
654	92MOB0172	magnetite	0.013	0.066	0	78.40	0.144	0.02	0.12	0.118	13.42	0.17	0.03	0.04	0	0.06	0.50	93.09
655	92MOB0172	ilmenite	0	0.051	0	47.49	0	0.03	0.63	0.182	51.17	0.04	0.03	0.04	0	0.04	0.56	100.26
656	92MOB0172	alt.ilmen.	0	0.135	0.01	28.63	0.155	0.08	1.30	0.093	61.18	0.14	0.03	0.03	0	0.03	0.46	92.27
657	92MOB0172	ilmenite	0	0.009	0	46.40	0.028	0.01	0.39	0.813	52.28	0.05	0	0	0	0.08	0.40	100.45
658	92MOB0172	alt.ilmen.	0.024	0.154	0.01	29.44	0.187	0.07	0.88	0.700	60.95	0.13	0.06	0.04	0	0.05	0.56	93.27
659	92MOB0172	Cr-diopside	0.793	52.477	0.01	3.94	2.536	23.10	0.13	15.676	0.17	0.71	0.07	0	0	0	0	99.62
660	92MOB0172	alt.ilmen.	0.019	0.143	0.01	29.27	0.191	0.10	1.08	0.113	61.41	0.12	0	0.13	0	0.05	0.44	93.10
661	92MOB0172	alt.ilmen.	0	0.391	0.02	25.71	0.219	0.15	0.04	0.222	65.40	0.23	0.02	0	0	0.04	0.60	93.05
662	92MOB0148	ilmenite	0	0.024	0	47.01	0.040	0.02	0.40	0.222	51.92	0.05	0.04	0	0	0.08	0.33	100.16
663	92MOB0148	amphibole	1.449	40.852	2.22	16.53	11.371	11.58	0.15	10.491	1.98	0.05	0.02	0.03	0	0.03	0.11	96.87
664	92MOB0148	alt.ilmen.	0	0.317	0.01	24.44	1.733	0.19	0.20	0.083	67.22	0.31	0.02	0.04	0	0	0.60	95.18
665	92MOB0148	chromite	0.019	0.015	0	31.47	21.152	0	0.43	6.139	0.39	39.32	0.11	0.26	0	0.11	0.18	99.60
666	92MOB0148	ilmenite	0	0.015	0	47.27	0.038	0.01	2.29	0.045	50.06	0.03	0.03	0.03	0	0.07	0.35	100.24
667	92MOB0148	ilmenite	0	0.024	0	46.75	0.051	0.01	0.21	0.804	51.61	0.14	0.03	0.05	0	0.06	0.49	100.22
668	92MOB0148	ilmenite	0	0.030	0	48.11	0.053	0.01	0.84	0.594	49.70	0.07	0.03	0.04	0	0.08	0.42	99.98
669	92MOB0148	Cr-diopside	0.547	52.382	0.01	3.43	1.449	23.48	0.16	16.142	0.11	1.07	0.08	0	0	0	0	98.92
671	92MOB0148	Cr-diopside	0.681	52.532	0	5.16	1.820	22.65	0.33	15.069	0.13	0.99	0.05	0.03	0	0	0.07	99.52
672	92MOB0148	orthopyrox.	0	54.708	0	9.11	2.362	0.30	0.19	32.152	0.08	0.65	0.17	0.03	0	0.03	0	99.78
673	92MOB0148	Cr-diopside	0.755	52.323	0	3.70	2.840	23.36	0.15	15.423	0.22	1.09	0.06	0	0	0.05	0.07	100.04
674	92MOB0148	Cr-diopside	0.681	51.976	0.01	5.33	1.901	22.79	0.36	14.756	0.14	1.04	0.04	0	0	0	0.05	99.09
675	92MOB0148	Cr-diopside	0.849	52.678	0	3.51	2.449	23.01	0.11	15.796	0.17	1.09	0.14	0	0	0.03	0	99.85
676	92MOB0148	Cr-diopside	1.339	52.894	0	3.98	2.118	22.24	0.12	15.016	0.26	1.58	0.14	0.05	0	0	0.07	99.81
677	92MOB0148	Cr-diopside	1.144	53.491	0	2.89	2.029	22.40	0.09	16.038	0.04	1.67	0.09	0.04	0	0.03	0	99.97
678	92MOB0148	Cr-diopside	0.772	52.776	0	3.81	2.453	22.60	0.12	16.046	0.08	0.77	0.06	0	0	0.04	0	99.55
679	92MOB0148	ilmenite	0	0.030	0	46.94	0.030	0.01	0.43	0.441	51.69	0.11	0.03	0	0	0.03	0.47	100.20
680	92MOB0148	ilmenite	0	0.173	0.01	38.47	0.059	0.03	2.13	0.380	49.49	0.06	0	0.05	0	0.07	0.32	91.24
681	92MOB0148	ilmenite	0	0.030	0	50.32	0.032	0	0.59	0.378	47.70	0.06	0.02	0.10	0	0.08	0.40	99.71

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
682	92MOB0148	amphibole	1.704	40.223	1.15	19.81	12.326	11.34	0.39	8.075	1.10	0.16	0.03	0.04	0	0.05	0.14	96.52
683	92MOB0148	garnet	0	35.168	0.01	22.58	5.264	31.88	1.78	0.199	0.72	0.03	0.02	0	0	0.03	0.19	97.87
684	92MOB0148	spinel	0.049	0.034	0.01	26.46	60.885	0.02	0.18	10.483	0.03	0.03	0.31	0.53	0	0.05	0	99.07
685	92MOB0148	ilmenite	0	0.028	0	46.35	0.053	0.01	0.57	0.696	51.95	0.12	0.03	0.05	0	0.05	0.40	100.32
686	92MOB0148	ilmenite	0	0.026	0.01	46.49	0.038	0.01	0.47	0.643	52.50	0.13	0.02	0.05	0	0.06	0.48	100.92
687	92MOB0148	ilmenite	0	0.026	0	47.20	0.040	0.02	0.72	0.274	50.72	0.21	0	0.06	0	0.06	0.93	100.27
688	92MOB0148	ilmenite	0	0.026	0	49.53	0.036	0	0.39	0.348	49.19	0.09	0.03	0.05	0	0.06	0.53	100.27
689	92MOB0148	ilmenite	0	0.032	0	48.54	0.047	0.02	0.82	0.310	49.42	0.04	0.03	0.07	0	0.06	0.36	99.74
690	92MOB0148	ilmenite	0	0.024	0.01	46.26	0.036	0.01	0.22	1.230	51.77	0.22	0.03	0.05	0	0.10	0.58	100.53
691	92MOB0148	ilmenite	0	0.041	0	45.58	0.036	0.02	2.41	0.350	51.85	0.06	0	0.03	0	0.06	0.37	100.81
692	92MOB0148	amphibole	1.510	43.255	1.30	16.27	9.263	11.64	0.37	11.219	1.64	0.05	0.02	0.03	0	0.04	0.08	96.69
693	92MOB0148	ilmenite	0	0.032	0	49.95	0.038	0.01	0.46	0.592	48.41	0.05	0.04	0.05	0	0.11	0.52	100.25
694	92MOB0148	ilmenite	0.044	0.039	0	46.18	0.580	0.02	0.66	0.562	51.60	0.09	0.02	0.39	0	0.07	0.43	100.68
695	92MOB0148	ilmenite	0	0.041	0	46.22	0.038	0.02	0.15	1.002	52.84	0.08	0.02	0	0	0.07	0.41	100.90
696	92MOB0151	ilmenite	0	0.032	0.01	51.16	0.030	0.01	0.41	0.103	47.50	0.12	0.03	0.08	0	0.06	0.70	100.25
697	92MOB0151	amphibole	1.297	42.549	1.48	16.72	10.362	12.08	0.33	10.012	2.27	0.08	0.04	0	0	0.03	0.11	97.37
698	92MOB0151	ilmenite	0	0.019	0.01	56.61	0.042	0	0.66	0.366	39.80	0.40	0.03	0.04	0	0.07	0.86	98.89
699	92MOB0151	ilmenite	0	0.030	0	48.27	0.060	0	1.03	0.496	50.05	0.04	0.02	0	0	0.05	0.43	100.49
700	92MOB0151	magnetite	0	0.032	0.01	75.90	0.077	0	0.15	0.038	13.39	0.25	0.02	0.03	0	0.07	0.47	90.42
701	92MOB0151	ilmenite	0	0.028	0	48.43	0.047	0.01	0.69	0.600	49.26	0.09	0.04	0.04	0	0.06	0.52	99.82
702	92MOB0151	ilmenite	0	0.017	0.01	47.16	0.042	0.02	0.33	0.154	52.17	0.05	0.03	0.03	0	0.04	0.41	100.46
703	92MOB0151	hematite	0	0.406	0.01	89.20	0.198	0.02	0.07	0.013	0.10	0.06	0.05	0.06	0	0.11	0.18	90.46
704	92MOB0151	Cr-diopside	0.755	52.445	0.01	4.14	2.723	23.58	0.16	15.365	0.09	0.93	0.12	0.03	0	0.03	0	100.36
705	92MOB0151	Cr-diopside	0.842	52.543	0	2.30	2.434	23.71	0.07	15.945	0.17	1.65	0.07	0	0	0	0.08	99.84
706	92MOB0151	Cr-diopside	1.659	52.678	0.01	3.84	3.169	21.80	0.11	14.902	0.25	1.40	0.07	0	0	0	0	99.93
707	92MOB0151	Cr-diopside	0.706	52.780	0	3.77	2.436	23.80	0.10	15.595	0.09	0.55	0.04	0	0	0	0.06	99.96
708	92MOB0151	Cr-diopside	1.572	52.770	0.01	3.30	2.885	22.01	0.11	15.071	0.09	1.33	0.07	0	0	0	0	99.29
709	92MOB0151	Cr-diopside	0.814	52.545	0	4.21	1.969	22.89	0.20	15.501	0.23	1.27	0.12	0	0	0.04	0	99.81
710	92MOB0151	garnet	0	38.469	0.01	16.12	20.783	23.49	0.24	1.423	0.29	0.10	0	0	0	0.03	0	100.99
712	92MOB0151	ilmenite	0	0.024	0	48.47	0.053	0.01	0.48	0.655	49.29	0.05	0.03	0	0	0.08	0.31	99.47
713	92MOB0151	amphibole	1.432	43.565	0.60	18.17	10.107	11.56	0.24	9.906	1.74	0.13	0.03	0.05	0	0.05	0.10	97.67
714	92MOB0151	ilmenite	0	0.015	0	45.53	0.023	0.01	1.59	0.041	52.28	0.03	0.03	0.08	0	0.06	0.32	100.01
715	92MOB0151	ilmenite	0	0.021	0.01	49.79	0.036	0.01	0.38	0.368	48.11	0.09	0.03	0.09	0	0.05	0.44	99.41
716	92MOB0151	ilmenite	0	0.032	0	46.60	0.045	0.02	2.45	0.048	50.34	0.10	0.02	0.04	0	0.03	0.44	100.17
717	92MOB0151	ilmenite	0	0.011	0	47.50	0.030	0.01	2.32	0.179	49.31	0.07	0	0.06	0	0.06	0.36	99.91
718	92MOB0151	magnetite	0	0.051	0	83.84	0.089	0.01	0.13	0.038	7.43	0.20	0.03	0.03	0	0.07	0.35	92.26
719	92MOB0151	chromite	0.013	0.036	0	29.13	19.750	0	0.39	8.811	0.09	40.46	0.12	0.19	0	0.15	0.11	99.26
720	92MOB0151	spinel	0.046	0.049	0.01	21.83	33.683	0.02	0.25	12.305	0.13	30.58	0.18	0.54	0	0.13	0.06	99.80
721	92MOB0151	ilmenite	0	0.043	0	46.34	0.030	0.02	1.14	0.267	52.15	0.12	0.02	0.09	0	0.06	0.50	100.78
722	92MOB0151	ilmenite	0	0.081	0	49.55	0.036	0.05	0.34	0.028	43.95	0.10	0.02	0.03	0	0.08	0.36	94.62
723	92MOB0151	alt.ilmen.	0	0.051	0	30.72	0.043	0.04	0.16	0	60.00	0.05	0.03	0.03	0	0.04	0.59	91.77
724	92MOB0151	ilmenite	0	0.019	0	49.47	0.025	0.02	2.27	0.166	47.18	0.08	0.02	0.03	0	0.08	0.42	99.77
725	92MOB0151	amphibole	1.464	41.139	0.95	20.16	11.823	11.57	0.32	7.946	1.17	0.19	0.03	0	0	0.05	0.07	96.91
726	92MOB0151	ilmenite	0	0.041	0	51.67	0.036	0.02	1.38	0.217	44.59	0.08	0	0.06	0	0.08	0.29	98.47
727	92MOB0151	ilmenite	0	0.032	0	47.32	0.034	0.01	0.58	0.662	51.65	0.09	0.02	0.05	0	0.06	0.37	100.88
728	92MOB0151	ilmenite	0	0.043	0	45.22	0.030	0	4.59	0.229	49.43	0.33	0	0.06	0	0.04	0.54	100.51
729	92MOB0151	ilmenite	0	0.086	0.01	48.56	0.043	0	0.57	0.302	48.73	0.07	0.03	0.07	0	0.05	0.42	98.94

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
730	92MOB0151	chromite	0.007	0.017	0	23.93	9.149	0.01	0.46	6.568	0.15	58.94	0.06	0.29	0	0.11	0.13	99.81
731	92MOB0151	ilmenite	0	0.034	0	47.91	0.032	0.02	2.30	0.023	48.78	0.15	0.02	0.03	0	0.08	0.87	100.23
732	92MOB0151	ilmenite	0	0.036	0	46.65	0.026	0.03	1.07	0.139	52.22	0.04	0.03	0.04	0	0.07	0.34	100.68
733	92MOB0154	ilmenite	0	0.049	0	48.26	0.045	0.01	0.57	0.250	50.39	0.11	0.02	0.05	0	0.07	0.57	100.40
734	92MOB0154	ilmenite	0	0.034	0	47.27	0.053	0.01	0.53	0.542	51.29	0.08	0.03	0.04	0	0.06	0.49	100.44
735	92MOB0154	amphibole	1.504	40.752	2.15	15.42	12.193	11.81	0.20	10.606	2.02	0.07	0.02	0.03	0	0.05	0.07	96.89
736	92MOB0154	ilmenite	0	0.024	0	49.28	0.028	0	0.29	0.080	49.77	0.06	0.02	0.03	0	0.04	0.49	100.11
737	92MOB0154	ilmenite	0	0.028	0	46.99	0.036	0.01	0.54	0.244	51.78	0.17	0.02	0.04	0	0.04	0.64	100.54
738	92MOB0154	alt.ilmen.	0	0.520	0.02	26.18	0.238	0.14	0.05	0.095	63.66	0.09	0	0.03	0	0.08	0.50	91.60
739	92MOB0154	magnetite	0	0.036	0	79.17	0.212	0	0.06	0.103	12.43	0.39	0.04	0.04	0	0.11	0.77	93.36
740	92MOB0154	alt.ilmen.	0	0.182	0.01	27.46	0.308	0.10	0.42	0.119	63.21	0.06	0.02	0.04	0	0.05	0.49	92.46
741	92MOB0154	ilmenite	0	0.021	0	46.00	0.017	0.03	4.21	0.075	49.27	0.07	0.04	0.05	0	0.05	0.41	100.25
742	92MOB0154	orthopyrox.	0	56.079	0.01	7.92	1.064	0.29	0.19	34.079	0.06	0.40	0.16	0	0	0	0	100.26
743	92MOB0154	Cr-diopside	1.092	53.127	0.01	2.60	2.065	23.08	0.09	15.917	0.09	1.43	0.07	0	0	0	0.08	99.67
744	92MOB0154	Cr-diopside	0.756	52.877	0.01	3.67	2.322	23.16	0.13	15.746	0.23	0.82	0.06	0	0	0	0	99.84
745	92MOB0154	Cr-diopside	0.783	52.132	0.01	3.57	2.963	23.56	0.13	15.326	0.17	0.84	0.08	0	0	0.04	0	99.65
746	92MOB0154	Cr-diopside	0.802	53.578	0.01	3.55	1.820	20.79	0.15	17.918	0.13	1.27	0.10	0	0	0	0.07	100.20
747	92MOB0154	Cr-diopside	1.035	52.971	0	2.86	1.856	23.34	0.10	15.736	0.15	1.42	0.08	0	0	0	0	99.60
748	92MOB0154	Cr-diopside	0.840	53.891	0	3.24	1.485	23.15	0.14	16.160	0.09	0.95	0.15	0	0	0.03	0	100.14
749	92MOB0154	garnet	0	36.033	0	21.06	10.069	30.26	0.46	0.103	0.58	0.03	0	0	0	0.07	0.08	98.75
750	92MOB0154	amphibole	1.568	41.083	0.45	15.78	14.831	11.59	0.28	8.979	0.76	0.12	0.04	0.03	0	0.04	0.91	96.45
751	92MOB0154	ilmenite	0	0.032	0	46.75	0.030	0.02	0.33	0.735	52.06	0.16	0.03	0	0	0.06	0.55	100.77
752	92MOB0154	ilmenite	0	0.060	0.01	47.30	0.070	0.03	1.27	0.474	50.49	0.15	0.04	0.05	0	0.03	0.34	100.31
753	92MOB0154	ilmenite	0	0.043	0	45.55	0.040	0	2.86	0.133	50.98	0.07	0	0.07	0	0.08	0.36	100.20
754	92MOB0154	ilmenite	0	0.034	0.01	49.32	0.032	0.02	0.90	0.285	49.04	0.06	0	0.09	0	0.04	0.55	100.40
755	92MOB0154	ilmenite	0	0.015	0.01	47.71	0.030	0.02	0.65	0.104	51.46	0.19	0.03	0	0	0.07	0.46	100.75
757	92MOB0154	magnetite	0	0.036	0	80.78	0.098	0	0.07	0.050	11.61	0.39	0.04	0.04	0	0.11	1.31	94.52
758	92MOB0154	alt.ilmen.	0	0.032	0	39.96	0.040	0.01	0.50	0.156	53.20	0.05	0.02	0.07	0	0.07	0.43	94.53
759	92MOB0154	ilmenite	0	0.026	0	46.43	0.047	0	0.49	0.650	51.99	0.23	0.03	0.05	0	0.08	0.51	100.53
760	92MOB0154	ilmenite	0	0.028	0	46.68	0.030	0.01	1.23	0.126	51.90	0.05	0.02	0.04	0	0.06	0.35	100.53
761	92MOB0154	ilmenite	0	0.039	0	45.93	0.051	0.02	0.58	1.380	51.61	0.12	0	0.06	0	0.03	0.68	100.51
762	92MOB0154	ilmenite	0	0.041	0	48.29	0.062	0.01	0.13	0.441	50.83	0.17	0.03	0	0	0.05	0.63	100.70
763	92MOB0085	ilmenite	0.007	0.019	0	44.40	0.047	0.01	1.42	0.330	53.14	0.03	0.02	0.25	0	0.07	0.33	100.07
764	92MOB0085	amphibole	1.499	39.483	1.74	24.07	10.326	11.52	0.51	5.860	1.64	0.04	0.03	0.05	0	0	0.11	96.89
765	92MOB0085	spinel	1.170	0.032	0.01	30.95	55.037	0	0.05	2.182	0.04	1.75	0.10	9.38	0	0.09	0.25	101.04
766	92MOB0085	alt.ilmen.	0	0.060	0	28.96	0.068	0.05	6.54	0.065	58.50	0.03	0.03	0.13	0	0.05	0.44	94.92
767	92MOB0085	magnetite	0	0.019	0.01	78.84	0.123	0.01	0.51	0.196	11.90	0.20	0	0	0	0.08	0.29	92.21
769	92MOB0085	ilmenite	0	0.032	0.01	47.15	0.040	0.03	0.44	0.073	51.79	0.06	0.02	0.06	0	0.04	0.33	100.07
770	92MOB0085	alt.ilmen.	0	0.135	0.01	28.73	0.166	0.05	0.53	0.131	61.92	0.15	0.02	0.09	0	0	0.52	92.45
771	92MOB0085	alt.ilmen.	0.009	0.537	0.01	12.47	0.312	0.19	0.05	0.022	81.08	0.12	0.02	0	0	0.03	0.66	95.53
772	92MOB0085	amphibole	1.361	40.608	1.13	22.01	12.065	11.31	0.50	6.992	0.94	0.04	0	0.03	0	0.03	0.06	97.08
773	92MOB0085	ilmenite	0	0.041	0	44.95	0.053	0.01	1.28	0.217	53.15	0.03	0.02	0.17	0	0.04	0.27	100.24
774	92MOB0085	ilmenite	0	0.024	0.01	46.09	0.049	0.01	1.49	0.033	52.43	0.06	0	0.10	0	0.06	0.38	100.73
776	92MOB0085	alt.ilmen.	0.013	0.143	0.01	30.71	0.221	0.08	1.33	0.134	58.97	0.24	0	0	0	0.04	0.44	92.36
777	92MOB0085	ilmenite	0	0.019	0	45.01	0.057	0.01	0.36	1.549	52.45	0.06	0.03	0.04	0	0.08	0.40	100.06
778	92MOB0085	ilmenite	0.015	0.032	0	43.71	0.043	0.02	1.40	0.303	53.87	0.04	0.03	0.15	0	0.09	0.35	100.05
779	92MOB0085	spinel	0	3.076	0	41.65	0.344	2.98	1.70	0.053	50.36	0.11	0.02	0.04	0	0.06	0.81	101.20

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	CoO	V2O3	TOTAL
780	92MOB0085	ilmenite	0	0.030	0.01	45.73	0.042	0.02	0.50	0.632	52.24	0.14	0.02	0.06	0	0.07	0.58	100.08
781	92MOB0085	ilmenite	0	0.017	0.01	46.61	0.049	0	1.63	0.124	51.55	0.03	0.02	0.03	0	0.08	0.31	100.47
782	92MOB0085	alt.ilmen.	0	0.635	0.01	33.36	0.317	0.09	0.50	0.066	58.62	0.02	0	0.05	0	0.07	0.42	94.14
783	92MOB0085	ilmenite	0	0.041	0	41.17	0.055	0.03	2.85	0.118	53.35	0.04	0.03	0.05	0	0	0.34	98.07
784	92MOB0085	magnetite	0	0.030	0	72.81	0.100	0	0.31	0.033	18.55	0.55	0.05	0.04	0	0.10	0.47	93.05
785	92MOB0085	ilmenite	0	0.064	0.01	45.26	0.043	0.02	0.16	0.788	51.59	0.15	0.04	0.08	0	0.07	0.58	98.86
786	92MOB0085	ilmenite	0	0.028	0.01	46.23	0.045	0	0.15	0.759	52.88	0.09	0.05	0.06	0	0.06	0.47	100.83
787	92MOB0085	ilmenite	0	0.071	0	43.83	0.051	0.03	0.25	0.163	54.68	0.13	0.02	0	0	0.06	0.68	99.99
788	92MOB0090	magnetite	0	0.032	0	76.63	0.125	0	0.07	0.108	16.13	0.42	0.03	0.03	0	0.06	0.42	94.05
789	92MOB0090	magnetite	0	0.053	0	82.43	0.121	0	0.11	0.041	17.97	0.29	0.05	0	0	0.06	0.39	101.50
790	92MOB0090	magnetite	0	0.041	0	79.02	0.149	0.01	0.48	0.088	12.58	0.21	0.02	0.04	0	0.07	0.24	92.93
791	92MOB0090	magnetite	0.142	1.230	0.01	74.61	0.312	0.07	0.18	0.088	17.25	0.56	0.03	0	0	0.06	0.49	95.03
792	92MOB0090	alt.ilmen.	0.044	0.066	0	29.69	0.085	0.02	7.44	0.076	55.96	0.06	0	0.56	0.11	0.03	0.35	94.50
793	92MOB0090	alt.ilmen.	0.051	0.415	0.01	31.45	0.283	0.06	0.53	0.226	59.20	0.06	0.02	0.46	0	0	0.43	93.22
794	92MOB0090	ilmenite	0.026	0.043	0.01	44.87	0.053	0.02	2.37	0.053	52.26	0.06	0.02	0.25	0	0.07	0.43	100.52
795	92MOB0090	alt.ilmen.	0.013	0.289	0.04	28.00	0.283	0.14	0.36	0.433	62.56	0.16	0.03	0	0	0.04	0.72	93.09
796	92MOB0090	ilmenite	0	0.028	0.01	46.90	0.040	0.01	0.47	0.068	52.23	0.06	0.03	0.07	0	0.08	0.45	100.43
797	92MOB0090	magnetite	0	0.045	0	82.48	0.149	0	0.16	0.018	9.01	0.14	0.03	0.03	0	0.04	0.32	92.41
798	92MOB0090	magnetite	0	0.034	0	80.82	0.115	0	0.38	0.018	10.54	0.31	0.04	0	0	0.08	0.33	92.68
799	92MOB0090	ilmenite	0	0.030	0.01	47.11	0.032	0.01	0.33	0.078	51.98	0.08	0.03	0.05	0	0.05	0.42	100.19
800	92MOB0090	ilmenite	0	0.034	0	51.69	0.081	0	1.17	0.093	41.20	0.06	0.05	0.05	0	0.05	0.40	94.88
801	92MOB0090	ilmenite	0	0.028	0	46.24	0.036	0.01	0.13	0.821	52.55	0.10	0.03	0.14	0	0.07	0.42	100.58
802	92MOB0090	ilmenite	0	0.028	0	47.12	0.049	0.02	0.14	0.255	52.22	0.06	0.04	0.09	0	0.06	0.34	100.41
803	92MOB0090	ilmenite	0.015	0.017	0	45.45	0.051	0.02	0.46	0.078	51.55	0.07	0.02	0.04	0	0.08	0.37	98.21
804	92MOB0090	ilmenite	0.008	0.021	0.01	46.35	0.042	0.02	0.22	0.420	52.42	0.10	0.02	0.27	0	0.07	0.56	100.52
806	92MOB0090	ilmenite	0	0.045	0	46.75	0.057	0	2.74	0.012	48.87	0.04	0.03	0	0.28	0.04	0.34	99.21
807	92MOB0090	ilmenite	0	0.024	0.01	45.69	0.062	0.01	0.15	0.713	52.53	0.13	0.04	0.16	0	0.08	0.50	100.10
808	92MOB0090	alt.ilmen.	0	0.124	0	36.50	0.098	0.03	8.26	0.073	55.10	0.06	0.03	0.03	0	0.08	0.45	100.81
810	92MOB0090	ilmenite	0	0.034	0	43.89	0.081	0.01	1.91	0.149	53.38	0.04	0.03	0.12	0	0.07	0.38	100.10
811	92MOB0090	magnetite	0	0.024	0	80.63	0.223	0.01	0.15	0.075	10.70	0.30	0.03	0	0	0.06	0.41	92.62
813	92MOB0093	ilmenite	0	0.032	0.01	46.51	0.087	0	0.20	0.287	52.32	0.13	0.04	0	0	0.08	0.64	100.35
814	92MOB0093	alt.ilmen.	0	0.272	0.01	30.94	0.183	0.06	2.63	0.134	58.96	0.05	0.02	0.16	0	0.06	0.35	93.82
815	92MOB0093	magnetite	0	0.028	0	80.11	0.204	0	0.19	0.070	11.50	0.25	0.04	0	0	0.04	0.44	92.86
816	92MOB0093	alt.ilmen.	0	0.032	0.01	45.54	0.093	0.01	0.04	0	37.10	0.34	0.02	0	0	0.09	0.35	83.62
817	92MOB0093	ilmenite	0	0.034	0	48.71	0.045	0.03	2.86	0.194	47.46	0.08	0.04	0	0	0.06	0.33	99.87
818	92MOB0093	magnetite	0	0.024	0.01	73.37	0.093	0.01	0.41	0.154	20.17	0.39	0	0.05	0	0.11	0.39	95.19
819	92MOB0093	ilmenite	0	0.058	0	61.36	0.096	0	1.52	0.305	36.62	0.04	0.03	0.05	0	0.09	0.36	100.53
820	92MOB0093	spinel	0.307	0.015	0	32.25	57.986	0.01	0.05	5.792	0.05	0.44	0.04	2.68	0	0.09	0.53	100.24
821	92MOB0093	alt.ilmen.	0.024	0.139	0.01	34.26	0.176	0.04	0.62	0.380	57.88	0.10	0.03	0.31	0	0.09	0.60	94.65
822	92MOB0093	ilmenite	0	0.039	0	42.23	0.045	0	6.94	0.027	49.82	0.05	0.02	0.17	0	0.06	0.38	99.77
823	92MOB0093	ilmenite	0	0.045	0	46.52	0.038	0.03	1.45	0.119	51.09	0.04	0.02	0.09	0	0	0.37	99.83
824	92MOB0093	magnetite	0	0.030	0.01	83.01	0.163	0	0.07	0.048	8.51	0.17	0.06	0.03	0	0.12	0.34	92.55
825	92MOB0093	alt.ilmen.	0	0.321	0.01	28.79	0.180	0.11	0.08	0.172	63.07	0.15	0.03	0.06	0	0.07	0.52	93.57
826	92MOB0093	ilmenite	0	0.019	0	46.79	0.040	0.01	0.63	0.522	51.57	0.08	0.04	0.04	0	0.07	0.53	100.35
827	92MOB0093	magnetite	0	0.056	0	75.76	0.127	0	0.05	0.025	15.52	0.44	0.02	0.04	0	0.04	0.42	92.49
828	92MOB0093	ilmenite	0	0.026	0	46.22	0.038	0	0.19	0.905	52.70	0.05	0.02	0.05	0	0.07	0.38	100.65
829	92MOB0093	ilmenite	0.015	0.039	0	43.38	0.045	0.01	3.61	0.050	52.60	0.13	0.04	0.27	0	0.08	0.53	100.78

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
830	92MOB0093	magnetite	0	0.047	0	83.33	0.189	0	0.14	0.012	8.30	0.11	0.04	0	0	0.06	0.22	92.45
831	92MOB0093	magnetite	0	0.034	0.01	81.57	0.145	0.01	0.24	0.028	10.19	0.17	0.03	0.04	0	0.08	0.30	92.84
832	92MOB0093	magnetite	0	0.047	0.01	78.03	0.149	0.02	0.26	0.119	13.92	0.65	0.03	0.04	0	0.08	0.49	93.83
833	92MOB0093	magnetite	0	0.039	0.01	72.88	0.138	0	0.13	0.267	19.16	0.23	0.03	0	0	0.09	0.47	93.44
834	92MOB0093	magnetite	0	0.028	0.01	85.03	0.123	0	0.16	0.012	6.55	0.05	0.02	0.03	0	0.11	0.15	92.26
835	92MOB0093	ilmenite	0	0.028	0.01	46.58	0.066	0.01	0.88	0.108	52.38	0.05	0.03	0.12	0	0.03	0.36	100.65
836	92MOB0093	magnetite	0	0.047	0.01	80.41	0.147	0.01	0.06	0.013	11.58	0.44	0.05	0.05	0	0.12	0.47	93.40
837	92MOB0093	ilmenite	0	0.041	0.01	48.44	0.098	0.02	0.99	0.041	49.69	0.04	0.04	0.08	0	0.04	0.32	99.84
838	92MOB0093	ilmenite	0	0.028	0	46.52	0.087	0.02	0.54	0.388	52.58	0.09	0.03	0.09	0	0.07	0.34	100.78
839	92MOB0093	magnetite	0	0.047	0.01	77.91	0.229	0	0.47	0.030	14.45	0.17	0.04	0.03	0	0.04	0.31	93.73
840	92MOB0093	ilmenite	0	0.032	0	45.44	0.076	0.02	3.33	0.023	50.37	0.04	0.02	0.04	0	0.07	0.32	99.78
841	92MOB0093	ilmenite	0	0.017	0.02	46.69	0.036	0.02	0.15	0.400	52.31	0.11	0.03	0.03	0	0.07	0.48	100.36
842	92MOB0243	magnetite	0	0.024	0.01	78.87	0.110	0	0.12	0.055	11.60	0.17	0.04	0.08	0	0.11	0.28	91.46
843	92MOB0243	magnetite	0	0.026	0	78.94	0.127	0.01	0.13	0.060	11.39	0.19	0.03	0.03	0	0.06	0.34	91.32
844	92MOB0243	magnetite	0	0.026	0	77.46	0.127	0.02	0.14	0.096	16.00	0.08	0.05	0.04	0	0.10	0.47	94.59
845	92MOB0243	ilmenite	0	0.028	0.01	48.50	0.072	0.01	0.62	0.323	50.22	0.03	0.02	0.04	0	0.07	0.38	100.31
846	92MOB0243	magnetite	0	0.041	0.01	82.04	0.200	0.01	0.11	0.027	10.33	0.27	0.02	0.03	0	0.08	0.36	93.52
847	92MOB0243	magnetite	0	0.043	0.01	82.58	0.174	0	0.31	0.119	8.49	0.18	0.05	0.04	0	0.07	0.27	92.33
848	92MOB0243	magnetite	0	0.043	0	73.36	0.125	0.01	1.08	0.046	21.82	0.14	0.04	0.04	0	0.08	0.29	97.07
849	92MOB0243	ilmenite	0.016	0.026	0	46.33	0.025	0.03	0.43	0.300	52.40	0.16	0.03	0.24	0	0.05	0.55	100.59
850	92MOB0243	ilmenite	0.008	0.039	0	44.13	0.049	0.02	0.18	0.824	53.63	0.08	0.05	0.16	0	0.09	0.44	99.70
851	92MOB0243	magnetite	0	0.028	0.01	77.41	0.098	0.01	0.58	0.056	13.97	0.17	0.02	0	0	0.08	0.37	92.82
852	92MOB0243	ilmenite	0	0.030	0	45.44	0.042	0.01	2.89	0.053	52.01	0.05	0	0.04	0	0.05	0.39	101.03
853	92MOB0243	magnetite	0	0.043	0.01	81.09	0.164	0	0.08	0.025	11.02	0.26	0.03	0.03	0	0.08	0.25	93.07
854	92MOB0243	magnetite	0.197	0.049	0.01	82.23	0.106	0	0.17	0.124	6.78	0.25	0.04	0.06	0	0.09	0.32	90.42
855	92MOB0243	alt.ilmen.	0	0.041	0.01	32.31	0.032	0.04	0.20	0.307	58.93	0.04	0.02	0.03	0	0.03	0.42	92.40
856	92MOB0243	magnetite	0	0.032	0	77.46	0.342	0.02	0.19	0.046	11.50	0.16	0.04	0.03	0	0.07	0.24	90.12
857	92MOB0243	ilmenite	0	0.013	0	52.37	0.094	0	0.45	0.902	44.15	0.08	0.03	0.04	0	0.07	0.60	98.78
858	92MOB0243	magnetite	0	0.032	0	81.10	0.206	0	0.13	0.076	9.38	0.12	0.04	0	0	0.10	0.35	91.53
859	92MOB0243	ilmenite	0	0.051	0	46.58	0.051	0.02	0.72	0.184	51.79	0.09	0.02	0.05	0	0.06	0.63	100.23
860	92MOB0243	magnetite	0	0.028	0	80.24	0.128	0.01	0.11	0.036	10.81	2.11	0	0.04	0	0.07	0.35	93.94
861	92MOB0243	magnetite	0.186	0.045	0.01	73.85	6.247	0	0.20	0.857	10.36	0.23	0.05	0.79	0	0.10	0.20	93.11
862	92MOB0243	ilmenite	0	0.071	0.01	46.73	0.053	0.01	0.84	0.075	51.28	0.05	0.03	0.05	0	0.06	0.46	99.71
863	92MOB0243	ilmenite	0	0.026	0	49.84	0.055	0.03	1.70	0.098	46.17	0.05	0.02	0.06	0	0.04	0.44	98.52
864	92MOB0243	magnetite	0.015	0.058	0	79.45	0.134	0	0.16	0.055	10.45	0.21	0.03	0.05	0	0.08	0.25	90.95
865	92MOB0243	magnetite	0	0.111	0.01	72.88	0.191	0.01	0.07	0.058	14.63	0.21	0.03	0	0	0.09	0.29	88.58
866	92MOB0243	alt.ilmen.	0	0.094	0.01	39.66	0.081	0.04	0.14	0.182	53.36	0.12	0	0.04	0	0	0.72	94.46
867	92MOB0243	ilmenite	0	0.017	0	48.08	0.060	0.02	0.66	0.076	50.82	0.05	0	0	0	0.03	0.36	100.21
868	92MOB0243	ilmenite	0	0.036	0	45.95	0.042	0	3.62	0.315	49.71	0.03	0.02	0.07	0	0.04	0.36	100.18
869	92MOB0243	magnetite	0	0.034	0	82.85	0.102	0	0.41	0.111	8.70	0.21	0.05	0	0	0.12	0.26	92.86
870	92MOB0243	magnetite	NA	0.030	NA	80.68	0.110	0	0.05	0.010	9.49	0.14	0.06	0.08	NA	0.07	0.29	91.01
871	92MOB0243	magnetite	0	0.028	0.01	83.50	0.280	0	0.16	0.038	7.74	0.16	0.03	0.04	0	0.11	0.26	92.35
872	92MOB0321	garnet	0	38.266	0.01	8.53	19.954	32.23	0.39	0.219	0.25	0.04	0.03	0	0	0.05	0.07	100.03
873	92MOB0321	garnet	0	38.850	0	5.06	20.623	34.98	0.44	0.104	0.31	0.03	0	0	0	0	0	100.47
874	92MOB0321	pyroxene	0.589	53.204	0	5.60	1.593	22.48	0.18	16.102	0.13	0.48	0.05	0.04	0	0	0	100.50
875	92MOB0321	pyroxene	0.069	52.530	0	10.62	0.503	25.27	0.24	11.423	0.04	0.35	0.11	0	0	0.05	0	101.21
876	92MOB0321	pyroxene	0.171	53.037	0.01	6.23	0.752	25.32	0.19	14.373	0.03	0.08	0.17	0	0	0.03	0	100.40

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
877	92MOB0321	pyroxene	0.306	52.434	0.01	7.44	0.977	24.58	0.26	13.434	0.03	0.45	0.12	0	0	0	0	100.07
878	92MOB0321	pyroxene	0.287	53.240	0	2.98	2.778	24.39	0.12	17.019	0.17	0.47	0.05	0	0	0	0	101.55
879	92MOB0321	garnet	0	36.634	0.01	8.66	9.688	32.65	0.45	0.103	0.35	10.62	0	0	0	0	0.35	99.55
880	92MOB0321	magnetite	0	0.088	0	80.51	0.240	0.01	0.32	0.151	10.02	0.34	0.05	0	0	0.12	0.24	92.10
881	92MOB0321	magnetite	0	0.062	0.01	75.85	0.163	0.01	0.37	0.063	14.31	0.04	0.04	0.04	0	0.09	0.17	91.22
882	92MOB0321	ilmenite	0	0.034	0.01	49.60	0.060	0	1.02	0.390	48.31	0.13	0.03	0.03	0	0.07	0.52	100.19
883	92MOB0321	ilmenite	0	0.175	0	47.21	0.040	0.02	0.91	0.133	51.66	0.05	0	0.03	0	0.05	0.37	100.65
884	92MOB0321	ilmenite	0	0.015	0	50.03	0.053	0.01	1.10	0.476	47.96	0.03	0.03	0.06	0	0.04	0.42	100.22
885	92MOB0321	alt.ilmen.	0	0.030	0.01	45.58	0.083	0	0.09	0	58.34	0.13	0.03	0.03	0	0.04	0.52	104.88
886	92MOB0321	magnetite	0	0.045	0	81.16	0.166	0	0.20	0.124	10.07	0.36	0.05	0	0	0.08	0.30	92.56
887	92MOB0321	magnetite	0	0.026	0	81.46	0.145	0	0.18	0.104	10.38	0.28	0.05	0.03	0	0.06	0.27	92.98
888	92MOB0321	ilmenite	0	0.028	0.01	47.48	0.040	0.01	0.53	0.315	51.21	0.07	0.02	0.03	0	0.06	0.96	100.76
889	92MOB0321	magnetite	0	0.045	0	81.40	0.140	0.01	0.20	0.056	9.67	0.17	0.04	0.05	0	0.10	0.31	92.18
890	92MOB0321	hematite	0	0.299	0.01	88.00	0.161	0.04	0.06	0.050	0.12	0.29	0.10	0.03	0	0.14	0.23	89.52
891	92MOB0321	alt.ilmen.	0	0.374	0.01	55.20	0.321	0.12	0.09	0.041	30.63	0.27	0.03	0.05	0	0.08	0.41	87.62
892	92MOB0321	magnetite	0	0.049	0.01	83.07	0.085	0	0.11	0.048	8.10	0.27	0.04	0.03	0	0.09	0.30	92.18
893	92MOB0321	magnetite	0	0.030	0.01	80.95	0.240	0	0.17	0.046	10.70	0.11	0.03	0.04	0	0.06	0.28	92.66
894	92MOB0321	magnetite	0	0.015	0	72.92	0.093	0	0.10	0.051	21.78	0.03	0.03	0.05	0	0.12	0.19	95.38
895	92MOB0321	magnetite	0	0.032	0.01	79.43	2.496	0	0.13	0.093	9.24	0.31	0.03	0.05	0	0.09	0.35	92.26
896	92MOB0321	ilmenite	0	0.030	0	46.23	0.049	0.01	0.83	0.532	52.13	0.04	0.03	0.05	0	0	0.43	100.39
897	92MOB0321	ilmenite	0	0.026	0.01	47.73	0.049	0.01	0.38	0.824	50.08	0.24	0.05	0.06	0	0.09	0.62	100.16
898	92MOB0321	magnetite	0	0.060	0	75.98	0.214	0.03	0.12	0.055	15.63	0.22	0.02	0	0	0.06	0.42	92.81
899	92MOB0321	magnetite	0	0.053	0	83.37	0.119	0.01	0.16	0.076	7.14	0.16	0.02	0	0	0.10	0.35	91.57
900	92MOB0321	magnetite	0	0.017	0	82.73	0.193	0.01	0.24	0.056	9.41	0.21	0	0.04	0	0.08	0.31	93.30
901	92MOB0321	magnetite	0	0.028	0.01	82.27	0.295	0	0.15	0.073	9.34	0.24	0.03	0	0	0.09	0.23	92.76
902	92MOB0321	magnetite	0	0.039	0	72.98	0.094	0.02	0.10	0.051	18.96	0.46	0.05	0	0	0.10	0.35	93.21
903	92MOB0234	ilmenite	0	0.026	0	48.23	0.032	0.02	0.40	0.091	50.51	0.07	0.02	0	0	0.03	0.36	99.81
904	92MOB0234	ilmenite	0	0.030	0	46.09	0.032	0.02	0.77	0.667	52.51	0.11	0	0.08	0	0.03	0.46	100.81
905	92MOB0234	magnetite	0	0.028	0	80.69	0.068	0	0.30	0.050	11.88	0.20	0.03	0.06	0	0.06	0.33	93.68
906	92MOB0234	ilmenite	0	0.028	0.01	49.20	0.053	0	2.28	0.754	47.71	0.04	0.04	0.04	0	0.07	0.39	100.60
907	92MOB0234	magnetite	0	0.032	0	75.72	0.098	0.02	0.51	0.119	16.71	0.21	0.04	0.04	0	0.08	0.44	94.01
908	92MOB0234	magnetite	0	0.051	0.01	73.60	0.200	0	0.69	0.116	17.71	0.16	0.05	0.04	0	0.08	0.33	93.03
909	92MOB0234	ilmenite	0	0.034	0	46.19	0.042	0.01	0.89	1.031	51.73	0.06	0.02	0	0	0.09	0.51	100.60
910	92MOB0234	magnetite	0	0.032	0	82.46	0.113	0	0.36	0.159	8.82	0.26	0.05	0.04	0	0.11	0.21	92.62
911	92MOB0234	magnetite	0	0.043	0.01	80.19	0.212	0	0.12	0.036	11.85	0.19	0.03	0	0	0.10	0.31	93.10
912	92MOB0234	ilmenite	0	0.045	0.01	61.80	0.142	0	0.07	0.013	33.37	0.28	0	0.03	0	0.09	0.43	96.29
913	92MOB0234	magnetite	0	0.036	0	78.68	0.085	0	0.09	0.032	13.90	0.33	0.02	0.03	0	0.08	0.47	93.75
914	92MOB0234	magnetite	0	0.043	0.01	78.61	0.104	0.01	0.09	0.068	17.01	0.15	0.04	0.04	0	0.11	0.40	96.68
915	92MOB0234	ilmenite	0	0.032	0	48.11	0.057	0.01	0.40	0.099	51.38	0.10	0.02	0.03	0	0.09	0.43	100.76
916	92MOB0234	magnetite	0	0.043	0	82.42	0.174	0	0.16	0.056	9.78	0.22	0.04	0.03	0	0.10	0.27	93.29
917	92MOB0234	magnetite	0	0.041	0.01	79.33	0.104	0	0.09	0.035	12.38	0.23	0.04	0.04	0	0.08	0.32	92.68
918	92MOB0234	magnetite	0	0.026	0	81.87	0.266	0	0.20	0.080	9.77	0.14	0.04	0.04	0	0.11	0.40	92.93
919	92MOB0234	magnetite	0	0.043	0.01	79.85	0.153	0	0.09	0.022	11.08	0.46	0.02	0.03	0	0.09	0.48	92.32
920	92MOB0234	hematite	0	0.045	0	90.14	0.060	0	0.05	0	0.26	0.03	0.02	0	0	0.08	0	90.73
921	92MOB0234	magnetite	0	0.034	0	80.90	0.108	0	1.04	0.086	9.79	0.11	0.02	0.03	0	0.08	0.34	92.53
922	92MOB0234	ilmenite	0	0.028	0.01	47.55	0.059	0.01	1.00	0.459	50.35	0.06	0.02	0.06	0	0	0.77	100.41
923	92MOB0234	ilmenite	0	0.036	0.01	48.46	0.042	0.01	0.85	0.129	50.23	0.10	0.03	0.05	0	0.05	0.54	100.53

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
924	92MOB0234	magnetite	0	0.039	0	78.00	0.780	0	0.31	0.212	12.59	0.41	0.04	0.15	0	0.11	0.38	93.02
925	92MOB0234	ilmenite	0	0.021	0	48.33	0.028	0.01	0.76	0.179	50.41	0.05	0.04	0.03	0	0.04	0.42	100.31
926	92MOB0234	magnetite	0.061	0.034	0	79.79	3.516	0	0.13	0.491	8.69	0.17	0.04	0.49	0	0.11	0.23	93.76
927	92MOB0234	hematite	0	0.056	0	89.31	0.344	0	0.10	0.038	0.05	0.19	0.05	0	0	0.11	0.43	90.70
928	92MOB0234	hematite	0.012	0.599	0.03	88.81	0.622	0.01	0.08	0.517	0.03	0.24	0.05	0.03	0	0.11	0.23	91.37
929	92MOB0234	magnetite	0	0.030	0	81.84	0.134	0	0.17	0.038	10.13	0.23	0.04	0.03	0	0.10	0.29	93.03
930	92MOB0234	ilmenite	0	0.019	0.01	47.37	0.087	0.01	3.31	0.045	48.86	0.07	0.03	0.04	0	0.03	0.47	100.34
931	92MOB0234	magnetite	0	0.043	0.01	84.06	0.119	0	0.11	0.050	7.56	0.21	0.05	0	0	0.12	0.32	92.66
932	92MOB0234	ilmenite	0	0.021	0.01	47.03	0.032	0.02	0.20	0.325	51.93	0.06	0.03	0.15	0	0.03	0.35	100.18
933	92MOB0234	ilmenite	0	0.036	0	47.36	0.047	0.01	1.17	0.340	50.50	0.17	0	0.06	0	0.06	0.40	100.17
934	92MOB0234	magnetite	0	0.036	0.01	80.22	0.164	0	0.08	0.010	10.96	0.22	0.06	0	0	0.09	0.40	92.24
935	92MOB0234	magnetite	0	0.026	0	80.12	0.098	0	0.25	0.027	12.20	0.23	0.03	0.06	0	0.07	0.33	93.43
936	92MOB0234	ilmenite	0	0.032	0	51.50	0.028	0.01	1.51	0.061	48.26	0.04	0.02	0.07	0	0.05	0.32	101.89
937	92MOB0234	magnetite	0	0.026	0	81.15	0.153	0	0.06	0.028	11.03	0.54	0.03	0	0	0.07	0.30	93.41
938	92MOB0234	magnetite	0	0.047	0	82.78	0.193	0	0.16	0.104	8.58	0.07	0.04	0	0	0.06	0.20	92.28
939	92MOB0234	magnetite	0	0.032	0	80.92	0.159	0	0.14	0.065	10.97	0.34	0.02	0	0	0.10	0.29	93.05
940	92MOB0237	magnetite	0	0.032	0	82.29	0.212	0	0.23	0.091	8.63	0.29	0.05	0	0	0.07	0.32	92.23
941	92MOB0237	garnet	0	37.057	0.01	31.63	21.259	1.32	0.30	7.419	0.25	0.10	0.02	0.03	0	0.05	0	99.48
942	92MOB0237	amphibole	0.411	54.802	0.10	4.32	2.987	12.52	0.11	21.405	0.08	0.62	0.10	0.03	0	0	0	97.50
943	92MOB0237	magnetite	0	0.019	0	78.89	0.130	0.01	0.09	0.046	13.92	0.22	0.04	0.05	0	0.09	0.35	93.85
944	92MOB0237	ilmenite	0	0.034	0	47.35	0.055	0.01	0.92	0.096	50.88	0.07	0	0.03	0	0.03	0.42	99.90
945	92MOB0237	magnetite	0	0.047	0.01	82.42	0.204	0	0.08	0.053	9.64	0.11	0.03	0.03	0	0.10	0.28	92.99
946	92MOB0237	magnetite	0	0.041	0.01	79.75	0.142	0.01	0.11	0.035	10.18	0.36	0.03	0.05	0	0.06	0.34	91.12
947	92MOB0237	ilmenite	0	0.019	0.01	46.93	0.045	0.01	0.84	0.081	51.89	0.13	0	0	0	0.03	0.65	100.65
948	92MOB0237	ilmenite	0	0.021	0	47.00	0.036	0	0.18	0.255	52.25	0.10	0.04	0.05	0	0.07	0.41	100.40
949	92MOB0237	magnetite	0	0.015	0	74.53	0.096	0.01	0.10	0.085	23.41	0.23	0.07	0.04	0	0.03	0.34	98.96
950	92MOB0237	ilmenite	0	0.028	0	44.70	0.026	0.01	4.14	0.070	50.14	0.08	0.02	0	0	0.03	0.44	99.70
951	92MOB0237	ilmenite	0	0.030	0.01	47.20	0.128	0.02	0.50	0.524	51.01	0.12	0.02	0.12	0	0.05	0.54	100.25
952	92MOB0237	magnetite	0	0.034	0	81.03	0.125	0	0.20	0.114	10.52	0.34	0	0	0	0.08	0.30	92.74
953	92MOB0237	magnetite	NA	0	NA	72.26	0.120	0.02	0.36	0.200	20.04	0.09	0	0.07	NA	0.04	0.34	93.54
954	92MOB0237	magnetite	0	0.030	0	83.20	0.253	0.01	0.16	0.066	8.47	0.20	0.03	0.06	0	0.14	0.21	92.83
955	92MOB0237	ilmenite	0	0.032	0	47.13	0.028	0	0.61	0.237	51.75	0.07	0	0.08	0	0.04	0.61	100.59
956	92MOB0237	alt.ilmen.	0	0.051	0	31.09	0.049	0.02	2.46	0.114	59.49	0.02	0	0.04	0	0.07	0.43	93.83
957	92MOB0237	ilmenite	0	0.135	0.01	43.95	0.070	0.04	1.35	1.705	51.48	0.18	0.06	0.04	0	0.08	0.37	99.47
958	92MOB0237	magnetite	0	0.041	0	77.91	0.166	0	0.26	0.071	14.62	0.23	0.04	0.06	0	0.06	0.27	93.73
959	92MOB0237	magnetite	0	0.039	0.01	81.36	0.132	0	0.17	0.046	10.50	0.42	0.06	0.04	0	0.12	0.27	93.14
960	92MOB0237	magnetite	0	0.030	0	57.03	0.153	0.02	0.05	0.020	25.43	0.20	0.03	0.04	0	0.04	0.33	83.38
961	92MOB0237	magnetite	0	0.036	0	85.11	0.113	0.01	0.17	0.071	5.98	0.24	0.02	0.05	0	0.08	0.27	92.15
962	92MOB0237	magnetite	0	0.034	0.01	80.56	0.100	0	0.10	0.032	10.47	0.13	0.03	0.03	0	0.07	0.32	91.87
963	92MOB0237	alt.ilmen.	0.013	0.289	0.01	32.88	0.157	0.05	0.14	0.060	58.98	0.03	0.02	0.03	0	0.06	0.46	93.18
964	92MOB0237	ilmenite	0	0.015	0.01	46.65	0.042	0.01	0.11	0.605	51.90	0.10	0.04	0.10	0	0.07	0.48	100.12
966	92MOB0237	magnetite	0	0.032	0	82.26	0.348	0	0.28	0.068	8.91	0.17	0.05	0.04	0	0.08	0.28	92.52
967	92MOB0237	alt.ilmen.	0	0.058	0	31.96	0.064	0.02	4.02	0.046	57.96	0.03	0.02	0.06	0	0.04	0.34	94.61
968	92MOB0237	ilmenite	0	0.030	0.01	45.79	0.047	0.01	0.19	0.783	52.31	0.14	0.02	0	0	0.09	0.58	100.01
969	92MOB0237	magnetite	0	0.032	0	82.07	0.134	0	0.18	0.070	9.30	0.23	0.05	0.05	0	0.08	0.29	92.49
970	92MOB0237	magnetite	0	0.032	0	82.32	0.157	0	0.22	0.055	8.75	0.32	0.02	0.03	0	0.09	0.22	92.21
971	92MOB0237	magnetite	0.018	0.028	0	76.34	4.046	0	0.19	0.738	8.78	0.27	0.03	0.10	0	0.07	0.35	90.97

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
972	92MOB0237	ilmenite	0	0.028	0	46.09	0.049	0.02	0.61	0.733	51.51	0.09	0.02	0.04	0	0.09	0.60	99.88
973	92MOB0237	ilmenite	0	0.026	0.01	46.60	0.043	0	0.17	0.643	52.32	0.06	0.03	0.11	0	0.06	0.45	100.52
974	92MOB0237	ilmenite	0	0.024	0	50.48	0.042	0.01	1.07	0.182	46.89	0.06	0	0.05	0	0.08	0.48	99.37
975	92MOB0240	magnetite	0	0.034	0	81.64	0.180	0	0.11	0.036	9.62	0.09	0.03	0.04	0	0.08	0.46	92.33
976	92MOB0240	ilmenite	0	0.028	0	46.71	0.038	0	0.36	0.174	51.90	0.08	0.04	0.11	0	0.08	0.45	99.97
977	92MOB0240	magnetite	0	0.032	0	81.54	0.081	0	0.13	0.036	10.42	0.18	0.04	0	0	0.07	0.19	92.73
978	92MOB0240	magnetite	0	0.045	0	82.49	0.123	0.01	0.21	0.073	9.27	0.21	0.04	0.04	0	0.12	0.26	92.90
979	92MOB0240	magnetite	0	0.274	0.02	78.61	0.304	0.02	0.18	0.032	10.38	0.20	0.04	0	0	0.07	0.25	90.39
980	92MOB0240	magnetite	0	0.049	0.01	82.08	0.180	0	0.16	0.008	9.52	0.22	0.04	0.03	0	0.08	0.29	92.66
981	92MOB0240	ilmenite	0	0.039	0.01	53.18	0.087	0	0.64	0.207	40.15	0.12	0.03	0	0	0.08	0.30	94.88
982	92MOB0240	ilmenite	0	0.036	0	60.86	0.074	0.01	2.51	0.141	33.26	0.04	0.02	0.09	0	0.04	0.26	97.34
983	92MOB0240	ilmenite	0	0.017	0	46.30	0.042	0.02	0.18	0.464	52.14	0.16	0.04	0.10	0	0.08	0.62	100.15
984	92MOB0240	ilmenite	0	0.019	0	46.72	0.045	0	0.13	0.368	52.20	0.12	0.02	0.03	0	0.07	0.51	100.24
985	92MOB0240	magnetite	0	0.028	0	80.35	0.134	0	0.25	0.061	11.03	0.20	0.04	0	0	0.09	0.36	92.56
986	92MOB0240	ilmenite	0	0.019	0	46.84	0.040	0.01	0.71	0.315	51.48	0.05	0.02	0.03	0	0.07	0.46	100.06
987	92MOB0240	ilmenite	0	0.039	0	47.21	0.036	0.01	0.70	0.083	51.33	0.04	0	0.06	0	0	0.40	99.94
988	92MOB0240	magnetite	0	0.090	0.01	83.87	0.378	0.01	0.22	0.119	7.47	0.19	0.04	0	0	0.10	0.24	92.74
989	92MOB0240	ilmenite	0	0.017	0	47.36	0.034	0.03	0.59	0.226	51.16	0.07	0.03	0.03	0	0.08	0.56	100.18
990	92MOB0240	magnetite	0	0.032	0	81.76	0.164	0.01	0.26	0.066	10.67	0.18	0.04	0.03	0	0.06	0.32	93.59
991	92MOB0240	hematite	0	0.389	0.01	89.27	0.187	0.02	0.17	0.050	0.06	0.10	0.06	0.04	0	0.09	0.30	90.74
992	92MOB0240	magnetite	0	0.030	0	76.35	0.147	0	0.16	0.060	14.79	0.20	0.04	0	0	0.09	0.32	92.21
993	92MOB0240	magnetite	0	0.021	0	76.35	0.115	0	0.33	0.219	14.45	0.29	0.04	0	0	0.09	0.31	92.24
994	92MOB0240	magnetite	0	0.043	0	76.03	0.049	0	0.38	0.090	17.54	0.16	0.03	0.03	0	0.10	0.47	94.93
995	92MOB0240	magnetite	0	0.028	0	78.86	0.123	0	0.17	0.080	13.08	0.19	0.03	0.05	0	0.05	0.38	93.03
996	92MOB0179	alt.ilmen.	0.011	0.385	0.01	39.06	0.215	0.10	0.20	0.226	58.25	0.08	0.03	0.03	0	0.05	0.51	99.16
997	92MOB0179	alt.ilmen.	0	0.139	0	30.98	0.111	0.06	3.64	0.207	58.68	0.11	0	0.03	0	0.07	0.35	94.37
999	92MOB0179	alt.ilmen.	0	0.749	0.02	26.72	0.542	0.21	0.07	0.287	65.02	0.19	0.02	0	0	0.05	0.72	94.63
1000	92MOB0179	alt.ilmen.	0	0.781	0.02	20.03	0.654	0.28	0.04	0.285	70.91	0.41	0	0.04	0	0.07	0.92	94.45
1001	92MOB0179	ilmenite	0	0.021	0.01	46.13	0.034	0.01	0.54	0.932	51.81	0.28	0.02	0.06	0	0.09	0.59	100.54
1002	92MOB0179	ilmenite	0	0.039	0.01	45.08	0.060	0.02	0.68	1.522	52.65	0.09	0.04	0.05	0	0.11	0.49	100.81
1003	92MOB0179	alt.ilmen.	0	0.276	0.01	27.31	0.265	0.12	0.83	0.184	65.96	0.19	0.04	0	0	0.04	0.57	95.80
1004	92MOB0179	alt.ilmen.	0.022	0.329	0.01	29.41	0.094	0.09	0.06	0.371	62.27	0.09	0.02	0.04	0	0.03	0.49	93.33
1005	92MOB0179	alt.ilmen.	0	0.753	0.02	26.16	0.416	0.23	0.09	0.181	65.98	0.14	0.03	0	0	0.03	0.79	94.85
1006	92MOB0179	alt.ilmen.	0.024	0.359	0.01	28.39	0.117	0.11	0.38	0.229	64.25	0.08	0.03	0	0	0.03	0.55	94.57
1007	92MOB0179	alt.ilmen.	0.009	3.053	0.14	30.50	0.659	0.19	0	0.927	58.88	0.15	0	0.04	0	0.05	0.57	95.21
1008	92MOB0179	alt.ilmen.	0.011	0.214	0.02	28.51	0.266	0.13	1.07	0.418	62.02	0.19	0.03	0.05	0	0.04	0.60	93.55
1009	92MOB0179	alt.ilmen.	0.015	0.182	0.01	27.12	0.219	0.12	1.83	0.570	62.46	0.13	0	0.05	0	0	0.48	93.18
1010	92MOB0179	alt.ilmen.	0	0.053	0.01	34.04	0.059	0.03	0.53	0.453	58.14	0.10	0.03	0.10	0	0.03	0.54	94.12
1011	92MOB0179	alt.ilmen.	0.007	0.535	0.01	30.36	0.248	0.14	0.15	0.209	62.88	0.09	0	0.03	0	0.06	0.72	95.45
1012	92MOB0179	ilmenite	0	0.030	0	47.09	0.036	0	0.81	0.081	52.02	0.06	0.02	0	0	0	0.44	100.62
1013	92MOB0179	alt.ilmen.	0	0.178	0.01	36.80	0.070	0.05	0.31	0.444	57.22	0.04	0.03	0.03	0	0.05	0.50	95.71
1014	92MOB0179	ilmenite	0	0.030	0.01	49.28	0.034	0.01	1.41	0.461	48.62	0.04	0.02	0.04	0	0.07	0.35	100.36
1015	92MOB0179	alt.ilmen.	0	0.486	0.01	32.74	0.240	0.15	0.17	0.109	60.99	0.06	0	0.05	0	0	0.59	95.62
1016	92MOB0179	ilmenite	0	0.021	0.01	47.43	0.025	0.01	0.79	0.046	51.56	0.05	0	0.06	0	0.08	0.41	100.49
1017	92MOB0179	alt.ilmen.	0	0.073	0.01	32.00	0.060	0.04	0.29	0.164	58.89	0.06	0.02	0.04	0	0.06	0.46	92.15
1018	92MOB0179	alt.ilmen.	0	0.543	0.02	25.13	0.263	0.19	0.11	0.124	66.20	0.13	0.03	0	0	0.06	0.58	93.40
1019	92MOB0228	ilmenite	0	0.026	0.01	50.25	0.045	0	0.95	0.353	47.01	0.04	0.04	0.04	0	0.05	0.38	99.18

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1020	92MOB0228	ilmenite	0	0.030	0	49.97	0.049	0.02	1.14	0.111	47.40	0.07	0.03	0.07	0	0.05	0.46	99.40
1021	92MOB0228	ilmenite	0	0.043	0.01	45.95	0.057	0.02	0.63	0.890	52.13	0.08	0.02	0.07	0	0.04	0.41	100.34
1022	92MOB0228	ilmenite	0	0.047	0	47.12	0.036	0.02	0.51	0.474	51.12	0.18	0.02	0	0	0.04	0.88	100.47
1023	92MOB0228	ilmenite	0	0.030	0.01	47.02	0.066	0.01	0.50	0.501	50.67	0.11	0	0.03	0	0.10	1.16	100.20
1024	92MOB0228	ilmenite	0	0.034	0.01	47.03	0.040	0.02	0.60	0.315	50.75	0.11	0.02	0	0	0.09	1.15	100.16
1025	92MOB0228	garnet	0	38.347	0.01	3.98	21.000	35.29	0.43	0.139	0.26	0.02	0	0	0	0.05	0	99.57
1026	92MOB0228	Cr-diopside	0.772	51.779	0.01	4.31	2.980	23.28	0.14	15.214	0.06	0.76	0.08	0	0	0	0.05	99.46
1027	92MOB0228	ilmenite	NA	0	NA	46.26	0.050	0.04	0.16	0.340	52.81	0	0	0.25	NA	0	0.32	100.25
1028	92MOB0228	ilmenite	0	0.039	0.01	50.48	0.040	0.01	0.95	0.323	45.93	0.08	0.04	0.07	0	0.08	0.39	98.43
1029	92MOB0228	plucked	0.136	0.415	0.15	41.62	0.263	0.03	0.63	0.383	34.65	0.04	0	0.04	0	0.03	0.38	78.77
1030	92MOB0228	ilmenite	0	0.041	0.01	48.02	0.055	0.01	0.56	0.250	49.77	0.08	0.03	0.07	0	0.06	0.61	99.56
1031	92MOB0228	ilmenite	0.651	0.334	0.18	45.56	0.214	0.06	0.52	0.221	49.47	0.08	0.02	0.08	0	0.06	1.03	98.47
1032	92MOB0228	magnetite	0	0.028	0	83.44	0.393	0.01	0.23	0.088	7.32	0.19	0.02	0.03	0	0.08	0.27	92.10
1033	92MOB0228	ilmenite	0	0.017	0.01	47.35	0.049	0.01	0.55	0.342	50.57	0.11	0	0	0	0.05	1.09	100.18
1034	92MOB0228	ilmenite	0	0.098	0	50.27	0.053	0.02	0.22	1.096	47.18	0.07	0.02	0.06	0	0.04	0.50	99.63
1035	92MOB0228	ilmenite	0	0.030	0.01	47.26	0.049	0.02	0.71	0.131	51.62	0.05	0.02	0.04	0	0.07	0.46	100.47
1036	92MOB0228	ilmenite	0	0.017	0	47.18	0.038	0.01	1.38	0.217	51.29	0.05	0.02	0	0	0.05	0.35	100.64
1037	92MOB0228	ilmenite	0	0.024	0	49.91	0.068	0.01	0.50	0.746	47.18	0.05	0.04	0.03	0	0.04	0.47	99.06
1038	92MOB0228	ilmenite	0	0.030	0	47.24	0.051	0.01	0.65	0.413	51.08	0.07	0.03	0.05	0	0.05	0.64	100.32
1039	92MOB0228	ilmenite	0	0.017	0	48.72	0.070	0.01	1.25	0.880	48.44	0.04	0.04	0	0	0.09	0.28	99.87
1040	92MOB0228	ilmenite	0	0.030	0	40.21	0.028	0	8.86	0.272	50.04	0.05	0	0.05	0	0.06	0.32	99.94
1041	92MOB0228	ilmenite	0	0.021	0	39.87	0.051	0.02	9.36	0.285	49.33	0.05	0.03	0.05	0	0	0.34	99.42
1042	92MOB0228	ilmenite	0	0.017	0	48.00	0.032	0.01	1.49	0.226	49.27	0.05	0.02	0.04	0	0.04	0.47	99.66
1043	92MOB0228	ilmenite	0	0.030	0.01	47.19	0.043	0.01	0.51	0.381	50.69	0.11	0	0.03	0	0.09	1.08	100.18
1044	92MOB0228	ilmenite	0	0.028	0	50.14	0.074	0.01	1.18	0.577	45.80	0.40	0.02	0.04	0	0.05	0.58	98.87
1045	92MOB0228	ilmenite	0	0.021	0	46.63	0.042	0.02	1.03	0.270	51.73	0.07	0.03	0.07	0	0.07	0.41	100.40
1046	92MOB0228	ilmenite	0	0.026	0.01	47.29	0.038	0.01	0.14	0.371	51.78	0.13	0.03	0.11	0	0.06	0.44	100.43
1047	92MOB0228	magnetite	0	0.049	0	83.29	0.172	0.01	0.14	0.038	7.16	0.20	0.03	0.03	0	0.09	0.23	91.44
1048	92MOB0228	alt.ilmen.	0	0.702	0.02	35.27	0.274	0.08	0.42	0.141	58.08	0.05	0.04	0.04	0	0.05	0.43	95.59
1049	92MOB0228	ilmenite	0	0.053	0	62.31	0.113	0.02	2.43	0.630	32.33	0.05	0.03	0	0	0.04	0.44	98.45
1050	92MOB0228	ilmenite	0	0.021	0	47.05	0.057	0.02	0.52	0.577	50.81	0.17	0	0.06	0	0.04	0.94	100.28
1051	92MOB0228	ilmenite	0	0.041	0	46.98	0.040	0	1.72	0.045	50.99	0.04	0.03	0	0	0.04	0.39	100.33
1052	92MOB0228	ilmenite	0	0.026	0	49.89	0.040	0	0.55	0.542	45.59	0.09	0.02	0.05	0	0.07	0.47	97.33
1053	92MOB0228	ilmenite	0	0.026	0	47.80	0.055	0.01	0.52	0.665	49.89	0.07	0	0.06	0	0.05	0.45	99.59
1054	92MOB0231	garnet	0.030	36.334	0.04	10.34	19.876	23.49	7.26	0.459	0.19	0.03	0	0.03	0	0	0.06	98.17
1055	92MOB0231	ilmenite	0	0.013	0.01	46.76	0.051	0.01	0.64	0.526	51.71	0.08	0.04	0.03	0	0.06	0.52	100.46
1056	92MOB0231	ilmenite	0	0.024	0	42.80	0.043	0.02	4.31	0.488	52.30	0.05	0.02	0.05	0	0.04	0.37	100.50
1057	92MOB0231	alt.ilmen.	0.015	0.133	0.01	31.27	0.151	0.05	0.07	0.073	60.28	0.19	0.02	0	0	0.04	0.54	92.85
1058	92MOB0231	ilmenite	0	0.034	0	46.76	0.038	0	0.72	0.431	51.10	0.14	0.03	0.07	0	0.04	0.69	100.04
1059	92MOB0231	ilmenite	0	0.026	0	46.35	0.026	0	1.22	0.027	51.68	0.11	0.05	0	0	0.10	0.54	100.13
1060	92MOB0231	magnetite	0	0.034	0	80.67	0.219	0	0.08	0.041	10.20	0.22	0.05	0.03	0	0.10	0.39	92.04
1061	92MOB0231	ilmenite	0	0.043	0	46.95	0.051	0.01	1.10	0.040	51.49	0.03	0.02	0.03	0	0.06	0.32	100.15
1062	92MOB0231	magnetite	0	0.049	0	80.41	0.163	0	0.22	0.081	10.63	0.20	0.04	0.04	0	0.10	0.29	92.23
1063	92MOB0231	magnetite	0	0.013	0	77.67	0.159	0.01	0.15	0.197	12.82	0.34	0.02	0	0	0.08	0.44	91.90
1064	92MOB0231	ilmenite	0.007	0.024	0	46.28	0.049	0.02	1.84	0.022	51.17	0.04	0.02	0.10	0	0.09	0.34	100.00
1065	92MOB0231	ilmenite	0	0.053	0	46.38	0.038	0	0.22	0.368	52.11	0.05	0.02	0.04	0	0.08	0.39	99.74
1066	92MOB0231	alt.ilmen.	0	0.090	0	37.01	0.040	0	2.52	0.138	55.87	0.04	0.04	0.04	0	0.07	0.29	96.15

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1067	92MOB0231	ilmenite	0	0.030	0	50.44	0.036	0	0.62	0.421	46.94	0.06	0.02	0.05	0	0	0.59	99.23
1068	92MOB0231	ilmenite	0	0.021	0	73.22	0.147	0	0.08	0.502	29.52	0.32	0.05	0	0	0.09	0.67	104.62
1069	92MOB0231	ilmenite	0	0.039	0	47.65	0.021	0.01	0.50	0.264	51.00	0.03	0.03	0.03	0	0.08	0.47	100.13
1070	92MOB0231	magnetite	0	0.039	0	76.44	0.115	0.01	0.13	0.123	15.95	0.32	0.04	0.03	0	0.10	0.42	93.72
1071	92MOB0231	ilmenite	0	0.032	0	46.43	0.030	0.02	0.48	0.441	51.86	0.23	0.04	0.16	0	0.06	0.68	100.44
1072	92MOB0231	alt.ilmen.	0	0.389	0.01	31.84	0.161	0.12	0.08	0.113	58.95	0.19	0.03	0.04	0	0.07	0.49	92.47
1073	92MOB0231	ilmenite	0	0.019	0.01	46.04	0.043	0.02	2.66	0.076	50.94	0.05	0	0.03	0	0.03	0.35	100.27
1074	92MOB0326	magnetite	0	0.329	0.01	82.19	0.308	0.06	0.08	0.073	8.59	0.19	0.02	0.05	0	0.08	0.18	92.16
1075	92MOB0326	ilmenite	0	0.036	0	46.68	0.032	0.01	0.20	0.539	52.39	0.12	0.02	0.08	0	0.03	0.52	100.64
1076	92MOB0326	ilmenite	0	0.045	0.01	46.79	0.028	0	0.51	0.073	51.86	0.08	0.02	0.04	0	0	0.46	99.94
1077	92MOB0326	ilmenite	0	0.047	0	46.43	0.051	0.01	0.66	0.393	51.70	0.08	0.02	0	0	0.07	0.52	100.00
1078	92MOB0326	magnetite	0	0.034	0	82.62	0.323	0.01	0.31	0.103	8.24	0.21	0.04	0.03	0	0.08	0.24	92.23
1079	92MOB0326	ilmenite	0	0.047	0	46.70	0.040	0.01	0.85	0.144	51.44	0.12	0.03	0	0	0.05	0.47	99.94
1080	92MOB0326	magnetite	0	0.036	0.01	80.92	0.134	0.02	0.21	0.066	11.54	0.05	0.03	0	0	0.12	0.34	93.47
1081	92MOB0326	magnetite	0	0.024	0.01	76.11	0.098	0	0.14	0.095	15.84	0.18	0.05	0	0	0.10	0.42	93.08
1082	92MOB0326	ilmenite	0	0.026	0	52.13	0.057	0.01	0.63	0.398	45.06	0.18	0.02	0.06	0	0.07	0.43	99.07
1083	92MOB0326	magnetite	0	0.049	0.01	79.03	0.121	0	0.10	0.028	15.92	0.20	0.04	0	0	0.07	0.36	95.94
1084	92MOB0326	Cr-diopside	0.610	53.070	0	4.67	2.100	22.17	0.26	15.070	0	1.56	0.06	NA	NA	NA	NA	99.58
1085	92MOB0326	ilmenite	0	0.024	0	47.01	0.040	0.01	0.08	0.424	51.81	0.05	0.03	0.04	0	0.04	0.37	99.93
1086	92MOB0326	ilmenite	0	0.041	0.01	45.63	0.038	0.03	0.10	0.942	52.08	0.10	0.03	0.23	0	0.08	0.57	99.88
1087	92MOB0326	ilmenite	0.007	0.024	0.02	46.63	0.043	0.01	0.24	0.265	52.00	0.05	0.02	0.13	0	0.05	0.33	99.81
1088	92MOB0326	ilmenite	0	0.034	0	46.64	0.036	0.01	1.17	0.101	51.31	0.07	0.04	0.04	0	0.06	0.37	99.87
1089	92MOB0326	ilmenite	0	0.019	0.01	46.36	0.051	0.01	0.13	0.580	51.65	0.15	0.03	0.06	0	0.05	0.47	99.56
1090	92MOB0326	magnetite	0	0.056	0	83.13	0.280	0	0.12	0.053	7.45	0.21	0.02	0.04	0	0.10	0.25	91.69
1091	92MOB0326	ilmenite	0	0.041	0	52.98	0.038	0.02	1.17	0.222	43.28	0.04	0.04	0.05	0	0.05	0.38	98.32
1092	92MOB0326	magnetite	0	0.039	0	79.80	0.104	0	0.08	0.060	12.06	0.23	0.03	0.04	0	0.07	0.43	92.95
1093	92MOB0326	magnetite	0	0.036	0	83.85	0.550	0.01	0.16	0.061	7.22	0.21	0.02	0.04	0	0.10	0.31	92.58
1094	92MOB0326	ilmenite	0	0.028	0	46.73	0.036	0.01	0.82	0.068	51.66	0.12	0.03	0.05	0	0.05	0.51	100.10
1095	92MOB0326	magnetite	0	0.041	0	81.98	0.444	0	0.21	0.118	8.53	0.18	0.04	0.06	0	0.07	0.23	91.90
1096	92MOB0326	magnetite	0	0.039	0	80.99	0.191	0.01	0.28	0.085	9.69	0.27	0.03	0.05	0	0.10	0.34	92.08
1097	92MOB0326	magnetite	0	0.034	0	80.10	0.093	0	0.15	0.046	11.24	0.17	0.05	0.04	0	0.06	0.29	92.26
1098	92MOB0326	ilmenite	0	0.030	0	50.19	0.051	0.01	1.61	0.104	46.63	0.03	0	0.05	0	0	0.39	99.11
1099	92MOB0326	ilmenite	0	0.039	0	44.89	0.045	0	0.13	1.514	52.83	0.08	0.06	0.03	0	0.05	0.47	100.14
1100	92MOB0329	spinel	0.092	0.043	0.01	4.52	70.743	0.01	0.08	26.279	0	0.03	0	0.97	0	0	0	102.81
1101	92MOB0329	spinel	0.098	0.036	0.01	4.60	70.739	0.02	0.08	26.257	0.02	0.02	0	0.97	0	0	0	102.89
1103	92MOB0329	garnet	0	38.503	0	6.54	20.033	34.13	0.29	0.144	0.19	0.04	0.02	0	0	0	0.06	99.98
1104	92MOB0329	garnet	0	38.540	0.01	5.78	20.834	33.60	0.65	0.159	0.13	0.03	0.03	0	0	0	0.05	99.82
1105	92MOB0329	ilmenite	0	0.028	0	48.26	0.060	0.01	1.08	0.040	49.56	0.08	0.02	0	0	0.08	0.58	99.82
1106	92MOB0329	ilmenite	0	0.026	0.01	49.33	0.060	0	0.44	1.068	47.49	0.07	0.03	0.05	0	0.07	0.53	99.17
1107	92MOB0329	ilmenite	0	0.028	0	47.00	0.043	0.02	0.97	0.060	51.48	0.06	0.03	0.03	0	0.07	0.57	100.35
1108	92MOB0329	ilmenite	0	0.039	0.01	46.85	0.042	0.02	0.58	0.607	51.46	0.06	0.03	0.05	0	0.08	0.60	100.42
1109	92MOB0329	ilmenite	0	0.028	0	46.46	0.047	0	0.86	0.464	51.85	0.05	0.02	0.03	0	0.07	0.44	100.32
1110	92MOB0329	ilmenite	0	0.026	0	44.60	0.045	0.03	3.51	0.171	50.88	0.12	0.03	0.08	0	0.06	0.61	100.15
1111	92MOB0329	magnetite	0	0.032	0.01	78.78	0.117	0	0.19	0.075	12.11	0.44	0.07	0.03	0	0.09	0.36	92.29
1112	92MOB0329	magnetite	0	0.028	0	79.58	0.149	0	0.43	0.181	11.58	0.30	0.05	0.03	0	0.11	0.23	92.67
1113	92MOB0329	ilmenite	0	0.039	0.01	44.29	0.108	0.05	0.11	0.086	48.92	0.09	0.04	0.03	0	0.07	0.40	94.23
1114	92MOB0329	ilmenite	0	0.051	0	50.61	0.045	0.03	2.13	0.111	45.33	0.04	0.02	0.03	0	0.06	0.42	98.88

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1115	92MOB0329	ilmenite	0	0.043	0	43.48	0.049	0.07	0.70	2.575	52.08	0.22	0.11	0.03	0	0.10	0.34	99.80
1116	92MOB0329	magnetite	0	0.058	0.01	75.68	0.185	0.01	0.08	0.046	14.18	0.20	0.05	0.05	0	0.09	0.32	90.95
1117	92MOB0329	magnetite	0	0.049	0	81.03	0.096	0	0.18	0.133	9.40	0.30	0.04	0.04	0	0.09	0.25	91.60
1118	92MOB0329	magnetite	0	0.075	0.03	79.61	0.255	0.01	0.08	0.046	11.10	0.17	0.04	0.04	0	0.13	0.31	91.88
1119	92MOB0329	ilmenite	0	0.036	0	46.65	0.045	0.01	0.58	0.491	51.48	0.04	0	0.08	0	0.11	0.45	99.98
1121	92MOB0329	ilmenite	0	0.047	0	68.08	0.134	0	0.24	0.516	29.50	0.25	0.04	0.03	0	0.08	0.64	99.57
1122	92MOB0329	ilmenite	0	0.036	0.01	46.61	0.030	0.01	1.17	0.090	51.70	0.03	0.02	0.05	0	0.09	0.40	100.23
1123	92MOB0329	ilmenite	0	0.045	0	60.99	0.062	0.02	0.61	0.239	38.81	0.04	0.03	0.05	0	0.06	0.49	101.45
1124	92MOB0329	ilmenite	0	0.030	0.01	48.66	0.053	0.01	0.76	0.199	49.27	0.07	0	0.06	0	0.06	0.54	99.71
1125	92MOB0329	magnetite	0	0.045	0	79.89	0.185	0.01	0.08	0.033	12.02	0.20	0.05	0	0	0.06	0.27	92.85
1126	92MOB0329	ilmenite	0	0.032	0.01	52.61	0.051	0.03	0.63	0.620	43.61	0.09	0.03	0.05	0	0.08	0.35	98.19
1127	92MOB0326	alt.ilmen.	0.019	1.050	0.05	22.11	0.461	0.24	0.30	0.071	69.44	0.08	0	0.05	0	0.05	0.67	94.58
1128	92MOB0332	ilmenite	0	0.030	0	45.24	0.034	0.02	0.78	0.975	52.59	0.08	0.03	0.05	0	0.04	0.36	100.23
1129	92MOB0332	chromite	0.007	0.030	0.01	30.78	13.892	0.02	0.47	7.795	0.07	45.27	0.13	0.19	0	0.09	0.13	98.87
1130	92MOB0332	ilmenite	0	0.026	0	45.83	0.040	0.02	0.18	0.696	52.10	0.15	0.05	0.03	0	0.09	0.53	99.74
1131	92MOB0332	magnetite	0	0.034	0	77.47	0.077	0	0.17	0.028	14.87	0.29	0.03	0	0	0.12	0.34	93.45
1132	92MOB0332	ilmenite	0	0.034	0.02	47.20	0.042	0.02	0.53	0.224	51.12	0.06	0	0.05	0	0.08	0.41	99.80
1133	92MOB0332	magnetite	0	0.028	0	78.95	0.102	0	0.13	0.058	13.26	0.25	0.03	0	0	0.07	0.31	93.21
1134	92MOB0332	chromite	0.009	0.043	0.01	27.08	4.554	0.01	0.46	9.054	0.10	57.26	0.12	0.30	0	0.13	0.08	99.21
1135	92MOB0332	amphibole	1.196	45.101	0.41	12.93	11.084	12.05	0.27	12.340	0.93	0.08	0.02	0	0	0.03	0.08	96.55
1136	92MOB0332	ilmenite	0	0.039	0	45.22	0.032	0.01	1.50	0.555	52.74	0.05	0.03	0	0	0.06	0.36	100.59
1137	92MOB0332	chromite	0.020	0.043	0.01	23.25	2.634	0.02	0.46	6.369	0.03	65.98	0.04	0.37	0	0.10	0.07	99.39
1138	92MOB0332	alt.ilmen.	0	1.172	0.07	35.05	1.003	0.04	0.41	0.280	55.87	0.09	0.02	0.08	0	0.11	0.50	94.68
1139	92MOB0332	ilmenite	0	0.047	0	46.54	0.036	0.03	0.89	0.453	51.80	0.06	0.03	0.05	0	0.06	0.32	100.31
1140	92MOB0332	spinel	4.935	0.041	0	7.57	56.412	0	0.43	2.971	0.03	0.04	0.02	33.73	0	0	0	106.19
1141	92MOB0332	ilmenite	0	0.039	0.01	45.37	0.038	0.01	1.69	0.282	52.19	0.05	0.03	0.04	0	0.04	0.35	100.12
1142	92MOB0332	ilmenite	0	0.039	0	46.95	0.030	0	0.76	0.146	51.50	0.05	0.03	0.07	0	0.08	0.41	100.07
1143	92MOB0332	magnetite	0	0.047	0	81.60	0.134	0	0.12	0.053	9.85	0.24	0.04	0	0	0.11	0.34	92.55
1144	92MOB0332	magnetite	0	0.043	0	80.99	0.096	0.01	0.12	0.046	10.45	0.23	0.03	0.04	0	0.10	0.31	92.47
1145	92MOB0332	ilmenite	0	0.026	0	49.14	0.043	0	1.42	0.408	47.72	0.05	0.02	0.08	0	0.07	0.29	99.26
1146	92MOB0332	magnetite	0	0.026	0.01	79.39	0.214	0	0.04	0.022	12.08	0.15	0.06	0	0	0.09	0.24	92.33
1147	92MOB0332	magnetite	0	0.357	0	80.92	0.100	0.12	0.23	0.028	9.59	0.20	0.03	0	0	0.06	0.38	92.05
1148	92MOB0332	ilmenite	0	0.039	0	47.23	0.032	0.04	0.15	0.055	51.94	0.06	0	0.09	0	0.03	0.42	100.08
1149	92MOB0339	ilmenite	0	0.017	0	45.79	0.055	0.01	1.80	0.048	51.26	0.16	0.02	0	0	0.06	0.68	99.88
1150	92MOB0339	magnetite	0	0.043	0	82.84	0.121	0	0.13	0.080	7.61	0.21	0.05	0.07	0	0.11	0.28	91.54
1151	92MOB0339	ilmenite	0	0.171	0	45.71	0.130	0.06	0.31	0.083	53.66	0.06	0.03	0.04	0	0.06	0.41	100.72
1152	92MOB0339	ilmenite	0	0.017	0	46.73	0.040	0	1.18	0.114	51.10	0.05	0.02	0	0	0.05	0.40	99.72
1153	92MOB0339	ilmenite	0	0.026	0	45.85	0.049	0.01	2.56	0.051	52.37	0.13	0.02	0.06	0	0.08	0.60	101.80
1154	92MOB0339	magnetite	0	0.041	0	81.79	0.068	0	0.43	0.018	10.36	0.13	0.02	0.05	0	0.07	0.32	93.29
1155	92MOB0339	ilmenite	0	0.030	0	46.99	0.059	0	0.68	0.504	51.11	0.05	0.03	0.04	0	0.05	0.53	100.07
1156	92MOB0339	magnetite	0	0.047	0.01	81.03	0.085	0.01	0.30	0.139	9.83	0.18	0.02	0.05	0	0.07	0.35	92.11
1157	92MOB0339	magnetite	0	0.049	0	81.72	0.174	0.01	0.33	0.070	9.13	0.19	0.02	0.06	0	0.12	0.27	92.12
1158	92MOB0339	garnet	0	37.335	0	12.52	20.579	21.56	6.82	0.325	0.09	0.09	0	0	0	0.03	0.12	99.47
1159	92MOB0339	pyroxene	0.089	50.945	0	14.52	0.399	24.14	0.34	9.367	0.06	0.07	0.03	0.03	0	0.06	0	100.05
1160	92MOB0339	garnet	0	36.674	0.01	33.92	20.794	1.43	2.35	4.414	0.02	0.04	0.03	0.03	0	0.04	0	99.75
1161	92MOB0339	magnetite	0	0.034	0.01	79.39	0.096	0.01	0.11	0.060	11.55	0.09	0.03	0.03	0	0.06	0.19	91.66
1162	92MOB0339	magnetite	0	0.056	0	80.30	0.510	0	0.05	0.066	9.23	0.27	0.02	0.18	0	0.09	0.34	91.12

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1163	92MOB0339	ilmenite	0	0.028	0	45.31	0.034	0.01	2.48	0.063	51.29	0.11	0	0.03	0	0.07	0.66	100.10
1164	92MOB0339	magnetite	0	0.028	0	79.41	0.202	0	0.14	0.032	11.58	0.15	0.04	0.04	0	0.09	0.31	92.02
1165	92MOB0339	magnetite	0	0.045	0	80.37	0.108	0	0.08	0.033	11.20	0.17	0.06	0.05	0	0.09	0.35	92.54
1166	92MOB0339	ilmenite	0	0.075	0.01	47.31	0.081	0	0.41	0.159	50.32	0.06	0.03	0.05	0	0.07	0.41	98.96
1167	92MOB0339	ilmenite	0	0.039	0	48.12	0.043	0.02	1.01	0.318	49.69	0.05	0	0.04	0	0.10	0.47	99.90
1168	92MOB0339	ilmenite	0	0.030	0	47.32	0.038	0	0.22	0.056	51.88	0.07	0.03	0	0	0.06	0.41	100.10
1169	92MOB0339	magnetite	0	0.045	0	80.11	0.140	0	0.06	0.050	9.31	1.36	0.02	0.05	0	0.06	0.34	91.55
1170	92MOB0339	chromite	0	0.060	0.01	26.05	4.000	0	0.48	7.984	0.05	60.53	0.07	0.23	0	0.13	0	99.61
1171	92MOB0339	ilmenite	0	0.028	0	50.61	0.034	0	0.78	0.252	46.90	0.11	0.04	0.03	0	0.06	0.47	99.32
1172	92MOB0339	magnetite	0	0.045	0	76.97	0.132	0.01	0.07	0.045	14.55	0.18	0.02	0.04	0	0.10	0.33	92.48
1173	92MOB0339	magnetite	0	0.053	0	77.96	0.081	0	0.52	0.109	12.09	0.27	0.04	0.04	0	0.12	0.22	91.51
1174	92MOB0339	magnetite	0	0.045	0.01	79.04	0.108	0	0.20	0.083	12.15	0.25	0.04	0.05	0	0.11	0.31	92.40
1175	92MOB0339	magnetite	0	0.130	0	81.27	0.096	0.01	0.16	0.149	9.78	0.25	0.05	0.04	0	0.09	0.31	92.34
1176	92MOB0339	magnetite	0	0.034	0.01	77.56	0.106	0.02	0.32	0.078	13.99	0.07	0.02	0	0	0.08	0.52	92.80
1177	92MOB0339	ilmenite	0.007	0.028	0	45.61	0.051	0.02	1.43	0.033	51.75	0.15	0.04	0.20	0	0.04	0.52	99.86
1178	92MOB0339	ilmenite	0	0.026	0	50.90	0.047	0.01	0.96	0.317	46.05	0.09	0.03	0.09	0	0.08	0.37	98.96
1179	92MOB0339	ilmenite	0	0.028	0	46.56	0.049	0.04	6.02	0.371	45.62	0.05	0.03	0.10	0	0.06	0.38	99.29
1180	92MOB0339	hematite	0	0.118	0	88.49	0.246	0.01	0	0.025	0.04	0.60	0.05	0.04	0	0.14	0.51	90.27
1181	92MOB0339	ilmenite	0	0.030	0	46.62	0.040	0.06	1.09	0.149	51.77	0.06	0.03	0	0	0.03	0.45	100.33
1182	92MOB0339	ilmenite	0	0.062	0.01	66.08	0.085	0.02	0.08	0.027	25.94	0.20	0.04	0.04	0	0.08	0.41	93.08
1183	92MOB0339	magnetite	0	0.051	0.01	80.53	0.098	0	0.13	0.093	9.98	0.23	0.04	0.03	0	0.09	0.27	91.54
1184	92MOB0339	magnetite	0	0.024	0.01	82.34	0.138	0	0.26	0.078	8.60	0.22	0.04	0.04	0	0.07	0.28	92.09
1185	92MOB1001	Cr-diopside	0.355	53.463	0	3.33	1.168	22.86	0.11	17.845	0.12	0.57	0.13	0	0	0	0	99.98
1186	92MOB1001	Cr-diopside	0.350	53.380	0.04	5.80	1.410	22.78	0.25	15.170	0.10	0.90	0	NA	NA	NA	NA	100.18
1187	92MOB1001	Cr-diopside	0.336	53.138	0	3.12	1.056	23.33	0.17	17.160	0.07	0.51	0.17	0	0	0	0	99.07
1188	92MOB1001	Cr-diopside	0.454	53.176	0.01	2.54	1.173	24.04	0.19	16.595	0.08	0.87	0.13	0	0	0	0	99.30
1189	92MOB1001	pyroxene	1.174	53.202	0	5.15	0.877	23.75	0	15.268	0.04	0.04	0	0	0	0.03	0	99.56
1190	92MOB1001	Cr-diopside	0.208	51.469	0.01	5.04	2.921	19.10	0.16	18.621	0.24	1.22	0.08	0	0	0	0	99.10
1191	92MOB1001	Cr-diopside	0.439	52.845	0.01	4.35	1.389	23.32	0.14	15.807	0.11	0.88	0.06	0	0	0	0	99.39
1192	92MOB1001	garnet	0	35.705	0	5.49	6.190	32.91	0.75	0.101	0.11	17.80	0.02	0	0	0	0	99.12
1193	92MOB1001	garnet	0	38.150	0	6.86	20.092	33.56	0.46	0.136	0.28	0.04	0.02	0	0	0	0.06	99.66
1194	92MOB1001	ilmenite	0	0.028	0	46.55	0.036	0	0.44	0.083	52.30	0.05	0.04	0.20	0	0.05	0.32	100.09
1195	92MOB1001	ilmenite	0	0.019	0.01	46.77	0.036	0.01	0.94	0.081	51.64	0.04	0	0.03	0	0.04	0.36	99.99
1196	92MOB1001	alt.ilmen.	0.170	0.143	0.01	28.64	0.091	0.05	1.55	0.595	60.26	0.02	0.02	1.56	0	0.12	0.39	93.61
1197	92MOB1001	ilmenite	0	0.034	0	46.83	0.040	0.01	0.41	0.237	51.69	0.11	0	0.06	0	0.10	0.47	100.01
1198	92MOB1001	magnetite	0	0.021	0.01	80.85	0.200	0	0.47	0.104	11.00	0.15	0.03	0.03	0	0.10	0.32	93.29
1199	92MOB1001	ilmenite	0	0.036	0.01	46.98	0.034	0.01	1.05	0.063	51.04	0.08	0	0.05	0	0.09	0.74	100.19
1200	92MOB1001	ilmenite	0	0.024	0	47.30	0.042	0.01	0.60	0.327	50.70	0.05	0.03	0.08	0	0.04	0.57	99.76
1201	92MOB1001	alt.ilmen.	0	0.259	0.01	34.53	0.200	0.06	0.22	0.239	56.03	0.07	0.03	0.05	0	0.05	0.37	92.12
1202	92MOB1001	ilmenite	0	0.036	0.01	47.09	0.028	0.01	0.27	0.277	51.68	0.12	0.02	0.05	0	0.09	0.52	100.18
1203	92MOB1001	magnetite	0	0.051	0	82.90	0.291	0	0.23	0.076	7.69	0.22	0.03	0.05	0	0.10	0.28	91.91
1204	92MOB1001	magnetite	0	0.045	0.01	79.84	0.123	0	0.08	0.018	11.16	0.42	0.05	0	0	0.07	0.36	92.19
1205	92MOB1001	magnetite	0	0.024	0.01	81.76	0.266	0.01	0.14	0.028	9.19	0.17	0.04	0.10	0	0.10	0.32	92.17
1206	92MOB1001	magnetite	0	0.039	0.01	82.42	0.163	0.01	0.23	0.050	8.14	0.18	0.05	0	0	0.08	0.30	91.68
1207	92MOB1001	ilmenite	0	0.019	0	49.00	0.049	0.01	2.33	0.822	46.41	0.04	0.04	0.05	0	0.04	0.35	99.16
1208	92MOB1001	magnetite	0	0.039	0	77.24	0.093	0.01	0.41	0.123	15.67	0.18	0.02	0	0	0.11	0.35	94.25
1209	92MOB1001	ilmenite	0.007	0.017	0	46.95	0.043	0.03	0.14	0.267	52.27	0.03	0	0.22	0	0.06	0.29	100.32

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1210	92MOB1001	ilmenite	0	0.026	0	47.26	0.036	0.01	0.64	0.091	50.80	0.09	0	0.03	0	0.08	0.78	99.85
1211	92MOB1001	magnetite	0	0.045	0.01	82.67	0.170	0	0.11	0.017	9.22	0.08	0.03	0	0	0.09	0.29	92.74
1212	92MOB1001	ilmenite	0	0.036	0	47.18	0.034	0	0.85	0.103	51.51	0.09	0.04	0	0	0.05	0.47	100.38
1213	92MOB1001	ilmenite	0	0.026	0.01	46.27	0.042	0.02	0.13	0.803	51.80	0.10	0.03	0.12	0	0.05	0.46	99.86
1215	92MOB1001	magnetite	0	0.026	0	78.07	0.142	0.01	0.18	0.071	12.65	0.16	0.02	0.04	0	0.12	0.43	91.92
1216	92MOB1001	magnetite	0	0.032	0	75.77	0.123	0.01	0.04	0.045	14.83	0.22	0.05	0.04	0	0.07	0.39	91.62
1217	92MOB1001	ilmenite	0	0.032	0	47.35	0.047	0	0.82	0.187	51.11	0.06	0.02	0.05	0	0.10	0.49	100.26
1218	92MOB1001	ilmenite	0	0.019	0	47.35	0.036	0	0.54	0.302	51.59	0.07	0.04	0.04	0	0.04	0.64	100.67
1219	92MOB1001	magnetite	0	0.032	0	80.32	0.142	0	0.19	0.080	11.31	0.25	0.02	0.05	0	0.07	0.26	92.72
1220	92MOB1013	magnetite	0	0.036	0	76.82	0.059	0	0.32	0.056	15.08	0.23	0	0.03	0	0.10	0.35	93.09
1221	92MOB1013	ilmenite	0	0.021	0	47.26	0.040	0.02	0.47	0.416	51.18	0.04	0.03	0.06	0	0.06	0.32	99.91
1222	92MOB1013	magnetite	0	0.032	0	76.96	0.159	0	0.08	0.207	14.91	0.29	0.02	0.04	0	0.07	0.60	93.35
1223	92MOB1013	chromite	0.008	0.032	0	26.86	8.025	0.01	0.43	4.878	0.15	57.06	0.03	0.25	0	0.10	0.14	97.98
1224	92MOB1013	ilmenite	0	0.024	0.01	46.22	0.042	0.02	1.22	0.119	51.17	0.05	0.02	0.03	0	0.08	0.41	99.43
1225	92MOB1013	ilmenite	0	0.045	0	46.36	0.034	0.01	0.45	0.275	51.78	0.09	0.02	0.07	0	0.04	0.45	99.62
1226	92MOB1013	ilmenite	0	0.019	0	45.69	0.038	0	1.24	0.270	51.92	0.07	0.03	0.04	0	0.06	0.36	99.73
1227	92MOB1013	amphibole	0.922	49.664	0.21	6.56	9.242	10.94	0.18	18.593	0.04	0.30	0.07	0	0	0	0	96.79
1228	92MOB1013	amphibole	0.754	50.425	0.24	6.75	7.711	11.59	0.14	18.271	0.14	0.71	0.09	0.03	0	0	0.06	96.92
1229	92MOB1013	amphibole	1.179	49.400	0.11	7.29	8.820	10.43	0.15	18.679	0.09	0.44	0.08	0	0	0.04	0	96.72
1230	92MOB1013	pyroxene	0.288	53.322	0.01	3.83	0.385	23.35	0.19	16.847	0.02	0.46	0.04	0.04	0	0	0	98.78
1231	92MOB1013	magnetite	0	0.028	0	76.55	0.076	0	0.13	0.068	14.25	0.23	0.05	0	0	0.10	0.35	91.84
1232	92MOB1013	ilmenite	0	0.039	0	46.55	0.059	0	0.14	0.297	51.80	0.07	0.03	0.06	0	0.05	0.35	99.45
1233	92MOB1013	magnetite	0	0.062	0	79.97	0.234	0	0.07	0.020	10.17	0.20	0.03	0	0	0.08	0.27	91.12
1234	92MOB1013	magnetite	0	0.051	0.01	79.49	0.081	0	0.12	0.012	12.99	0.33	0.03	0.05	0	0.06	0.36	93.57
1235	92MOB1013	magnetite	0	0.051	0.01	76.21	0.098	0.02	0.04	0.025	15.92	0.35	0.02	0	0	0.11	0.26	93.10
1236	92MOB1013	magnetite	0	0.051	0.01	77.88	0.066	0.01	0.28	0.063	12.59	0.26	0.03	0	0	0.10	0.31	91.67
1237	92MOB1013	magnetite	0	0.028	0	73.53	0.087	0.01	0.26	0.030	19.81	0.37	0	0.05	0	0.10	0.36	94.65
1238	92MOB1013	magnetite	0	0.030	0	67.58	0.176	0	0.05	0.040	24.67	0.30	0.02	0.03	0	0.09	0.40	93.39
1239	92MOB1013	ilmenite	0	0.053	0	49.41	0.062	0	3.24	0.177	44.91	0.05	0	0.05	0	0.05	0.41	98.43
1240	92MOB1013	magnetite	0	0.030	0.01	80.18	0.163	0	0.16	0.010	11.01	0.23	0.03	0	0	0.08	0.30	92.21
1241	92MOB1013	magnetite	0	0.372	0.01	72.54	0.051	0.02	0.46	0.088	19.14	0.29	0.03	0.06	0	0.06	0.31	93.42
1242	92MOB1013	ilmenite	0	0.026	0	46.85	0.045	0.02	1.25	0.080	51.49	0.07	0.06	0.07	0	0.08	0.33	100.36
1243	92MOB1013	ilmenite	0	0.013	0	47.19	0.034	0	0.38	0.468	51.58	0.04	0.03	0.06	0	0.03	0.34	100.17
1244	92MOB1013	ilmenite	0	0.030	0.01	46.29	0.034	0.02	0.17	0.587	52.15	0.13	0.02	0	0	0.08	0.50	100.01
1245	92MOB1013	magnetite	0	0.041	0	78.16	0.083	0	0.07	0.035	13.65	0.32	0.03	0.03	0	0.05	0.32	92.78
1246	92MOB1013	ilmenite	0	0.039	0	47.42	0.034	0.01	0.82	0.187	51.07	0.05	0.04	0.04	0	0.03	0.34	100.08
1247	92MOB1013	magnetite	0	0.058	0.01	78.60	0.081	0	0.19	0.058	13.42	0.32	0.03	0.04	0	0.10	0.25	93.16
1248	92MOB1013	magnetite	0	0.032	0.01	82.64	0.113	0	0.24	0.063	8.01	0.28	0.03	0.04	0	0.07	0.25	91.77
1249	92MOB1013	ilmenite	0	0.015	0	65.33	0.111	0	0.07	0.078	26.40	0.19	0.02	0.04	0	0.03	0.40	92.68
1250	92MOB1013	magnetite	0	0.310	0.01	82.99	0.259	0.02	0.48	0.033	6.91	0.10	0.02	0	0	0.08	0.17	91.40
1251	92MOB1013	magnetite	0	0.032	0	76.25	0.087	0	0.17	0.040	14.05	0.15	0.04	0	0	0.05	0.29	91.18
1252	92MOB1037	ilmenite	0	0.041	0	46.27	0.036	0.01	1.01	0.486	51.41	0.04	0.03	0.05	0	0.08	0.37	99.82
1253	92MOB1037	ilmenite	0	0.030	0	46.39	0.042	0.01	1.05	0.340	51.67	0.04	0.03	0.04	0	0.05	0.35	100.04
1254	92MOB1037	ilmenite	0	0.030	0.01	45.06	0.030	0.02	1.13	0.176	52.19	0.06	0.02	0.05	0	0.06	0.32	99.14
1255	92MOB1037	ilmenite	0.007	0.060	0	45.11	0.053	0.01	1.80	0.234	51.71	0.07	0.03	0.12	0	0.07	0.36	99.63
1256	92MOB1037	ilmenite	0	0.036	0	46.78	0.045	0.01	0.79	0.095	50.75	0.06	0.05	0.08	0	0.09	0.46	99.24
1257	92MOB1037	ilmenite	0	0.058	0.01	45.69	0.030	0.03	0.31	0.219	53.01	0.08	0.03	0.05	0	0.06	0.48	100.04

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	CR2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1258	92MOB1037	Cr-diopside	0.407	56.319	0	3.20	1.325	23.74	0.23	17.847	0.12	1.20	0.13	0	0	0	0	104.54
1259	92MOB1037	Cr-diopside	0.290	53.890	0	2.90	1.050	23.60	0.16	16.780	0.04	0.51	0.22	NA	NA	NA	NA	99.44
1260	92MOB1037	Cr-diopside	0.334	53.390	0.01	3.06	1.102	24.00	0.17	16.867	0.05	0.54	0.16	0.04	0	0	0	99.72
1261	92MOB1037	Cr-diopside	0.380	53.270	0.01	2.96	1.153	23.86	0.17	16.585	0.05	0.74	0.14	0	0	0.03	0	99.36
1262	92MOB1037	magnetite	0	0.045	0	83.63	0.257	0.01	0.24	0.081	6.05	0.23	0.05	0.05	0	0.06	0.28	90.98
1263	92MOB1037	ilmenite	0	0.030	0	46.32	0.038	0.01	0.61	0.439	51.18	0.07	0.02	0.07	0	0.08	0.47	99.34
1264	92MOB1037	ilmenite	0	0.041	0.01	47.06	0.032	0.01	0.95	0.085	51.05	0.05	0.03	0.05	0	0.04	0.47	99.87
1265	92MOB1037	ilmenite	0	0.039	0.01	49.99	0.053	0	1.18	0.285	47.04	0.04	0	0.03	0	0.07	0.35	99.08
1266	92MOB1037	ilmenite	0	0.026	0	45.83	0.036	0.01	0.15	0.856	52.13	0.15	0.04	0.05	0	0.07	0.59	99.93
1267	92MOB1037	ilmenite	0	0.034	0.01	45.90	0.040	0	0.14	0.695	52.02	0.19	0.07	0.06	0	0.06	0.80	100.03
1268	92MOB1037	ilmenite	0	0.021	0	46.52	0.040	0	0.93	0.232	51.67	0.06	0.02	0.04	0	0.05	0.55	100.13
1269	92MOB1037	ilmenite	0	0.032	0	47.65	0.047	0.01	0.50	0.345	50.76	0.08	0.04	0.07	0	0.04	0.59	100.16
1270	92MOB1037	ilmenite	0	0.039	0	51.02	0.060	0.02	0.99	0.289	46.96	0.08	0	0.08	0	0.09	0.45	100.09
1271	92MOB1037	ilmenite	0	0.036	0	46.91	0.081	0.01	2.63	0.867	48.35	0.05	0.02	0.04	0	0.06	0.45	99.51
1272	92MOB1037	ilmenite	0	0.019	0	45.47	0.053	0.01	1.13	0.292	51.07	0.11	0	0.03	0	0.06	0.73	98.98
1273	92MOB1037	ilmenite	0	0.024	0	43.96	0.038	0.02	5.07	0.068	50.36	0.04	0	0.07	0	0.06	0.39	100.09
1274	92MOB1037	ilmenite	0	0.036	0.01	46.17	0.051	0.01	1.37	0.196	51.36	0.03	0.02	0.10	0	0.05	0.31	99.71
1275	92MOB1045	Cr-diopside	0.321	52.560	0	3.39	1.308	23.87	0.14	16.200	0.17	0.95	0.16	0.03	0	0.03	0	99.13
1276	92MOB1045	pyroxene	0.398	53.135	0.01	4.73	1.219	23.36	0.38	15.764	0.04	0.42	0.05	0	0	0.04	0	99.55
1277	92MOB1045	Cr-diopside	0.481	52.720	0.01	4.58	1.653	23.35	0.25	15.315	0.06	0.85	0.07	0	0	0	0	99.35
1278	92MOB1045	spinel	0	0.039	0	4.99	67.755	0.01	0.09	24.967	0.06	0.04	0	0.22	0	0.03	0.08	98.30
1279	92MOB1045	ilmenite	0	0.047	0.01	44.17	0.051	0.02	1.34	0.284	51.25	0.04	0.02	0.04	0	0	0.31	97.61
1280	92MOB1045	ilmenite	0	0.034	0.01	47.27	0.045	0.01	0.23	0.310	51.45	0.05	0.03	0.04	0	0.04	0.38	99.89
1281	92MOB1045	magnetite	0	0.034	0.01	80.01	0.091	0	0.39	0.061	11.04	0.20	0.04	0	0	0.08	0.29	92.27
1282	92MOB1045	ilmenite	0	0.071	0.01	48.51	0.053	0.03	1.12	0.239	48.52	0.06	0.03	0.04	0	0.09	0.44	99.21
1283	92MOB1045	ilmenite	0	0.032	0	45.69	0.028	0.01	0.93	0.587	51.88	0.12	0.04	0	0	0	0.52	99.87
1284	92MOB1045	magnetite	0	0.024	0.01	82.68	0.157	0.02	0.22	0.086	8.00	0.21	0.05	0	0	0.09	0.28	91.84
1285	92MOB1045	ilmenite	0	0.032	0	47.02	0.053	0.01	0.53	0.166	51.44	0.07	0.02	0.07	0	0.07	0.43	99.90
1286	92MOB1045	ilmenite	0	0.041	0	46.76	0.040	0.01	0.14	0.549	51.06	0.15	0.03	0.04	0	0.05	0.75	99.62
1287	92MOB1045	magnetite	0	0.028	0	71.70	0.102	0.01	0.17	0.041	21.12	0.05	0.04	0.03	0	0.10	0.27	93.66
1288	92MOB1045	magnetite	0	0.047	0	81.94	0.098	0.01	0.31	0.118	8.85	0.24	0.03	0.07	0	0.10	0.24	92.05
1289	92MOB1045	ilmenite	0	0.028	0	46.69	0.053	0.01	0.14	0.240	51.69	0.05	0.02	0.08	0	0.07	0.29	99.37
1290	92MOB1045	magnetite	0	0.026	0	76.18	0.104	0	0.24	0.181	15.62	0.06	0.04	0.04	0	0.12	0.33	92.94
1291	92MOB1045	magnetite	0	0.039	0.01	82.39	0.185	0	0.22	0.043	8.78	0.27	0.05	0.05	0	0.07	0.35	92.45
1292	92MOB1045	ilmenite	0	0.043	0.01	46.63	0.047	0.02	0.63	0.153	50.91	0.08	0.04	0.07	0	0.08	0.92	99.63
1293	92MOB1045	magnetite	0	0.034	0	76.24	0.136	0.02	0.21	0.041	14.81	0.19	0.03	0.06	0	0.08	0.33	92.18
1294	92MOB1045	magnetite	0	0.053	0.01	78.15	0.121	0	0.22	0.071	12.08	0.11	0.02	0.03	0	0.07	0.31	91.24
1295	92MOB1045	ilmenite	0	0.032	0.01	46.68	0.030	0.02	0.15	0.357	51.97	0.12	0.02	0.04	0	0.05	0.51	99.97
1296	92MOB1045	ilmenite	0	0.021	0	50.28	0.030	0.01	0.56	0.270	47.36	0.08	0.03	0.03	0	0.05	0.59	99.31
1297	92MOB1045	ilmenite	0	0.034	0	51.11	0.083	0.02	0.03	0.073	43.09	0.28	0.04	0	0	0.05	0.35	95.16
1298	92MOB1045	ilmenite	0	0.036	0	46.02	0.034	0.01	0.46	0.880	51.97	0.08	0.02	0.08	0	0.05	0.50	100.12
1299	92MOB1025	magnetite	0	0.060	0	78.04	0.079	0.02	0.19	0.098	14.22	0.06	0.05	0.03	0	0.11	0.40	93.35
1300	92MOB1025	ilmenite	0	0.017	0.01	48.13	0.032	0.01	1.73	0.038	48.50	0.05	0.03	0.05	0	0	0.41	99.03
1301	92MOB1025	ilmenite	0	0.017	0	47.40	0.038	0.02	1.25	0.192	50.19	0.04	0.03	0.05	0	0.08	0.46	99.76
1302	92MOB1025	ilmenite	0	0.053	0.01	45.59	0.034	0.02	0.17	0.890	51.95	0.11	0.02	0.15	0	0.09	0.53	99.60
1303	92MOB1025	alt.ilmen.	0	0.124	0.01	34.51	0.076	0.02	0.13	0.043	57.06	0.04	0.03	0	0	0	0.51	92.60
1304	92MOB1025	ilmenite	0	0.039	0	47.53	0.053	0.02	0.45	0.179	50.96	0.14	0.03	0.08	0	0.05	0.40	99.93

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1305	92MOB1025	magnetite	0	0.026	0.01	82.01	0.176	0	0.11	0.025	9.10	0.05	0.04	0.05	0	0.10	0.32	92.00
1306	92MOB1025	ilmenite	0	0.032	0.01	47.43	0.034	0.01	1.23	0.167	50.46	0.05	0.02	0.08	0	0.06	0.37	99.94
1307	92MOB1025	ilmenite	0	0.244	0.01	38.78	0.100	0.06	0.51	0.070	53.59	0.06	0.03	0	0	0.03	0.54	94.00
1308	92MOB1025	ilmenite	0	0.379	0.02	43.84	0.155	0.06	0.15	0.108	51.19	0.15	0	0.05	0	0.06	0.84	97.00
1309	92MOB1025	magnetite	0.018	0.032	0	82.48	0.452	0.00	0.30	0.143	8.02	0.19	0.03	0.05	0	0.09	0.25	92.05
1310	92MOB1025	magnetite	0	0.032	0	74.53	0.085	0.01	0.09	0.027	20.61	0.20	0.03	0.03	0	0.05	0.35	96.04
1311	92MOB1025	magnetite	0	0.045	0	74.96	0.108	0.01	0.13	0.068	16.66	0.10	0.04	0.04	0	0.09	0.26	92.53
1312	92MOB1025	Cr-diopside	0.859	54.087	0.02	3.41	1.959	23.11	0.10	16.295	0.22	1.03	0.09	0.03	0	0.03	0.06	101.30
1313	92MOB1025	garnet	0.007	35.010	0	24.51	19.865	0.53	18.94	0.166	0.04	0.03	0	0.05	0	0.03	0	99.18
1314	92MOB1025	ilmenite	0	0.028	0.01	46.26	0.032	0.03	0.18	0.564	52.26	0.11	0.04	0.08	0	0.05	0.51	100.14
1315	92MOB1025	magnetite	0	0.036	0	81.09	0.127	0	0.23	0.095	9.32	0.20	0.05	0	0	0.11	0.28	91.54
1316	92MOB1025	magnetite	0	0.032	0	81.09	0.113	0.01	0.09	0.040	10.35	0.17	0.03	0.03	0	0.09	0.18	92.23
1317	92MOB1025	ilmenite	0	0.034	0	47.76	0.043	0.01	2.02	0.177	48.83	0.03	0	0.04	0	0.07	0.29	99.32
1318	92MOB1025	ilmenite	0	0.034	0.01	45.46	0.045	0.02	1.58	0.650	51.16	0.25	0.06	0.03	0	0.06	0.32	99.68
1319	92MOB1025	alt.ilmen.	0.026	0.163	0.01	30.97	0.193	0.10	1.25	0.204	59.48	0.10	0.02	0.03	0	0.06	0.55	93.15
1320	92MOB1025	ilmenite	0.013	0.017	0.01	47.22	0.021	0.01	3.25	0.033	48.12	0.05	0	0.16	0	0.07	0.37	99.34
1321	92MOB1028	ilmenite	0	0.021	0	47.61	0.047	0	0.67	0.167	50.37	0.16	0.04	0.07	0	0.03	0.54	99.72
1322	92MOB1028	magnetite	0.032	0.045	0	82.01	0.130	0.01	0.18	0.061	8.98	0.25	0.04	0.06	0	0.08	0.29	92.16
1323	92MOB1028	ilmenite	0	0.041	0	45.77	0.043	0.02	4.72	0.955	47.50	0.03	0.03	0	0	0.06	0.41	99.57
1324	92MOB1028	garnet	0	35.489	0	42.76	19.991	0.46	0.14	0.565	0.06	0.03	0.02	0.03	0	0.03	0	99.59
1325	92MOB1028	magnetite	0	0.892	0.04	80.00	0.769	0.02	0.23	0.411	8.46	0.26	0.03	0	0	0.08	0.32	91.52
1326	92MOB1028	Mg-ilmenite	0.013	0.032	0	32.14	0.227	0.01	0.37	11.960	50.61	3.61	0.15	0.03	0	0.04	0.55	99.74
1327	92MOB1028	ilmenite	0	0.030	0.01	46.84	0.049	0.01	0.14	0.401	51.91	0.07	0.04	0.15	0	0.06	0.45	100.15
1328	92MOB1028	ilmenite	0	0.032	0.01	58.95	0.043	0	0.66	0.181	37.48	0.08	0.03	0.06	0	0.08	0.53	98.13
1329	92MOB1028	Cr-diopside	0.369	53.185	0.01	3.58	1.113	23.39	0.19	16.656	0.08	0.69	0.07	0.03	0	0.04	0	99.42
1330	92MOB1028	garnet	0	39.830	0	6.23	20.949	33.63	0.74	0.085	0.48	0.02	0	0	0	0.05	0.06	102.08
1331	92MOB1028	garnet	0	35.260	0.01	43.04	20.084	0.30	0.04	0.633	0.06	0.02	0.02	0	0	0.04	0	99.54
1332	92MOB1028	hematite	0	0.475	0.02	87.51	0.287	0.03	0.13	0.099	0.16	0.06	0.04	0	0	0.10	0.16	89.07
1333	92MOB1028	magnetite	0	0.045	0	80.89	0.191	0.01	0.16	0.065	8.48	0.21	0.04	0	0	0.09	0.27	90.45
1334	92MOB1028	ilmenite	0	0.026	0	50.65	0.049	0.01	0.37	0.088	46.96	0.19	0.04	0.04	0	0.06	0.73	99.21
1335	92MOB1028	spinel	0.012	0.053	0	25.63	37.411	0.01	0.14	8.158	0.14	23.64	0.30	0.31	0	0.10	0.17	96.07
1336	92MOB1028	ilmenite	0	0.036	0	49.07	0.045	0.01	1.63	0.199	47.27	0.05	0.03	0	0	0.06	0.41	98.84
1337	92MOB1028	magnetite	0	0.021	0.01	84.61	0.368	0.01	0.16	0.086	6.48	0.19	0.05	0.06	0	0.03	0.20	92.27
1338	92MOB1028	ilmenite	0	0.049	0	46.58	0.045	0.01	0.14	0.297	51.49	0.05	0.04	0.10	0	0.05	0.44	99.31
1339	92MOB1028	ilmenite	0.039	0.049	0	45.57	0.034	0	0.64	0.015	50.93	0.06	0.04	0.51	0	0.04	0.42	98.34
1340	92MOB1028	magnetite	0	0.034	0.01	72.56	0.091	0	0.64	0.149	20.05	0.25	0.02	0.04	0	0.07	0.37	94.29
1341	92MOB1028	ilmenite	0	0.045	0	48.19	0.047	0	3.21	0.212	47.16	0.07	0	0.11	0	0.05	0.38	99.48
1342	92MOB1031	alt.ilmen.	0	0.197	0	33.04	0.215	0.07	0.53	0.118	57.82	0.03	0	0.03	0	0.05	0.36	92.46
1343	92MOB1031	magnetite	0	0.034	0	83.45	0.183	0.01	0.26	0.068	7.22	0.19	0.04	0.05	0	0.13	0.22	91.84
1344	92MOB1031	magnetite	0	0.049	0	79.41	0.164	0	0.13	0.028	11.01	0.24	0.04	0.03	0	0.03	0.31	91.43
1345	92MOB1031	magnetite	0	0.060	0	79.22	0.110	0.02	0.25	0.086	10.95	0.20	0.05	0.05	0	0.08	0.25	91.31
1346	92MOB1031	alt.ilmen.	0.089	0.086	0.01	32.49	0.108	0.04	0.59	0.090	58.01	0.22	0.03	0.93	0	0.08	0.71	93.47
1347	92MOB1031	magnetite	0	0.032	0.01	81.27	0.113	0	0.20	0.040	10.82	0.05	0.04	0	0	0.07	0.17	92.84
1348	92MOB1031	alt.ilmen.	0	0.098	0	32.64	0.089	0.05	1.25	0.136	57.94	0.07	0.05	0.07	0	0.03	0.44	92.87
1349	92MOB1031	ilmenite	0	0.041	0	48.13	0.049	0	0.58	0.101	50.12	0.09	0	0.06	0	0.06	0.53	99.77
1350	92MOB1031	ilmenite	0	0.047	0.01	52.96	0.028	0.02	0.54	0.609	43.56	0.09	0.02	0.04	0	0.08	0.58	98.59
1351	92MOB1031	ilmenite	0	0.015	0.01	46.59	0.034	0	0.90	0.119	51.80	0.05	0	0.04	0	0.10	0.41	100.06

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1352	92MOB1031	magnetite	0.035	0.049	0.01	82.46	0.272	0	0.15	0.040	8.16	0.13	0.05	0	0	0.09	0.16	91.62
1353	92MOB1031	pumpellyite	0	36.730	0.02	4.96	24.290	22.48	0.20	2.460	0.09	0.12	0	NA	NA	NA	NA	91.35
1354	92MOB1031	Cr-diopside	0.408	53.091	0.01	3.23	1.466	23.67	0.15	16.232	0.11	0.93	0.13	0	0	0	0	99.47
1355	92MOB1031	magnetite	0	0.028	0	81.20	0.242	0	0.11	0.046	7.78	0.17	0.03	0	0	0.07	0.34	90.03
1356	92MOB1031	ilmenite	0	0.030	0	46.73	0.032	0.01	0.41	0.134	51.92	0.06	0	0	0	0.06	0.51	99.92
1357	92MOB1031	ilmenite	0	0.032	0	50.56	0.060	0	0.87	0.279	46.19	0.09	0	0.05	0	0.08	0.38	98.61
1358	92MOB1031	ilmenite	0	0.036	0	47.47	0.053	0.01	0.59	0.237	50.23	0.10	0.03	0.03	0	0.05	0.88	99.73
1359	92MOB1031	ilmenite	0	0.039	0.01	47.99	0.036	0.02	0.67	0.126	50.17	0.06	0.02	0	0	0.05	0.52	99.71
1360	92MOB1031	ilmenite	0	0.043	0	46.34	0.043	0.02	0.54	0.547	51.49	0.08	0.02	0.04	0	0.06	0.51	99.73
1361	92MOB1031	alt.ilmen.	0	0.039	0.01	46.45	0.081	0.01	0.02	0.010	45.98	0.41	0.04	0	0	0.09	0.53	93.68
1362	92MOB1031	ilmenite	0	0.021	0.01	45.92	0.059	0.01	0.61	0.514	51.27	0.21	0	0.04	0	0.04	0.55	99.26
1363	92MOB1031	Mg-ilmenite	0	0.068	0.01	35.19	0.686	0.03	0.26	11.012	50.59	0.47	0.13	0.05	0	0.06	0.57	99.13
1364	92MOB1016	magnetite	0.008	0.032	0	77.90	0.399	0	0.15	0.050	11.78	0.19	0.03	0.05	0	0.08	0.31	90.98
1365	92MOB1016	magnetite	0	0.036	0.01	82.44	0.164	0	0.17	0.068	8.56	0.29	0.04	0.04	0	0.08	0.34	92.25
1366	92MOB1016	magnetite	0	0.118	0.01	79.04	0.121	0.02	0.15	0.199	11.96	0.44	0.03	0.04	0	0.10	0.35	92.56
1367	92MOB1016	magnetite	0	0.032	0	83.65	0.180	0	0.37	0.104	6.10	0.56	0.04	0	0	0.10	0.25	91.39
1368	92MOB1016	magnetite	0	0.047	0	74.01	0.100	0.02	1.02	0.073	18.88	0.24	0.04	0	0	0.13	0.32	94.89
1370	92MOB1016	garnet	0	38.660	0.01	5.96	20.564	34.20	0.25	0.126	0.19	0.03	0	0	0	0	0	100.03
1371	92MOB1016	amphibole	0.953	49.411	0.20	5.64	9.518	11.28	0.25	18.480	0.09	0.64	0.07	0	0	0	0.05	96.59
1372	92MOB1016	pyroxene	0.616	53.559	0.01	3.61	1.856	23.72	0.13	16.056	0.16	0.43	0.09	0.03	0	0	0	100.32
1373	92MOB1016	Cr-diopside	0.586	51.893	0.01	6.55	0.754	23.47	0.43	14.104	0.04	0.52	0.03	0	0	0	0	98.44
1374	92MOB1016	pyroxene	0.020	50.934	0	4.14	0.436	25.77	0.17	14.965	0.04	0.24	0.11	0.05	0	0.03	0	96.92
1375	92MOB1016	magnetite	0	0.041	0	83.55	0.198	0	0.11	0.043	6.50	0.18	0.04	0.04	0	0.11	0.24	91.04
1376	92MOB1016	magnetite	0	0.049	0.01	81.29	0.110	0.02	0.11	0.033	9.88	0.27	0	0.04	0	0.07	0.32	92.20
1377	92MOB1016	ilmenite	0	0.039	0.01	46.30	0.053	0.01	1.57	0.464	50.44	0.04	0.02	0.06	0	0.06	0.31	99.37
1378	92MOB1016	ilmenite	0	0.137	0.01	45.24	0.053	0.01	0.29	0.985	51.44	0.20	0.03	0.04	0	0.08	1.07	99.59
1379	92MOB1016	alt.ilmen.	0.051	1.177	0.01	28.65	0.189	0.05	0.05	0.141	60.50	0.09	0.02	0.03	0	0.05	0.52	91.53
1380	92MOB1016	magnetite	0	0.036	0	79.63	0.204	0.02	0.25	0.116	11.88	0.24	0.03	0.05	0	0.07	0.28	92.80
1381	92MOB1016	magnetite	0	0.026	0	70.04	0.125	0	0.06	0.018	18.60	0.28	0.04	0	0	0.08	0.31	89.59
1382	92MOB1016	magnetite	0	0.026	0	77.92	0.119	0.01	0.20	0.048	13.08	0.57	0.03	0	0	0.07	0.35	92.43
1383	92MOB1016	chromite	0.116	0.066	0	40.35	15.135	0.02	0.75	1.142	0.82	39.68	0.05	1.10	0	0.09	0.17	99.48
1384	92MOB1016	ilmenite	0	0.034	0.01	49.16	0.083	0	0.68	0.519	48.48	0.05	0.02	0	0	0.07	0.47	99.61
1385	92MOB1016	magnetite	0	0.028	0	82.65	0.085	0	0.17	0.053	8.79	0.11	0.03	0.03	0	0.08	0.22	92.24
1386	92MOB1016	magnetite	0	0.017	0	72.47	0.087	0.01	0.11	0.010	18.98	0.28	0.03	0.04	0	0.09	0.36	92.49
1388	92MOB1016	magnetite	0	0.041	0	81.20	0.210	0.01	0.08	0.083	9.68	0.46	0.05	0	0	0.05	0.34	92.20
1389	92MOB1016	ilmenite	0	0.021	0	47.04	0.038	0	0.78	0.095	51.60	0.04	0.02	0.04	0	0.04	0.38	100.09
1390	92MOB1016	magnetite	0	0.039	0.01	81.15	0.079	0	0.24	0.046	9.61	0.20	0.04	0.03	0	0.09	0.24	91.77
1391	92MOB1016	magnetite	0	0.075	0	81.10	0.499	0	0.17	0.068	9.52	0.12	0.02	0	0	0.08	0.22	91.87
1392	92MOB1016	magnetite	0	0.024	0.01	80.84	0.246	0	0.10	0.086	8.87	0.39	0.05	0.03	0	0.10	0.33	91.08
1393	92MOB1016	chromite	0	0.032	0.01	27.25	6.158	0.02	0.44	6.546	0.04	58.67	0.05	0.19	0	0.11	0	99.56
1394	92MOB1019	garnet	0	35.971	0	13.26	20.466	20.54	6.37	0.293	0.10	0.04	0	0.03	0	0.03	0	97.13
1396	92MOB1019	Cr-diopside	0.468	53.587	0	2.78	0.574	24.15	0.09	16.799	0.10	0.54	0.04	0	0	0.04	0	99.22
1397	92MOB1019	Cr-diopside	0.398	53.381	0.01	3.70	1.103	23.69	0.24	16.326	0.11	0.55	0.09	0.03	0	0	0	99.65
1398	92MOB1019	magnetite	0	0.049	0.01	79.08	0.130	0	0.13	0.038	12.25	0.29	0.03	0.04	0	0.07	0.35	92.47
1399	92MOB1019	magnetite	0	0.026	0	83.17	0.195	0.01	0.20	0.048	7.78	0.18	0.03	0.05	0	0.10	0.20	91.99
1400	92MOB1019	magnetite	0	0.036	0	82.02	0.081	0	0.08	0.063	8.94	0.23	0.03	0	0	0.10	0.29	91.89
1401	92MOB1019	magnetite	0	0.113	0	80.64	0.183	0.01	0.26	0.126	8.82	0.18	0.04	0.03	0	0.08	0.33	90.81

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1402	92MOB1019	ilmenite	0	0.291	0	46.08	0.542	0.07	1.87	0.501	48.94	0.05	0.03	0.04	0	0.07	0.35	98.83
1403	92MOB1019	ilmenite	0	0.026	0.01	45.77	0.038	0.01	2.00	0.035	51.26	0.05	0.03	0.04	0	0.03	0.38	99.67
1404	92MOB1019	alt.ilmen.	0	0.347	0.01	27.70	0.242	0.11	0.10	0.086	62.85	0.04	0.04	0	0	0.05	0.53	92.11
1405	92MOB1019	ilmenite	0	0.077	0.01	63.07	0.053	0.01	0.79	0.199	29.98	0.06	0.03	0.06	0	0.04	0.43	94.80
1406	92MOB1022	Mg-ilmenite	0	0.028	0.01	40.22	0.028	0.03	0.65	5.328	52.67	0.22	0.09	0.05	0	0.06	0.52	99.90
1407	92MOB1022	ilmenite	0	0.056	0	48.10	0.062	0	0.65	0.290	49.66	0.06	0.05	0.06	0	0.07	0.51	99.55
1408	92MOB1022	ilmenite	0	0.043	0	48.34	0.062	0.02	0.57	0.580	49.21	0.04	0.04	0	0	0.07	0.50	99.49
1409	92MOB1022	ilmenite	0	0.041	0	46.25	0.043	0.02	2.28	0.093	50.34	0.04	0.03	0.03	0	0.08	0.34	99.59
1410	92MOB1022	ilmenite	0	0.011	0	46.85	0.036	0.01	0.22	0.247	51.55	0.09	0.03	0.11	0	0.07	0.53	99.74
1411	92MOB1022	ilmenite	0	0.017	0	46.19	0.059	0.02	0.35	0.492	51.72	0.16	0.02	0.04	0	0	0.63	99.69
1412	92MOB1022	magnetite	0	0.058	0.01	79.73	0.115	0.01	0.11	0.030	11.40	0.25	0.03	0.03	0	0.11	0.31	92.18
1413	92MOB1022	ilmenite	0	0.041	0.01	48.28	0.102	0.01	0.21	0.066	50.48	0.06	0	0	0	0.04	0.30	99.61
1414	92MOB1022	ilmenite	0	0.043	0.01	46.67	0.106	0.02	0.32	0.287	51.12	0.16	0.02	0.05	0	0.08	0.60	99.47
1415	92MOB1022	chromite	0	0.047	0	23.15	14.228	0.03	0.69	10.037	0.30	52.88	0.12	0.17	0	0.09	0.08	101.83
1416	92MOB1022	ilmenite	0	0.041	0	45.93	0.127	0.01	0.38	0.167	51.57	0.08	0.03	0.13	0	0.04	0.42	98.93
1417	92MOB1022	ilmenite	0	0.045	0	46.69	0.110	0.02	2.02	0.212	49.97	0.04	0	0.04	0	0.05	0.39	99.59
1418	92MOB1022	magnetite	0.020	0.058	0.01	81.86	0.323	0	0.26	0.121	9.38	0.04	0.02	0	0	0.12	0.19	92.40
1419	92MOB1022	ilmenite	0	0.079	0	46.24	0.059	0.01	0.94	0.197	51.18	0.05	0.03	0.09	0	0.06	0.41	99.35
1420	92MOB1022	magnetite	0	0.043	0	81.27	0.221	0	0.09	0.028	10.04	0.29	0	0	0	0.07	0.36	92.42
1421	92MOB1022	ilmenite	0	0.019	0.01	46.20	0.070	0.02	0.20	0.555	51.61	0.21	0.06	0.08	0	0.08	0.54	99.64
1422	92MOB1022	Mg-ilmenite	0	0.049	0.01	38.76	0.523	0.03	0.28	8.982	49.06	0.18	0.07	0	0	0.06	0.57	98.59
1423	92MOB1022	ilmenite	0.012	0.064	0.04	47.72	0.068	0.05	0.63	0.277	48.30	0.08	0	0.06	0	0.08	0.44	97.82
1424	92MOB1022	magnetite	0	0.045	0	77.45	0.117	0	0.05	0.008	13.94	0.16	0.04	0	0	0.08	0.27	92.17
1425	92MOB1022	ilmenite	0	0.039	0.01	47.00	0.049	0.01	0.45	0.315	50.01	0.26	0.03	0.07	0	0.06	0.98	99.27
1426	92MOB1022	magnetite	0	0.045	0	79.17	0.144	0.01	0.30	0.073	10.47	0.41	0.04	0	0	0.09	0.32	91.06
1427	92MOB1022	ilmenite	0	0.034	0.01	46.72	0.036	0.02	0.30	0.902	52.69	0.14	0.03	0.04	0	0.06	0.57	101.54
1428	92MOB1194	hematite	0	0.327	0.02	88.47	0.300	0.04	0.08	0.032	0.17	0.03	0.03	0.03	0	0.10	0.14	89.76
1429	92MOB1194	ilmenite	0	0.021	0	48.49	0.036	0.01	1.97	0.293	47.99	0.04	0.02	0.03	0	0.05	0.42	99.36
1430	92MOB1194	ilmenite	0	0.026	0	47.01	0.049	0.01	0.67	0.327	51.00	0.16	0.03	0.05	0	0.03	0.96	100.32
1431	92MOB1194	ilmenite	0	0.034	0.01	46.26	0.036	0	0.70	0.124	52.16	0.05	0.02	0.06	0	0.06	0.39	99.90
1432	92MOB1194	ilmenite	0	0.039	0	46.76	0.059	0.01	0.11	0.350	52.14	0.13	0.04	0	0	0.05	0.37	100.07
1433	92MOB1194	magnetite	0	0.028	0.01	80.65	0.145	0	0.19	0.083	9.84	0.19	0.03	0	0	0.10	0.35	91.64
1434	92MOB1194	ilmenite	0	0.036	0.01	46.47	0.032	0.02	0.17	0.129	51.82	0.13	0.04	0.08	0	0.09	0.59	99.60
1435	92MOB1194	ilmenite	0	0.021	0.01	46.90	0.038	0	1.03	0.123	51.16	0.05	0.02	0.06	0	0.06	0.59	100.04
1436	92MOB1194	ilmenite	0	0.034	0	46.57	0.040	0.02	1.38	0.032	51.48	0.04	0.02	0	0	0.04	0.28	99.96
1437	92MOB1194	magnetite	0	0.034	0	82.18	0.227	0.01	0.09	0.053	8.03	0.41	0.08	0	0	0.11	0.23	91.48
1438	92MOB1194	ilmenite	0	0.019	0.01	46.14	0.053	0.02	0.86	0.274	52.03	0.06	0.03	0.04	0	0	0.39	99.95
1439	92MOB1194	ilmenite	0	0.030	0	45.38	0.045	0.02	0.16	0.630	52.29	0.05	0.05	0.20	0	0.08	0.36	99.30
1440	92MOB1194	ilmenite	0	0.041	0	46.73	0.045	0.05	0.65	0.352	50.89	0.09	0.03	0.03	0	0.08	0.50	99.48
1441	92MOB1194	magnetite	0	0.024	0	83.68	0.348	0	0.17	0.119	6.75	0.34	0.06	0.05	0	0.09	0.15	91.78
1442	92MOB1194	magnetite	0	0.026	0	71.93	0.079	0.01	0.23	0.148	19.03	0.17	0.04	0.03	0	0.10	0.26	92.04
1443	92MOB1194	ilmenite	0	0.013	0	46.15	0.032	0.02	0.90	0.041	51.83	0.14	0.03	0.09	0	0	0.79	100.05
1444	92MOB1194	magnetite	0	0.034	0.01	82.03	0.149	0	0.21	0.123	9.22	0.17	0.04	0	0	0.06	0.22	92.28
1445	92MOB1194	alt.ilmen.	0.022	0.250	0.01	28.49	0.200	0.06	2.31	0.567	60.50	0.04	0.03	0.06	0	0.06	0.39	92.98
1446	92MOB1194	magnetite	0	0.036	0	81.41	0.094	0	0.27	0.148	9.03	0.50	0.03	0.04	0	0.09	0.26	91.90
1447	92MOB1194	magnetite	0	0.041	0	83.30	0.195	0	0.20	0.065	7.70	0.17	0.03	0.04	0	0.08	0.16	91.97
1448	92MOB1194	magnetite	0	0.030	0	81.16	0.117	0	0.13	0.085	9.93	0.23	0.02	0	0	0.06	0.46	92.24

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1449	92MOB1194	hematite	0	0.058	0	89.10	0.119	0	0.08	0.025	0.04	0.48	0.04	0	0	0.06	0.26	90.28
1450	92MOB1194	hematite	0	0.081	0	88.85	0.064	0	0.09	0.015	0.05	0.06	0.03	0.04	0	0.11	0.28	89.67
1451	92MOB1194	magnetite	0	0.047	0	75.32	0.079	0.01	0.12	0.033	15.91	0.18	0.05	0.04	0	0.06	0.22	92.07
1452	92MOB1194	hematite	0	0.633	0.08	87.51	0.300	0.01	0.06	0.090	0.09	0.07	0.02	0	0	0.13	0.51	89.50
1453	92MOB1194	ilmenite	0	0.021	0	47.03	0.040	0.02	0.72	0.229	51.48	0.05	0	0.03	0	0.05	0.35	100.02
1454	92MOB1194	garnet	0	35.633	0	23.28	4.153	32.40	1.47	0.189	0.64	0.05	0	0	0	0.04	0.07	97.94
1455	92MOB1194	magnetite	0	0.051	0.01	82.02	0.123	0	0.26	0.058	9.18	0.29	0.04	0.04	0	0.09	0.25	92.41
1456	92MOB1194	magnetite	0	0.049	0	78.01	0.370	0	0.41	0.066	12.65	0.06	0.03	0	0	0.11	0.18	91.95
1457	92MOB1194	alt.ilmen.	0	0.039	0.01	32.71	0.030	0.09	0.04	0.012	61.66	0.03	0.03	0.04	0	0	0.37	95.07
1458	92MOB1194	magnetite	0	0.028	0	74.64	0.117	0	0.14	0.098	14.81	0.16	0.02	0	0	0.06	0.46	90.57
1459	92MOB1194	magnetite	0	0.017	0	71.48	0.132	0	0.92	0.209	19.28	0.23	0.02	0	0	0.06	0.44	92.81
1460	92MOB1194	magnetite	0	0.030	0	79.37	0.093	0.01	0.18	0.035	12.66	0.17	0.03	0.04	0	0.06	0.16	92.83
1461	92MOB1194	ilmenite	0	0.030	0.01	65.98	0.187	0	0.11	0.033	25.45	0.25	0	0	0	0.09	0.37	92.53
1462	92MOB1194	ilmenite	0	0.021	0.01	50.31	0.045	0	1.15	0.153	46.61	0.07	0	0.04	0	0.05	0.55	99.02
1463	92MOB1194	magnetite	0	0.043	0	80.87	0.076	0	1.19	0.116	9.80	0.05	0	0.05	0	0.11	0.22	92.52
1464	92MOB1194	hematite	0	0.081	0	87.96	0.068	0.03	0.32	0.036	0.03	0.14	0.07	0.05	0	0.11	0.24	89.13
1465	92MOB1194	magnetite	0	0.047	0	79.02	0.119	0	0.09	0.025	13.27	0.21	0.03	0.03	0	0.08	0.36	93.28
1466	92MOB1194	magnetite	0	0.045	0	81.71	0.098	0	0.10	0.036	8.73	0.14	0.02	0.04	0	0.09	0.24	91.26
1467	92MOB1194	magnetite	0	0.032	0	78.75	0.072	0.01	0.11	0.005	11.38	0.32	0.02	0.04	0	0.05	0.26	91.06
1468	92MOB1194	magnetite	0	0.047	0	82.34	0.094	0	0.08	0.030	8.38	0.22	0.05	0	0	0.09	0.33	91.68
1469	92MOB1245	amphibole	0.729	54.139	0.23	4.34	3.889	11.74	0.10	21.291	0.06	0.76	0.14	0	0	0.03	0	97.44
1470	92MOB1245	pyroxene	0.309	53.202	0	5.42	1.098	24.58	0.21	14.834	0.05	0.07	0	0	0	0.05	0	99.88
1471	92MOB1245	Mg-ilmenite	0	0.047	0.01	38.30	0.484	0.04	0.28	8.719	49.88	0.23	0.07	0.06	0	0.06	0.53	98.69
1472	92MOB1245	magnetite	0	0.017	0	77.58	0.102	0	1.23	0.134	12.17	0.06	0.05	0.04	0	0.09	0.32	91.79
1473	92MOB1245	magnetite	0	0.026	0	79.84	0.153	0.01	0.12	0.060	12.11	0.22	0.03	0	0	0.09	0.18	92.86
1474	92MOB1245	ilmenite	0	0.028	0	46.15	0.034	0	0.77	0.114	52.19	0.03	0.03	0.04	0	0.07	0.31	99.76
1475	92MOB1245	magnetite	0	0.039	0	80.78	0.119	0.03	0.29	0.090	10.16	0.20	0.04	0.04	0	0.12	0.23	92.13
1476	92MOB1245	ilmenite	0	0.034	0.01	52.78	0.036	0.01	0.73	0.259	44.78	0.04	0.02	0.05	0	0.05	0.43	99.22
1477	92MOB1245	garnet	0	35.938	0	40.76	20.384	0.86	0.43	1.380	0.06	0.04	0.02	0	0	0.05	0.08	100.01
1478	92MOB1245	magnetite	0	0.036	0.01	80.47	0.176	0	0.13	0.022	10.75	0.30	0.03	0.05	0	0.03	0.28	92.29
1479	92MOB1245	hematite	0	0.073	0	89.45	0.026	0.01	0.04	0.013	0.06	0.24	0.04	0.03	0	0.07	0.24	90.30
1480	92MOB1245	magnetite	0	0.021	0	82.60	0.193	0	0.24	0.071	7.77	0.21	0.03	0	0	0.07	0.29	91.50
1481	92MOB1245	hematite	0	0.571	0.01	87.46	0.089	0.02	0.13	0.046	0.09	0.56	0.07	0	0	0.10	0.12	89.29
1482	92MOB1245	magnetite	0	0.024	0	77.26	0.125	0.01	0.11	0.070	14.72	0.11	0.04	0	0	0.10	0.26	92.84
1483	92MOB1245	magnetite	0	0.039	0	77.98	0.081	0	0.12	0.023	12.98	0.11	0.02	0.03	0	0.11	0.25	91.75
1484	92MOB1245	magnetite	0	0.028	0	79.59	0.157	0	0.16	0.048	10.68	0.24	0.02	0.03	0	0.11	0.25	91.31
1485	92MOB1245	magnetite	0	0.036	0	78.53	0.138	0	0.09	0.073	12.47	0.05	0.03	0.03	0	0.10	0.18	91.73
1486	92MOB1245	magnetite	0	0.030	0	81.38	0.111	0	0.20	0.065	9.08	0.18	0.04	0.03	0	0.06	0.37	91.53
1487	92MOB1245	ilmenite	0	0.026	0	46.27	0.040	0	1.11	0.118	51.03	0.10	0.03	0.06	0	0.05	0.35	99.19
1488	92MOB1245	magnetite	0	0.036	0	76.48	0.136	0.01	0.17	0.022	14.16	0.23	0.04	0.05	0	0.10	0.17	91.60
1489	92MOB1245	ilmenite	0	0.026	0	47.83	0.040	0	1.76	0.143	48.78	0.05	0.02	0.04	0	0.05	0.41	99.15
1490	92MOB1245	magnetite	0	0.032	0	75.02	0.159	0	0.10	0.028	12.41	0.11	0.03	0.04	0	0.05	0.26	88.23
1491	92MOB1245	magnetite	0.026	0.036	0	76.87	0.556	0.02	0.42	0.046	14.56	0.07	0.02	0.28	0	0.07	0.46	93.43
1492	92MOB1245	ilmenite	0	0.036	0.01	51.18	0.053	0.01	0.86	0.272	45.87	0.06	0.04	0.05	0	0.05	0.45	98.94
1493	92MOB1245	magnetite	0	0.013	0	80.98	0.170	0.02	0.17	0.063	10.18	0.22	0.03	0.04	0	0.08	0.34	92.30
1494	92MOB1245	magnetite	0	0.028	0	80.58	0.200	0.01	0.12	0.033	9.91	0.42	0.02	0	0	0.08	0.38	91.80
1495	92MOB1245	magnetite	0	0.045	0	80.76	0.060	0	0.09	0.028	9.65	0.22	0.03	0.04	0	0.12	0.33	91.38

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	AL2O3	CAO	MNO	MGO	TiO2	CR2O3	NiO	ZNO	NB2O5	COO	V2O3	TOTAL
1496	92MOB1245	magnetite	0	0.291	0.01	86.82	0.317	0.02	0.07	0.073	0.23	0.59	0.06	0.04	0	0.11	0.41	89.04
1497	92MOB1245	magnetite	0	0.021	0	82.09	0.140	0.01	0.40	0.073	7.78	0.16	0.05	0.04	0	0.05	0.22	91.03
1498	92MOB1245	magnetite	0	0.019	0.01	79.51	0.140	0.01	0.09	0.056	11.64	0.07	0.04	0	0	0.07	0.31	91.97
1499	92MOB1245	magnetite	0	0.030	0.01	70.13	0.089	0.02	2.60	0.032	19.75	0.17	0.05	0	0	0.05	0.22	93.15
1500	92MOB1245	magnetite	0	0.039	0	74.12	0.100	0	0.54	0.076	18.13	0.17	0.05	0.09	0	0.11	0.31	93.73
1501	92MOB1245	magnetite	0	0.030	0	79.50	0.117	0.02	0.08	0.056	11.33	0.11	0.02	0.04	0	0.11	0.29	91.71
1502	92MOB1245	magnetite	0	0.081	0	79.59	0.172	0	0.11	0.032	10.36	0.19	0.03	0.07	0	0.13	0.29	91.06
1503	92MOB1245	ilmenite	0	0.019	0.01	57.16	0.057	0	2.69	0.156	37.62	0.04	0	0.03	0	0.08	0.26	98.13
1504	92MOB1245	magnetite	0	0.036	0.01	81.50	0.172	0	0.16	0.058	9.54	0.23	0.04	0.03	0	0.12	0.32	92.19
1506	92MOB1245	alt.ilmen.	0	0.150	0.01	35.04	0.091	0.03	0.42	0.075	57.52	0.04	0.04	0.03	0	0.03	0.36	93.81
1507	92MOB1188	magnetite	0	0.039	0	78.93	0.106	0	0.24	0.090	10.84	0.20	0.02	0	0	0.11	0.28	90.88
1508	92MOB1188	magnetite	0	0.036	0	76.33	0.111	0	0.19	0.096	15.58	0.61	0.02	0.04	0	0.08	0.56	93.64
1509	92MOB1188	ilmenite	0	0.024	0	46.55	0.051	0	1.69	0.803	48.07	0.05	0	0.03	0	0.08	0.46	97.84
1510	92MOB1188	ilmenite	0	0.036	0	48.09	0.077	0	0.67	0.625	49.64	0.12	0.03	0	0	0.04	0.45	99.78
1511	92MOB1188	magnetite	0	0.039	0	70.93	0.062	0	0.93	0.230	20.85	0.16	0.03	0.06	0	0.11	0.32	93.73
1512	92MOB1188	magnetite	0	0.036	0	82.47	0.145	0	0.26	0.086	8.21	0.18	0.04	0.04	0	0.06	0.24	91.78
1513	92MOB1188	ilmenite	0	0.028	0	47.27	0.042	0.01	0.57	0.293	50.88	0.08	0	0.04	0	0.05	0.62	99.90
1514	92MOB1188	chromite	0	0.028	0.01	23.87	10.663	0.01	0.35	9.495	0.06	54.01	0.08	0.15	0	0.09	0.07	98.87
1515	92MOB1188	magnetite	0	0.030	0	81.49	0.163	0	0.18	0.058	9.23	0.30	0.03	0.05	0	0.08	0.30	91.90
1516	92MOB1188	ilmenite	0	0.030	0.01	46.29	0.055	0	0.11	0.574	51.94	0.11	0.05	0.14	0	0.06	0.51	99.88
1517	92MOB1188	magnetite	0	0.039	0.01	79.91	0.123	0.01	0.04	0.038	10.79	0.44	0.04	0.05	0	0.06	0.37	91.91
1518	92MOB1188	magnetite	0	0.032	0.01	80.85	0.106	0.01	0.21	0.027	9.43	0.23	0.02	0.03	0	0.06	0.21	91.22
1519	92MOB1188	ilmenite	0	0.030	0	48.27	0.043	0.01	0.39	0.239	49.72	0.08	0.03	0.06	0	0.03	0.42	99.31
1520	92MOB1188	magnetite	0	0.013	0.01	80.20	0.557	0	0.14	0.114	9.64	0.24	0.03	0.21	0	0.10	0.29	91.54
1521	92MOB1188	ilmenite	0	0.030	0	46.73	0.036	0.01	1.10	0.189	51.27	0.04	0.02	0	0	0.03	0.40	99.85
1522	92MOB1188	magnetite	0	0.024	0.01	75.58	0.149	0	0.09	0.058	15.16	0.26	0.03	0.03	0	0.10	0.29	91.76
1523	92MOB1188	ilmenite	0	0.034	0	47.87	0.026	0.01	0.70	0.051	51.31	0.06	0.03	0.04	0	0.05	0.41	100.59
1524	92MOB1188	ilmenite	0	0.030	0	65.42	0.145	0.01	0.07	0.025	25.40	0.28	0.03	0.03	0	0.04	0.38	91.86
1525	92MOB1188	ilmenite	0	0.028	0	47.69	0.049	0.01	1.31	0.186	49.68	0.04	0.03	0	0	0.07	0.37	99.48
1526	92MOB1188	ilmenite	0	0.073	0.01	47.37	0.049	0.02	0.52	0.272	49.83	0.13	0.02	0.04	0	0.07	0.66	99.06
1527	92MOB1188	magnetite	0	0.028	0	80.80	0.108	0.02	0.25	0.043	10.08	0.26	0.03	0	0	0.12	0.24	91.99
1528	92MOB1188	ilmenite	0	0.017	0	47.48	0.055	0	0.47	1.210	49.07	0.31	0.06	0	0	0.04	0.63	99.36
1529	92MOB1188	magnetite	0	0.045	0	80.79	0.108	0.01	0.20	0.061	9.91	0.19	0.05	0	0	0.13	0.40	91.92
1530	92MOB1191	magnetite	0	0.013	0.01	67.53	0.149	0	0.08	0.043	22.34	0.19	0.04	0.05	0	0.06	0.32	90.82
1531	92MOB1191	ilmenite	0	0.036	0	46.31	0.034	0.01	0.81	0.426	51.62	0.08	0.02	0.03	0	0.07	0.42	99.85
1532	92MOB1191	ilmenite	0	0.032	0	47.60	0.057	0	0.53	0.312	50.62	0.05	0	0.04	0	0.03	0.56	99.85
1533	92MOB1191	ilmenite	0	0.026	0	45.70	0.034	0	0.13	0.794	51.73	0.17	0.03	0.11	0	0.09	0.87	99.69
1534	92MOB1191	magnetite	0	0.049	0	80.25	0.232	0	0.18	0.046	9.78	0.63	0.02	0.06	0	0.10	0.30	91.64
1535	92MOB1191	chromite	0.105	0.064	0	39.44	12.923	0.01	0.95	0.813	0.78	42.97	0.04	1.02	0	0.06	0.18	99.35
1536	92MOB1191	magnetite	0	0.024	0.01	82.45	0.244	0	0.15	0.056	8.32	0.18	0.05	0.03	0	0.08	0.26	91.85
1537	92MOB1191	ilmenite	0	0.017	0.01	47.06	0.045	0.01	0.98	0.076	51.04	0.10	0.02	0.03	0	0.09	0.51	99.99
1539	92MOB1191	ilmenite	0.127	1.380	0.03	40.24	0.159	0.28	0.47	0.887	45.97	0.09	0.02	0	0	0.05	0.58	90.31
1540	92MOB1191	magnetite	0	0.015	0	80.92	0.106	0.01	0.25	0.134	10.39	0.22	0.05	0.04	0	0.03	0.30	92.45
1541	92MOB1191	magnetite	0	0.026	0.01	82.91	0.227	0	0.20	0.083	8.38	0.22	0.04	0	0	0.07	0.30	92.49
1542	92MOB1191	ilmenite	0	0.036	0	50.90	0.060	0.01	1.21	0.471	45.81	0.05	0	0.03	0	0.07	0.43	99.08
1543	92MOB1191	magnetite	0	0.026	0.01	77.85	0.104	0	0.06	0.078	13.90	0.13	0.05	0	0	0.08	0.15	92.43
1544	92MOB1191	magnetite	0	0.032	0	77.52	0.125	0	0.24	0.075	15.95	0.19	0.04	0.05	0	0.06	0.40	94.68

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1545	92MOB1191	magnetite	0	0.034	0	82.25	0.265	0	0.11	0.023	8.74	0.18	0.04	0	0	0.11	0.29	92.05
1546	92MOB1191	magnetite	0	0.026	0	77.43	0.070	0	0.40	0.148	13.11	0.19	0.03	0.04	0	0.09	0.30	91.84
1547	92MOB1191	magnetite	0	0.030	0	75.99	0.145	0	0.25	0.040	16.03	0.07	0.03	0	0	0.07	0.43	93.11
1548	92MOB1191	magnetite	0	0.024	0	73.14	0.151	0.01	0.06	0.017	17.80	0.23	0.04	0	0	0.10	0.31	91.89
1550	92MOB1191	magnetite	0	0.039	0	76.19	0.096	0.02	0.14	0.040	13.43	0.62	0.04	0.03	0	0.11	0.40	91.15
1551	92MOB1191	magnetite	0	0.049	0.01	77.92	0.096	0	0.11	0.065	12.38	0.39	0.04	0	0	0.06	0.26	91.40
1552	92MOB1191	magnetite	0	0.039	0.01	74.55	0.127	0.01	0.12	0.003	14.52	0.30	0.05	0.04	0	0.07	0.27	90.11
1553	92MOB1191	magnetite	0	0.030	0	77.99	0.138	0	0.13	0.056	11.34	0.26	0.04	0.04	0	0.07	0.28	90.38
1554	92MOB1191	magnetite	0	0.036	0	79.88	0.110	0.01	0.20	0.051	9.13	0.10	0.03	0	0	0.08	0.39	90.04
1555	92MOB1191	magnetite	0	0.034	0	78.03	0.087	0.01	0.32	0.124	13.53	0.06	0.04	0.03	0	0.12	0.39	92.78
1556	92MOB1191	magnetite	0	0.032	0	79.63	0.145	0.01	0.06	0.028	11.45	0.30	0.05	0	0	0.10	0.29	92.09
1557	92MOB1049	alt.ilmen.	0	0.329	0.01	34.54	0.157	0.05	0.11	0.048	56.02	0.09	0	0.03	0	0	0.57	91.97
1558	92MOB1049	alt.ilmen.	0.016	0.261	0.02	35.47	0.096	0.05	0.35	0.053	56.32	0.12	0.04	0	0	0.05	0.48	93.33
1559	92MOB1049	ilmenite	0	0.039	0	42.25	0.030	0.02	1.97	0.090	50.43	0.10	0.04	0	0	0.07	0.45	95.51
1560	92MOB1049	magnetite	0	0.036	0.01	78.34	0.102	0.01	0.11	0.017	13.74	0.11	0.02	0	0	0.09	0.28	92.87
1561	92MOB1049	ilmenite	0	0.030	0	49.32	0.049	0	1.45	0.116	47.27	0.07	0	0.03	0	0.07	0.37	98.79
1562	92MOB1049	ilmenite	0	0.026	0	47.15	0.072	0.02	2.13	0.531	48.89	0.04	0.02	0.03	0	0	0.42	99.35
1563	92MOB1049	ilmenite	0	0.015	0.01	46.80	0.034	0.02	0.65	0.121	51.78	0.05	0.04	0.06	0	0.06	0.34	99.96
1564	92MOB1049	magnetite	0	0.034	0.01	68.63	0.060	0	0.51	0.113	22.83	0.08	0	0.04	0	0.08	0.46	92.86
1565	92MOB1049	magnetite	0	0.030	0.01	78.52	0.094	0.01	0.10	0.028	12.30	0.25	0.03	0	0	0.12	0.37	91.89
1566	92MOB1049	ilmenite	0	0.028	0	46.73	0.045	0.02	1.03	0.099	51.08	0.10	0.03	0.06	0	0.07	0.50	99.78
1567	92MOB1049	ilmenite	0	0.049	0.01	46.79	0.042	0.01	1.62	0.073	49.78	0.07	0.02	0.05	0	0.07	0.56	99.12
1568	92MOB1049	ilmenite	NA	0	NA	43.42	0.030	0.03	1.42	0.230	52.05	0	0	0.15	NA	0.05	0.43	97.83
1569	92MOB1049	Cr-diopside	0.931	51.060	0.01	2.95	1.680	22.98	0.09	15.872	0.04	0.79	0.05	0.03	0	0	0	96.50
1570	92MOB1049	ilmenite	0	0.021	0.02	48.08	0.038	0.02	0.62	0.192	50.28	0.12	0	0.07	0	0.07	0.67	100.19
1571	92MOB1049	magnetite	0	0.047	0	76.08	0.108	0	0.25	0.121	13.85	1.27	0.04	0.03	0	0.09	0.43	92.31
1572	92MOB1049	ilmenite	0	0.030	0	46.03	0.049	0.01	1.18	0.348	51.48	0.25	0	0	0	0.06	0.48	99.95
1573	92MOB1049	ilmenite	0	0.034	0.01	46.91	0.038	0.01	0.24	0.055	51.77	0.04	0.02	0.16	0	0.05	0.39	99.71
1574	92MOB1049	magnetite	0	0.056	0.01	81.77	0.229	0.01	0.09	0.023	9.46	0.20	0.04	0	0	0.06	0.24	92.20
1575	92MOB1049	alt.ilmen.	0.011	0.103	0.01	31.34	0.151	0.04	0.31	0.260	60.49	0.12	0.03	0.14	0	0.07	0.51	93.59
1576	92MOB1049	ilmenite	0	0.030	0.01	47.18	0.047	0	0.35	0.277	51.19	0.08	0.03	0.05	0	0.08	0.58	99.89
1577	92MOB1049	ilmenite	0	0.045	0	46.03	0.045	0.02	0.66	0.683	51.66	0.13	0	0	0	0.04	0.65	99.98
1578	92MOB1049	ilmenite	0	0.019	0.01	46.71	0.047	0.03	0.16	0.544	51.56	0.18	0.02	0.04	0	0.06	0.81	100.18
1579	92MOB1123	ilmenite	0	0.021	0	47.04	0.021	0.01	0.23	0.126	52.03	0.02	0.04	0.07	0	0.09	0.39	100.08
1580	92MOB1123	ilmenite	0	0.013	0.01	45.81	0.043	0.01	0.12	0.970	52.10	0.23	0.06	0.03	0	0.08	0.77	100.25
1581	92MOB1123	ilmenite	0	0.045	0	47.39	0.064	0.01	1.88	0.703	47.46	0.05	0	0.10	0	0.04	0.44	98.20
1582	92MOB1123	magnetite	0	0.032	0	81.68	0.093	0	0.16	0.046	8.38	0.31	0.03	0	0	0.05	0.29	91.09
1583	92MOB1123	ilmenite	0	0.030	0.01	46.40	0.026	0.01	0.71	0.237	50.94	0.25	0.03	0.05	0	0	0.99	99.67
1584	92MOB1123	magnetite	0	0.041	0	77.85	0.094	0.01	0.32	0.101	13.21	0.07	0.05	0.05	0	0.08	0.32	92.20
1585	92MOB1123	magnetite	0	0.043	0.01	81.15	0.115	0	0.24	0.046	10.37	0.24	0.03	0.06	0	0.08	0.31	92.67
1586	92MOB1123	magnetite	0	0.036	0.01	73.95	0.121	0.01	0.21	0.061	18.66	0.15	0	0.05	0	0.07	0.34	93.66
1587	92MOB1123	magnetite	0	0.026	0	80.73	0.159	0	0.15	0.025	9.77	0.20	0.03	0.05	0	0.08	0.26	91.48
1588	92MOB1123	magnetite	0	0.032	0.01	79.40	0.083	0.01	0.07	0.038	11.14	0.22	0.04	0.03	0	0.12	0.32	91.52
1589	92MOB1123	magnetite	0	0.036	0.01	80.26	0.232	0	0.11	0.033	8.59	0.14	0.03	0	0	0.07	0.27	89.78
1590	92MOB1123	ilmenite	0	0.039	0	45.61	0.030	0.01	1.36	0.207	51.72	0.06	0.03	0.04	0	0.06	0.39	99.57
1591	92MOB1123	magnetite	NA	0.070	NA	80.13	0.120	0.02	0.21	0.020	8.77	0.19	0	0	NA	0.09	0.34	89.96
1592	92MOB1123	magnetite	0	0.041	0	80.66	0.314	0	0.14	0.070	8.72	0.15	0	0.09	0	0.08	0.28	90.56

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1593	92MOB1123	magnetite	0	0.036	0	80.88	0.136	0	0.21	0.027	9.53	0.09	0.03	0	0	0.07	0.25	91.28
1594	92MOB1123	Cr-diopside	0.570	51.360	0	4.26	1.353	23.05	0.11	16.033	0.10	0.76	0.14	0	0	0.04	0	97.82
1595	92MOB1123	magnetite	0	0.028	0	81.82	0.248	0.01	0.12	0.075	9.50	0.23	0.02	0.03	0	0.09	0.26	92.41
1596	92MOB1123	magnetite	0	0.041	0	82.82	0.138	0	0.13	0.046	9.43	0.12	0.04	0.05	0	0.08	0.35	93.23
1597	92MOB1123	magnetite	0	0.034	0	78.74	0.106	0.02	0.19	0.022	12.70	0.23	0.02	0.03	0	0.06	0.31	92.46
1598	92MOB1123	magnetite	0	0.028	0	79.48	0.183	0	0.09	0.038	11.58	0.33	0.05	0	0	0.06	0.55	92.40
1599	92MOB1123	magnetite	0	0.030	0	80.08	0.123	0	0.11	0.056	12.24	0.25	0.02	0.04	0	0.06	0.25	93.26
1600	92MOB1123	magnetite	0	0.028	0	80.30	0.064	0	0.27	0.040	10.23	0.22	0.04	0.05	0	0.05	0.33	91.63
1601	92MOB1123	ilmenite	0	0.019	0	51.29	0.030	0	0.91	0.280	44.70	0.10	0.04	0.03	0	0.04	0.45	97.89
1602	92MOB1123	ilmenite	0	0.024	0.01	46.83	0.047	0.01	0.48	0.391	50.97	0.11	0.03	0.06	0	0.06	0.67	99.68
1603	92MOB1123	ilmenite	0	0.019	0	46.87	0.025	0	0.70	0.045	50.98	0.07	0.02	0.06	0	0.04	0.41	99.24
1604	92MOB1126	ilmenite	0	0.068	0	46.56	0.045	0.01	0.14	0.589	51.72	0.21	0	0.06	0	0.09	0.54	100.03
1605	92MOB1126	ilmenite	0	0.041	0.01	46.65	0.043	0.01	0.62	0.381	50.91	0.12	0.03	0	0	0.06	0.88	99.77
1606	92MOB1126	ilmenite	0	0.036	0	44.73	0.042	0	0.08	1.804	52.27	0.06	0.04	0.05	0	0.03	0.53	99.68
1607	92MOB1126	ilmenite	0	0.013	0	46.11	0.040	0.01	0.80	0.144	51.13	0.08	0.03	0.05	0	0.05	0.47	98.92
1608	92MOB1126	ilmenite	0	0.034	0	46.33	0.034	0	1.45	0.085	50.71	0.10	0.02	0.06	0	0.08	0.62	99.52
1609	92MOB1126	magnetite	0	0.024	0	84.60	0.319	0	0.06	0.126	4.70	0.19	0.03	0.03	0	0.09	0.19	90.36
1610	92MOB1126	ilmenite	0	0.036	0	46.79	0.038	0.01	0.20	0.458	51.82	0.08	0.03	0.05	0	0.06	0.47	100.03
1611	92MOB1126	magnetite	0	0.039	0	80.63	0.096	0	0.10	0.095	10.44	0.24	0.02	0	0	0.09	0.18	91.95
1612	92MOB1126	ilmenite	0	0.028	0.01	46.05	0.043	0.02	0.59	0.524	51.81	0.08	0.03	0.09	0	0.06	0.40	99.73
1613	92MOB1126	ilmenite	0	0.030	0.01	47.05	0.030	0	0.69	0.141	50.58	0.09	0.05	0.04	0	0.08	0.84	99.63
1614	92MOB1126	ilmenite	0	0.024	0.01	47.32	0.047	0.03	0.93	0.061	50.02	0.03	0.02	0.04	0	0.06	0.38	98.96
1615	92MOB1126	Cr-diopside	0.359	53.354	0.01	0.78	1.147	25.11	0.33	17.069	0.08	0.88	0	0.03	0	0	0	99.19
1616	92MOB1126	Cr-diopside	0.443	52.853	0.01	3.44	0.990	23.39	0.16	16.109	0.05	1.13	0.14	0	0	0	0	98.76
1617	92MOB1126	Cr-diopside	0.536	52.528	0.01	3.96	1.204	21.43	0.23	17.260	0.16	1.16	0.13	0	0	0	0	98.66
1618	92MOB1126	ilmenite	0	0.041	0.01	46.92	0.064	0	0.72	0.507	49.79	0.07	0.05	0.05	0	0.06	0.45	98.72
1619	92MOB1126	ilmenite	0	0.026	0	45.38	0.043	0.02	1.18	0.388	51.70	0.05	0.03	0	0	0.03	0.35	99.21
1620	92MOB1126	magnetite	0	0.034	0	78.28	0.115	0.01	0.16	0.076	14.31	0.13	0.05	0.04	0	0.10	0.29	93.59
1621	92MOB1126	magnetite	0	0.030	0.01	80.50	0.130	0	0.08	0.018	10.61	0.27	0.02	0	0	0.12	0.40	92.19
1622	92MOB1126	magnetite	0	0.039	0	80.68	0.134	0.01	0.18	0.028	10.61	0.20	0.04	0	0	0.08	0.29	92.31
1623	92MOB1126	ilmenite	0	0.032	0.01	47.36	0.028	0.02	0.57	0.071	51.18	0.08	0.02	0	0	0.05	0.47	99.89
1624	92MOB1126	ilmenite	0	0.019	0	48.62	0.066	0.03	0.58	0.620	49.32	0.03	0.03	0.04	0	0.07	0.43	99.86
1625	92MOB1126	ilmenite	0	0.026	0.01	46.81	0.034	0.01	0.24	0.136	52.22	0.08	0.04	0.03	0	0.06	0.39	100.09
1626	92MOB1126	magnetite	0	0.043	0	81.35	0.128	0	0.73	0.075	9.33	0.19	0.05	0	0	0.07	0.30	92.26
1627	92MOB1126	magnetite	0	0	0	82.33	0.153	0	0.21	0.040	8.62	0.19	0.04	0.04	0	0.09	0.43	92.15
1628	92MOB1126	ilmenite	0	0.024	0	46.96	0.066	0	0.21	0.371	51.45	0.13	0	0.14	0	0.06	0.51	99.94
1629	92MOB1126	ilmenite	0	0.034	0.01	53.10	0.042	0.03	1.84	0.179	42.93	0.05	0.03	0.04	0	0.06	0.41	98.75
1630	92MOB1126	ilmenite	0	0.032	0.01	47.00	0.030	0.01	0.54	0.141	51.40	0.07	0.02	0.03	0	0.08	0.60	99.97
1631	92MOB1126	ilmenite	0	0.028	0	47.55	0.034	0.01	0.94	0.066	50.77	0.06	0.04	0.08	0	0.06	0.41	100.05
1632	92MOB1177	ilmenite	0	0.019	0	45.27	0.051	0.01	2.20	0.090	51.89	0.04	0.03	0.03	0	0.07	0.37	100.07
1633	92MOB1177	ilmenite	0	0.013	0	48.80	0.032	0	2.13	0.177	46.63	0.14	0.02	0.04	0	0.06	0.44	98.47
1634	92MOB1177	ilmenite	0	0.041	0	46.33	0.032	0.03	1.59	0.106	50.87	0.05	0.02	0	0	0.05	0.42	99.53
1635	92MOB1177	ilmenite	0	0.028	0.01	48.08	0.053	0.02	0.75	0.879	48.92	0.05	0.03	0.05	0	0.07	0.45	99.39
1636	92MOB1177	ilmenite	0	0.032	0	46.76	0.072	0.03	0.85	0.111	51.31	0.03	0.02	0.04	0	0.05	0.33	99.62
1637	92MOB1177	magnetite	0	0.030	0	80.19	0.151	0	0.21	0.085	10.39	0.25	0.05	0	0	0.05	0.29	91.71
1638	92MOB1177	ilmenite	0	0.015	0	49.37	0.042	0.02	0.78	0.352	46.11	0.13	0.03	0.04	0	0.07	0.39	97.34
1639	92MOB1177	pyroxene	0.508	51.315	0	3.53	1.861	23.68	0.08	16.124	0.03	0.39	0.08	0	0	0.03	0.05	97.70

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CAO	MNO	MGO	TiO2	CR2O3	NiO	ZNO	NB2O5	COO	V2O3	TOTAL
1640	92MOB1177	Cr-diopside	0.644	52.487	0	4.69	1.589	23.30	0.26	15.323	0.23	0.60	0.13	0.06	0	0	0.05	99.34
1641	92MOB1177	pyroxene	0.558	53.272	0	4.67	0.873	24.35	0.20	15.268	0.05	0.15	0.05	0	0	0.04	0	99.50
1642	92MOB1177	garnet	0	36.572	0	34.06	21.085	0.97	0.66	5.439	0.03	0.05	0.03	0	0	0.06	0	98.99
1643	92MOB1177	garnet	0	34.910	0.01	37.89	19.666	3.21	0.87	0.889	0.04	0.03	0.02	0	0	0.04	0	97.58
1644	92MOB1177	garnet	0	37.744	0.01	4.23	20.749	34.68	0.32	0.104	0.22	0.03	0	0	0	0	0.05	98.15
1645	92MOB1177	garnet	0.020	40.480	0.01	7.55	18.276	5.71	0.42	19.629	0.24	6.28	0.03	0	0	0	0.05	98.72
1646	92MOB1177	ilmenite	0	0.030	0	42.88	0.043	0.01	7.26	0.048	48.74	0.04	0.03	0.04	0	0.08	0.32	99.51
1647	92MOB1177	ilmenite	0	0.021	0	49.59	0.043	0.01	0.66	1.021	47.43	0.05	0.02	0	0	0.09	0.50	99.46
1648	92MOB1177	ilmenite	0	0.026	0.01	46.92	0.043	0.01	1.44	0.073	50.87	0.04	0.05	0	0	0.07	0.39	100.03
1649	92MOB1177	ilmenite	0	0.036	0	46.40	0.038	0	0.39	0.650	51.33	0.16	0.04	0.08	0	0.07	0.87	100.05
1650	92MOB1177	ilmenite	0	0.034	0	46.84	0.042	0	0.54	0.327	51.15	0.13	0.02	0.05	0	0.05	0.46	99.64
1651	92MOB1177	magnetite	0	0.028	0.01	77.19	0.077	0	0.26	0.051	14.19	0.19	0.03	0.04	0	0.08	0.34	92.48
1652	92MOB1177	ilmenite	0	0.036	0.01	46.36	0.034	0.01	0.15	0.516	51.81	0.11	0.03	0.09	0	0.06	0.54	99.74
1653	92MOB1177	ilmenite	0	0.024	0	46.97	0.051	0.01	0.65	0.103	50.83	0.10	0	0	0	0.09	0.75	99.60
1654	92MOB1177	ilmenite	0	0.036	0.01	48.46	0.077	0.01	0.94	0.154	49.34	0.03	0.03	0.06	0	0.08	0.39	99.62
1655	92MOB1177	ilmenite	0	0.034	0	45.76	0.036	0	1.64	0.050	51.82	0.03	0.02	0.05	0	0.06	0.35	99.85
1656	92MOB1177	ilmenite	0	0.024	0.01	46.93	0.047	0.02	0.78	0.186	51.19	0.08	0.02	0.03	0	0.10	0.88	100.30
1657	92MOB1177	ilmenite	0	0.039	0.01	62.15	0.096	0	0.03	0.028	30.53	0.17	0.02	0	0	0.07	0.37	93.51
1658	92MOB1177	magnetite	0	0.030	0.01	83.03	0.127	0	0.17	0.121	8.05	0.31	0.03	0.06	0	0.14	0.26	92.32
1659	92MOB1177	ilmenite	0	0.026	0.01	47.16	0.043	0	0.51	0.088	50.97	0.22	0	0	0	0.05	0.85	99.96
1660	92MOB1177	magnetite	0	0.030	0.01	80.07	0.113	0.01	0.11	0.065	10.86	0.28	0.05	0.03	0	0.06	0.31	91.99
1661	92MOB1177	ilmenite	0	0.030	0.01	47.82	0.045	0	1.44	0.035	49.28	0.04	0.03	0.06	0	0.08	0.28	99.15
1662	92MOB1177	ilmenite	0	0.026	0.01	49.31	0.049	0.02	2.16	0.096	46.75	0.04	0.02	0.08	0	0.07	0.38	99.01
1663	92MOB1183	ilmenite	0	0.028	0	47.59	0.028	0.01	1.22	0.088	50.38	0.05	0.03	0.05	0	0.07	0.37	99.92
1664	92MOB1183	ilmenite	0	0.028	0.01	47.51	0.040	0.01	0.60	0.066	50.56	0.08	0.02	0	0	0.07	0.43	99.43
1665	92MOB1183	magnetite	0	0.019	0.01	77.43	0.108	0.02	0.11	0.124	13.44	0.43	0.04	0.06	0	0.07	0.21	92.06
1666	92MOB1183	chromite	0.007	0.024	0	21.88	6.213	0	0.42	7.827	0.06	61.92	0.05	0.34	0	0.08	0.07	98.88
1667	92MOB1183	magnetite	0	0.032	0	69.22	0.098	0.02	0.08	0.043	16.84	0.32	0.05	0	0	0.12	0.36	87.18
1668	92MOB1183	ilmenite	0	0.030	0	45.81	0.036	0.01	1.64	0.050	50.70	0.12	0.03	0.03	0	0.07	0.45	98.96
1669	92MOB1183	hematite	0	0.109	0	88.72	0.081	0.01	0.05	0	0.07	0.07	0.05	0.06	0	0.10	0.12	89.44
1670	92MOB1183	magnetite	0	0.039	0.01	80.50	0.140	0.01	0.43	0.272	9.48	0.22	0.06	0.08	0	0.07	0.27	91.58
1671	92MOB1183	magnetite	0	0.024	0	81.56	0.091	0.02	0.22	0.099	9.79	0.13	0.05	0.05	0	0.06	0.30	92.37
1672	92MOB1183	chromite	0.011	0.049	0	26.53	9.115	0	0.39	6.969	0.08	54.99	0.10	0.34	0	0.15	0	98.74
1673	92MOB1183	pyroxene	0.481	52.688	0.03	4.97	1.551	23.19	0.19	15.771	0.04	0.35	0.02	0	0	0.03	0	99.35
1674	92MOB1183	Cr-diopside	1.078	51.593	0	5.48	1.446	22.06	0.12	14.804	0.04	0.68	0.13	0	0	0	0	97.46
1676	92MOB1183	garnet	0	36.764	0	31.99	20.485	4.45	1.85	3.681	0.02	0.20	0	0.03	0	0.05	0	99.53
1677	92MOB1183	ilmenite	0	0.036	0.01	48.02	0.042	0	0.83	0.163	50.24	0.03	0.03	0.06	0	0.06	0.34	99.85
1678	92MOB1183	magnetite	0	0.024	0.01	81.92	0.093	0	0.10	0.035	10.38	0.10	0.05	0.03	0	0.09	0.17	92.99
1679	92MOB1183	chromite	0.046	0.032	0.01	26.22	6.237	0.01	0.41	5.951	0.08	60.06	0.07	0.50	0	0.11	0.07	99.80
1680	92MOB1183	magnetite	0	0.045	0	80.09	0.128	0	0.27	0.108	11.19	0.17	0.06	0.05	0	0.05	0.31	92.47
1681	92MOB1183	magnetite	0	0.032	0	80.23	0.202	0	0.10	0.048	9.55	0.09	0.02	0	0	0.06	0.27	90.61
1682	92MOB1183	magnetite	0	0.034	0.01	82.50	0.198	0	0.12	0.048	8.66	0.25	0.04	0	0	0.09	0.32	92.29
1683	92MOB1183	ilmenite	0	0.045	0	46.47	0.034	0	0.15	0.615	51.95	0.07	0.03	0.09	0	0.10	0.44	100.00
1684	92MOB1185	ilmenite	0	0.028	0	48.01	0.036	0.02	0.64	0.330	49.82	0.33	0.05	0.04	0	0.06	0.58	99.94
1685	92MOB1185	ilmenite	0	0.039	0	47.67	0.038	0.01	1.38	0.055	50.25	0.03	0.02	0.03	0	0.06	0.34	99.92
1686	92MOB1185	ilmenite	0	0.021	0.01	46.23	0.045	0	0.70	0.570	51.34	0.18	0.03	0.07	0	0.04	0.49	99.72
1687	92MOB1185	alt.ilmen.	0	0.468	0.01	31.44	0.431	0.06	0.20	0.139	58.45	0.08	0.02	0	0	0	0.51	91.84

Grain	Sample	Species	NA2O	SiO2	K2O	FeO	Al2O3	CaO	MnO	MgO	TiO2	Cr2O3	NiO	ZnO	Nb2O5	COO	V2O3	TOTAL
1688	92MOB1185	ilmenite	0	0.024	0	45.75	0.057	0.01	1.87	0.070	51.47	0.06	0	0.05	0	0.05	0.35	99.75
1689	92MOB1185	magnetite	0	0.032	0.01	81.63	0.695	0	0.14	0.051	7.99	0.38	0.02	0.03	0	0.10	0.25	91.31
1690	92MOB1185	ilmenite	0	0.028	0	47.26	0.038	0.01	1.54	0.061	49.74	0.04	0.03	0	0	0.05	0.36	99.17
1691	92MOB1185	ilmenite	0	0.019	0	47.07	0.036	0.01	0.53	1.058	49.57	0.22	0.02	0	0	0.08	0.49	99.12
1692	92MOB1185	alt.ilmen.	0	0.154	0.01	36.58	0.121	0.04	0.13	0.192	55.83	0.03	0.02	0	0	0	0.37	93.51
1693	92MOB1185	ilmenite	0	0.019	0	48.82	0.049	0.01	1.34	0.574	47.21	0.06	0.02	0	0	0.06	0.42	98.59
1694	92MOB1185	ilmenite	0	0.028	0.01	46.21	0.043	0	0.91	0.224	51.03	0.03	0.04	0	0	0.04	0.39	98.96
1695	92MOB1185	ilmenite	0	0.030	0	47.03	0.045	0	0.98	0.164	51.23	0.05	0.03	0.05	0	0.06	0.37	100.04
1696	92MOB1185	ilmenite	0	0.026	0	44.41	0.047	0.03	3.39	0.476	50.44	0.38	0.03	0	0	0.11	0.64	99.98
1697	92MOB1185	ilmenite	0	0.013	0	46.95	0.030	0.01	1.55	0.143	50.32	0.05	0.02	0.06	0	0.09	0.35	99.59
1698	92MOB1185	ilmenite	0	0.036	0.01	45.89	0.053	0.03	0.90	0.567	51.82	0.04	0.04	0.06	0	0.06	0.40	99.90