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PETROLOGICAL RESULTS, HEAVY MINERAL CONCENTRATES, TORNGAT PROJECT

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FEBRUARY 12, 2001

PETROLOGICAL RESULTS
HEAVY MINERAL CONCENTRATES
TORNGAT PROJECT, QUEBEC, CANADA
DIAMOND DISCOVERIES INTERNATIONAL

ARJADEE PROSPECTING
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SUMMARY OF EXAMINATION OF HEAVY MINERAL CONCENTRATES
TORNGAT PROJECT
DIAMOND DISCOVERIES INTERNATIONAL

LOGISTICS

122 heavy mineral concentrates were examined for kimberlite indicator minerals and related minerals. The heavy mineral concentrates were based at a minimum specific gravity of 3.0. Grain sizes of each concentrate range between 0.14 mm (millimetres) to 1.0 mm. The concentrates weigh between 4.2 g (grams) to 678.0 g, averaging approximately 45 g in weight. A total of 4,007 g were visually examined under 20X magnification using a binocular microscope.

Processing of the heavy mineral concentrates consisted of screening and gravity concentrating minerals by mechanical jig and refinement to a specific gravity of 3.0 using a density separation liquid: Lithium Metatungstate.

Magnetic minerals were removed from each heavy mineral concentrate by hand magnets. A Franz Magnetic Separator was used on occasion in an effort to reduce the volume of several extremely large mineral concentrates. Magnetic and paramagnetic concentrates have been stored for future reference.

Processing and examination of the heavy mineral concentrates was preformed by: Robert Dillman of Arjadee Prospecting located at Mount Brydges, Ontario.

Mineral grains selected for electron microprobe analyses were submitted to: Robert Barnett of R.L. Barnett Geological located at Lambeth, Ontario.

RESULTS

Kimberlite indicator minerals were identified and verified in sample H2SS-11. The minerals include: chrome diopside, perovskite and olivine. Microprobe analyses determined the olivine as fosteritic (Fo93) and chrome diopside having chrome:sodium ratios of approximately 1:1. Both olivine and chrome diopside chemistries are consistent with similar minerals from diamond-bearing kimberlite suggesting there is good potential for diamond to occur in the source of the H2SS-11 minerals. A *'fresh'* appearance of the kimberlite minerals and several kimberlite rock fragments in the H2SS-11 sample clearly indicates a source is very close to the sample site.

Suspected kimberlite minerals were identified in samples: DK-3, H1SS-100, H1SS-101, H1SS-104, H1SS110, H2SS-7, H2SS-8, H2SS-10, H2SS-17, H6SS-5, H6SS-10, H6SOIL-1, CRATOR-1. Mineral grains selected from each sample and sent for microprobe analyses include: olivine, perovskite, chromite, Mg-ilmenite, pyrope and almandine garnet, clinopyroxene (augite and diopside), phlogopite mica.

Olivine-phlogopite mica rock fragments from an immediate source are present in H6SOIL-1. The rock fragments are visually similar to kimberlite rock fragments found in H2SS-11.

Garnet forms a large portion of each heavy mineral concentrate. Most of the garnets are pink or orange in colour and are products of regional metamorphism. Microprobe analyses indicates most of the garnets are composed almandine. Traces of garnets of possible association with kimberlite are also present in many of the heavy mineral concentrates and many have been selected for chemical analyses. These garnets were selected on the basis of colour and include grains of: red, orange, dark orange-red, yellow, pink, pinkish-purple and dull purple. Unique garnets to the survey include: 1.) pellet-shaped pink garnets with shagreen texture (frosted surface); 2.) dull purple grain fragments. Each of these garnet-types are considered as good candidates to be pyrope or sub-pyrope garnet. Samples with 'frosted' pink garnets include: H1SS-104, H1SS-110, B-06(2), D-03, D-04, D-12, D-14. Samples with dull purple garnets include: H1SS-005, H1SS-100, H1SS-101, H1SS-110.

The H6RX series of heavy mineral concentrates derived from crushed rock samples are all similar in composition: clinopyroxene + olivine. Mineralogy and textures suggest an ultramafic source, possible being peridotite.

The H2RX series of heavy mineral concentrates also derived from crushed rock samples are both similar to each other in composition and texture: fine-grained clinopyroxene + olivine +carbonate. The mineralogy and textures point towards a sheared peridotite source.

Base metal potential, notably various copper mineralization, is evident in samples: P-2, DK-3. Potential rare earth minerals were observed in: DK-3. Flakes of graphite occur in KGV-1A, KGV-2A, B-02, B-04, H2SS-8, H2SS-12, H2SS-13, H2SS-19. Pyrite and rusty iron-manganese grains occur in samples: B-01, B-02, B-04, B-04(2), B-05, KGV-1B, KGV-2A, KGV-2B, H1SS-003, H2SS-12, H2SS-13, H2SS-14, H2SS-18, H2SS-19, H6SS-8, H2RX-1.

RECOMMENDATIONS

Based on the presence of kimberlite minerals or potential kimberlite minerals, additional diamond exploration is warranted in the vicinity to samples: DK-3, H1SS-100, H1SS-101, H1SS-104, H1SS110, H2SS-7, H2SS-8, H2SS-10, H2SS-11, H2SS-17, H6SS-5, H6SS-10, H6SOIL-1, B-06(2), D-03, D-04, D-12, D-14. Priority should be given to samples containing olivine since this mineral weathers very rapidly during transport and evidence of olivine suggests a source very close to the sample site.

In samples where kimberlite or related rock fragments are present (H2SS-11, H6SOIL-1), magnetite forms a large component of the heavy mineral concentrate. The increase in magnetite suggests the source (pipe or dike) is strongly magnetic and should be easily detectable by a ground magnetometer survey. Preforming ground magnetometer surveys in conjunction with additional heavy mineral sampling, prospecting and surficial geological mapping is strongly recommended over potential kimberlite areas listed above.

Exploration for copper mineralization is recommended in the vicinity to samples P-2 and DK-3. Rare earth exploration is recommended in the vicinity to DK-3. Exploration for sulphide iron formation with potential base metal mineralization is recommend in the vicinity to samples: KGV-1B, KGV-2A, KGV-2B. Surficial mapping and prospecting are warranted in all these areas.

Respectfully submitted,

Robert J. Dillman B.Sc.
Geologist
Arjadee Prospecting

HEAVY MINERAL CONCENTRATE EXAMINATION SUMMARY
TORNGAT PROJECT, QUEBEC: DIAMOND DISCOVERIES INTERNATIONAL
PETROLOGY BY: ROBERT DILLMAN, ARJADEE PROSPECTING FEBRUARY 2001

SAMPLE NUMBER	GRAIN SIZE	CONC. WEIGHT	WEIGHT EXAMINED	NON-MAG	PARA MAG	MAG	GARNET	CHROMITE	ILMENITE	PEROV-SKITE	OLIVINE	Cr DIOPSIDE	CLINO-PYROXENE	Cu	Gr	PY	comments
RV-1	-1.0 mm	38.5 g	38.5 g	38.5 g	—	---	1% (4) 1 pyr (1)		3 (3)				1% (4)				yellow garnets?
RV-2	-1.0 mm	23.6 g	21.8	21.8	---	1.8 g		2 (1)	1 (1)								
RV-3	-1.0 mm	8.4 g	7.4 g	7.4 g	---	0.9 g					1						
RV-4	-1.0 mm	73.7 g	63.5 g	63.5 g	---	10.2g	1%	1?	1?								yellow garnets?
RV-5	-1.0 mm	74.1 g	68.4 g	68.4 g	---	5.7 g	20% (11) al		1		3		6				yellow garnets?
RV-6	-1.0 mm	11.7 g	6.0 g	6.0 g	---	5.7 g											yellow garnets?
RV-7	-1.0 mm	13.7 g	8.4 g	8.4 g	---	5.3 g											
RV-8	-1.0 mm	73.9 g	68.3 g	68.3 g	---	5.6 g	40 (4) al	2 (2)	2 (2)			1					possible chrome octahedron
RV-9	-1.0 mm	112.2 g	77.0 g	77.0 g	---	35.2	1% (11) al	3 (3)	3 (3)								
RV-10	-1.0 mm	41.3 g	29.3 g	29.3 g	---	12.0g	1 al										
RV-11	-1.0 mm	23.4g	19.1 g	19.1g	---	4.3g		2			1 (1)	2? (2)					possible chrome octahedron.
RV-12	-1.0 mm	18.3 g	16.1 g	16.1 g	---	2.2 g	3 al										
RV-13	-1.0 mm	40.0 g	37.1 g	37.1 g	---	2.9 g	2 al										
RV-14	-1.0 mm	29.5 g	24.9 g	24.9 g	---	4.6 g	8 (8) al		3 (3)		2?		2 (2)				yellow garnets?
RV-15	-1.0 mm	34.9 g	30.9 g	30.9 g	---	4.0 g	1-2% (10) al	1(1)									yellow garnets?
B-01	-1.0 mm	15.0 g	15.0 g	15.0 g	---	—										5	graphite -pyrite zones close to sample site.
B-01(2)	-1.0 mm	14.7 g	14.5 g	14.5 g	---	0.2 g											
B-02	+0.5 mm	21.6 g	21.6 g	21.6 g	---	---									6	3	graphite -pyrite zones close to sample site.
B-02(2)	+0.5 mm	45.0 g	44.7 g	44.7 g	---	0.3 g	3 al									1	graphite -pyrite zones close to sample site.
B-03(2)	+0.5 mm	37.1 g	37.1 g	37.1 g	---	---											
B-04	-1.0 mm	20.4 g	20.4 g	20.4 g	---	---									8	3	graphite -pyrite zones close to sample site.

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B-04(2)	+0.5 mm	37.5 g	37.2 g	37.2 g	---	0.3	3 al									10	graphite -pyrite zones close to sample site.
B-05	+0.5 mm	20.4 g	20.4 g	20.4 g	---	---									1	1	graphite -pyrite zones close to sample site.
B-05(2)	+0.5 mm	32.3 g	31.9 g	31.9 g	---	0.4 g											
B-06(2)	+0.5 mm	47.7 g	47.5 g	47.5 g	---	0.2 g	6 (6) al				1?						
B-07(2)	+0.5 mm	51.8 g	51.6 g	51.6 g	---	0.2 g			1% (4)								
B-12	-1.0 mm	42.8 g	42.6 g	42.6 g	---	0.2 g	2 al		<1%		2?						
B-13	+0.5 mm	70.8 g	70.6 g	70.6 g	---	0.2 g	8 (8) al						1				
B-14	+0.5 mm	44.2 g	42.4 g	42.4 g	---	1.8 g	5 (5)		3 (3)		3 (3)						
B-15	+0.5 mm	49.5 g	49.5 g	49.5 g	---	---	1 al	3			3 (3)						
B-16	-1.0 mm	98.5 g	98.3 g	98.3 g	---	0.2 g	4 (4) al										
D-01	-1.0mm	8.2 g	8.0 g	8.0 g	---	0.2 g		3 (3)			1 (1)		3 (3)				typical background mineralogy.
D-02	+0.5 mm	23.2 g	23.2 g	23.2 g	---	---	5 (2) al										
D-03	+0.5 mm	54.5 g	54.1 g	54.1 g	---	0.4 g	3 al										
D-04	-0.5 mm	45.1 g	43.5 g	43.5 g	---	1.6 g	35 (11) al										pink pellets with frosted surface.
D-05	-1.0 mm	26.8 g	24.4 g	24.4 g	---	2.4 g											
D-06	-1.0 mm	26.1 g	24.9 g	24.9 g	---	1.2 g	3 al						3				
D-07	-1.0 mm	43.1 g	42.7 g	42.7 g	---	0.4 g	6 (6) al						3				
D-08	-1.0 mm	47.9 g	47.4 g	47.4 g	---	0.5 g	7 al										
D-09	-1.0 mm	40.1 g	39.2 g	39.2 g	---	0.9 g	10 al						2				
D-10	-1.0 mm	28.9 g	28.2 g	28.2 g	---	0.7 g	3										pink pellets with frosted surface.
D-11	-1.0 mm	52.4 g	51.7 g	51.7 g	---	0.7 g							10				increase in cpx.
D-12	-1.0 mm	68.6 g	67.6 g	67.6 g	---	1.0 g	20 al										pink pellets with frosted surface.

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D-13	-1.0mm	59.0 g	6.3 g	59.0 g	---	---											
D-14	-1.0 mm	103.2 g	101.2 g	101.2 g	---	3.0 g	13 (13) al	3?					4				pink pellets with frosted surface.
D-15	-0.5mm	66.6 g	18.6 g	66.6 g	---	0.8 g							10				28% partial examination.
D-16	-1.0 mm	84.0 g	82.8 g	82.8 g	---	1.2 g	3	3									
BGV-1	-1.0 mm	47.7 g	47.7 g	47.7 g	---	---	10 (10) al										
KGV-1A	-1.0mm	10.6 g	10.3 g	10.3 g	---	0.3 g	7 (7) al 3 (3) pyr	3 (3)	4 (4)	1			10 (3)		5		sulphide zones in area.
KGV-1B	-1.0 mm	14.5 g	14.1 g	14.1 g	---	0.4 g	5									+50	sulphide iron formation close to sample site.
KGV-2A	-1.0mm	29.1 g	3.1 g	17.1 g	---	12.0g									10	+50	sulphide- rutile-ilmenite zone close to sample site.
KGV-2B	-1.0 mm	9.8 g	7.3 g	7.3 g	---	2.5 g	3									+10	sulphide- rutile-ilmenite zone close to sample site.
CRATOR -1	-1.0mm	6.9 g	6.9 g	6.9 g	---	<0.1g					5% (8)		90%				-peridotite, 0 distance.
P-1	-1.0 mm	7.4 g	6.1 g	6.1 g	---	1.3 g	3				1-2%		60%				-peridotite, 0 distance.
P-2	-1.0mm	23.0 g	22.2 g	22.2 g	---	0.8 g					40%(6)		40%	2			-malachite/ azurite coated grains. -peridotite, 0 distance.
P-3	-1.0mm	34.7 g	28.3 g	28.3 g	---	16.4g		3 (3)			20% (7)		75% (3)				-peridotite, 0 distance.
P-4	-1.0mm	44.7 g	31.0 g	31.0 g	---	13.7g					10%		60%				-peridotite, 0 distance.
5237	-1.0mm	47.3 g	4.3 g	44.0 g	---	<0.1g		4 (4)	2 (2)	1 (1)	+10 (4)						
DK-3	-1.0mm	14.3 g	1.2 g	1.2 g	---	13.1g	+50 al (8)	3 (3)		3 (3)	10% (10)	1? (1)	80% (3)	3			5% brown and brown-green mica, most cpx in composite with mica, 3 brown octahedral possible rare earth minerals, rock could be kimberlite?? or related.

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SAMPLE NUMBER	GRAIN SIZE	CONC. WEIGHT	WEIGHT EXAMINED	NON-MAG	PARA MAG	MAG	GARNET	CHROMITE	Mg-ILMENITE	PEROV-SKITE	OLIVINE	Cr DIOPSIDE	CLINO-PYROXENE	Cu	Gr	PY	comments
T-05	-1.0mm	45.2 g	41.0 g	41.0 g	---	4.2 g	5 (5)				4 (4)						5% orange silicate mineral as in H2RX-1, CRATOR-1 & H2SS-11, could be olivine, close to source.
T-05A	-1.0mm	20.7 g	20.0 g	20.0 g	---	0.7 g											similar mineralogy to T-05.
T-06	-1.0mm	29.7 g	29.5 g	29.5 g	---	0.2 g	7 (7)	3 (3)					3 (3)				typical background mineralogy, possible indicator minerals.
T-07	-1.0mm	21.7 g	21.2 g	21.2 g	---	0.5 g		2									typical background mineralogy.
T-08	-1.0mm	26.3 g	25.7 g	25.7 g	---	0.6 g											
T-09	-1.0mm	37.1 g	36.8 g	36.8 g	---	0.3 g	3 (2) al	5 (5)	5 (5)	1?			5			1	possible Ca-Mg almandine garnets.
T-10	-1.0mm	58.6 g	57.2 g	57.2 g	---	1.4 g	3 al										possible Ca-Mg almandine garnets.
T-11	-1.0 mm	67.3 g	67.0 g	67.0 g	---	0.3 g	+25 (10)	2?	2?								possible Ca-Mg almandine garnets
T-12	-1.0mm	37.4 g	37.2 g	37.2 g	---	0.2 g		3?		3?	2						1-2% orange silicate mineral as in T-05, olivine?.
H1SS-001	-1.0 mm	10.7 g	10.7 g	10.7 g	---	---	13 (2)						1				
H1SS-002	-1.0 mm	15.0 g	14.2 g	14.2 g	---	0.8 g	3						3?				
H1SS-003	-1.0mm	28.1 g	23.8 g	23.8 g	---	4.3 g	3	2?		1?			3			3	
H1SS-004	-1.0mm	6.8 g	4.0 g	4.0 g	---	2.8 g	12 (5) al 1 (1) pyr	10 (10)		1?			11				bright orange-red pellets possible Ca-Mg almandine possible chromite pellets, dull purple garnet similar to H6SS-100.
H1SS-005	-1.0 mm	28.3 g	24.5 g	24.5 g	---	3.8 g	1 pyr		1?				1				
H1SS-006	-1.0 mm	21.2 g	19.6 g	19.6 g	---	1.6 g	16 (4) al 1 (1) pyr										

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HISS-100	-1.0mm	73.3 g	70.4 g	70.4 g	---	2.9 g	6 (6) al 6 (6) pyr	13 (5)					<1% (5)				-golden-brown mica. -potential kimberlite minerals.
H1SS-101	-1.0mm	47.6 g	44.5 g	44.5 g	---	3.1 g	6 (6) al 5 (1)	1 (1)	1 (1)	2 (2)		1? (1)	<1% (2)				-golden-brown mica. -potential kimberlite minerals.
H1SS-102	-1.0 mm	150.4 g	21.7 g	141.7	---	8.7 g	3 al				5?	?	1%				15% partial examination.
H1SS-103	-1.0mm	68.4 g	65. 8 g	65.8 g	---	2.6 g	+10 al										-close to amphibole-sphene-mica source.
HISS-104	-1.0mm	14.4g	14.0 g	14.0 g	---	0.4 g	5 al (5) 4 (4) pyr	5 (5)	2 (2)	3 (3)	5 (3)	??	10%				-unique reddish-silvery-black mica, source close.
HISS-105	-0.5mm	25.0g	24.7 g	24.7 g	---	0.3 g	6 (6) al 31 (5) pyr? (10)	1 (1)					2				
HISS-106	-1.0mm	123.0g	122.7 g	122.7 g	---	0.3 g	+10 (4) al 5 (5) pyr?	8 (8)		??							-ilmenite crystals, abundant clear Fe spinel, - possible Ca-Mg garnets, most likely intrusion? in area.
HISS-107	-1.0mm	59.9 g	59.6 g	59.6 g	---	0.3 g											
HISS-108		103.5 g	103.2 g	103.2 g	---	0.3 g	2 al				5?		1%				
HISS-109	-1.0mm	47.6 g	47.1 g	47.1 g	---	0.5 g	13 (13) al 29 (6) pyr? 3 al (3)	3 (3)			2 (2)	1 (1)	<1% (4)				
HISS-110	-1.0mm	77.5 g	77.1 g	77.1 g	---	0.4 g	6 (6) al 5 (5) pyr? 3 al (3) 2 al (2)				7 (7)		1-2% (7)				-unique reddish-silvery-black mica. - mineralogy similar to H1SS-103.

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SAMPLE NUMBER	GRAIN SIZE	CONC. WEIGHT	WEIGHT EXAMINED	NON-MAG	PARA MAG	MAG	GARNET	CHROMITE	Mg-ILMENITE	PEROV-SKITE	OLIVINE	Cr DIOPSIDE	CLINO-PYROXENE	Cu	Gr	PY	comments
H2SS-6 (H2-3?)	-0.5mm	214.9 g	8.7 g	17.9 g	193.3 g	3.7g	8 (8) al 2 (2) pyr?				2 (2)		3 (3)				-grains submitted for microprobe were mislabeled H2-3.
H2SS-7	-0.5mm	93.0 g	15.1 g	15.1 g	75.0g	2.9g	8 (8)	??]		15 (15)	2 (2)						-possible distorted cubes of perovskite. -several weathered olivine?
H2SS-8	-0.5mm	116.0 g	12.1 g	12.1 g	103.1 g	0.8g	2 (2)			10 (10)	3 (1)				1		-possible distorted cubes of perovskite. -several types of mica.
H2SS-9	-0.5mm	164.0 g	1.8 g	6.5 g	128.1 g	29.4g		1									
H2SS-10	-0.5 mm	162.2 g	30.7 g	53.0 g	107.6 g	1.6 g	10 (7)	3 (3)		10 (8)		1? (1)	2 (2)				60% partial examination. -3 octahedron, chromite?
H2SS-11	-1.0mm	86.2g	11.1 g	11.1 g	---	75.1 g (50)	8 al (5) 5 10 ad (10)			25% (20) 20	5% (14) 14	5 (5) 4					kimberlite, 0 distance to source.
H2SS-12	-1.0mm	42.8g	40.0 g	40.0 g	---	2.8 g									2	+10	sulphide + graphite zones close to sample site.
H2SS-13	-1.0mm	5.8g	5.8 g	5.8 g	---	<0.1g									2	+10	sulphide + graphite zones close to sample site. -anomalous black metallic mica.
H2SS-14	-0.5mm	29.8g	14.1 g	14.1 g	11.4g	4.3 g		2									
H2SS-15	-1.0mm	44.1g	8.2 g	8.2 g	31.8g	4.1 g		2								5	
H2SS-16	-1.0 mm	28.3 g	5.4 g	5.4 g	19.1g	3.7 g		3	1								
H2SS-17	-1.0mm	50.5g	3.0 g	3.0 g	47.2g	0.3 g		3 (3)		3 (3)	1?	1 (1)					possible KIM's in sample, source close to site.
H2SS-18	-0.5mm	115.2g	44.8 g	102.3 g	---	12.9g	3	2					8			3	
H2SS-19	-0.5mm	72.6g	58.4 g	58.4 g	---	14.2g	3 (3)	3 (2)		1 (1)			2 (2)		5	+10	0 distance to sulphide-graphite zones.
H2SS-20	-0.5mm	136.1g	15.2 g	134.2 g	---	1.3 g	5 (5)	2 (2)				1 (1)					
H2SS-21	-1.0mm	12.8g	10.7 g	10.7 g	---	2.1 g	8 al	5				1					

g = grams mm = millimetres % = percent of concentrate (#) = grains submitted for microprobe analyses # microprobe confirmed al = almandine ad = andradite pyr = pyrope

HEAVY MINERAL CONCENTRATE EXAMINATION SUMMARY
TORNGAT PROJECT, QUEBEC: DIAMOND DISCOVERIES INTERNATIONAL
PETROLOGY BY: ROBERT DILLMAN, ARJADEE PROSPECTING FEBRUARY 2001

SAMPLE NUMBER	GRAIN SIZE	CONC. WEIGHT	WEIGHT EXAMINED	NON-MAG	PARA MAG	MAG	GARNET	CHROMITE	Mg-ILMENITE	PEROV-SKITE	OLIVINE	Cr DIOPSIDE	CLINO-PYROXENE	Cu	Gr	PY	comments
H2SS-22	-1.0 mm	137.1 g	26.0 g	136.7 g	---	0.4 g	20 (15) al 3 (3) pyr	10 (3)	10 (2)	10 (2)							20% partial examination.
H2SS-23	-1.0 mm	269.7 g	76.9 g	269.5 g	---	0.2 g	67 (4) al	3 (3)	2 (2)								30% partial examination.
H2SS-24	-1.0 mm	680.2 g	39.4 g	678.0 g	---	2.2 g	1 (1) al	3 (3)	2 (2)	1 (1)	2?						6% partial examination.
H6SS-1	-1.0mm	21.7 g	21.2 g	21.2 g	---	0.5 g					2 (2)		+10 (2)				
H6SS-2	-1.0mm	37.0 g	36.2 g	36.2 g	---	0.8 g					8 (8)		1% (3)				
H6SS-3	-1.0mm	24.0 g	20.3 g	20.3 g	---	3.7 g	3 (2) al	12 (7)			3 (3)		1% (3)				2 types cpx
H6SS-4	-1.0mm	27.5 g	25.8 g	25.8 g	---	1.7 g					3		12				
H6SS-5	-1.0mm	23.2 g	21.3 g	21.3 g	---	1.9 g	15 (8) al 1 (1) pyr?	12 (8)	??	??	4 (4)	1 (1)	+10 (3)				2 types cpx
H6SS-6	-1.0mm	4.2 g	3.0 g	3.0 g	---	1.2 g											
H6SS-7	-1.0mm	26.4 g	26.1 g	26.1 g	---	0.3 g					3		10				
H6SS-8	-1.0 mm	15.9 g	13. 9 g	13.9 g	---	2.0 g	4 al					??	5			2	
H6SS-9	-1.0 mm	15.2 g	13.5 g	13.5 g	---	1.7 g						2 ??	4				1 corundum?
H6SS-10	-1.0mm	17.6 g	15.3 g	15.3 g	---	2.3 g	5 al (5)	35 (5)	??	5 (5)	8 (8)		<1%				sample close to olivine-chromite-mica source.
H6RX-1	-1.0mm	17.7 g	7.2 g	7.2 g	---	10.5g			+5?		5% (6)		90%				trace of greenish black mica, opaques in composite with olivine & cpx. Ultramafic rock
H6RX-1A	-1.0mm	9.4 g	3.4 g	3.4 g	---	6.0 g			+5?		15% (6)		80% (1)				greenish black mica, similar mineralogy to H6RX-1, ultramafic rock.
H6RX-1B	-0.5mm	4.2 g	2.0 g	2.0 g	---	2.2 g			+5?		15%		80%				golden-brown mica, increase in metallic opaques, ilmenite?, different ultramafic source similar to H6RX-1.

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HEAVY MINERAL CONCENTRATE EXAMINATION SUMMARY
TORNGAT PROJECT, QUEBEC: DIAMOND DISCOVERIES INTERNATIONAL
PETROLOGY BY: ROBERT DILLMAN, ARJADEE PROSPECTING FEBRUARY 2001

SAMPLE NUMBER	GRAIN SIZE	CONC. WEIGHT	WEIGHT EXAMINED	NON-MAG	PARA MAG	MAG	GARNET	CHROMITE	Mg-ILMENITE	PEROV-SKITE	OLIVINE	Cr DIOPSIDE	CLINO-PYROXENE	Cu	Gr	PY	comments
H6RX-2	-1.0mm	37.5 g	33.2 g	33.2 g	---	4.3 g	1 (1) al		+5?	8 (8)	5% (10)		85% (1)				10% orange silicate mineral as in T-05, ultramafic rock.
H6RX-3	-1.0mm	37.3 g	31.3 g	31.4 g	---	6.0 g	1 (1) al		+5?	5 (5)	5% (8)		85% (1)				10% orange silicate mineral as in T-05, 1-2% dark green amphibole or cpx? ultramafic rock.
H6RX-4	-1.0mm	28.7 g	23.2 g	23.2 g	---	6.5 g	5 al		+5?		15% (12)		75% (4)				10% orange silicate mineral as in T-05, ultramafic rock.
H6S0L-1	-0.5mm	151.1 g	22.6 g	22.6 g	---	128.5 g	3 al (3)	1-2% (6)		5% (6)	2 (2)		2 (2)				-mica-olivine lamprophyre 0 distance to source.
H2RX-1 ROCK	-1.0mm	56.1 g	18.4 g	18.4 g	---	37.7g		+10			2-3% (10)		95% (6)			5	ultramafic lamprophrye or peridotite,
H2RX-2 ROCK	-1.0mm	43.8 g	9.2 g	40.5 g	---	3.3 g		5			<1%		0.95				ultramafic lamprophrye or peridotite.

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Signed: R.J. Dillman Date: Feb 12, 2001

MINERAL GRAINS SUBMITTED FOR MICROPROBE ANALYSES
DIAMOND DISCOVERIES INTERNATIONAL
GRAINS SUBMITTED TO: R.L. BARNETT GEOLOGICAL
DATE: FEBRUARY 6, 2001

	GARNET							CPX		OLIVINE			OPAQUES			MICA		
SAMPLE No.	RED	ORNG	PINK	PRPL	OR-RED	BRN	YELL	DIOP	AUG	YELL	CLEAR	ORNG	PER	CHR	IL	GOLD BRN	BLACK	SILVER
H1-1		2							1									
H1-4	4	2	1	1	3				3	1				10				
H1-6		1	1	1	2				1									
H1-100		3		6	3				5					5				
H1-101	3	1	1	1	2			1	2				2	1	1	3		
H1-104	2	3		4						1	2		3	5	2			5
H1-105		2		5	4									1				
H1-106		4		5										8				
H1-109		6	1	6	5			1	4	2				3				
H1-110	2	4		5					7	7								3
H6-1									2	3								
H6-2									3	8								
H6-3		2		1					3	3				7				
H6-5	3	3		1	2			1	3	4				8				
H6-10	1	4								8			5	5				
H6SL-1		3							2	2			6	6				

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DATE: FEBRUARY 6, 2001

	GARNET							CPX		OLIVINE			OPAQUES			MICA		
SAMPLE No.	RED	ORNG	PINK	PRPL	OR-RED	BRN	YELL	DIOP	AUG	YELL	CLEAR	ORNG	PER	CHR	IL	GOLD BRN	BLACK	SILVER
H2-3	3		2	2	3				3	2								
H2-7	3		2		3					2			15					
H2-8	2						2			1			10			1	1	
H2-10	1	1	3		2				3				8	3		2		
H2-11				1		5												
H2-13																	7	
H2-17								1					3	3				
H2-19		2	1						2				1	2				
H2-20		5						1						2				
H2RX-1									6	6	4		12					
H6RX-1										3	3							
H6RX-1A									1	6								
H6RX-2	1								1	4	4	2	8					
H6RX-3	1								1	6		2	5					
H6RX-4									4		6	6						
BGV-1	2		2	2	4				4					1	1			
KGV-1A	4	3		3					3					3	4			
DK-3	2	3			3				4		10		3	3				

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DATE: FEBRUARY 6, 2001

	GARNET							CPX		OLIVINE			OPAQUES			MICA		
SAMPLE No.	RED	ORNG	PINK	PRPL	OR-RED	BRN	YELL	DIOP	AUG	YELL	CLEAR	ORNG	PER	CHR	IL	GOLD BRN	BLACK	SILVER
CRA-1											8							
P-2										3	3							
P-3										1	6			3				
D-1									3			1		3				
D-2			2															
D-4	3		3		5													
D-7	1	1		1	3				3									
D-12	1	4			3													
D-14	3	3	3		4													
T-5	1	4									3	1						
T-6		4			3		3		3					3				
T-9					2		2							5	5			
T-11		5			5													
RV-2							4							1	1			
RV-5	3	3			5		3		6		3			1	1			
RV-8					4				4					2	2			
RV-9	3	4	3		5									3	3	2		
RV-14	1	3			4		2		2						3			
RV-15	3	3			4		4		4					1				

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DATE: FEBRUARY 6, 2001

	GARNET							CPX		OLIVINE			OPAQUES			MICA		
SAMPLE No.	RED	ORNG	PINK	PRPL	OR-RED	BRN	YELL	DIOP	AUG	YELL	CLEAR	ORNG	PER	CHR	IL	GOLD BRN	BLACK	SILVER
B-6(2)		2	2		2					1								
B-7(2)															4			
B-13	1		3		3				1							3	2	
B-14					5						3				3			
B-15			1								2	1		3				
B-16	1		3													2	2	
H2-22	5	7		3	3		4						1	3	2			
H2-23			1		3									3	2			
H2-24					1								1	3	2			
5237									4				1	4	2			
RV-1		4		1	4				4						3			
H6-8	3	2							1									
H1-103	3		1	2					3									
H1-108		4			3					6						1		

HEAVY MINERAL CONCENTRATE DESCRIPTIONS: TORNGAT PROJECT
DIAMOND DISCOVERIES INTERNATIONAL
PETROLOGY BY: ROBERT DILLMAN, ARJADEE PROSPECTING
DATE: FEBRUARY 2001
MINIMUM SPECIFIC GRAVITY OF CONCENTRATES: 3.0

RV-01
- -1.0 mm fraction.
-75% orange and pink garnet, 1% of which is dark orange-red grains, mostly fragments, 1 pellet, 2-3% yellow grains, possible garnet (spessertine?).
-20% amphibole and amphibole-quartz-feldspar rock fragments, some light-green amphibole, some could be small cpx.
-1% dark green clinopyroxene.
-2-3% black metallic opaques, most appear to be crustal ilmenite, shapeless fragments, some rutile, several small black remnants cubic crystal, possible perovskite?.
-trace zircon, some subhedral clear pinkish crystals, occassional brownish-purple.

RV-02
- -1.0 mm fraction.
-90% pink almandine garnet, trace orange.
-5% black amphibole and lesser yellow amphibole?, some could be enstatite.
-1% olive green-brown amphibole, blocky grains.
- 1% zircon, mostly brown subhedral crystals, good number of wine-yellow pellet-shaped grains which could be spessertine garnet.
- 1-2% opaques, most appear as crustal ilmenite and rutile.

RV-03
- -1.0 mm fraction.
- 95% pink and orange garnet.
-trace orange sphene?, pellet-shaped grains, some in composite with garnet.
-<1% black metallic opaques, mostly rutile and lesser crustal ilmenite.
- 1yellow olivine?

RV-04
- -1.0 mm fraction.
-90% orange and pink garnet, 1% dark orange-red fragments, 2-3% yellow grains, possible garnet (spessertine?) sphene or zircon.
-10% amphibole and amphibole-quartz-feldspar rock fragments, some light-green amphibole, some could be small cpx, trace of brown amphibole.
-trace black metallic opaques, most appear to be crustal ilmenite, shapeless fragments, some rutile, 3 small broken pellets could Mg-il or chromite.
-trace zircon, some subhedral clear pinkish crystals, occassional brownish-purple.

HEAVY MINERAL CONCENTRATE DESCRIPTIONS: TORNGAT PROJECT
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MINIMUM SPECIFIC GRAVITY OF CONCENTRATES: 3.0

RV-05
- -1.0 mm fraction.
-90% garnet, 20% of which are fragments of dark-orange grains, several yellow pellet as seen in other RV samples, spessertine, 5 orange pellets which could be sphene.
-5% black amphibole, hornblende, several golden-brown grains which could be enstatite.
-trace dull green cpx, mostly small grains, 1 may have chrome, some could be dark green amphibole.
-several zircons, mostly brownish-purple subhedral crystals.

RV-06
-1.0 mm fraction, small concentrate.
- 60% pink almandine, lesser orange almandine, trace small yellow pellets possibly spessertine, rare or-red fragments.
-35% black amphibole, most as composites with quartz, feldspar and mica.
-trace black metallic opaques, mostly shapeless grains of ilmenite and lesser rutile.
-trace zircon, several pellets.
-3 golden-black mica books.

RV-07
- -1.0 mm fraction.
- 60% pink almandine, trace orange garnet.
- 35% amphibole, most as black hornblende, some yellow-brown grains, rare dark green amphibole some could be cpx.
- 1% enstatite, most as blocky grains, source reasonably close?
- trace zircon, brown fragments of euhedral grains and trace yellow pellets which could also be spessertine garnet.
- trace black metallic opaques, rutile and crustal ilmenite.

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MINIMUM SPECIFIC GRAVITY OF CONCENTRATES: 3.0

RV-08
- 1.0 mm fraction.
- 60% pink and orange almandine garnet, rare (+40) fragments of dark orange-red grains.
-35% black amphibole, most is hornblende, some with quartz, feldspar, brownish-black mica and pink garnet.
- 4 grains dull green amphibole.
- 1 clinopyroxene possibly with chrome.
- trace zircon, fragments of brownish-purple crystals, several purple pellets.
- <1% black metallic opaques, most appears to be ilmenite and lesser rutile, 2 chromite? fragments of octahedral crystals.

RV-09
- -1.0 mm fraction.
- 95% pink and orange garnet, <1% fragments of orange-red garnet most with black inclusions (metamorphic almandine?), several dull pinkish-purple grains.
- 2-3% black metallic opaques, many black ilmenite some with steel-blue tarnish, trace rutile, several subhedral and euhedral crystals.
-trace green clinopyroxene, all very small grains <0.3 mm, several could have chrome.
-trace sillimanite.
-several zircon crystals, dark brownish-purple, trace purple pellets.
-3 brownish-black mica books.

RV-10
- -1.0 mm fraction.
- 75% pink and lesser orange almandine garnet, trace dark orange-red fragments, 1 small orange pellet <0.3 mm.
- 25% amphibole and amphibole-quartz-mica-garnet rock fragments, mostly black amphibole, some dark and light-green grains and composites.
-trace black metallic opaques, mostly ilmenite and rutile.
-3 green clinopyroxene fragments.

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RV-11
-1.0 mm fraction.
- 95% orange and pink garnet, several dark orange fragments.
-5% black amphibole, trace dark green.
-2 opaque metallic subhedral octahedrons, possible chromite.
-2 small <0.3 mm grains of clinopyroxene, possibly with chrome.
-1 yellow olivine?

RV-12
- -1.0 mm fraction, small concentrate.
- 95% orange and pink garnet, several dark orange-red fragments.
-<5% black amphibole, mostly hornblende.
- trace sillimanite, fragments of clear, prismatic grains with black inclusions.
- trace zircon, brown-purple subhedral crystals, 3 purple pellets.
- no minerals selected for microprobe.

RV-13
-1.0 mm fraction.
- +95% orange and pink garnet, several dark orange fragments, 2 pinkish-purple grains, fragments.
- trace black amphibole, hornblende.
- trace black metallic opaques, all ilmenite and rutile.

RV-14
-1.0 mm fraction.
-95% pink and orange almandine, mostly pink, trace dark orange-red fragments, several red fragments, <1% small yellow pellets, possibly spessertine.
-2-3% black opaque metallics, most is rutile, some ilmenite.
-trace sillimanite.
-trace zircon, several purple pellets, 3 clear round or anhedral crystals.
- 2 yellow olivine?, could be sillimanite.

RV-15
- -1.0 mm fraction.
- 90% pink and orange garnet, 1-2 % dark orange-red fragments, goog number of red fragments, 1 red pellet, 2-3% yellow garnet?, many small yellow pellets <0.2 mm, several pinkish-purple grains.
-rare amphibole, most are dull green, rare black amphibole.
-rare black metallic opaques, mostly rutile, several small crystals, several small fragments possibly chromite or perovskite.
- trace zircon, all fragments of euhedral brown crystals.

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MINIMUM SPECIFIC GRAVITY OF CONCENTRATES: 3.0

B-01
- -1.0 mm fraction, strong rusty clay coating on grains.
- 60% orange and pink garnet.
- 30-40% fine-grained quartz-feldspar +- mica +- graphite rock fragments
- 5 steel grey metallic grains, remnants of cubic? crystals.
- 0 distance to graphite zones.

B-02
- +0.5 mm fraction.
- 70% orange and pink garnet, mostly pink.
- 30% small quartz-feldspar- black mica rock fragments many with graphite inclusions and/or steel grey metallic.
- 6 graphite flakes.
- 3 steel greyish blue metallic grains.
-3 golden-brown mica flakes.
- graphite sources close.

B-02(2)
- +0.5 mm fraction.
- +95% pink and orange garnet, several dark orange-red grains.
-trace black amphibole.
-trace sillimanite, several in composite with garnet.
-trace unknown silicate (amphibole) with black inclusions possibly rutile, ilmenite and graphite.
-1 pyrite grain.
-3 rusty black metallic, possibly hematite-manganese grains.
- several coarse crustal ilmenite.
-sulphide-graphite zones in area.

B-03(2)
- +0.5 mm fraction.
- +95% orange and lesser pink garnet, many composites with brown-black mica, quartz, rutile and ilmenite.
-trace black metallic opaques, most are rutile and crustal ilmenite.

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MINIMUM SPECIFIC GRAVITY OF CONCENTRATES: 3.0

B-04
- -1.0 mm fraction.
- 60% orange and pink garnet.
- 40% small quartz and quartz-feldspar-mica rock fragments many with graphite inclusions.
- 8 >0.5 mm flakes of graphite, , 1-2% in fine powder <0.3 mm, 0 distance to source.
- 3 steel grey blocky metallic grains.

B-04(2)
- +0.5 mm fraction, 5% rust coated grains.
- 70% orange and pink almandine garnet, several dark orange-red fragments.
- 20% sillimanite, fragments of clear prismic crystals with black inclusions.
- <10% amphibole, mostly black hornblende, good portion of clear and dull white amphibole?, some in composite with metallic-black mica? (graphite?).
-trace opaques consisting of mostly anhedral grains of 'bubbly'-looking pyrite, some in composite with rutile and ilmenite, source close.
-several white amphiboles, some in composite with graphite, source close.

B-05
- +0.5 mm fraction, strong rusty clay coating.
- -80% orange and pink garnet, majority pink, some 'fresh' grains.
-20% small rock fragments of quartz-feldspar, most with graphite inclusions.
-1 +0.5 mm sword-like flake of graphite.
-1 steel-grey metallic fragment.
-2 golden-brown mica.
-trace sillimanite.
-trace black hornblende.

B-05(2)
+0.5 mm fraction.
- +95% orange and lesser pink garnet, many composites with brown-black mica, quartz, rutile and ilmenite.
-trace black metallic opaques, most are rutile and crustal ilmenite.

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B-06(2)
- +0.5 mm fraction.
- 90% orange and pink almandine garnet, 3 dark orange-red fragments, 2 pink pellets with 'frosted' surface (shagren texture?), 1 orange pellet, some quartz-orange garnet? composites.
-10% hornblende, many composites with quartz and feldspar, 3 dark orange-red garnet hornblende composites.
- trace sillimanite.
-1 white translucent silicate euhedral cubic crystal, unknown mineral (barite?).
-1 possible olivine?.

B-07(2)
- +0.5 mm fraction.
- +95% orange and pink garnet, trace dark or-red.
- >1% crustal ilmenite, some rutile.
-1% garnet-ilmenite-rutile composites.

B-08 SAMPLE NOT RECEIVED
B-09 SAMPLE NOT RECEIVED
B-10 SAMPLE NOT RECEIVED
B-11 SAMPLE NOT RECEIVED

B-12
–1.0 mm fraction.
-+95% orange and pink garnet, trace dark orange-red fragments.
– <5% sillimanite, clear prismic grains with black inclusions.
- <1% black amphibole, hornblende.
- <1% black metallic opaques, mostly crustal ilmenite, some rutile several subhedral crystals.
- trace zircon, brownish-purple fragments.
-2 olivine?, could be sillimanite.

B-13
- +0.5 mm fraction.
-95% orange and pink garnet, trace dull pinkish-purple most with black inclusions (metamorphic?), several dark orange-red fragments.
-4 black metallic mica, phlogopite?, source close, several golden-brown books some with quartz and garnet.
-2-3% light fine-grained feldspar + brown amphibole composites, many with pellet-shaped inclusions of quartz?, source close.
-trace zircon, brown subhedral to euhedral crystals

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MINIMUM SPECIFIC GRAVITY OF CONCENTRATES: 3.0

B-14
-+0.5 mm fraction, clay coated rusty grains.
- 40% garnet, orange and pink, pink fresh, several dark orange-red fragments.
- 35% fine-grained rock fragments consisting of silica + feldspar + steel-grey metallic + graphite, source close.
-10% black amphibole, <1% yellowish-brown amphibole.
- trace steel-grey metallic grains, hematite?
-trace black metallic mica, some with yellowish-brown amphibole.

B-15
- -1.0 mm fraction.
- +95% orange and pink almandine garnet fragments.
- traces of black and yellow amphiboles, black amphibole in composite with quartz and golden-brown mica.
- ~5% rutile, black shiny grains, various shaped fragments of larger crystals.
- trace ilmenite, grey-black metallic grains.

B-16
- -1.0 mm fraction.
- +95% orange and lesser pink garnet, 3 dull pinkish-purple fragments, rare dark orange-red fragments.
- trace black metallic opaques, mostly rutile, some large fragments of euhedral-subhedral crystals.
-1 dull-green clinopyroxene grain, could be amphibole.
-several various mica flakes, 2 golden-brown, 2 black metallic.

D-01
- +0.5 mm fraction.
-95% orange and pink almandine garnet.
-5% hornblende, composites with quartz and black mica.
-trace black metallic opaques, most appear to be rutile.
-typical background mineralogy.

D-02
- +0.5 mm fraction, clay coated grains.
- + 95% orange and pink almandine, several fragments of orange-red almandine.
-<1% opaques: mostly shiny black rutile, some dull grey crustal ilmenite
-several brown zircon grains, fragments of euhedral crystals.

D-03
- +0.5 mm fraction.
- +95% pink and orange garnet, 3 pink pellets with frosted surfaces, several subhedral orange crystals.
-1-2% ilmenite and rutile, some big fragments of euhedral rutile crystals.
- 1 golden-brown mica with feldspar?

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D-04
- -0.5 mm fraction.
-90% orange and pink garnet, 15 pellet-shaped pink garnets with frosted surface, +10 orange anhedral crystals possibly zircon, +10 dark orange-red fragments.
-5% black amphibole, mostly hornblende, some light brown cloudy translucent amphibole.
-2-3% rutile, many subhedral crystals, 0 distance to source.
-trace zircon, mostly brownish-purple subhedral-euhedral crystals, some blocky pink zircon grains, 3 small euhedral crystals.
-1 dull green clinopyroxene.
- >1% crustal ilmenite, some small black fragments which could have been from cubic crystals.
-0 distance to pink garnet-rutile-zircon-ilmenite source.

D-05
- -1.0 mm fraction.
- +95% orange garnet, much lesser pink garnet, many orange-mica composites, 0 distance to source.
- trace rutile.
- 1 dark green amphibole.

D-06
- -1.0 mm fraction.
- 90% orange and lesser pink garnet, 3 dull pinkish-purple fragments, rare dark orange-red fragments, several large grains, 1.0 mm.
- trace rutile, some large fragments of euhedral-subhedral crystals.
-3 small dull-green clinopyroxene grains, <0.3 mm.

D-07
- -1.0 mm fraction.
- -90% orange and pink garnet.
- 1% rutile, fragments and subhedral crystals.
- 9 very small <0.2 mm, green clinopyroxene? or amphibole, as in D-11.
- trace zircon, mostly brownish purple anhedral-subhedral crystals and fragments.

D-08
- -1.0 mm fraction.
-90% orange and pink garnet, 7 orange-red fragments with black inclusions, several small orange anhedral crystals, possibly zircon?
-2-3% black metallic opaques, most is fragments and broken subhedral crystals rutile, 1% crustal ilmenite, trace smooth-rounded rusty black metallic grains, possibly Fe-Mn lithic fragments, 0 distance to source.
-9 dull pinkish purple garnet fragments.
-trace dark brownish-purple zircon, subhedral-euhedral crystals.

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D-09
- -1.0 mm fraction.
- +95% orange and pink garnet, several dull pinkish-purple grains, slight increase in orange-red grains, some fragments of crystals several >0.5 mm.
- 1% rutile, fragments and subhedral crystals.
- 2 very small <0.2 mm, green clinopyroxene?
- trace zircon, mostly brownish purple some +0.5 mm euhedral-subhedral shaped crystals and fragments.

D-10
- -1.0 mm fraction.
- +95% orange and pink garnet, 2 dull pinkish-purple grains, several orange-red grains, 3 pellet-shaped pink grains with frosted surfaces.
- <1% rutile, fragments and subhedral crystals.
- 3 small <0.2 mm, green clinopyroxene?

D-11
- 1.0 mm fraction.
- +95% orange and pink garnet, good number of fragments of subhedral-anhedral crystals, +10 orange anhedral crystals possibly zircon.
- 1-2% rutile, some ilmenite.
- trace hornblende.
- trace zircon, subhedral-euhedral shaped brownish-purple grains.
- +10 very small green clinopyroxene? several 'brighter' grains could have chrome.

D-12
- 1.0 mm fraction.
- 90% orange and pink garnet, 5 pellet-shaped pink grains with frosted surface, +10 orange anhedral crystals possibly zircon, several dark orange-red and red fragments.
- 1% black hornblende.
- 1-2% rutile, some ilmenite.
- trace hornblende.
- trace sillimanite.
- trace zircon, rounded brownish-purple grains.

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D-13
- -1.0 mm fraction.
- +95% orange and pink almandine.
-<1% opaques: mostly shiny black rutile, some dull grey crustal ilmenite
-several brownish-purple zircon grains, fragments of euhedral crystals.

D-14
- -1.0 mm fraction.
- +95% orange and pink garnet, 3 pink pellets with frosted surface, <1% dark orange-red grains many with inclusions, 2-3% dull pinkish-purple many with black inclusions, several yellow pellets could be spessertine, 2 dark brown, possibly andradite.
- 2-3% black metallic opaques, most rutile, lesser ilmenite, 2 pyrite, 3 chromite?
- 1% dull green amphibole, 1 with pink garnet, some small grains could be clinopyroxene?
- several large zircon +0.5 mm, mostly brownish purple fragments of euhedral-subhedral shaped crystals.
- 1 enstatite.

D-15
- -0.5 mm fraction, 40% examined.
- 90% pink and orange almandine garnet, traces of orange-red grains, fragments and small euhedral crystals.
-5% opaques, most appears to be shiny black rutile as fragments and subhedral grains, some crustal ilmenite.
-trace dull green clinopyroxene, small shapeless grains.
-trace zircon, mostly brown crystals, some clear and yellow grains.
-rare clear white mica with green edges.

D-16
- +95% orange and pink garnet, 3 orange pellets and subhedral crystals of slightly different shade, trace dark orange-red grains with inclusions.
- 1% black metallic opaques, mostly rutile, lesser ilmenite, 3 chromite?
- rare clinopyroxene?, all small grains.
- trace zircon, brownish purple fragments of euhedral-subhedral shaped crystals, several purple pellets, some clear and pink grains.
-trace black amphibole, several in composite with quartz.

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BGV-1
- -1.0 mm fraction.
- +95% pink and orange garnet, trace dark orange-red fragments.
- 2-3% black metallic opaques, most appears to be rutile, some blocky crustal ilmenite.
- several vitreous translucent brown pellets of unknown mineral.
- trace sillimanite.

KGV-1A
- -1.0 mm fraction, rusty grains.
-95% orange almandine garnets, fragments, euhedral crystals and pellets.
-trace dull green clinopyroxene, small fragments.
-several types of opaques, most abundant is shiny black rutile, ilmenite?, pyrite.
-1 olivine?
-rusty grains and opaques suggest sulphide zones in the area.

KGV-1B
- -1.0 mm fraction, many rusty grains.
-50% amphibole, mostly black hornblende, some dark grey amphibole and white amphibole.
-40% garnet, 5 dark orange-red pellets, several orange anhedral-shaped crystals.
-10% opaques, mostly pyrite and ilmenite, some lithic Fe fragments, many fresh gold pyrite cubes and composites with quartz, very close to sulphide iron formation.

KGV-2A
- -1.0 mm fraction, very rusty grains.
-60% orange and pink almandine garnet, some orange-red grains.
-10% hornblende, some grains in composite with quartz.
-5% dark green clinopyroxene, coarse fresh irregular masses.
-25% opaques, mostly rutile, fresh subhedral crystals and rounded grains, abundant ilmenite: dull greyish black grains, some subhedral crystals, trace pyrite.
-sulphide-spinel zones close to sample site.

KGV-2B
- -1.0 mm fraction, very rusty grains, small concentrate.
-50% amphibole, mostly black hornblende, some dark grey amphibole and white amphibole.
-20% garnet, several dark orange-red and orange fragments.
-30% opaques, mostly dark brownish-black pellets of rutile?, abundant ilmenite and brown lithic Fe fragments, very close to sulphide iron formation.

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CRATOR-1
- -1.0 mm fraction.
-+90% dull green clinopyroxene, fresh blocky fine-grained shapeless grains from an immediate source, some in composite with quartz, calcite and fine serpentinized olivine, olivine rare.
-traces of white mica with green stained cleavages.
-occasional orange and pink almandine, fragment.
-very rare opaques, possibly rutile and shapeless grains of magnetite or ilmenite.
-occasional small clear grains with orange stained fractures and surface (as in H2RX-1).
-sample site on margins of peridotite body?

P-1
- -1.0 mm fraction, small concentrate.
-60% dull green clinopyroxene, fresh blocky shapeless fragments from an immediate source.
-20% olivine, yellow with black inclusions, some coarse grains and trace in composite with cpx.
-15% amphibole, black and yellow grains, both in composite with quartz.
-very rare orange and pink garnet, several dark orange-red fragments.
-occasional brown and green mica.
-rare opaques, possibly rutile, magnetite, ilmenite, all small black shapeless grains with varying luster.
-1-2% clear grains with orange stained fractures and surfaces, could be olivine?.
-immediate peridotite source?

P-2
- -1.0 mm fraction.
-40% dull green clinopyroxene, fresh blocky fine-grained shapeless fragments and grains from an immediate source.
-40% olivine, yellow with black inclusions, fine grained to sub-pellet shaped grains, some fine olivine in composite with cpx.
-20% amphibole, black and yellow grains, both in composite with quartz.
-no garnet or clear mica, trace golden brown mica.
-rare opaques, possibly rutile, magnetite, ilmenite, all small black shapeless grains with varying luster.
- +1% small clear grains with orange stained fractures and surfaces.
- 2 malachite-azurite coated silicate grains, strong coating, possibly fine chalcocite in one grain.

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P-3
- -1.0 mm fraction.
-75% dull green clinopyroxene, fine fresh shapeless grains from an immediate source.
-20% olivine, 2 types: yellow with black inclusions, fine grained to sub-pellet shaped grains, some fine yellow olivine in composite with cpx.
- clear colorless olivine with black inclusions.
-5% clear white mica with green stained cleavages, trace golden-brown mica.
- <1% small clear grains with orange stained fractures and surfaces
-rare opaque grains, small shapeless grains: rutile? magnetite?
-no garnet.

P-4
- -1.0 mm fraction.
-60% dull green clinopyroxene, fine fresh shapeless grains from an immediate source.
-10% olivine, 2 types: yellow with black inclusions, fine grained to sub-pellet shaped grains, some fine yellow olivine in composite with cpx.
- clear colorless olivine with black inclusions.
-25% clear white mica with green stained cleavages, trace golden-brown mica.
- 2-3% small clear grains with orange stained fractures and surfaces (as in H2RX-1).
-rare opaque grains, small shapeless grains: most believed to be rutile? magnetite?
- 2 pink almandine fragments.

5237
-1.0 mm fraction.
- 70% orange and pink almandine garnet fragments, mostly pink, occasional dark orange-red fragment.
- 25% very light brown transparent amphibole?, 1% black amphibole, trace dark green grains some of which could be clinopyroxene.
- trace zircon, mostly brownish-purple grains, some clear and yellow grains, some crystals.
- 1-2% black metallic opaques, most appear to be rutile, black shiny grains, various shaped fragments of larger crystals, trace ilmenite.
- 1-2% sillimanite, clear-slightly yellow fragments of euhedral prismic crystals with black inclusions.

DK-3
- -1.0 mm fraction.
- small concentrate.
- 80% fine grained granular dark-green clinopyroxene-calcite-mica rock fragments.
-10% olivine, clear yellow macrocrysts.
-5% brown and brown-green mica.
- 1-2% black amphibole, crustal?, subhedral grains.
- 1% pink almandine garnet, good number of bright orange grain fragments.
- trace clear zircon, pellet shaped grains.
- 3 whitish-brown octahedral crystals, rare earth minerals?, well preserved grains.
- 1 bright green clinopyroxene pellet, could have chrome.
- several small copper? oxide grains, 2 reddish orange grains, 1 bluish-black copper oxide.
- very close to source of olivine-clinopyroxene-mica-garnet? rock fragments (kimberlite?), close to source of possible rare earth octahedron.

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T-05
- -1.0 mm fraction.
- 80% pink and orange almandine garnet.
-10% fresh brown amphibole many in composite with black mica.
- 5% clear orange silicate mineral, as in H2RX-1, CRATOR-1, and traces in H2SS-11, reddish-orange stained fractures and grain surface, could be olivine?.
-1% dark green amphibole, as in H1SS-103.
-<1% rutile, some fresh shapeless grains, some fragments of euhedral crystals.
- <1% clear yellow sillimanite.
- trace linear clusters of clear silicate unknown mineral, fresh.
-4 blocky olivine grains.
-close to amphibole-mica-orange silicate mineral-rutile-clear silicate mineral source, unique concentrate mineralogy.

T-O5A
--1.0 mm fraction.
- 80% pink and orange almandine garnet.
-10% clear orange silicate mineral, as in T-O5, H2RX-1, CRATOR-1, and traces in H2SS-11, reddish-orange stained fractures and grain surface, could be olivine?.
-5% fresh brown amphibole many in composite with black mica.
-trace dark green amphibole, several in composite with black mica.
-several clear brown amphibole, as in H1SS-103.
-<1% black metallic opaque minerals, mostly rutile as fragments of subhedral crystals, several ilmenite?
- <1% clear yellow sillimanite, fragments of euhedral crystals.

T-O6
- -1.0 mm fraction.
-95% pink and orange almandine garnet.
-1-2% black amphibole, several grains in composite with black mica.
- 1-2% sillimanite, fragments of euhedral grains.
- 1-2% black metal opaques, mostly rutile.
- trace brown mica.
- trace zircon, clear and orange fragments.
-typical background mineralogy.

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T-O7
- -1.0 mm fraction.
- +95% orange and pink almandine garnet fragments.
-1-2% black amphibole, several grains in composite with black mica.
- 1-2% black metallic opaques, most rutile, black shiny grains, 1-2 small grains <0.3 mm grains could be chromite.
- typical background mineralogy.

T-O8
- -1.0 mm fraction.
- +95% orange and pink almandine garnet fragments.
- abundant zircon, brown, clear, yellow grains, some crystals.
- abundant rutile, black shiny grains, various shaped fragments of larger crystals.
- typical background mineralogy.

T-O9
- -1.0 mm fraction.
- 90% orange and pink almandine garnet, several orange-red fragments, occasional large 'dirty' inclusion-filled euhedral shaped orange almandine crystal, several in composite with brown mica.
- 5% black hornblende.
- 1-2% black metallic opaques, mostly rutile, some crystal ilmenite and composites with quartz, 1 well-preserved octahedral crystal <0.5 mm which could be chromite or perovskite.
- occasional dull green clinopyroxene, all <0.5 mm in size.
-1 blocky-shaped enstatite, fragment of euhedral crystal.
-1 pyrite cube.
-trace zircon, clear, pink and purple pellets.

T-10
-1.0 mm fraction.
- 90% orange and pink almandine garnet, several orange-red fragments.
-5% clear orange silicate mineral, as in T-O5, H2RX-1, CRATOR-1, and traces in H2SS-11, reddish-orange stained fractures and grain surface, could be olivine?, several in composite with golden-brown mica.
- 2-3% black amphibole, hornblende, some in composite with quartz.
- 1-2% black metallic opaques, mostly rutile, some <0.5 mm shapeless grains could be chromite or perovskite.
- trace dull green clinopyroxene, all <0.5 mm in size.
-occasional blocky-shaped enstatite, fragments of larger grains.
-possibly close to orange silicate mineral-mica source.
-trace zircon, clear, orange and purple pellets.

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T-11
- -1.0 mm fraction.
- 70% orange and pink garnet, several light orange pellets or anhedral crystals, 20 dark orange-red fragments, 2 orange-red pellets, several or-red fragments with rod-like inclusions of rutile? could be eclogite garnet, good tenor of 'fresh' pink fragments.
-25% amphibole, large percentage of light-brown silicate many with golden-brown mica and orange garnet, small rock fragments, lesser black amphibole some with quartz, 0 distance to light-brown amphibole source.
-1-2% black metallic opaques, mostly rutile, fragments of euhedral-shaped crystals, some ilmenite, 2 chromite? or Mg-ilmenite?

T-12
-1.0 mm fraction.
- 95% orange and pink almandine garnet.
-1-2% clear orange silicate mineral, as in T-O5, T-10, H2RX-1, CRATOR-1, and traces in H2SS-11, reddish-orange stained fractures and grain surface, could be olivine?, several in composite with black mica.
- 1-2% black amphibole, hornblende, some in composite with quartz.
- 1-2% sillimanite, fragments of larger euhedral crystals.
-<1% black metallic opaques, mostly rutile, possible ilmenite? (chromite or perovskite).
-trace zircon, mostly orange, some euhedral crystals.
-2 yellow olivine?, megacrystic form, could be sillimanite.

H1SS-001
- -1.0 mm fraction, small concentrate, grains coated by clay.
-95% black amphibole, some in composite with yellow mica.
-1-2% orange and pink almandine garnet, 13 pellet-shaped orange-red grains all 0.5 mm size, possibly Ca-Mg almandine.
-7 clinopyroxene, glassy green augite.
-several euhedral brown zircon crystals and fragments.
-trace pyrite.

H1SS-002
- 50% orange and pink garnet, 3 dark orange-red pellets and broken pellets.
- 45% black amphibole, many large blocky grains some composites with brown mica and quartz.
- 3 dark green clinopyroxene fragments, could be dark grain amphibole.
-1 enstatite, golden-brown blocky grain with schiller texture.
- 3 zircon, fragments of euhedral crystals.

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H1SS-003
-1.0 mm fraction, clay-coated grains.
-60% black amphibole, several yellow mica composites.
-35% orange and pink almandine garnet, several reddish-orange fragments.
-3 glassy green clinopyroxene grains, blocky augite.
-rare opaques, most are rutile, possibly 1-2 very small chromite or perovskite grains.
-traces of zircon, several fragments of purple-brown euhedral crystals.
-trace pyrite.
- 1 yellow sphene.

H1SS-004
-1.0 mm fraction.
-50% orange and pink garnet, 12 orange-red grains several of which are pellet shaped, 1 dull purple garnet fragment, as in H1SS-100.
-45% black amphibole, hornblende, some composites with quartz.
-11 dull glassy green clinopyroxene.
-traces of black metallic opaques, most is rutile, 10 possible chromite 5 are pellet shaped, 1 black cubic grain believed to perovskite.
-trace zircon, fragments of euhedral crystals.

H1SS-005
- -1.0 mm fraction.
- 95% orange and lesser pink garnet, trace orange-red grains most with black inclusions, 12 dull pinkish-purple grains, 1 dull purple.
- trace black amphibole, some with brownish-black mica.
- 1 dull green clinopyroxene.
-< 1% black metallics, mostly ilmenite and lesser rutile, possibly 1 Mg-ilmenite, broken pellet.

H1SS-006
- -1.0 mm fraction.
-80% orange and pink garnet, 8 orange-red fragments, 9 pinkish-purple grains.
-15% black amphibole, some with quartz and black mica.
- <1% zircon, clear euhedral crystals, several dark brownish-purple subhedral crystal, 2 purple pellets.
-1% black metallic opaques, mostly ilmenite and rutile.
- trace green amphibole, several colours, 2 dark green fragments.
- 4 enstatite, blocky golden-brown fragments.

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H1SS-007
- -1.0 mm fraction.
- +95% orange almandine garnet, much lesser pink grains.
- 1-2% black amphibole, some composites with quartz and brownish-black mica.
- trace rutile.
-1 enstatite.

H1SS-100
-1.0 mm
-60% orange garnet, <1% are dark orange, 10 dull purple garnet (G5) 2 possible purple pyrope, all fragments of larger grains.
-35% black amphibole, some in composite with quartz and golden-black mica, trace yellow amphibole.
-trace clear and clear-yellow sillimanite grains, fragments of larger euhedral prismatic crystals.
-5 dark-red ruby corundum?.
-3 golden-brown mica, flakes from mica-'books'.
-trace green clinopyroxene, all fragments, 31 potential chrome cpx, 3 good candidates for Cr diopside.
-4 enstatite, some sub-square weathered grain indicating travel from source, 1 fresh grain.
-3 clear Fe spinel, 1/2 grain fragments of larger subhedral octahedral crystals.
-trace zircon, several colors, clear very small pellets, small purple pellets and subhedral crystals, 1 large euhedral pink zircon.
-trace black metallic opaques, most appear to be rutile, some crustal ilmenite, 13 grains are potential chromite-ilmenite-perovskite candidates.
-sample has potential kimberlite indicator minerals.

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H1SS-101
-1.0 mm
-clay coated grains.
-50% orange garnet, <1% dark orange and orange-red, 5 dull purple garnet (G5?), 1 possible pyrope, all fragments of larger grains, several with one face frosted (outer face?, shagreen texture), possible close source, several pinkish-purple grains
-45% black amphibole, some in composite with quartz and golden-black mica, trace yellow amphibole, several dark green pellet shaped grains.
-trace clear and clear-yellow sillimanite grains, fragments of larger euhedral prismatic crystals.
-5 golden-brown & golden-black mica, flakes from mica-'books'.
-<1% green clinopyroxene, all fragments, some brighter green grains probably have chrome, 1 chrome diopside? very small pellet shaped grain.
-4 enstatite, 1 fresh grain.
-trace zircon, several colors, clear very small pellets, small purple pellets and subhedral crystals, some pink zircon.
-trace black metallic opaques, most appear to be rutile, some crustal ilmenite, 2 subhedral octahedral crystal of perovskite? one crystal is twinned.

H1SS-102
- -0.5 mm fraction.
- 60% orange and pink garnet, 1% dark orange-red fragments most with black inclusions, 3 reddish grains, 3 dull pinkish-purple fragments.
- 35% amphibole, mostly black hornblende some with quartz, some dark green amphibole and lesser light brown grains.
- 1% dull green clinopyroxene some of which could be amphibole, most very small fragments, some 'brighter' green grains could have chrome.
-trace zircon, several small purple pellets.
- 5 glassy yellow olivine, could be sillimanite.

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H1SS-103
-1.0 mm fraction.
-50% black amphibole, many fresh grains in composite with fine-golden brown mica and brown amphibole and brown button-shaped grains of sphene, trace in composite with dark green pellet-shaped amphibole and some (rare) with orange garnet, some with quartz.
-25% fresh brown amphibole, many large fragments of larger grains, many in composite with black amphibole, sphene, mica and dark green amphibole pellets and/or dark greenish-blue pellets of Fe spinel.
-15% orange and orange-pink almandine garnet, most as fragments of larger grains, some 'fresh' dull orange grain fragments could be associated with amphibole-sphene-mica rock, most garnet appears to be common metamorphic derived almandine.
-2-3% cloudy-white amphibole? (new mineral for region), most as free chunky grains, some could be interstitial composite with black amphibole.
-1-2% clear brown buttons of sphene, some in composite with brown and black amphibole.
- 1-2% dark green amphibole (some could be blue-green Fe spinel), mostly free grains pellet-shaped, some in composite with amphibole.
- trace clear blue and blue-green Fe spinel, subhedral octahedrons and pellet-shaped grains, rare clear green spinel.
- trace rutile, mostly small dark reddish black pellet-shape grains.
- very close to amphibole (brown-black)-sphene-mica source.

H1SS-104
- -1.0 mm fraction.
-45% orange and much lesser pink almandine garnet, several frosted darker pink garnet (close source).
-30% black amphibole, common hornblende.
-10% blue-green amphibole (similar to grains seen in H2SS-11 kimberlite sample), source fairly close
-10% glassy green clinopyroxene, small shapeless grains or fragments, green color suggests some chrome content.
-<1% button-shaped books of reddish-silvery-black mica, unique mica type observed during survey, source fairly close.
-5 clear yellow olivine grains, blocky megacrysts.
-1% black metallic opaque grains, most are ilmenite several flat hexagonal euhedral crystals, some possible chromite, several subhedral octahedral-shaped perovskite? (possibly distorted cubic crystals).
-2 enstatite, blocky grains.
-trace clear zircon, small pellet-shaped grains.
-close to mica-cpx-olivine-zircon? source.

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H1SS-105
-0.5 mm fraction
-50% orange and pink almandine garnet, 31 dull pinkish-purple garnets similar to H1SS-100 & 101, all fragments.
-45% black amphibole, hornblende, several dark green amphibole, trace brown amphibole as in H1SS-104.
-2 clinopyroxene, glassy green fragments.
-2 green Fe spinel, 2 fragments of clear spinel.
-rare zircons, 2 clear euhedral crystals, several small purple pellets.

H1SS-106
-1.0 mm fraction.
-70% orange and pink almandine garnet, a good number orange-red fragments and brighter orange fragments (Ca-Mg almandine?).
-20% black hornblende, mostly eroded grains.
-5% black metallic opaques, mostly pellet-shaped grains of ilmenite and rutile, several fragments and near complete preserved hexagonal ilmenite crystals, possible chromite?, possible perovskite?
-+50 fragments and nearly complete octahedral crystals of clear Fe spinel octahedrons, several blue and grey spinel, 1 yellow grain.
-trace golden-brown mica.
-trace zircon, several colors: clear, purple pellets, yellow.
-no clinopyroxene.

H1SS-107
- -1.0 mm fraction.
-+95% orange and pink almandine garnet, occasional dark orange-red grain, 1 red rounded crystal? possible zircon, occasional small yellow pellet, spessertine?.
-1-2% black hornblende, trace dark green amphibole, occasional small dark green pellet.
-trace black metallic opaque grains, mostly rutile and lesser ilmenite and rutile, 1 rounded octahedron, chromite?.
-2 enstatite.
-trace brown mica.
-several yellow grains could be olivine?

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H1SS-108
- -1.0 mm fraction.
-90% orange and much lesser pink almandine garnet, some slightly darker pink garnet, occasional orange pellet some of which could be zircon, good number of dark orange-red fragments, 2 red grains.
-5% black amphibole, mostly hornblende, some dark green amphibole.
-1% dull green clinopyroxene, glassy, small shapeless grains, rare pellets.
- trace dark brown mica.
-5 yellow olivine grains, small grains, could be sillimanite.
-trace sillimanite, clear yellow grains with black inclusions.
-rare black metallic opaque grains, most appears to be rutile and lesser ilmenite.
-2 enstatite, blocky grains.
-trace clear zircon, small pellet-shaped grains, dark brown grains, possibly some orange zircon pellets.

H1SS-109
- -1.0 mm fraction.
-85% orange and pink almandine garnet, 29 dull pinkish-purple garnets as in H1SS-100, all fragments, several dark orange-red fragments.
-10% black amphibole, hornblende, several in composite with quartz.
-<1% glassy green clinopyroxene, mostly fragments, 2 pellets, several small 'brighter' green grains may have chrome.
-3 enstatite grains, blocky shaped.
-trace sillimanite, fragments of larger of euhedral grains.
-trace opaques, mostly rutile, 1 partially preserved euhedral ilmenite crystal as in H1SS-104, 2 black pellets which maybe chromite.

H1SS-110
- -1.0 mm fraction.
-50% orange and pink almandine garnet, 3 dark red fragments, 2 frosted pink pellets, 1 dull pinkish-purple garnets as in H1SS-100.
-40% black amphibole, hornblende, several in composite with quartz.
-<1% white amphibole as in H1SS-103.
- 1-2% green amphibole as in H1SS-103.
-<1% glassy green clinopyroxene, several with dark green or black inclusions, all fragments.
- trace button-shaped books of reddish-silvery-black mica, unique mica type observed during survey, source fairly close, as in H1SS-104.
- trace zircon, mostly clear pellets and fragments of euhedral crystals, several purple pellets.
- 1 enstatite grain.
- trace black metallic opaque grains, all believed to be rutile.

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H2SS-6
- -0.5mm fraction.
-50% clear yellow sillimanite, some fragments of euhedral crystals with black inclusions.
- 45%, mostly pink and orange almandine fragments, several yellow garnets?, sperrertine?
- 1-2% black amphibole, hornblende.
- trace zircon, brown and clear, euhedral crystals, good number of purple pellets.
- <5% black metallic opaques, mostly rutile, black shinny fragments and broken subhedral crystals, lesser ilmenite, several same pellets which could be chromite or Mg-ilmenite, 3 subhedral-shaped octahedral spinel crystals, chromite?
- 2 dull glassy green clinopyroxene, pellet-shaped.
-paramagnetic fraction not examined.

H2SS-7
- -0.5 mm fraction, clay coated grains.
-large volume of garnet +95%, mostly pink and orange almandine fragments.
-background of pink garnet, zircon, clear sillimanite, yellow-clear amphibole.
-good tenor of rutile, purple zircon.
-15 small eroded subhedral octahedrons possibly spinel (chromite/magnetite?) Or perovskite.
-trace of brown mica.
-trace of pyrite.
-trace dull green clinopyroxene, small shapeless grains.
-trace olivine?
-paramagnetic fraction not examined.

H2SS-8
- -0.5 mm fraction.
- 99% garnet, orange and pink fragments of almandine.
- good tenor of clear sillimanite grains, many as fragments of euhedral crystals.
-abundant black shiny rutile grains, many subhedral crystals.
-6 glassy dull-green clinopyroxene grains, small shapeless grains.
-olivine?, 3 small grains.
-7 small eroded octahedral crystals of chromite.
-1 grain galena.
-paramagnetic fraction not examined.

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H2SS-9
- -0.5 mm fraction, 10% partially picked.
- 99% garnet, orange and pink fragments of almandine.
- good tenor of clear sillimanite grains, many as fragments of euhedral crystals.
-abundant black shiny rutile grains, many subhedral crystals.
-good tenor of zircons, purple and brown grains and crystals.
-1 olivine?
- several opaques, very small shapeless grains, 1 could be an eroded octahedral spinel crystal.
-paramagnetic fraction not examined.

H2SS-10
- -0.5 mm fraction, partial examination.
-+95% garnet, mostly orange and pink almandine, good tenor of very fresh pink garnet fragments, occasional dull pinkish-purple grain, occasional or-red grain.
-2-3% clear sillimanite and clear-yellow amphibole, some pellets.
-3 green clinopyroxene, shapeless-blocky grains, 1 brighter grain could have chrome.
-3 brown mica books.
-rare opaques, mostly rutile, some could be perovskite, 3 well-preserved subhedral octahedrons of spinel (chromite?), source close.
-trace zircon, several purple pellets, 2 clear colourless grains.
-5 small grains graphite, good number in composite with quartz and amphibole?
-several cloudy white translucent granular grains with black inclusions, same as H2SS-11.
-sulphide + graphite zones close to sample site.

H2SS-11
- 1.0 mm fraction.
- sample consists of 40% olivine + mica and 60% garnet.
- mica consists of zoned euhedral flakes and books, silvery to golden brownish-green color, +2.0 mm.
-olivine consist of irregular-shaped blocks and fine masses cementing mica books, mostly yellow grains with black inclusions some clear grains, some large yellow blocks have rusty-orange stained surfaces, 2 types of olivine, macro/megacrysts and fine-grained groundmass olivine, groundmass olivine contains numerous inclusions of euhedral crystals of mica and black spinel (magnetite, chromite), 2 megacrysts contain inclusions of pellet-shaped chrome diopside grains <0.5 mm in size.
- garnets consist of orange and pink almandine fragments, several pink fractured pellets may be from a local source, no obvious pyrope.
-numerous (+100) octahedral-shaped crystals of spinel probably consisting of magnetite and chromite, 95% <0.5 mm size.
-5 pellet-shaped chrome diopside, 3 loose grains, 2 inclusions in large olivine grains, all <0.5mm in size.
-several black hexagonal crystals <-1.0 mm, andradite?, from local source.
-trace rutile, loose grains, some broken subhedral crystals, mostly irregular masses.
-several cloudy white translucent granular grains with black inclusions.
-0 distance to source of olivine-mica rock, kimberlite?.

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H2SS-12
- -1.0 fraction, rusty grains.
-95% pink and orange almandine garnet fragments.
-abundant sillimanite grains some could be amphibole, 2 with small inclusions of galena.
-good tenor of rutile, shiny black grains, some fragments of subhedral crystals, spherical grains.
-good tenor of brown, clear and purple zircon, some euhedral grains of all colors.
-traces of pyrite, sulphide zones close to sample site.

H2SS-13
- -1.0 fraction, rusty grains.
-similar to H2SS-12
-95% pink and orange almandine garnet fragments.
-abundant sillimanite grains some could be amphibole, several with small inclusions of galena.
-good tenor of rutile, shiny black grains, some fragments of subhedral crystals, spherical grains.
-good tenor of brown, clear and purple zircon, some euhedral grains of all colors.
-2 grains galena.
-slight increase in pyrite, possibly pyrrhotite, sulphide zones with galena close to sample site.

H2SS-14
- -0.5 mm fraction.
- +95% pink and orange almandine garnet fragments.
-good tenor of rutile, shiny black grains, some fragments of subhedral crystals, spherical grains.
-good tenor of brown and purple zircon, some euhedral grains.
-2 opaques possibly chromite.

H2SS-15
- -1.0 fraction, rusty grains.
-similar to H2SS-12
-95% pink and orange almandine garnet fragments.
-good tenor of rutile, shiny black grains, some fragments of subhedral crystals, spherical grains.
-good tenor of brown, clear and purple zircon.
-some pyrite.
-2 opaques possibly chromite.
-paramagnetic fraction not examined.

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H2SS-16
- -1.0 mm fraction.
- 60% orange and pink garnet, several dark-orange red fragments, most with black inclusions.
-35% amphibole, several types, most black hornblende, some with mica and quartz, lesser light brown amphibole.
- trace sillimanite, clear-yellow fragments.
-rare opaques, most rutile, lesser ilmenite.

H2SS-17
- -1.0 mm fraction.
-+95% orange and pink almandine garnet.
-abundant rutile, rounded grains and fragments of subhedral crystals.
-some clear sillimanite grains.
-rare opaques, most shapeless grains, 1 well-preserved octahedron of spinel, chromite?
-1 chrome diopside, pellet-shaped, very small, 0.2 mm.
-trace of silvery and golden-brown mica similar to H2SS-11.
-sample contains 'kimberlite minerals', target in area.
-paramagnetic fraction not examined.

H2SS-18
- -0.5 mm fraction, 50% of concentrate examined.
-large garnet concentrated, mostly orange and pink almandine, 3 fragments orange-red almandine possible Ca-Mg almandine.
-some clear sillimanite grains, fragments of euhedral crystals.
-8 dull green clinopyroxene grains, several slightly brighter green grains may have chrome.
-rare opaques, some shapeless grains possibly being chromite.
-trace pyrite.

H2SS-19
- -0.5 mm fraction, rusty grains.
-+95% garnet, mostly orange and pink almandine, occasional or-red grain.
-traces of clear sillimanite and clear-yellow amphibole.
-traces of pyrite, brown cubes and fragments, some with peacock color, some in composite with quartz and yellow amphibole.
-trace green clinopyroxene, mostly small grains, shapeless to blocky.
-trace brown mica, some very rare white mica (as in P-3).
-rare opaques, mostly rutile, 3 subhedral octahedrons of spinel (chromite?).
-trace brown zircon.
-5 small grains graphite, several grains in composite with quartz and amphibole?
-sulphide + graphite zones close to sample site.

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H2SS-20
- -0.5 mm fraction.
-+95% garnet, mostly orange and pink almandine, 92 orange-red grains, 5 orange pellets.
-traces black metallic opaques, mostly rutile.
-trace sillimanite, clear slightly yellow prismic grains.
-trace zircon, most brownish-purple subhedral crystals and fragments, some clear zircons, several purple pellet-shaped grains.
-trace mica, several types, 3 golden-brown, 1 black metal flake, phlogopite?
-several dull green clinopyroxene, 1 slightly brighter grain may have chrome.
-5 opaque grains, shapeless, small, possibly chromite.

H2SS-21
- -1.0 mm fraction.
- 99% garnet, mostly orange and pink almandine, 8 or-red grains all fragments.
-1% rutile, black shinny grains; zircons, clear, purple and brown.
-some small grains of yellow amphibole, some could be olivine.
-30 opaques mostly irregular masses, 5 are partially preserved subhedral octahedral crystals of spinel.
-1 dull green clinopyroxene grain.

H2SS-22
- -1.0 mm fraction, spinel concentrate.
-90% orange garnet, 5% pink, some very fresh pink garnet, trace of dark orange-red grains, 1-2% yellow pellet-shaped grains, possible spessertine, 3 red grains, several dark reddish-black grains possibly zircon, 1 dull purple grain.
- <5% black metallic opaques, most small shapeless grains of ilmenite some of which could be perovskite and chromite, good tenor of rutile, mostly very small fragments, several large anhedral crystals.
- trace zircon, mostly dark brown subhedral crystals and fragments, 5 purple pellets.

H2SS-23
- -1.0 mm, concentrate partially examined.
-95% orange and pink garnet, some fresh pink grains, 67 dark orange-red fragments, trace yellow pellet-shaped grains, several orange pellets.
-<5% black amphibole, some in composite with quartz.
-trace black metallic opaques, mostly rutile, some could be perovskite, chromite, ilmenite, 1 malachite coated silicate.
-2 golden-brown mica.
-trace zircon, dark brownish-purple grains.

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H2SS-24
- -0.5 mm fraction, partial examination of concentrate.
- 90% orange and pink almandine garnet, some 'fresh' pink grains, occasional dark orange-red garnet, most with black inclusions.
- <5% black hornblende, some composites with brownish-black mica.
-trace sillimanite, clear-slightly yellow fragments of prismic crystals.
- <1% black metallic opaques, mostly rutile, lesser ilmenite, 1 well-preserved octahedral crystal could be chromite, 1 subhedral cube could be perovskite.
- 2 olivine?, could be sillimanite.

H6SS-1
- -1.0 mm fraction
-60% background of black amphibole, some in composite with golden brown mica.
-35% orange and pink almandine garnet.
-trace dull green clinopyroxene.
-trace olivine? 5 grains
-trace zircon, several colors: clear & brown, some euhedral crystals.
-trace rutile.

H6SS-2
- -1.0 mm fraction
-45% black amphibole, some in composite with quartz.
-40% orange almandine garnet, trace pink.
-1% green clinopyroxene, 2 types, light green and darker transparent green grains; several lighter green grains in composite with black amphibole?, source close.
-trace olivine? 3 grains
-trace zircon, some euhedral crystals.
-rare opaques, mostly shapeless grains of rutile.

H6SS-3
- -1.0 mm fraction
-50-50 black amphibole and garnet.
-black amphibole consists of hornblende some in composite with golden brown mica and quartz.
-garnet consists of orange and pink almandine garnet, several small or-red fragments (Ca-Mg alm?).
-2% yellow amphibole.
-1% green clinopyroxene; 2 types:-60% lighter green possibly chrome-bearing some in composite with golden-brown mica, clear-darker green cpx.
-2 olivine? grains, large >0.5mm, source very close.
-12 opaques, broken pellets to shapeless grains, all Mg-il?
-trace zircon, several colors: clear & brown, some euhedral crystals.
-trace rutile.

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H6SS-4
- -1.0 mm fraction
-70% background of black amphibole, some in composite with golden brown mica and quartz.
-25% orange and pink almandine garnet.
-trace dull green clinopyroxene, small grains <0.5mm.
-trace olivine? 3 grains
-trace zircon, several colors: clear & brown, some euhedral crystals.
-trace rutile.

H6SS-5
- -1.0 mm fraction
-85% amphibole, mostly black hornblende some in composite with golden brown mica and quartz, some yellow amphibole.
-10% orange and pink almandine garnet, 5 orange-red pellets possible Ca-Mg almandine.
-no crustal ilmenite, 1 Mg-ilmenite?
-12 chromite? all <0.5mm, 1 good octahedral crystal, most well preserved subhedral octahedrals.
-trace several shades of green clinopyroxene, some fresh blocky fragments of brighter green Cr-cpx?.
-5 grains olivine?
-trace zircon, several colors: clear, brown, pink and orange, some euhedral crystals.
-trace rutile.

H6SS-6
- -1.0 mm fraction, small concentrate.
-mostly black hornblende some in composite with golden brown mica, quartz and garnet.
-1-2% orange and pink almandine garnet.
-trace rutile.

H6SS-7
- -1.0 mm fraction
-95% amphibole, mostly black hornblende some in composite with golden brown mica, quartz and garnet.
-1-2% orange and pink almandine garnet.
-rare green clinopyroxene.
-3 grains olivine?
-several brown zircon grains, some euhedral crystals.
-trace rutile.

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H6SS-08
- -1.0 mm fraction, moderate clay coating on grains.
- 95% black hornblende some in composite with golden brown mica, quartz and garnet, trace light green grains.
-1-2% orange and pink almandine garnet, several orage pellet-shaped grains, 3 dark orange-red garnets, 1 red grain.
- 5 dull green clinopyroxene, 1 pellet-shaped grain of slightly brighter colour, may have chrome.
-rare black metallic opaques, rutile and ilmenite, 2 pyrite cubes.

H6SS-09
- -1.0 mm fraction, moderate clay coating on grains.
- 75% black hornblende some in composite with golden brown mica, quartz and garnet, trace light green grains.
-25% orange and pink almandine garnet, several dark orange-red garnets.
- 4 dull green clinopyroxene, 2 pellet-shaped grains of slightly brighter colour, may have chrome.
-rare black metallic opaques, rutile and ilmenite, 1 pyrite.
-3 yellow olivine? could be yellow amphibole, 1 in composite with golden-brown mica.
-1 red euhedral-shaped prismic crystal, corundum?

H6SS-10
-1.0 mm fraction, clay coated grains.
-40% pink and orange almandine garnet, 5 orange-red pellets (all 0.5mm) possibly being Ca-Mg almandine.
-40% black amphibole, mostly hornblende, occasional yellow and light green grain.
-34 olivine grains, most slightly eroded, 1 in composite with euhedral books of golden-brown mica.
-occasional green clinopyroxene, 2 types, lesser dark green transparent, 1 in composite with hornblende, mostly cpx dull light-green possibly chrome-bearing, somewhat fresh-blocky grains, small to large grains.
-abundant opaques (<0.5%), a good number could be chromite shapeless to subhedral octahedral crystals of spinel, some could be Mg-ilmenite, magnetite? and rutile present.
-sample suggests olivine-cpx-chromite rock close to sample site.

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H6SOIL-1
-sample consists mostly of mica-olivine lamprophyric rock fragments from an immediate source.
- -0.5 mm fraction.
- +95% mica, silvery brownish-green grains, zoned, most as euhedral 'books', many +2.0mm.
-very fine-grained olivine cement, rare broken macrocrysts +0.5 mm with black inclusions.
-1-2% opaques, many slightly rounded octahedrons of magnetite and chromite?
-several garnet fragments, orange, or-pink, pink, most believed to be surface contamination, 2 orange grains possibly from lamprophyre.
-no cpx, no clear grains with orange stain (as in H2RX-1, H2RX-2 samples).

H2RX-1
- -1.0 mm fraction, crushed rock sample.
- 95% dull green fine-grained clinopyroxene ground mass.
- ~2-3% olivine, 2 types: yellow and clear, yellow fine interstitial olivine possibly altering to serpentine, yellow and clear macrocrysts with black inclusions.
-rare brown mica, some euhedral flakes.
- ~1% cloudy white grains possibly calcite.
- occasional opaque, shapeless, <0.5 mm, possibly chromite.
- trace of unknown shapeless clear mineral with orange stain fractures and surface, olivine or apatite?
- trace pyrite.
-rock could be a fine-grained, weakly sheared peridotite.

H2RX-2
- -1.0 mm fraction, crushed rock sample, 50% examined.
- +95% dull green fine-grained clinopyroxene ground mass, some weak lineation to composite clinopyroxene grains.
- <1% olivine?, orange stained, interstitial with cpx, possible olivine altering to serpentine and calcite.
-very rare opaques, small shapeless grains of magnetite and chromite?
-sample has slightly more clinopyroxene than H2RX-1 but is essentially similar in composition and appearance. Sheared peridotite?

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H6RX-1
- -1.0 mm fraction.
- 90% dark olive green clinopyroxene, granular.
- 5% olivine, both yellow and clear, mostly shapeless grains, good number of clear grains subhedral-anhedral crystals, several pellets, some possible altering to serpentine.
-trace greenish-brown mica.
-trace black metallic opaques, shapeless black grains as in H2RX-1, some composite with olivine and clinopyroxene.
-2 pink fragments of garnet (zircon?).

H6RX-1A
- -1.0 mm fraction.
-90% olive green clinopyroxene, granular.
- 5% olivine, both yellow and clear, mostly shapeless grains, good number of clear grains subhedral-anhedral crystals, several pellets, some possible altering to serpentine.
-trace greenish-brown mica.
-trace black metallic opaques, shapeless black grains as in H2RX-1, some composite with olivine and clinopyroxene.
-several pink fragments of garnet or zircon.
-very similar composition to H6RX-1.

H6RX-1B
- -0.5 mm fraction, very fine grained concentrate.
- 80% olive green clinopyroxene.
- 15% olivine, mostly yellow olivine some of which are pellet shaped, 5% clear shapeless grains, many with red-orange stained fractures and grain surfaces.
-trace golden-brown mica, some as inclusions in olive green cpx.
-5% black metallic opaques most as small vitreous black grains <0.3 mm, shapeless black grains as in H2RX-1, some as small disks.

H6RX-2
-1.0 mm fraction.
-85% dark green granular clinopyroxene, many equigranular composites with olivine.
-5% yellow olivine, fresh megacrystic type.
-10% orange sillicate with orange-red stained fractures and grain faces (olivine?), many composites with clinopyroxene, some anhedral prism shaped grains.
-traces of greenish-brown mica, some in composite with clinopyroxene.
-traces of black metallic opaques, shapeless small vitreous grains similar to those in H2RX-1.

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H6RX-3
-1.0 mm fraction.
-85% dark green granular clinopyroxene, many equigranular composites with olivine.
-10% orange sillicate with orange-red stained fractures and grain faces (olivine?), many composites with clinopyroxene, some anhedral prism shaped grains.\
-5% yellow olivine, fresh megacrystic type.
-1-2% blackish green clinopyroxene or amphibole?, occur as megacrysts.
-traces of greenish-brown mica, some in composite with clinopyroxene.
-traces of black metallic opaques, shapeless small vitreous grains similar to H2RX-1.

H6RX-4
-1.0 mm fraction.
-75% dark green granular clinopyroxene, equigranular composites with olivine.
-10% orange sillicate with orange-red stained fractures and grain faces (olivine?), many composites with clinopyroxene, some anhedral prism shaped grains.
-15% yellow olivine, fresh megacrysts.
-traces of greenish-brown mica, some in composite with clinopyroxene.
- 5 pink garnet, big fragments of larger grains.
-very rare black metallic opaques, shapeless small grains similar to H2RX-1.

Mr. R. Dillman,
R. J. Dillman Geological Services,
8901 Reily Drive,
RR 5, Mount Brydges,
N0L 1W0

Ph/Fax 1-519-264-9278

November 10, 2000

R. L. Barnett Geological Consulting Inc.,
9684 Longwoods Road,
RR 32, London, Ontario.
N6P 1P2

Ph. 1-519-652-1498
Fax 1-519-652-1475

GD-1 is H2SS-11

Dear Robert,

The identity of " non-indicator " minerals, in the Torngat ~~GD-1~~ H2SS-11 sample of November 10, 2000, for which analyses were not provided, is:

GD-1 - grain 37 - zircon
grain 38 - monazite
grain 39 - K-feldspar + quartz

GD-1 - A - grains 3-13,15,16,17 - perovskite
grain 14 - rutile

GD-1 - B - grains 1-25,27-40,42-53,55-70 - perovskite

GD-1 - C - grain 4 - quartz
grain 8 - zircon

GD-1 - D - grain 1 - amphibole

• KIMBERLITE SOURCE

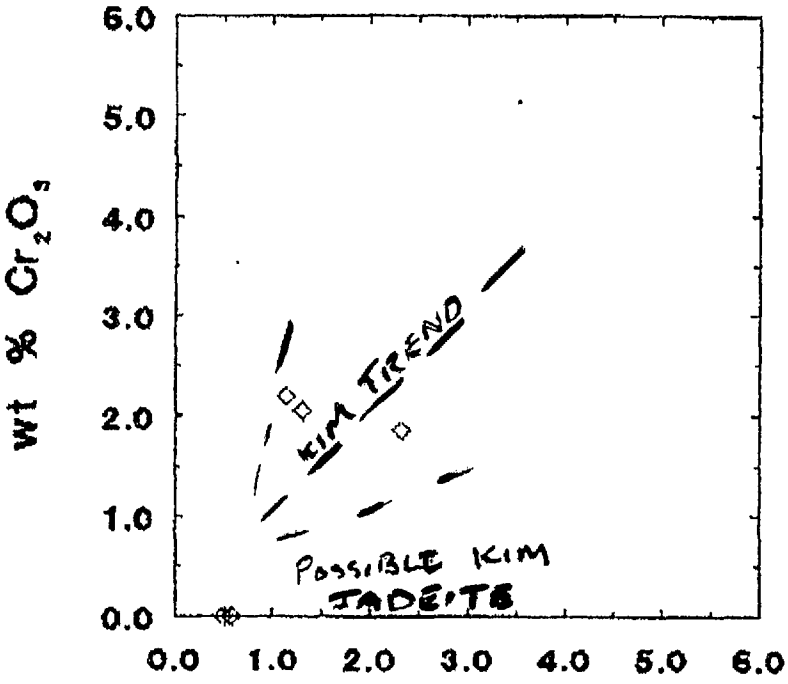
Sincerely,

R. L. Barnett

R. L. Barnett

H2SS-11

CLINOPYROXENE - R. DILLMAN
TORNGAT - GD-1 (Nov. 10, 2000)



◇ RLB

H255-11

CLINOPYROXENE, R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

	1	2	3	4	5
SIO2	50.62	51.07	53.99	55.07	54.44
TIO2	1.80	1.63	.15	.18	.41
A203	1.62	1.60	.90	1.84	.67
C203	.00	.00	2.05	1.85	2.20
FEO	4.99	5.05	2.94	2.94	2.97
MGO	15.41	14.91	17.01	16.08	16.74
MNO	.32	.27	.17	.16	.26
CAO	24.66	24.79	21.55	19.32	21.71
K20	.01	.02	.02	.04	.01
NA20	.50	.58	1.31	2.32	1.14
SUM	99.93	99.92	100.09	99.80	100.55

SI	1.885	*	1.900	*	1.969	*	1.998	*	1.976	*
AL	.071	1.956	.070	1.971	.031	2.000	.002	2.000	.024	2.000
AL	.000	*	.000	*	.007	*	.076	*	.004	*
TI	.050	*	.046	*	.004	*	.005	*	.011	*
CR	.000	*	.000	*	.059	*	.053	*	.063	*
FE	.155	*	.157	*	.090	*	.089	*	.090	*
MG	.855	*	.827	*	.924	*	.869	*	.906	*
MN	.010	*	.009	*	.005	*	.005	*	.008	*
CA	.984	*	.988	*	.842	*	.751	*	.844	*
NA	.036	*	.042	*	.093	*	.163	*	.080	*
K	.000	2.092	.001	2.070	.001	2.025	.002	2.014	.000	2.007
O	6.000	*	6.000	*	6.000	*	6.000	*	6.000	*
F/M	.193		.200		.103		.108		.108	
F/FM	.162		.167		.093		.098		.098	

1 SAMPLE GD-1 GRAIN C12
2 SAMPLE GD-1 GRAIN C13
3 SAMPLE GD-1 GRAIN CPX-1
4 SAMPLE GD-1 GRAIN CPX-2, CENTRAL
5 SAMPLE GD-1 GRAIN CPX-2, OUTER ZONE

DIAMOND INCLUSION
CHROME DIOPSIDE

H255-11

OLIVINE, R. DILLMAN - TORNGAT, November 10, 2000, R.I.B.

	1	2	3	4	5	6	7	8
SIO2	40.30	41.07	40.31	41.06	41.02	41.02	40.33	40.55
TIO2	.00	.00	.00	.00	.00	.00	.02	.00
A203	.01	.01	.00	.00	.00	.01	.01	.02
C203	.00	.00	.00	.00	.00	.00	.00	.00
FEO	8.53	7.89	10.48	8.03	8.34	8.54	12.12	9.17
MGO	50.38	50.93	48.96	50.60	50.19	49.76	46.92	49.46
MNO	.10	.13	.13	.06	.11	.14	.26	.13
CAO	.02	.04	.03	.04	.01	.01	.04	.02
K20	.00	.00	.01	.00	.02	.00	.01	.00
NA20	.00	.03	.02	.04	.00	.01	.04	.02
NIO	.37	.32	.35	.34	.32	.43	.33	.40
SUM	99.71	100.42	100.29	100.17	100.01	99.92	100.08	99.77

SI	.987	*	.995	*	.990	*	.997	*	.999	*	1.001	*	1.000	*	.995	*
AL	.000	.988	.000	.995	.000	.990	.000	.997	.000	.999	.000	1.002	.000	1.000	.001	.996
AL	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*
TI	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*
CR	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*
FE	.175	*	.160	*	.215	*	.163	*	.170	*	.174	*	.251	*	.188	*
MN	.002	*	.003	*	.003	*	.001	*	.002	*	.003	*	.005	*	.003	*
MG	1.840	*	1.839	*	1.793	*	1.832	*	1.822	*	1.811	*	1.734	*	1.809	*
CA	.001	*	.001	*	.001	*	.001	*	.000	*	.000	*	.001	*	.001	*
K	.000	*	.000	*	.000	*	.000	*	.001	*	.000	*	.000	*	.000	*
NA	.000	*	.001	*	.001	*	.002	*	.000	*	.000	*	.002	*	.001	*
NI	.007	2.025	.006	2.010	.007	2.020	.007	2.006	.006	2.002	.008	1.997	.007	2.001	.008	2.009
O	4.000	*	4.000	*	4.000	*	4.000	*	4.000	*	4.000	*	4.000	*	4.000	*
FO	91.32		92.00		89.28		91.82		91.47		91.22		87.34		90.58	
FA	8.68		8.00		10.72		8.18		8.53		8.78		12.66		9.42	
F/M	.096		.088		.122		.090		.094		.098		.148		.106	
F/FM	.088		.081		.108		.082		.086		.089		.129		.095	

1 SAMPLE GD-1 OLIV GRAIN 1
2 SAMPLE GD-1 OLIV GRAIN 2
3 SAMPLE GD-1 OLIV GRAIN 3
4 SAMPLE GD-1 OLIV GRAIN 4
5 SAMPLE GD-1 OLIV GRAIN 5
6 SAMPLE GD-1 OLIV GRAIN 6
7 SAMPLE GD-1 OLIV GRAIN 7
8 SAMPLE GD-1 OLIV GRAIN 8

H255-11

OLIVINE, R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

	9	10	11	12	13	14
SIO2	40.71	40.67	40.47	40.48	39.80	38.81
TIO2	.00	.00	.00	.00	.01	.00
A203	.00	.01	.00	.00	.01	.03
C203	.00	.07	.00	.00	.00	.00
FEO	8.02	7.85	8.95	8.71	16.58	16.64
MGO	50.81	50.93	50.33	50.28	43.35	43.74
MNO	.12	.10	.10	.16	.24	.27
CAO	.00	.01	.01	.01	.04	.06
K20	.00	.00	.00	.00	.00	.01
NA20	.00	.00	.02	.03	.00	.01
NIO	.36	.39	.42	.40	.09	.07
SUM	100.02	100.03	100.28	100.07	100.12	99.64

SI	.991	*	.990	*	.988	*	.989	*	1.005	*	.988	*
AL	.000	.991	.000	.990	.000	.988	.000	.989	.000	1.005	.001	.989
AL	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*
TI	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*
CR	.000	*	.001	*	.000	*	.000	*	.000	*	.000	*
FE	.163	*	.160	*	.182	*	.178	*	.350	*	.354	*
MN	.002	*	.002	*	.002	*	.003	*	.005	*	.006	*
MG	1.844	*	1.848	*	1.831	*	1.831	*	1.631	*	1.659	*
CA	.000	*	.000	*	.000	*	.000	*	.001	*	.002	*
K	.000	*	.000	*	.000	*	.000	*	.000	*	.000	*
NA	.000	*	.000	*	.001	*	.001	*	.000	*	.000	*
NI	.007	2.017	.008	2.019	.008	2.025	.008	2.022	.002	1.990	.001	2.023
O	4.000	*	4.000	*	4.000	*	4.000	*	4.000	*	4.000	*
FO	91.86		92.04		90.95		91.14		82.33		82.41	
FA	8.14		7.96		9.05		8.86		17.67		17.59	
F/M	.090		.088		.101		.099		.218		.217	
F/FM	.082		.081		.091		.090		.179		.178	

- 9 SAMPLE GD-1 OLIV GRAIN 9
- 10 SAMPLE GD-1 OLIV GRAIN 10
- 11 SAMPLE GD-1 OLIV GRAIN 11
- 12 SAMPLE GD-1 OLIV GRAIN C1
- 13 SAMPLE GD-1 OLIV GRAIN C5
- 14 SAMPLE GD-1 OLIV GRAIN C7

H255-11

R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

	1	2	3	4	5
SIO2	30.18	31.14	28.19	27.84	26.77
TIO2	17.46	10.54	15.24	14.30	17.26
A2O3	.04	.19	.78	.92	.89
C2O3	.07	.01	.00	.00	.00
FEO	12.56	17.33	16.34	16.97	16.45
MGO	2.58	2.29	1.98	2.23	2.37
MNO	.50	.27	.32	.37	.29
CAO	34.09	33.37	31.92	31.85	31.68
BAO	.19	.19	.20	.16	.27
K2O	.01	.03	.02	.01	.02
NA2O	.17	.12	.18	.17	.25
F	.27	.11	.14	.16	.10
CL	.00	.00	.01	.01	.00
SUM	98.12	95.59	95.32	94.99	96.35
-O= F+CL	.11	.05	.06	.07	.04
SUM	98.01	95.54	95.26	94.92	96.31

SI	4.786	*	5.161	*	4.689	*	4.666	*	4.426	*
AL	.007	4.793	.037	5.198	.153	4.842	.182	4.848	.173	4.599
AL	.000	*	.000	*	.000	*	.000	*	.000	*
TI	2.082	*	1.314	*	1.906	*	1.802	*	2.146	*
CR	.009	*	.001	*	.000	*	.000	*	.000	*
FE	1.666	*	2.402	*	2.273	*	2.379	*	2.274	*
MG	.610	*	.566	*	.491	*	.557	*	.584	*
MN	.067	4.433	.038	4.320	.045	4.715	.053	4.791	.041	5.045
CA	5.792	*	5.925	*	5.689	*	5.719	*	5.612	*
BA	.012	*	.012	*	.013	*	.011	*	.017	*
K	.002	*	.006	*	.004	*	.002	*	.004	*
NA	.052	*	.039	*	.058	*	.055	*	.080	*
F	.135	*	.058	*	.074	*	.085	*	.052	*
CL	.000	5.993	.000	6.040	.003	5.840	.003	5.875	.000	5.766
O	22.000	*	22.000	*	22.000	*	22.000	*	22.000	*
	FE	73.20		80.94		82.24		81.02		79.57
	MG	26.80		19.06		17.76		18.98		20.43
	F/M	2.842		4.313		4.722		4.364		3.964
	F/FM	.740		.812		.825		.814		.799

- 1 SAMPLE GD-1 GRAIN A1
- 2 SAMPLE GD-1 GRAIN A2
- 3 SAMPLE GD-1 GRAIN B26
- 4 SAMPLE GD-1 GRAIN B41
- 5 SAMPLE GD-1 GRAIN B54

GROUNDMASS PEROUSKITE OCTAHEDRA

STRONG ZONING

H255-11

ORTHOPYROXENE, R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

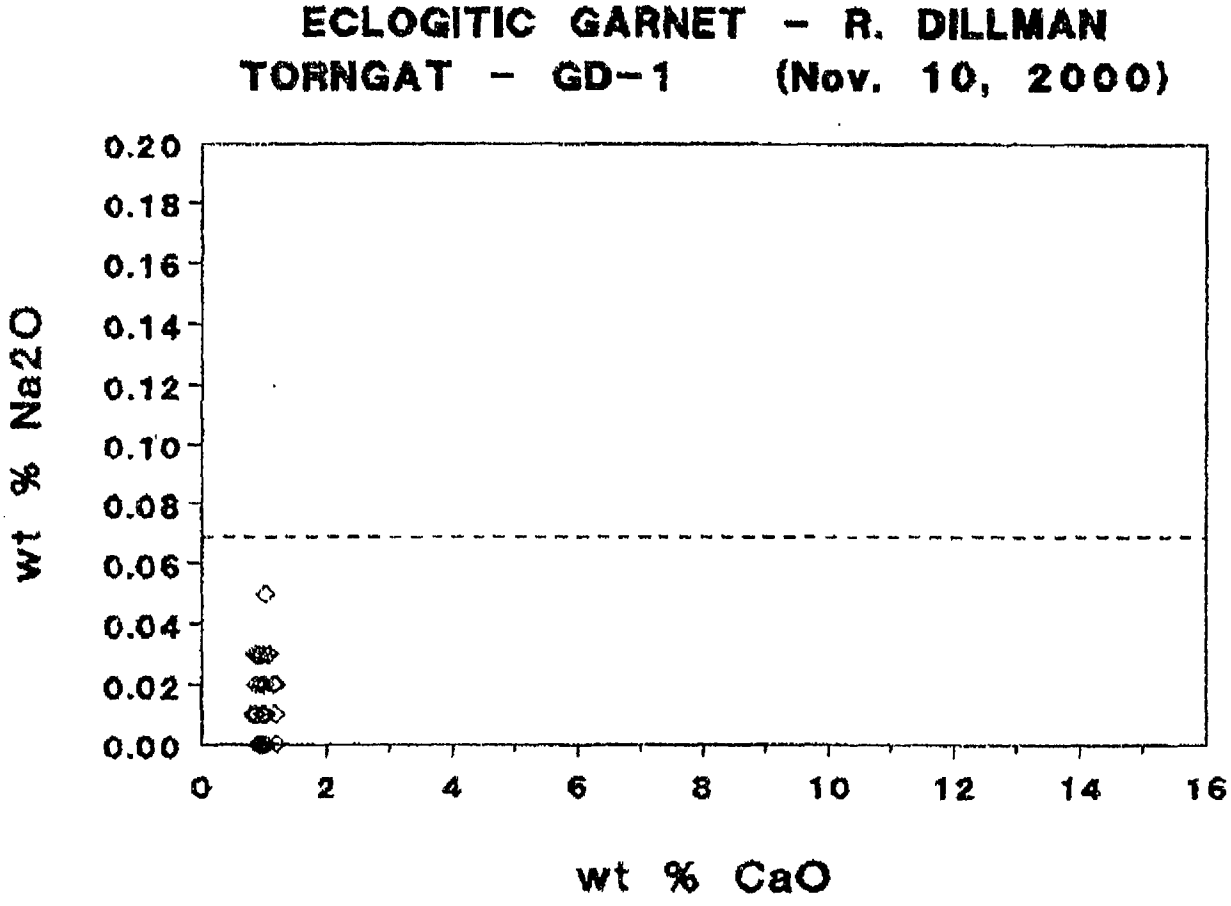
	1
SIO2	52.10
TIO2	.02
A2O3	.80
C2O3	.00
FEO	27.99
MGO	18.04
MNO	.59
CAO	.75
K2O	.01
NA2O	.01
NIO	.00
SUM	100.31

SI	1.988	*
AL	.012	2.000
AL	.024	*
TI	.001	*
CR	.000	*
FE	.893	*
MG	1.026	*
MN	.019	*
CA	.031	*
NA	.001	*
K	.000	*
NI	.000	1.994
O	6.000	*

EN	53.46
FS	46.54
F/M	.889
F/FM	.471

1 SAMPLE GD-1 GRAIN C2

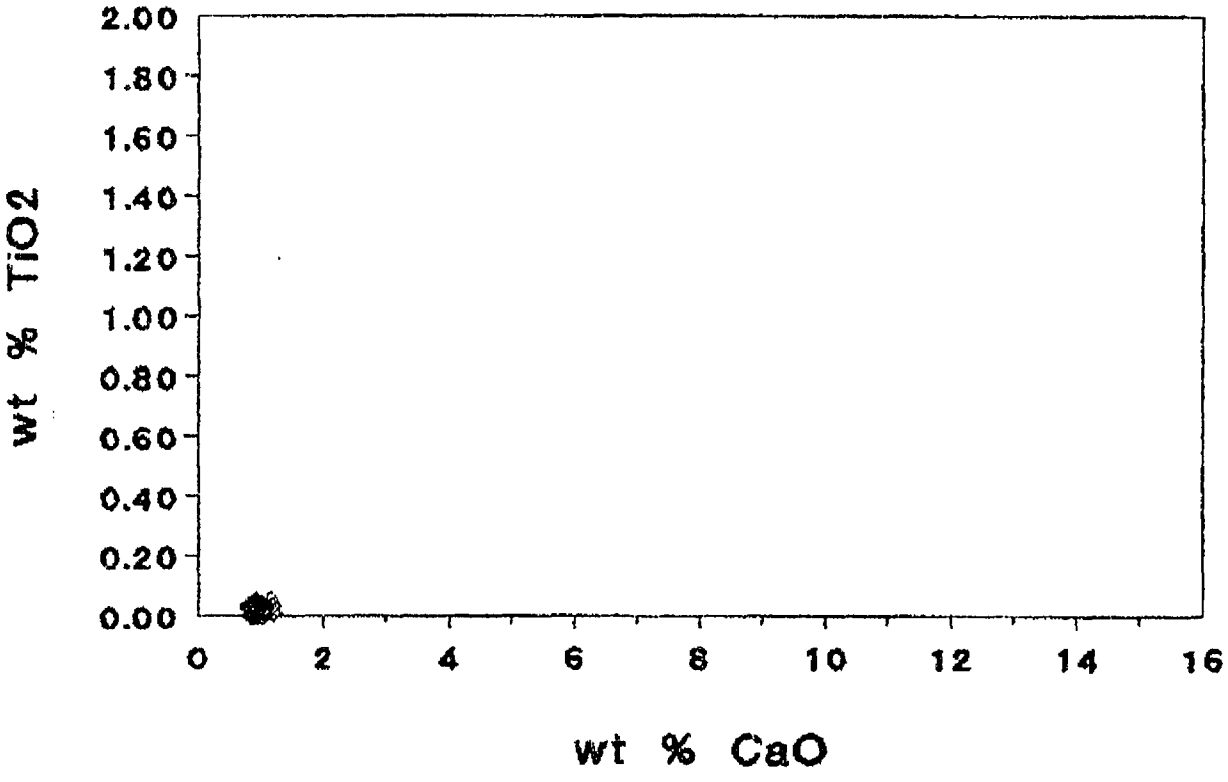
H255-11



METAMORPHIC ALMANDINE

H255-11

ECLOGITIC GARNET - R. DILLMAN
TORNGAT - GD-1 (Nov. 10, 2000)



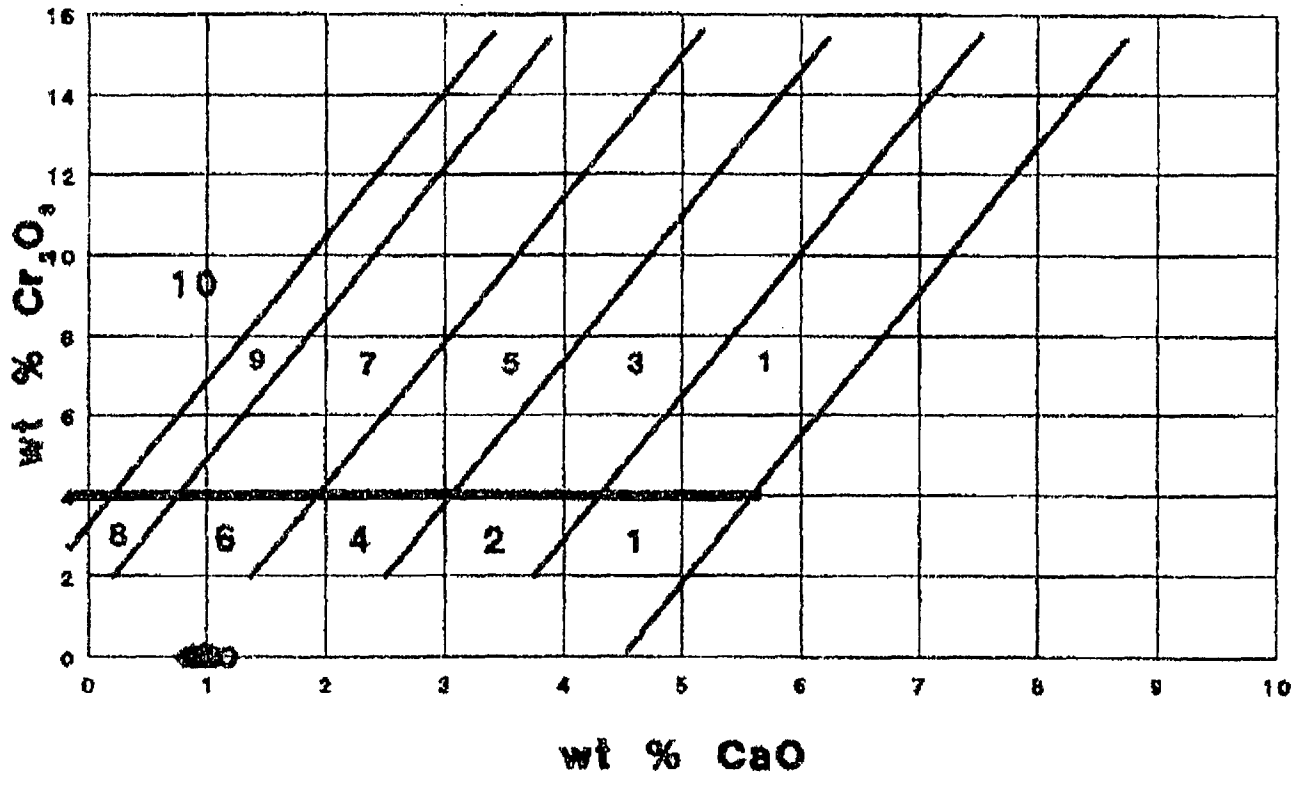
◇ RLB

METAMORPHIC ALMANDINE

H2SS-11

GARNET - R. DILLMAN

TORNGAT - GD-1 (Nov. 10, 2000)



◇ RLB

METAMORPHIC GARNETS
ALMANDINE

H255-11

ECL-PYROPE, R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

	1	2	3	4	5	6	7	8
SIO2	38.71	39.00	38.86	38.56	38.15	39.06	39.34	38.88
TIO2	.00	.03	.01	.00	.03	.00	.03	.01
A2O3	22.90	22.88	22.83	22.54	22.40	22.97	22.69	22.85
C2O3	.02	.00	.05	.04	.00	.00	.00	.00
FEO	26.53	27.21	27.84	28.53	29.38	26.77	26.93	27.42
MGO	10.24	10.00	9.45	8.26	8.09	9.59	9.75	9.11
MNO	.43	.31	.26	.95	1.01	.26	.21	.46
CAO	.93	.96	1.00	.92	.88	1.05	1.19	1.20
NA2O	.00	.03	.01	.00	.01	.00	.02	.00
SUM	99.76	100.42	100.35	99.80	99.95	99.70	100.16	99.93

SI	5.927	*		5.944	*		5.948	*		5.971	*		5.930	*		5.980	*		6.000	*		5.968	*	
AL	.073	6.000		.056	6.000		.052	6.000		.029	6.000		.070	6.000		.020	6.000		.000	6.000		.032	6.000	
AL	4.059	*		4.052	*		4.063	*		4.084	*		4.034	*		4.124	*		4.077	*		4.100	*	
TI	.000	*		.003	*		.001	*		.000	*		.004	*		.000	*		.003	*		.001	*	
CR	.002	*		.000	*		.006	*		.005	*		.000	*		.000	*		.000	*		.000	*	
FE	3.397	*		3.468	*		3.562	*		3.695	*		3.819	*		3.427	*		3.435	*		3.520	*	
MN	.056	*		.040	*		.036	*		.125	*		.133	*		.034	*		.027	*		.060	*	
MG	2.337	*		2.272	*		2.155	*		1.907	*		1.874	*		2.188	*		2.216	*		2.084	*	
CA	.153	*		.157	*		.164	*		.153	*		.147	*		.172	*		.194	*		.197	*	
NA	.000	10.004		.009	10.001		.003	9.990		.000	9.968		.003	10.014		.000	9.946		.006	9.959		.000	9.963	
O	24.000	*		24.000	*		24.000	*		24.000	*		24.000	*		24.000	*		24.000	*		24.000	*	
	F/M	1.478			1.544			1.670			2.003			2.109			1.582			1.562			1.717		
	F/FM	.596			.607			.625			.667			.678			.613			.610			.632		

1 SAMPLE GD-1 GRAIN 12
2 SAMPLE GD-1 GRAIN 13
3 SAMPLE GD-1 GRAIN 14
4 SAMPLE GD-1 GRAIN 15
5 SAMPLE GD-1 GRAIN 16
6 SAMPLE GD-1 GRAIN 17
7 SAMPLE GD-1 GRAIN 18
8 SAMPLE GD-1 GRAIN 19

METAMORPHIC ALMANDINE

H255-11

ECL-PYROPE, R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

	9	10	11	12	13	14	15	16
SIO2	39.34	38.57	38.95	39.08	38.70	38.27	38.46	39.13
TIO2	.03	.01	.05	.05	.00	.03	.04	.00
A2O3	22.94	22.65	22.68	22.70	22.93	22.23	22.43	22.89
C2O3	.01	.04	.01	.00	.05	.00	.04	.00
FEO	27.33	28.06	27.44	26.97	27.82	31.00	30.73	26.67
MGO	9.59	9.19	9.57	9.85	9.28	6.96	7.35	10.01
MNO	.39	.27	.36	.37	.44	.45	.51	.35
CAO	1.18	1.04	.91	1.15	.86	.97	.88	1.02
NA2O	.01	.00	.00	.02	.03	.00	.02	.05
SUM	100.82	99.83	100.07	100.19	100.11	99.91	100.46	100.12

SI	5.974	*	5.943	*	5.964	*	5.967	*	5.938	*	5.979	*	5.965	*	5.967	*
AL	.026	6.000	.057	6.000	.036	6.000	.033	6.000	.062	6.000	.021	6.000	.035	6.000	.033	6.000
AL	4.078	*	4.056	*	4.057	*	4.052	*	4.083	*	4.072	*	4.065	*	4.080	*
TI	.003	*	.001	*	.006	*	.006	*	.000	*	.004	*	.005	*	.000	*
CR	.001	*	.005	*	.001	*	.000	*	.006	*	.000	*	.005	*	.000	*
FE	3.471	*	3.616	*	3.514	*	3.444	*	3.570	*	4.050	*	3.986	*	3.401	*
MN	.050	*	.035	*	.047	*	.048	*	.057	*	.060	*	.067	*	.045	*
MG	2.171	*	2.111	*	2.207	*	2.242	*	2.122	*	1.621	*	1.699	*	2.275	*
CA	.192	*	.172	*	.149	*	.188	*	.141	*	.162	*	.146	*	.167	*
NA	.003	9.969	.000	9.995	.000	9.981	.006	9.985	.009	9.989	.000	9.969	.006	9.979	.015	9.982
O	24.000	*	24.000	*	24.000	*	24.000	*	24.000	*	24.000	*	24.000	*	24.000	*
F/M	1.622		1.730		1.613		1.558		1.709		2.536		2.385		1.515	
F/FM	.619		.634		.617		.609		.631		.717		.705		.602	

9 SAMPLE GD-1 GRAIN 20
10 SAMPLE GD-1 GRAIN 21
11 SAMPLE GD-1 GRAIN 22
12 SAMPLE GD-1 GRAIN 23
13 SAMPLE GD-1 GRAIN 24
14 SAMPLE GD-1 GRAIN 25
15 SAMPLE GD-1 GRAIN 26
16 SAMPLE GD-1 GRAIN 27

ALMANDINE

H259-11

ECL-PYROPE, R. DILLMAN - TORNGAT, November 10, 2000, R.L.B.

	17	18	19	20	21	22	23	24
SIO2	37.99	38.19	38.93	38.65	38.32	38.51	38.74	38.59
TIO2	.03	.03	.02	.01	.00	.03	.00	.00
A203	22.42	22.15	23.16	23.09	22.87	23.01	22.87	22.84
C203	.03	.00	.02	.01	.00	.02	.00	.00
FEO	29.76	30.45	26.58	27.23	28.73	27.58	27.38	28.15
MGO	8.31	7.20	9.76	9.45	8.35	9.29	9.39	9.39
MNO	.36	.57	.26	.27	.56	.21	.36	.27
CAO	.97	1.08	1.04	.95	1.01	1.02	.96	.92
NA2O	.00	.03	.03	.02	.02	.00	.00	.03
SUM	99.87	99.70	99.85	99.68	99.86	99.67	99.70	100.19

SI	5.908	*		5.973	*		5.955	*		5.936	*		5.929	*		5.926	*		5.954	*		5.924	*	
AL	.092	6.000		.027	6.000		.045	6.000		.064	6.000		.071	6.000		.074	6.000		.046	6.000		.076	6.000	
AL	4.017	*		4.055	*		4.124	*		4.114	*		4.098	*		4.099	*		4.097	*		4.055	*	
TI	.004	*		.004	*		.002	*		.001	*		.000	*		.003	*		.000	*		.000	*	
CR	.004	*		.000	*		.002	*		.001	*		.000	*		.002	*		.000	*		.000	*	
FE	3.871	*		3.983	*		3.396	*		3.497	*		3.717	*		3.549	*		3.519	*		3.614	*	
MN	.047	*		.076	*		.034	*		.035	*		.073	*		.027	*		.047	*		.035	*	
MG	1.926	*		1.678	*		2.222	*		2.163	*		1.926	*		2.131	*		2.151	*		2.148	*	
CA	.162	*		.181	*		.170	*		.156	*		.167	*		.168	*		.158	*		.151	*	
NA	.000	10.030		.009	9.985		.009	9.959		.006	9.974		.006	9.988		.000	9.981		.000	9.972		.009	10.013	
O	24.000	*		24.000	*		24.000	*		24.000	*		24.000	*		24.000	*		24.000	*		24.000	*	
	F/M	2.034			2.418			1.543			1.633			1.969			1.679			1.658			1.696		
	F/FM	.670			.707			.607			.620			.663			.627			.624			.629		

17 SAMPLE GD-1 GRAIN 28
18 SAMPLE GD-1 GRAIN 29
19 SAMPLE GD-1 GRAIN 30
20 SAMPLE GD-1 GRAIN 31
21 SAMPLE GD-1 GRAIN 32
22 SAMPLE GD-1 GRAIN 33
23 SAMPLE GD-1 GRAIN 34
24 SAMPLE GD-1 GRAIN 35

ALMANDINE

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	25	26	27	28	29	30
SIO2	38.76	38.61	38.34	38.86	38.19	38.49
TIO2	.04	.03	.01	.00	.03	.03
A2O3	22.71	23.05	22.74	22.63	22.68	23.10
C2O3	.07	.01	.03	.00	.00	.01
FEO	28.18	26.54	28.76	27.34	28.59	28.53
MGO	8.79	10.26	8.43	9.72	8.93	8.59
MNO	.45	.55	.46	.35	.49	.33
CAO	.97	.85	.96	.97	.82	1.02
NA2O	.00	.01	.01	.00	.01	.01
SUM	99.97	99.91	99.74	99.87	99.74	100.11

SI	5.967	*	5.906	*	5.937	*	5.962	*	5.911	*	5.924	*
AL	.033	6.000	.094	6.000	.063	6.000	.038	6.000	.089	6.000	.076	6.000
AL	4.086	*	4.060	*	4.087	*	4.054	*	4.048	*	4.114	*
TI	.005	*	.003	*	.001	*	.000	*	.003	*	.003	*
CR	.009	*	.001	*	.004	*	.000	*	.000	*	.001	*
FE	3.628	*	3.395	*	3.725	*	3.508	*	3.701	*	3.672	*
MN	.059	*	.071	*	.060	*	.045	*	.064	*	.043	*
MG	2.017	*	2.339	*	1.946	*	2.223	*	2.060	*	1.971	*
CA	.160	*	.139	*	.159	*	.159	*	.136	*	.168	*
NA	.000	9.963	.003	10.012	.003	9.984	.000	9.990	.003	10.016	.003	9.976
O	24.000	*	24.000	*	24.000	*	24.000	*	24.000	*	24.000	*
	F/M	1.828		1.482		1.945		1.599		1.828		1.885
	F/FM	.646		.597		.660		.615		.646		.653

25 SAMPLE GD-1 GRAIN 36
26 SAMPLE GD-1 GRAIN C-3
27 SAMPLE GD-1 GRAIN C-6
28 SAMPLE GD-1 GRAIN C-9
29 SAMPLE GD-1 GRAIN C-10
30 SAMPLE GD-1 GRAIN C-11

ALMANDINE.

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