

APPENDIX IV
TABLE I
PHYSICAL CHARACTERISTICS AND NOMENCLATURE
OF DISSEMINATED SPINELS

ROCK TYPE	COLOR	SHAPE	DIMENSIONS	OCCURRENCE	INCLUSIONS	ALTERATION	NOMENCLATURE*
TRETOROLITE	opaque	"	0.2-0.3mm.	at grain boundary of plagioclase crystals. Also enclosed in olivine.	none	oxydized edges	picotite and chrom-pleonaste
OLIVINE-GABBRO	opaque	mainly subhedral also anhedral and subrounded	0.2-0.3mm.	interstitial to silicates. Common as inclusion in cpx. Rare as inclusion in plagioclase.	none	oxydized edges	picotite
WEHLITE-CLINOPYROXEN.	dark reddish brown to opaque. Light brown in Lewis Hills.	subhedral to anhedral. Anhedral in Lewis Hills.	0.2-0.3mm	interstitial to silicates. Common as inclusion in cpx. In Lewis Hills interstitial to silicates.	none	oxydized edges	picotite except ceylonite in Lewis Hills.
DUNITE CUMULATE	dark reddish brown to opaque. In Lewis Hills dark brown to opaque.	anhedral	0.2-0.4mm	rare surrounded by spinel along fractures and grain edges. Chlorite rims.	rare surrounded by spinel along fractures and grain edges. Chlorite rims.	to opaque secondary picotite	spinel
HASZLWURZITE-DITRITE	reddish with brown or orangy shades	anhedral; rarely subhedral.	0.2-0.7mm. rarely more than 1mm.	interstitial to silicates. Common as inclusion in opx. Rare as inclusion in olivine or cpx.	small serpentinized olivine grains	to opaque secondary picotite	olivine
SPINEL, WEHLITE ARTEGITE	light-green, green or light brown	anhedral; elongated parallel to mineral foliation in arfvedsonite	1mm.	interstitial to silicates.	serpentinized olivines	to opaque secondary spinel	olivines
LHERZOLITE	dark to light yellowish brown	anhedral	average 0.5 maximum 5mm.	interstitial to silicates. Also as inclusion in opx.	serpentinized olivines, spinel along fractures and grain edges. Chlorite rims.	to opaque secondary spinel-ceylonite	olivines, spinel along fractures and grain edges. Chlorite rims.

* (After Winchell and Winchell, 1956)

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TROCTOLITE	opaque		0.2-0.3mm.	at grain boundary of plagioclase crystals. Also enclosed in olivine.	none	oxydized edges	picotite and chromopleonaste
OLIVINE-GABBRO	opaque	mainly subhedral also anhedral and subrounded	0.2-0.3mm.	interstitial to silicates. Common as inclusion in cpx. Rare as inclusion in plagioclase.	none	oxydized edges	picotite
WEHLITE-CLINOPYROXEN.	dark reddish brown to opaque. Light brown in Lewis Hills.	subhedral to anhedral. Anhedral in Lewis Hills.	0.2-0.3mm	interstitial to silicates. Common as inclusion in cpx. In Lewis Hills interstitial to silicates.	none	oxydized edges	picotite except ceylonite in Lewis Hills.
DENITE CUMULATE	dark reddish brown to opaque. In Lewis Hills dark brown to opaque.	anhedral	0.2-0.4mm	interstitial to olive grains. Where cpx and plagioclase are present occurs as inclusion in cpx and plagioclase or minor inclusions of altered plagioclase.	rare surrounded by serpentinized olivines.	to opaque secondary picotite	
HANTURITE-DUNITE	reddish with brown or orangy shades	anhedral; rarely subhedral	0.2-0.7mm. rarely more than 1mm.	interstitial to silicates. Common as inclusion in opx. Rare as inclusion in olivine or cpx.	small sorrounded olivine grains	spinel along fractures and grain edges.	
SPINEL WEHLITE ARICITE	light-green, green or light brown	anhedral; elongated parallel to mineral foliation in dikeite	1mm.	interstitial to silicates.	serpentinitized olivines	Chlorite rims	to opaque secondary spinel
HERZOLITE	dark to light yellowish brown	anhedral	average 0.5 maximum 5mm.	interstitial to silicates. Also as inclusion in opx.	serpentinitized olivines.	Chlorite rims	spinel along fractures and grain edges.
							Tarco spinels separated from olivine by a chlorite rim.

* (after Winchell and Winchell, 1956)

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TABLE 2

MASSIVE SPINELS

SAMPLE NUMBER AND OCCURRENCE	SHAPE & THICKNESS OF SEGREGATION	% AND COMPOSITION OF INTERSTITIAL SILICATES	COLOUR	SHAPE	SIZE	INCLUSIONS	NOMENCLATURE*	
							MASSIVE SPINELS	SPINEL
SAMPLE 47 CHROMITITE AT BASE OF FELDSPARIC DUNITE-LHERZOLITE SEQUENCE	5-10cm. layer	20% fine grained Prehnite after Plagioclase sub- ordinate serpentine cut by veins of well crystallized prehnite.	very deep brown to opaque; opaque where interstitial material is serpentine.	anchedral	less than 1mm.	none		spinel
SAMPLE 31 DUNITE CIRCULATE WITH SUBORDINATE OPK BANDS	Stringers of spinel and silicates containing dis- seminated spinels. 10cm. thick	serpentine and apx.	opaque	anchedral	Ima.	none	berezovskite	
SAMPLE 33 DUNITE CIRCULATE	1cm. thick layer	30% white mica; minor chlorite and serpentine.	opaque; few grains deep- reddish- brown.	anchedral	maximum 2mm.	surrounded serpentinitized olivine.	chrom-spinel	
SAMPLE 30 DUNITE TECTONITE	podiform segregation 15cm. thick	20-30% chlorite matrix.	red		large grains; anchedral; small grains in chlorite matrix	maximum 4mm.	surrounded serpentinitized olivine.	picotite to chrom-picotite
SAMPLE 25 DUNITE TECTONITE BAND PARALLEL TO HARZBURGITE	discontinuous thin spinel layer at centre of dunite forming lenses up to 1cm. thick.	50% interstitial serpentine; white mica along fractures.	red	anchedral	2-3mm.	surrounded serpentinitized olivine.	picotite	
SAMPLE 22 IMPERFECT DUNITE ECIJ IN HARZBURGITE	irregular podiform segregation. 10-15cm. thick	30% chlorite matrix.	orange red		large grains anchedral; small grains subhdral to euhedral.	maximum 3mm.	surrounded serpentinitized olivine.	chrom-picotite
SAMPLE 32 DUNITE CIRCULATE	2cm. thick layer	30-50% serpentinitized olivine.	pale green	subhdral to anchedral embayed against olivine.	up to 4mm.	subhdral serpentinitized olivine.	spinel	

* (after Winchell and Winchell, 1956)

* (After Mitchell and Mitchell, 1956)

ROCK TYPE	COLLOR	SHAPE	DIMENSIONS	OCCLUSIONS	INCLUSIONS	ALTERATION
PHYSICAL CHARACTERISTICS AND NOMENCLATURE						
TRICONTOLITE	opaque	0.2-0.3mm.	at grain boundary of plagioclase crystals.	none	none	oxidized edges
OLIVINE-CHABRO	opaque	0.2-0.3mm.	matrix subbedular	Alba and subbedular	silicates, common as inclusions in cpx. Rises as elongation in olivine.	oxidized edges
MELILLITE	none	none	interbedded to	subbedular	silicates, common as inclusions in cpx. Rises as elongation in olivine.	oxidized edges
CUMULITES	dark reddish brown to opaque.	0.2-0.4mm	interbedded to	subbedular	plagioclase are present occurs in interbedding in olivine.	oxidized edges
DUNITE	dark brown to opaque.	0.2-0.7mm.	matrix subrounded to small spherulites	subbedular	plagioclase or cpx and olivine grains.	oxidized edges
DIARIZURITES	shades brown to orange	0.2-0.7mm.	matrix more than 1mm.	subbedular	plagioclase or cpx.	oxidized edges
SPINEL	light-green, greenish brown	1mm.	interbedded to elongated	subbedular	plagioclase, olivine and spherulites.	oxidized edges
WEHRLITES	greenish brown	1mm.	interbedded to elongated	subbedular	plagioclase, olivine and spherulites.	oxidized edges
PERLLITES	light-green, greenish brown	1mm.	interbedded to elongated	subbedular	plagioclase, olivine and spherulites.	oxidized edges
THREZOLITES	dark to light yellowish brown	0.5-1mm	interbedded to spherulites. Also as spherulites.	subbedular	plagioclase, olivine and spherulites.	oxidized edges

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OF DISSEMINATED SPINELS

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SAMPLE NUMBER	SHAPE & THICKNESS	DE SEGREATION	X AND COMPOSITION OF INTERSTITIAL SILICATES	COLOUR	SIZE	SHAPES	APPENDIX IV
MASSIVE SPINELS							
SAMPLE 47	5-10cm., Layer	20% fine grained predom. brown	very deep brown to opaque; opaque granular sub-	grey greenish brown.	anchedral	less than 1mm.	none
CHRMNITE AT BASE OF FESTPYNHIC DUNITE-NORTHOISITE SEQUENCE			granular segregations cut by veins of well segregated				
SAMPLE 31	stratigraphic spinels and silicates	opaque	segregation and separation of spinels.	grey	anchedral	1mm.	none
DUNITE CUMULATVE WITH SUCROMINATE ON BANDS			concentrating dis- persed spinels, separated by thin layer				
SAMPLE 33	Item, thick layer	30% white mica; opaque; few red patches	minor chlorite garnet brown.	anchedral	maximum 2mm.	subrounded subpentagonal olivine.	DUNITE CUMULATVE WITH SUCROMINATE ON BANDS
SAMPLE 30	podiform	20-30%	chlorite garnet brown.	red	large maximum 4mm.	subrounded subpentagonal olivine.	DUNITE TECTONITE WITH SUCROMINATE ON BANDS
SAMPLE 25	discontinuous segregation	50% interstitial within spinel	chlorite mica along fracture in chlorite matrix small garnet inclusions anchedral.	red	2-3mm.	subrounded subpentagonal olivine.	DUNITE PARALLEL TO BEDDING LINES WITH SUCROMINATE
SAMPLE 22	irregular podiform	30% chlorite matrix.	oxange red	large garnet anchedral	3mm.	subrounded subpentagonal olivine.	IRREGULAR DUNITE WITH SUCROMINATE
SAMPLE 32	2cm. thick	layer	green subparallel to up to 4mm.	green	30-50%	subrounded subpentagonal olivine.	DUNITE CUMULATVE WITH SUCROMINATE

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