Petrographic descriptions

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| Sample | Lithology | Opx | Cpx | Spinel | C-P | Remarks | Residual or impregnated |
| VAN7-78-36H | Plagioclase harzburgite | Extensive recrystallization of opx in neoblasts, 50% serpentinite | Granular, fine grained, 0.4 mm, cpx neoblasts preserved with small euhedral spinel inclusion. 5% altered | Intermixed with cpx neoblasts; | Porphyroclastic, 2 | Plagioclase melt infiltrated, Gabbro vein on side | Impregnated |
| VAN7-36V | Plagioclase harzburgite | Recrystallized neoblasts, subsequently altered to serpentinite 100% | Patches of neoblasts of pyroxenes, 0.1mm, 99% alterd | No spinel | Porphyroclastic to protomylonite,1.5 | Hydrogrossular replacing plagioclase | Impregnated |
| VAN7-78-37H | Plagioclase harzburgite | Patches of recrystallized opx and spinel | 4% modal cpx re-XX to form abuyndant neoblasts, 2-5mm porphyroclasts | No spinel | Protomylonite; 2 | Plagioclase altered to hydrogrossular; patches of plagioclase, Total plag 3-4%, evidence for melt impregnation | Impregnated |
| VAN7-78-39 | Plagioclase lherzolite | Recrystallized neoblasts, 20% altered | Recrystallized and orientated neoblasts . Plagioclase infiltrates neoblasts | Spinel associated with plagioclase in bleb | Protomylonite 3 | Large amount of plagioclase as stringers | Impregnated |
| VAN7-78-41 | Plagioclase lherzolite | Neoblasts, 20% serpentinized | Remnant crystals as core of neoblasts | Intergrown with plagioclase | Protomylonitic, 2 | Melt impregnation is syn deformation | Impregnated |
| VAN7-85-30 | Lherzolite | Talc alteration around crystals, 60% altered | Large crystals, glomerocrysts with opx, neoblasts with spinel. Alteration 5% | Large hollyleaf spinel with chlorite rims | Porphyroclastic, 1. | High temperature alteration, minor textural modification by melt | Residual |
| VAN7-85-33 | Harzburgite | Neoblasts, 60% alteration | Large 3mm crystals | Intergrown with cpx | Porphyroclastic 1.5 | No plagioclase or hydrogrossular | Residual |
| VAN7-85-37\* | (Meta)-Peridotite | Opx 70% altered to amphibole (tremolite | Large abundant pyroxene augen, altered | No spinel observed | Porphyrocastic, 1.5 | Massive tremolite replacing pyroxenes,mostly talc with calcite |  |
| VAN7-85-42 | Lherzolite | Crystals deformed under brittle conditions, infill of spinel, 30% altered | 2-3mm grains, some smaller around opx | Hollyleaf. Vermiform spinel crosscuts opx and cementing neoblasts | Porpyroclastic, 1 | No plagioclase or hydrogrossular | Residual |
| VAN7-85-43 | Lherzolite | 25% altered | Large 4 x 2.5 mm grains | Hollyleaf to vermiform | Porphyroclastic; 2 | No plagioclase or hydrogrossular | Residual |
| VAN7-85-44 | Lherzolite | Talc rims the opx, 25% altered | 4 x 3 mm grains, individual and as glomerocrysts | Spinel occludes olivine neoblasts | Porphyroclastic; 1 | No plagioclase or hydrogrossular | Residual |
| VAN7-85-47 | Lherzolite | Some grains have talc veins | Glomerocrsyts with opx | Hollyleaf to vermiform, cements npyroxene neoblasts | Porphyroclastic; 1 | No plagioclase or hydrogrossular | Residual |
| VAN7-96-28 | Lherzolite | Well preserved, granular20% serpentinized | Subrounded and bend, grains uo to 4 x3 mm | Thin chlorite selvages around spinel | Porpyroclastic, 1 | No plagioclase or hydrogrossular | Impregnated |
| VAN7-96-29 | Lherzolite | Opx neoblasts, 10% serpentinized | Up to 5 x 2.5mm grains | Thin chlorite selvage around spinel. Spinels cements the pyroxene neoblasts | Porphyroclastic; 1 | No plagioclase or hydrogrossular | Impregnated |
| VAN7-96-31 | Plagioclase harzburgite | Granular  0% serpentinized | Cpx remnants full with serpentinite veins . Large crystals with altered plagioclase in center | Some fresh, some with chlorite corona | Porphyroclastic; 1.5 | Alteration around opx indicative of plagioclase | Impregnated |
| |  | | --- | | Mid Cayman Rise | |  |  |  |  |  |  |  |
| OCE23-13-2 | Harzburgite | Opx and cpx glomerocalsts; 50% altered | Partially recrystallized, sometimes as stringers | Hollyleaf to vermiform | Porphyroclastic; 2.5 | No plagioclase | Residual |
| OCE23-13-8 | Harzburgie | 10% serpentinized | Recrystallized into small grains (0.2-0.3mm) | spinel encloses neoblasts of opx. One isolated corona of possible metamorphic plagioclase around spinel | Porphyroclastic; 2.5 | Carbonate vein and oxide gabbro norite veinlet | Residual |
| OCE23-13-10 | Plagioclase Harzburgite | Granular, 15% serpentinized | Granular, one recrystallized cpx stringer | Metamorphic plagioclase around spinel | Porphyroclastic; 2 | No textural evidence for melt reaction | Residual |
| OCE23-13-11 | Lherzolite | Kinked and stretched 15 x 7mm; 20% altered | Glomerocrysts. New sub grain formation on deformed grains. Original neoblasts predates deformation | Large hollyleaf spinel intergrown with olivine and opx, extensive recrystallization in presence of melt | Porphyroclastic; 2. Kink band boundaries decorated by spinels | No evidence of melt reaction | Residual |
| OCE23-13-50 | Lherzolite | Stretched, 5% altered | granular, crystals up to 0.7 x 0.7mm |  | Porphyroclastic; 2 | High temperature vein with talc serpentinite. No plagioclase | Residual |
| OCE23-14-1 | Plagioclase harzburgite | Granular | Neoblasts intergrown with spinel, high temperature recrystallization | Trails of spinel with coronas of Hydrogrossular. Chlorite replacing plagioclase coronas around spinel | Porphyroclastic; 2 | No evidence for melt reaction | Residual |
| OCE23-14-7 | Plagioclase harzburgite | Granular, kinked and recrystallized | Small cpx in blasts with opx | Vermiform to hollyleaf | Porphyroclastic; 2 |  | Residual |
| ALV616-1-1 | Plagioclase lherzolite | Both bend and porphyroclastic opx; 10% altered | Irregular shaped, some coarse 1.5 x 0.8 mm | Hollyleaf and stringers in plagioclase | Porphyroclastic; 1 | 3% plagioclase, carbonate vein, plagioclase completely altered. | Impregnated |
| OCE23-14-2 | Plagioclase harzburgite | Glomerocrysts of opx surrounded by small crystals of opx and olivine; 70% altered | Granular, 2.6 x 1.3 mm; protogranular. Pre-deformation residual cpx is recrystallized. | Both hollyleaf and interstitial | Protogranular; 0.5, but formerly 3. Aligned shape fabric in plagioclase, aligns with lens of recrystallized pyroxene | Much secondary magnetite with secondary sulfides, interstitial and as blebs. | Impregnated |
| OCE23-14-3 | Plagioclase harzburgite |  | Protogranular cpx-opx | Stringers surrounded by plagioclase | Porphyroclastic; 0.5 |  | Impregnated |
| OCE23-14-10 | Plagioclase harzburgite |  | Protogranular cpx-opx | Stringers surrounded by plagioclase | Porphyroclastic; 1 | Sharp grain boundaries on plagioclase | Impregnated |
| Mid Atlantic Ridge |  |  |  |  |  |  |  |
| AII-96-1-3 | Harzburgite | Protogranular, 90% altered | Granular, grains up to 4.5 x 2mm | Intergrown opx and spinel | Porphyroclastic; 0.5 |  | Residual |
| AII-96-1-7 | Plagioclase Lherzolite | Opx with kink banding, granular opx-olivine clusters; opx 70% altered | Granular, grains up to 2.5 x 2mm | Hollyform and vermiform | Porphyroclastic; 0.5 |  | Impregnated |
| AII-96-1-19 | Harzburgite |  | Intergranular cpx, cpx-opx clusters with irregular crystal shapes | Both intergranular and granular | Porphyroclastic; 0.5 | 4mm wide spinel olivine websterite vein with chromite | Residual |
| AII-96-1-24 | Harzburgite | Intergranular | Subophitic to intergranular, 4 x 1 mm grains intergrown with opx and spinel | Hollyleaf associated with small cpx | Sheared opx; 1 | Small oxide gabbro norite vein with ilmenite and plag. Sutured igneous contact. No evidence for intrusion into the host. | Residual |
| AII-96-1-31 | Lherzolite | Granular and intergranular, 5% serpentinized | Granular up to 2 x 2.6mm | Rare chlorite between spinel and olivine | Protogranular;0 |  | Residual |
| AII-96-12-28 HD5 | Harzburgite | Granular 95% altered | Intergranular, few | Spinel-opx aggregates | Protogranular; 1 |  | Residual |
| AII-96-12-30 | Harzburgite | Granular, 100% altered | Spinel-cpx intergrowths, granular cpx 1 x 2mm | Vermiform and hollyleaf | Porphyroclastic; 0.5, some kinking in opx | Possible plagioclase as part of intergrowth of spinel and opx | Residual |
| AII -60-9-56 | Lherzolite | Granular, with kink banding, 20% altered | Glomerocrysts of cpx and opx, granular, small recrystallized cpx at grain boundary | Porphyroclastic; 0.5 | Hollyleaf intergrown with opx |  | Residual |
| AII-60-9-74 | Harzburgite | Granular, 20% altered | Few, intergranular, small | Porphyroclastic, 0.5 | Hollyleaf |  | Residual |