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REPORT CMS 87/1/15

YOUR REFERENCE:	Letter dated 20.1.1987
DATE RECEIVED:	21st January, 1987
SAMPLE NOS.:	379337 - 379343
SUBMITTED BY:	A.M. Hespe
WORK REQUESTED:	Petrology

H.W. Fander, M. Sc.

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REPORT CMS 87/1/15

Seven drill core samples from DDH/MC-17, drilled south-west of Mt. Charter, were received for routine petrological description. Representative thin-sections were prepared and examined together with respective offcuts, with carbonate stain tests performed as warranted. Attached tabulated descriptions summarise the microscopic data and include interpretative comments.

Summary

This suite comprises altered basic to acid volcanics and subordinate sedimentary rocks.

Volcanics include two examples of albite-chlorite-altered leuco-andesitic lava, a "prehnite-pumpellyite"-altered pyroxenic basalt, and an extensively sericitised rhyolite. The latter rock (379339) is conceivably a minor intrusive, but interpretation will be dependent on contact relationships.

Sediments comprise weakly volcanomict quartzose psammopelites and a highly impure chert facies (379343) typical of that cementing subaqueous breccias and pillow lavas in the Hellyer/Mount Charter area.

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CENTRAL MINERALOGICAL SERVICES

Sample No.	Classification - Composition	Fabric	Accessories	Comments
379337 (T.S. 57359) 203·8	Mica-Quartz Siltstone. Silt-sized muscovite flakes with varying proportions of angular to subangular quartz. Semi-sericitic white mica matrix with pervasive carbonaceous matter, conspicuous syngenetic pyrite.	Laminated, with sporadic partly slumped and mildly boudinaged quartz siltstone inter-beds. Weakly sheared.	Minor traces of clastic feldspar (albite). Minor to conspicuous dolomite. Minor calcite veinlets.	Carbonaceous/pyritic quartzose mica siltstone, variably dolomitic and mildly slumped. Calcite veinlets predate the weak phyllitic cleavage.
379338 258·8	Protoquartzite. Framework of angular to subangular quartz grains/minor composites, carbonaceous metapelite clasts, minor albite grains, muscovite flakes. Calcite-stained microcrystalline sericitic quartz cement.	Weakly bedded, poorly sorted, silty, fine-grained sandstone. Weakly low-angle discordantly sheared.	Detrital chromite. Leucoxenic semi-opaques, rare tourmaline, zircons. Traces syngenetic pyrite.	Fine-grained quartzose sandstone, weakly feldspathic, but non-tuffaceous. Greenschist facies pelite clasts; minor sheared calcite veinlets.
379339 276·5	Altered Rhyolite. Frequent corroded quartz, subordinate sericitic/calcite-stained albite and sanidine-anorthoclase phenocrysts in a pervasively sericitic microcrystalline quartzofeldspathic groundmass.	Weakly flow-banded/structured porphyritic, microfelsitic. Very incipiently sheared.	Leucoxenised opaques, rare very fine ?chromite, calcitised biotite phenocrysts, traces of pyrite, minor	Extensively sericite(-calcite)-altered porphyritic/flow-structured rhyolite. Lava-like, but conceivably a minor intrusive. chloritic microfractures.
379340 290·3	Leuco-Andesite. Frequent sericitic/albitised plagioclase phenocrysts, minor chloritised ferromagnesian microphenocrysts in a chlorite-stained, albite-microlitic to semi-felsitic groundmass. Minor muscovite-chlorite amygdales.	Weakly amygdaloidal, semi-glomeroporphyritic. Perlitic in irregular zones; elsewhere weakly subtrachytic.	Leucoxenised opaques, minor traces of pyrite.	Weakly amygdaloidal intermediate lava with leuco-andesitic characteristics, microcrystalline to subvitric. Unrelated to 379339.
379341 298·1	Leuco-Andesite. Weakly sericitic/albitised plagioclase, minor silicified ferromagnesian phenocrysts in a variably chlorite-stained microcrystalline-albitised groundmass. Minor vugs, veinlets of calcite, quartz.	Analogous to 379340, relatively pervasively perlitic, slightly coarser phenocrysts/glomerophenocrysts.	Leucoxenised opaques, minor traces of pyrite.	Close affinities with 379340; relatively perlitic-devitrified and semi-selectively microcrystalline-albitised in comparison.
379342 312·2	Amygdaloidal Basalt. Disseminated chloritic quartz-pseudomorphed ?orthopyroxene phenocrysts, quartz-chlorite-epidote amygdales; chlorite-mesostasised augite-/albitised plagioclase-lathic groundmass. Chloritic quartz veinlets.	Weakly porphyritic/amygdaloidal, basaltic.	Ultrafine leucoxenised opaques, minor traces of chromite, pyrite, pumpellyite.	Typical pyroxenic basaltic characteristics with selectively altered phenocrystal ?orthopyroxene and fresh augite. "Prehnite-pumpellyite" alteration.
379343 (T.S. 57365) 322·7	Impure Chert. Crypto- to microcrystalline quartz with pervasive fine silt-sized detrital white mica flakes, minor quartz and albite grains, conspicuous very fine pyrite.	Massive to finely laminated. Sporadic mildly displacive pyritic microfractures.	Traces of chlorite, cloudy microcrystalline carbonate, leucoxenic semi-opaques. Rare apatite, chromite, pale sphalerite.	Typical micaceous, silty clastic, pyritic impure chert facies of "interpillow" type. Rare microscopic blebs of sphalerite supplement conspicuous pyrite.