

# Central Mineralogical Services



39 Beulah Road  
Norwood, S.A. 5067  
Telephone 42 5659

Mr. A.M. Hespe  
Geologist  
Aberfoyle Exploration Pty. Ltd.  
P.O. Box 952  
BURNIE / TAS. 7320

2nd October, 1984

AMS REC'D.....		08 OCT 1984	
ANS.....		FILE..... Lib	
ATTENTION			
CJB		NEM	<input checked="" type="checkbox"/>
EJB		AP	
BHC		RTQ	
JMF		DJS	
KCG		CS	<input checked="" type="checkbox"/>
ACG		GCT	<input checked="" type="checkbox"/>
AJH		AMH	<input checked="" type="checkbox"/>
DCK		RdeB	<input checked="" type="checkbox"/>
JK		KFL	<input checked="" type="checkbox"/>
SBM		GDR	<input checked="" type="checkbox"/>

REPORT CMS 84/8/33

YOUR REFERENCE: Letter dated 22.8.1984  
 DATE RECEIVED: 28th August, 1984  
 SAMPLE NOS.: 315731 - 315739  
 SUBMITTED BY: A.M. Hespe  
 WORK REQUESTED: Petrology

Copy to:  
The Chief Geologist  
Aberfoyle Exploration Pty. Ltd.  
144, Camberwell Road  
HAWTHORN EAST / VIC. 3123

  
H.W. Fander, M. Sc.

REPORT CMS 84/8/33

Nine core samples from Mt. Charter drill hole MC-9 were received for petrological examination. Representative thin-sections were prepared and examined together with their respective offcuts. Attached tabulated descriptions summarise the microscopic data and include interpretative comments.

Summary

This suite, in common with previous suites of Mt. Charter drill cores, comprises entirely variably altered volcanic rocks with minor intercalated tuffaceous sediments.

Samples 315731 and 315732 represent clinopyroxenic basaltic volcanics with disseminated relict primary chromite and may be closely compared with the Hellyer Upper Andesite unit, as recently described in a report to D. Jack.

The remainder of this suite consists essentially of altered leuco-andesitic volcanics. Texturally, this group ranges from massive to flow-brecciated (tuff) lava and volcanic breccias. Alteration features are typical, with chloritic assemblages (greenish mesoscopically) complexed to varying degrees by fine-grained albite-quartz replacements (grey to locally mottled pinkish).

Tuffaceous sediments are represented by a "diagenetically" pyrite-sphalerite-mineralised psammopelite in contact with the 315732 basalt and an impure chert as intraclasts in a composite (volcanic/sediment) breccia (315734).

This suite appears relatively weakly mineralised in comparison with previously described Mt. Charter drill core samples. In comparison, alteration features, while complexes of chloritic and quartzofeldspathic assemblages, are relatively homogeneous.

D. Cowan, B. Sc.

*D. Cowan*

MINERALIZATION IN TUFF IN 315732 CAN BE INTERPRETED AS  
SYNGENETIC MINERALIZATION AFFECTED BY DIAGENETIC SILICIFICATION  
AND RECRYSTALLIZATION

phone conversation with D. Cowan 11/10/84

*Am H*

Sample No.	Classification - Composition	Fabric	Accessories	Comments
315731 (T.S. 51325) 159-3	<u>Amygdaloidal Basalt</u> . Frequent phenocrysts/microphenocrysts of diopsidic augite, minor calcite (+ epidote, albite) in a groundmass of saussuritic plagioclase microlaths, albitic mesostasis. Sporadic calcite-chlorite veinlets.	Flow-structured, basaltic. Mildly sheared veinlets.	Cherty silicified/albitised to pumpellyite pseudomorphed feldspar phenocrysts. Traces primary chromite,	Typical Hellyer sequence "Upper te- Andesite" characteristics. Chalcopyrite concentrated in amygdaloes and altered feldspar phenocrysts. Veinlets locally Fe-pigmented.
315732 159-6	<u>Altered Basalt/Tuffaceous Pelite</u> . Relatively chloritised/calcite-stained, marginally chilled quartz-xenocrystal basalt in calcite-veined contact with pelite composed of illite flakes, cherty quartz, frequent albitised/silicified feldspar, subordinate quartz grains.	Sheared, microporphyr-itic, basaltic-textured lava. Laminated, silty fine sandy slaty pelite. Sheared vein contact.	secondary chalcopryrite. Relict primary chromite in basalt. Pressure-shadowed pyrite; boudinaged quartz-pyrite-sphalerite films in pelite.	Semi-chilled basalt in contact with arkosic (mildly reworked "dacitic"-tuffaceous) pelite reflecting "diagenetic" quartz veinlet-related pyrite/pale sphalerite disseminations.
315733 160-4	<u>"Breccia"</u> . Random moulded clasts of albitised plagioclase-porphyrific "leuco-andesite", variously chlorite-stained to cherty/silicified albitised and then weakly pyritic. Sporadic quartz(-albite) and chloritic quartz veinlets.	Sub- to millimetric, moulded, sub- to albitised/trachytic-textured clasts; variably sheared veinlets.	Leucoxenised opaques. Minor late unstressed quartz-calcite veinlets with traces of red sphalerite.	"Leuco-andesitic" lava breccia with interspersed clast-transgressive zones of chloritic (green) and microcrystalline quartz-albite alteration/veining.
315734 169-6	<u>Breccia</u> . Interspersed zones, ill-defined clasts of chloritic to silicified/albitised andesitic lava (sim. 315733) and impure (chloritic, weakly tuffaceous, argillaceous) chert. Sporadic discontinuous quartz-albite veinlets, pyritic chlorite films.	Flow-banded to brecciated lava with intraclasts of chert. Patchy secondary cherty matrix.	Leucoxenitic semi-opaques. Minor rhombs, discontinuous films of calcite.	Flow-breccia composite of banded/semi- to chilled leuco-andesite and impure chert. Differentially chloritic to albitised/silicified, analogous to 315733.
315735 181-3	<u>Breccia</u> . Interspersed clasts of chloritic/variably albitised leuco-andesitic lava, locally sericitic quartz-microamygdaloidal lava-matrixed. Pervasive irregular replacive albite-quartz films.	Moulded to locally lava-matrixed, irregular sub- to millimetric, variously felsitic to weakly perlitic clasts.	Leucoxenised opaques. Minor straight-walled zones of albitisation. Minor late clots of calcite.	?Flow-marginal breccia composite of leuco-andesitic lava types. Devitrified, albitised-chloritised with a network of late albitic replacement zones.
315736 186-4	<u>Amygdaloidal Andesite</u> . Albitised/chlorite-stained plagioclase phenocrysts, frequent variously chloritic quartz amygdaloes in a weakly chlorite-stained, albitised plagioclase-microlitic groundmass. Minor calcite-quartz veinlets.	Weakly glomeroporphyritic, strongly amygdaloidal, weakly flow-structured; incipiently subtrachytic groundmass.	Leucoxenised opaques. Sporadic clots of sericite in calcite-quartz veinlets.	Weakly flow-banded/structured, strongly quartz-amygdaloidal leuco-andesitic lava. Typical "chloritic" alteration pattern.
315737 199-3	<u>Andesitic (Tuff Lava)</u> . Lenses, rafted bands of chloritic, porphyritic leuco-andesite with a selectively albitised/sericite-stained, weakly porphyritic (leuco-andesitic) lava matrix.	Flow-brecciated, banded lava. Weakly sheared perlitic clasts; weakly porphyritic felsitic matrix.	Leucoxenised opaques.	Flow-banded/flow-brecciated sub-vitric leuco-andesitic lava with the relatively weakly porphyritic matrix lava selectively albitised.
315738 214-5	<u>Amygdaloidal Andesite</u> . Albitised chlorite (-sericite)-stained plagioclase phenocrysts, abundant quartz micro-amygdaloes, in a weakly sericitic, chlorite-stained albitised plagioclase-microlitic groundmass.	Closely analogous to 315736, relatively flow-structured (banded), slightly finer-grained.	Minor leucoxenised opaques, sparse calcite-quartz veinlets.	Close affinities with 315736. Reflects subtle differential albitisation/chloritisation of groundmass, enhancing the flow-banding.

