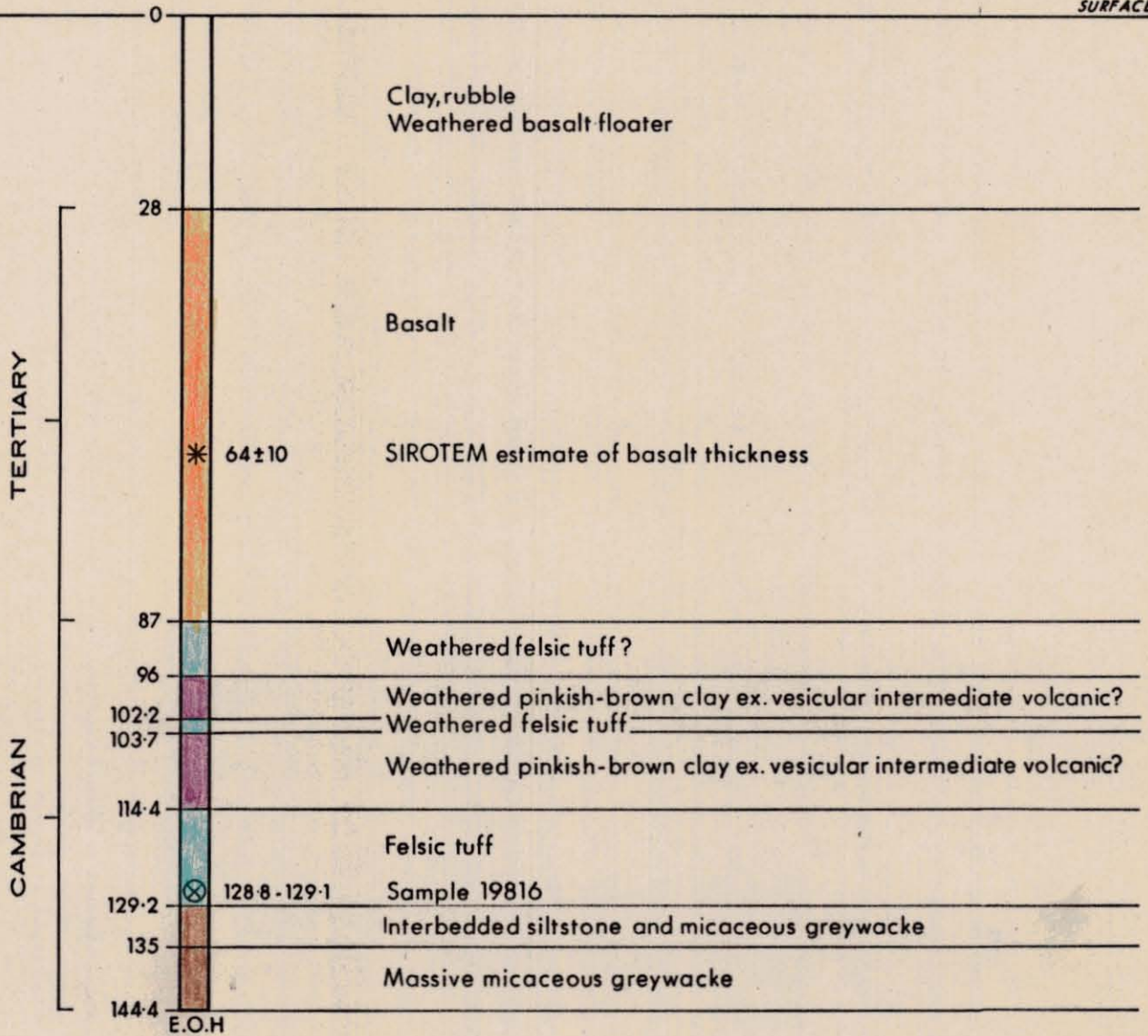


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SURFACE



**LEGEND**

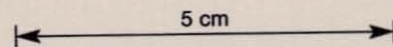
COLLAR CO-ORDS:  
12 000 N 10 485 E

**VERTICAL**

Hammered : 0 - 96

Cored : 96 - 144.4

- SAMPLE LOCATION
- ⊗ PETROLOGICAL EXAMINATION
- ⊙ LITHOGEOCHEMICAL ANALYSES



<b>PANCONTINENTAL MINING LIMITED</b> EXPLORATION DIVISION		
<b>MT. CATTLEY PROJECT</b> <b>E.L. 14 / 85 - TASMANIA</b> <b>LITHOLOGICAL SECTION</b> <b>HOLE NO MCPD 1</b>		
1:1000 METRES		
Compiled W.H.	Date October, 1986	Dwg. N <sup>o</sup>
Report N <sup>o</sup>	Map Ref. SK 55-3	<b>FIGURE 1</b>

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## MT CATTLEY EL 14/85 TASMANIA

WALTER HERRMANN - 19.9.1986

## GEOLOGICAL LOG: DRILL HOLE - MCPD1

Co-ordinates:	12000N/10485E
Drilled:	15-19/9/1986
0-20m (6.5" Perc. Hammer)	Clay and rubble (Not sampled)
22-25m (4.5" Perc. Hammer)	Brown weathered basalt and clay, some chips dark blue-black olivine basalt, possible floaters.
25-28m	Mixture red-brown and dark grey weathered fresh basalt. Olivine crystals obvious.
28-31m	As above, some chips appear vesicular.
31-34m	As above.
34-37m	Essentially fresh dark grey basalt, minor oxidised olive brown basaltic tuff?
37-40m	Dark grey fresh olivine basalt. About 1% clear calcite cleavage fragments or vesicle fillings.
40-43m	Dark grey fresh olivine basalt, insignificant calcite.
43-46m	Dark grey fresh fine grained olivine basalt. Olivine less obvious.
46-49m	Dark grey fine grained olivine basalt. Very minor calcite fragments, ex vesicle fillings?
49-52m	Fine grained glassy - dark grey olivine basalt.
55-58m	Dark grey fine grained olivine basalt with dark angular (1mm) fragments of glassy material.
58-61m	Dark grey fine grained olivine basalt, minor calcite chips.

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- 61-64m Dark grey - purplish grey fine grained basalt. About 1% calcite chips; also minor clear cleavage fragments of high refractive index, harder than glass material??
- 64-67m As above.
- 67-70m Dark grey to purplish grey semi glassy basalt; dark brown rimmed glassy fragments and shards in fine grained grey basalt.
- 70-73m As Above.
- 73-76m Dark purplish grey vesicular basalt, vesicles open, partly filled with blue grey botryoidal encrustations.
- 76-79m Dark grey fine grained olivine basalt with crowded small (<2mm) dark glassy fragments and interstitial fillings.
- 79-82.2m Dark purplish grey vesicular glassy basalt.
- 82.2-85.4m Dark medium grey fine grained olivine basalt. Olivine obvious. Not glassy.
- 85.4-88.75m Medium grey fine grained olivine basalt, change to pale greenish brown weathered clayey material at around 87m depth.
- This has fine granular vaguely "eutaxitic" fabric.
- 88.75-91.9m Pale greenish khaki to greenish grey clayey weathered rock, has a very fine granular fabric, could be a fine felsic tuff, but without quartz.
- 91.9-96.0m As above.
- NQ CORE 96-144.4M
- 96.0-102.2 Clay.
- Soft puggy clay varying from purplish to light olive brown. Retains fine to medium grained meshwork-granular fabric. Meshwork appears to represent original feldspars; occasional larger phenocryst feldspar grains to 3mm.

Also occasional rounded greenish grey blebs to 5mm which could represent weathered vesicle fillings, they usually occur in fine pinkish clay base.

Very rare siliceous granules or fragments appear to be broken vesicle or small fracture fillings.

102.4-103.7m

Weathered Felsic Lithic Tuff

Still completely oxidised, generally of pink to greyish brown colour.

Typically consists of small subrounded to irregular fragments (1-15mm) of pink weathered volcanic? material with internal fine vesicular or "eutaxitic" fabric fairly densely scattered in a fine to medium grained granular matrix apparently consisting of pink-cream weather feldspar and greyish green weathered glass or chlorite. There is no quartz in either clasts or matrix.

Composition appears to be intermediate but could be basaltic?

Clasts (on basis of internal lineation fabric) are disoriented and there is no indication of alignment, stratification, welding or cleavage; could equally be lapilli tuff or epiclastic conglomerate but obviously of very immature sediments i.e. mass flow pyro/epiclastic deposition.

103.7-114.4m

Clay.

Similar to lithology of interval 96.0-102.4m.

Colour generally purplish brown stained brown along joints etc.

Retains fine <0.5mm. "meshwork" fabric and commonly contains small rounded greenish grey clayey blebs which appear to be weathered vesicle fillings. At 111.4m these "vesicles" (amygdales) show linear alignment in plane at about 40° to LAOC.

There is generally no indication of a granular or fragmental fabric, appears to have been originally a rather glassy volcanic without phenocrysts, probably of intermediate (possibly basaltic) composition.

However, this fine purplish clay only slightly resembles the abundant fragments in above unit (102.4-103.7m) i.e. pink colour is similar but "eutaxitic" fabric is not developed here.

A few blebs of hard white silica at about 108m appear to be chalcedonic vesicle fillings.

114.4-129.2m

Felsic Tuff.

Still strongly oxidised but not clayey as in above lithologies.

Generally brown or greyish brown stained darker brown locally.

Medium to coarse (1.5-4mm) grain size granular matrix composed of weathered feldspar crystals/fragments and very rare quartz grains along with small indeterminate volcanic lithic fragments. Larger fragments (5-20mm) are relatively sparsely distributed, pale to dark grey probably originally glassy with small sparse feldspar phenocrysts. Fragment shapes irregular to subround, usually equidimensional, not flattened, no indications of stratification, alignment or cleavage.

From about 128.4 to 129.0m there is a section of nearly fresh core. This is recognisably a feldspar crystal tuff with rare quartz grains and minor lithic fragments in a grey glassy partly welded matrix. It is no doubt similar to the weathered rock described above but its unusual freshness allows further definition:

- small to medium (0.5-2mm) tabular to equant feldspar crystals (weathered to white clay) constitute about 20% of

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the rock; with minor weathered biotite flakes (1mm - 2%) and rare small quartz grains (<0.2%) and small weathered grey clayey ex "glassy" fragments often elongated resembling "fiamme" (to 8mm - 5%) all fairly evenly distributed in a fine grey matrix which appears to have been originally glassy and retains a wavy eutaxitic fabric suggestive of depositional welding.

There is one large, rounded, (70mm) fragment of pinkish grey quartz-feldspar-pyroxene(?) porphyry which might be termed porphyritic rhyodacite.

Minor pyrite occurs (in this fresh section) as fine disseminated specks about 0.2% vol, <0.5mm dia.

The "eutaxitic" fabric forms a very crude planar fabric running at about 40° to LAOC.

The contact between "welded" felsic tuff and stratified sediment (below) is slightly transitional over about 40mm, the planar fabric in the tuff appears to be paralleled by stratification in the sediment.

129.2-135.0m

Interbedded Micaceous Siltstone and Greywacke.

A well stratified and sorted sediment varying from very dark grey, nearly black, fine siltstone to medium grained mid grey sandy greywacke. Maximum grain size in the latter is about 0.5-1.0mm. Minor carbonate occurs in the matrix. Individual grains not well rounded, probably comprise largely feldspar, some quartz and fine flaky chlorite or biotite, and ubiquitous fine pearly flakes of muscovite?

Texturally immature.

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Dark fine grained siltstones, also with fine pearly mica flakes, are prominent in upper part of interval diminishing to less than 30% below 132.6m. Individual beds vary from about 150mm down to 1mm thickness.

Faint grain size grading indicates younging up the hole at 130.6 and 131.75 metre depths.

Bedding orientations as follows:

129.5m	45 <sup>0</sup>	to LAOC
131.6m	45 <sup>0</sup>	to LAOC
132.6m	35 <sup>0</sup>	to LAOC
133.6m	40 <sup>0</sup>	to LAOC
134.8m	40 <sup>0</sup>	to LAOC

Small rounded blebs of pyrite 1-5mm occur with low frequency especially in the finer sediments, these possibly represent recrystallised syn-depositional sulphide. They approach 0.5% volume in the darker fine siltstones but overall constitute less than 0.1% pyrite.

135.0-144.4m

Micaceous Greywacke

A medium grained (~0.5 - 1.0mm) immature sediment similar in composition to the coarser members of the above unit except that bedding is obscure, tending to massive and uniform.

Faint bedding traces visible at ~ 142m cut core at 45<sup>0</sup> to LAOC.

Pyrite not present in notable quantities.

144.4m

E.O.H.