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REPORT ON EXAMINATION
OF
PRINCE DARWIN WORKINGS

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PRINCE DARWIN WORKINGS

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Examination of Prince
Darwin Workings (3 copies)

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7th February, 1957

Report on Examination of Prince Darwin Workings

Dates of Examination: 10th - 11th January and 28th - 31st January.

Party Leader: M. L. Wade

Personnel Employed: K. Beck, C. Brooks, R. Rawlins (Students),
R. Martin and E. Halitzki (Bushmen).

Man Days in the Field: 20

Location of Prospect: South Mt. Darwin - 6 miles up the Clark
River from Kelly Basin.

Location of Base Camp: South Darwin

Means of Transport and Supply: Helicopter

General Topography of Area: Camp in small scrubby hollow on bare mountain
top; workings in cliff face in dense scrub on
Western escarpment of Mt. Darwin.

Geological Investigation and Findings:

The Prince Darwin workings occur in a siliceous, hematite-rich zone in re-silicified Jukes breccia. The zone, which is from 120 to 200 feet in width and 700 feet in length, strikes 160° E. of N. and is vertical. These dimensions are rough only - the length could be greater. The formation within this zone consists predominantly of siliceous, cherty material with perhaps 20% hematite, a little magnetite, some disseminated pyrite and chalcopyrite and minor quartz veining. The material is extremely hard and is well jointed. There is a more or less sharp boundary to the hematite rich zone outside which there is only streaky hematite veining and iron staining, with a little pyrite.

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The main workings consist of one adit near the north end of the formation, 133 feet in length with a cross-cut 22 feet in length, also a few small surface pits in locally rich sulphide pockets. These all occur in a steep rocky outcrop surrounded by densely wooded precipitous slopes and deep, heavily overgrown gullies. Because of the rough terrain and serious local magnetic attraction, it was only possible to make a rough sketch map, using air photos and rough magnetic directions.

The adit was driven obliquely across the formation in hematite rich material containing magnetite, disseminated pyrite and some chalcopyrite. The walls are heavily encrusted with limonite and chalcantite. The end of the adit and cross-cut remain in lode. An attempt was made to sample the adit, but the rock proved too hard to sample more than the first 5 feet from the portal with the stock of gads on hand. This sample assayed nil for copper. Dr. Loftus Hills, estimated average values in the order of 1% Cu. and quoted (Geol. Svy. Bull. No. 16, p. 137) assays as high as 7% Cu., 3 ozs. Ag. and 1 dwt. Au. per ton. I doubt if the mass would average 1% Cu., but the presence of copper, silver and gold in hematite warrants further investigation.

Five hundred feet north of the main workings an adit has been driven 51 feet, on a bearing of 42° E. of N. in barren Jukes breccia. Hills thought that this had not been extended far enough to cut the "ore body". I consider that the hematite formation had been faulted off between the two adits. The Jukes breccia at this northern adit consists of angular and rounded pebbles of up to 6" mesh, of quartz, quartzite, sheared quartzite, sandstone, fine siltstone, porphyry and hematite - a similar assemblage of pebbles to that seen in the Jukes breccia near the King River bridge on the Lyell Highway. Around the adit the rock is flatly jointed, has a weak schistosity at 350° E. of N., dipping west at 80° and a rather indefinite bedding striking E - W and dipping S at 50° .

General Conclusions:

The occurrence of copper, silver, gold and disseminated pyrite in such a large hematite rich deposit calls for further consideration.

At a rough estimate there could be 4,000,000 tons of material containing not more than 20% hematite, 10% FeS₂ and 1% Cu. Gold and silver figures could be significant in this Darwin locality.

In the presence of so much magnetite and in such rough terrain, measurements for volume would have to be made by theodolite and staff survey. Possibly low altitude photographs could be used if Adastra would undertake the small amount of work involved.

It would be wrong to proceed to drill this large ferruginous outcrop before surface sampling is carried out. There are excellent exposures for such sampling around and in the adit. This would be time consuming work, and would require special measures, possibly a good supply of tungsten carbide tipped gads, some explosives or possibly even a Mindrill Minor. The mine area itself is not accessible by helicopter.

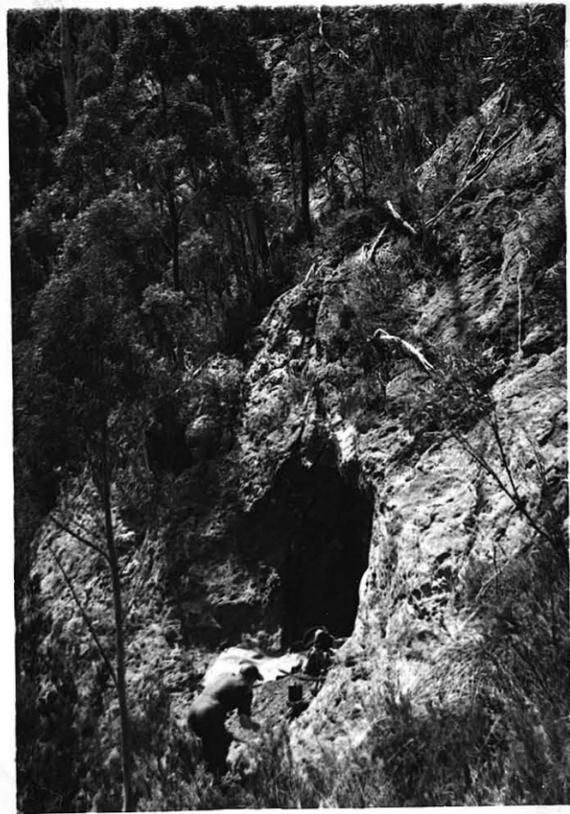
General Remark:

Having examined all the workings on Mt. Jukes and Mt. Darwin my general impression is that further drilling should not be recommended in the hard rock types encountered in this area before more thorough sampling is carried out. The mineralisation so far encountered at Prince Darwin warrants further sampling by men and with equipment capable of carrying the work out thoroughly.

M. L. Wade

M. L. Wade

Prince Darwin



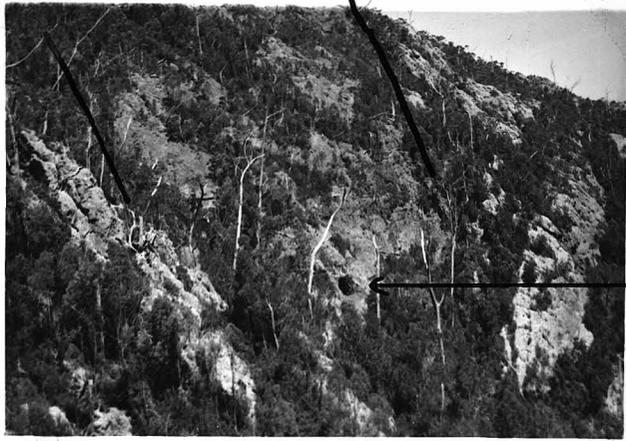
Adit



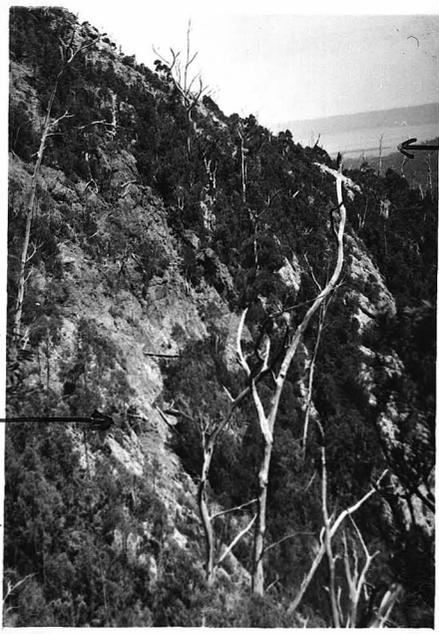
Breccia - Conglomerate
500' North of Main Adit

Prince Darwin

Hematite Lode



Adit



Farm Cove
Macquarie Harbour

Adit

Appendix to Report on the Prince Darwin Workings, dated 7th February, 1957.

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SECTION 3867-M, PRINCE DARWIN - MT. DARWIN - 17th July, 1940.

The ore body on this section is situated on the western slope of the mountain and consists of a large deposit of magnetite and hematite about 200 feet wide and several chains in length.

An adit, starting in the almost vertical face of a cliff, has been driven in this formation in an easterly direction for a distance of 130 feet.

Main AditCu.8th July, 1940

0-5	0.13	
5-10	0.17	
10-15	0.21	
15-20	0.09	
20-25	0.28	
25-30	0.15	
30-35	0.18	
35-40	Nil	
40-45	0.8	}
45-50	0.59	
50-55	1.46	
55-60	0.74	
60-65	0.23	
65-70	0.71	
70-75	0.87	
75-80	0.39	
80-85	0.34	
85-90	0.70	
90-95	0.36	
95-100	0.53	
100-105	0.28	
105-110	0.26	
110-115	0.81	
115-120	1.00	
120-125	0.39	
125-130	0.50	

Av. for 90' = 0.608% Cu.

Sampled by Douglas.

W. H. Gundy, 1904

Average for whole tunnel: 0.7% Cu. 2 ozs. Ag. and 0.033 ozs. Au./ton.

M. L. Wade

14th February, 1957.

M. L. Wade

Appendix to Report on Findons Area - Section 3107-M, dated 15th January, 1957.

An old file has been found in which some additional information has come to hand. In 1903, W. H. Cundy, a reliable sampler, examined the ^{Findons} ~~James Martin~~ workings. He reported the lode formation as being from 50 to 60 feet in width. He quoted from a report by Mr. Waller, Assistant Government Geologist, in which the whole of his samples averaged 2.6% Cu. Cundy took samples along the lode and across it where possible and he reported the following:

General Sample all along lode near surface and in trenches.

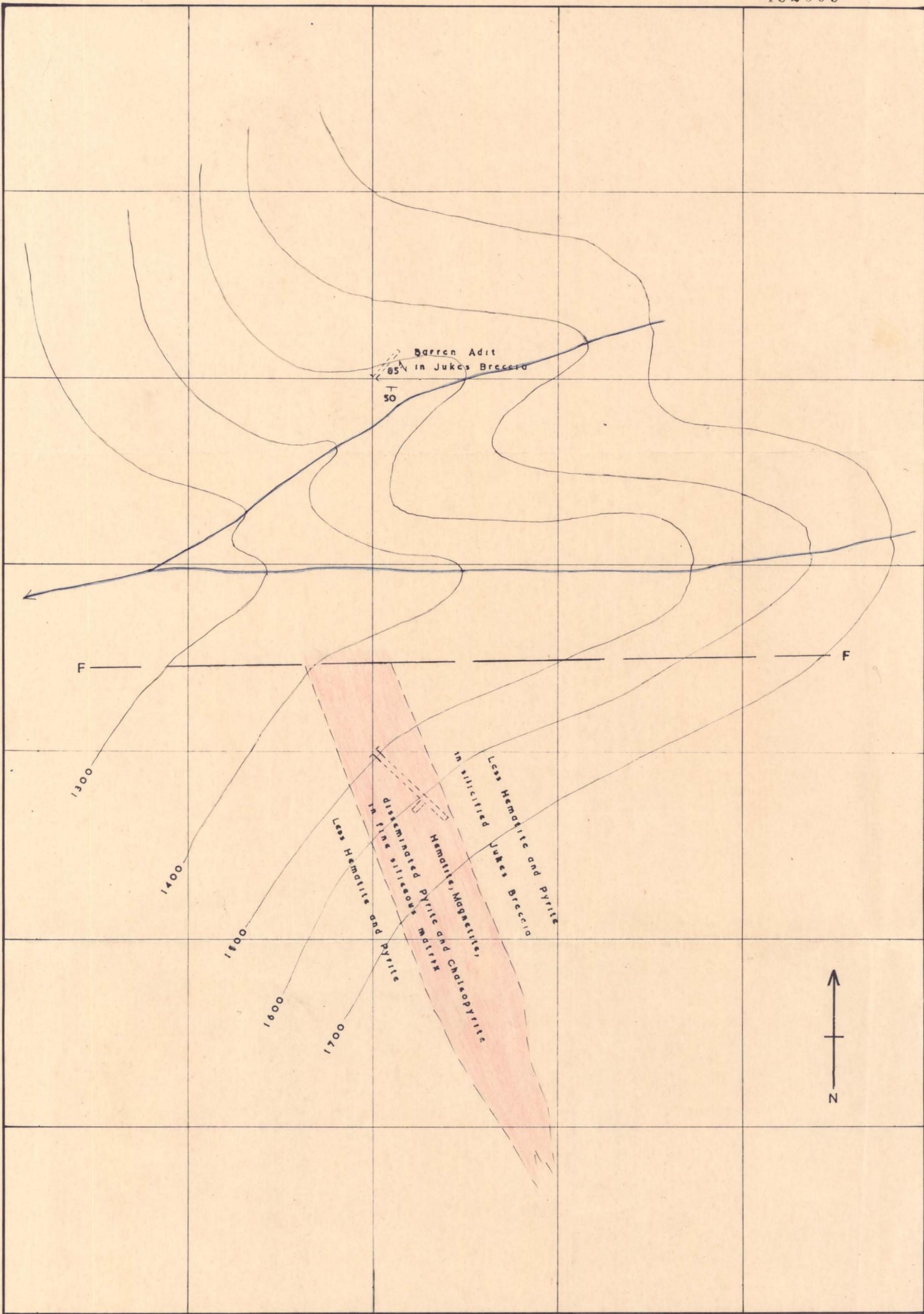
<u>Copper</u>	<u>Silver</u>	<u>Gold</u>
2.05%	0.10	trace

Knowing how Douglas' careful sampling confirmed that done by Cundy, it is difficult to reconcile Cundy's average of 2.05% with my 0.14%. I can only suggest surface leaching in the 54 years that have elapsed since Cundy took his samples. I, therefore, suggest further less superficial sampling at Findons.

M. L. Wade

14th February, 1957.

M. L. Wade

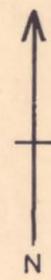
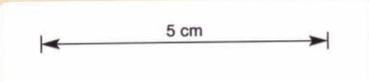


PRINCE DARWIN

ROUGH SKETCH MAP
(Contours approximate only)

Scale 1" = 100'

JANUARY 1957 - M.L. WADE



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