

HGWK:2

27th July, 1951.

MEMORANDUM:

[COLES BAY]

The investigation of the 10 acre lease application No. 31M/50 in the name of L.D. McRae occupied the two days 25th and 26th July. Many prospects were tried in the water courses and on the hill slopes with varying success and some excellent tin prospects and blanks were obtained. There are several areas within and outside the lease application where mining operations have already been carried on but as the area is comparatively high ground difficulty has been experienced in getting water on to the site. Operations have therefore been restricted to the wet seasons when small quantities of water are available. The worked areas are therefore small in size. At a few feet from the surface, in most of the workings, there is a reddish brown band of hard cemented wash which has been regarded as bottom and below which no work has been done. This material has been too hard to treat with limited water. There is a possibility that tin may be won in quantity from below this hard band, for in two places the underlying material was tested to show good grades of tin.

Sampling of the surface and to the level of the hard band was carried out at several sites and in all eighteen samples were taken.

The samples have shown good grades of tin ore as the following table shows:-

Sample	Depth Section	Total Depth	Description of Ground	Quantity in Sample	Value Sample	Full box Value	Foot oz.
1	1'3"	1'3"	Through hard cement to white sand	.4	8.0	20.0	25.0
2	2'0"	3'3"	White sand to clay	.4	4.0	10.0	<u>20.0</u> 45.0
						13.7 oz. p.c.y.	
3	1'0"	1'0"	Red-Brown cement in hole	.6	12.0	20.0	20.0
4	6"	1'6"	Black sand below cement	.8	58.0	72.5	36.2
5	1'9"	3'3"	Surface sand & soil above 3 & 5 N	.6	7.0	11.6	<u>20.0</u> 76.2
6	1'6"	1'6"	Hard cement to brown sand	.6	Trace	23 oz. p.c.y.	
7	1'6"	1'6"	Hard cement	.5	32.0	64.0	96.0
8	1'0"	2'6"	Hard cement	.2	8.0	40.0	<u>40.0</u> 136.0
						54.4 oz. p.c.y.	

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Sample	Depth Section	Total Depth	Description of Ground	Quantity in Sample	Value Sample	Full box Value	Foot oz.
9	2'6"	2'6"	Surface sand and soil 1'6" clay 1'0"	.4	3.0	7.5	18.7
10	1'6"	4'0"	Sandy clay	.2	Trace		
11	1'0" from 2' to 3' below yellow cement	3'0"	White sandy material	.4	12.0	30.0 10.oz. p.c.y.	30.0
12	1'3"	1'3"	Surface soil & sand	.7	72.0	102.8	
13	3'0"	3'0"	Surface soil & sand to clayey sand	.7	12.0	17.1 17.1oz. p.c.y.	51.3
14	16"	16"	Surface to red-brown cement	.6	56.0	93.3	124.4
15	14"	2'6"	To cement false bottom	.6	158.0	263.3	<u>307.0</u> 431.0
16	16"	16"	Surface soil & sand	.6	36.0	172.8oz. p.c.y. 60.0	80.0
17	16"	16"	Surface to clay	.5	42.0	60.0oz. p.c.y. 84.0	112.0
18	8"	4'0"	Wash at bottom of creek bank	.4	52.0	84 oz. p.c.y. 130.0	195.0
						48.7 oz.p.c.y.	

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The table of samples shows that the grades of ore obtainable range from trace to 172 oz. p.c.y. with an average grade for the whole 18 samples of 42 oz. p.c.y.

The approximate positions of the samples taken have been shown on the accompanying sketch in which only the outline of the lease is drawn to scale.

The country rock is granite and occurs as two varieties one of which is fine grained and aplitic in character. The coarser variety shows a few felspar phenocrysts. Through the latter type of granite numerous veins of quartz and pegmatites varying in size to $1\frac{1}{2}$ ins. were seen in the creek flowing westerly to join the main stream at the Dam site.

There can be no doubt that the area is a potential source for tin ore and the arrangement as shown by the sampling suggests the occurrence of at least three tin bearing leads, probably narrow, from which comparatively high grade ore will be won.

The ore as recovered is remarkably free of impurities and without difficulty can be washed free of all traces of sand and light materials.

Financial Assistance could, therefore, be given with safety, for outside the limits of the present area there probably exist further reserves of similar shallow high grade ground.

H.G.W. Keid

CHIEF GEOLOGIST

The Director of Mines.