UR 1944/36-42

36

BORING RESULTS AT COLES BAY

Introduction -

The earliest official mention of the occurrence of tin in the Coles Bay district was made by W.H. Twelvetrees, Government Geologist, in the year 1901 in a "Report on the Coalfield of Llandaff, the Denison and Douglas Rivers, on Deposits of Tin Ore on Schouten Main, and on Outcrops of Quart: near Buckland". In that report Twelvetrees quoted the results of sampling done by him and suggested that the resources of the district were economically of importance.

During the period 19th to 26th May of this year a preliminary examination of the area was made to determine its potentialities as a tin field. Particular attention was paid to those areas held as leases by L.D. McRae.

There are no known tin-bearing lodes or veins of commercial size but the area was regarded as a potential alluvial tin field. A "Preliminary Report on the Tin prospects of the Coles Bay Area" was submitted on 20th June and embodied a recommendation that "boring by McRae, under departmental supervision" be undertaken.

The present report outlines the results obtained during that boring campaign.

Plant Used -

The boring plant used, the property of the Mines Department, was designed for operating by hand. The usual drilling tools and rods were used with casings of 3 inch interna diameter. Prior to departure the plant required considerable overhaul and was placed in reasonable condition for service. There was sufficient equipment to bore to depths of 48 feet.

General -

The members of the party left Hobart 13th July. Boring operations commenced on 17th July and were completed on 14th September. The party returned to Hobart on 19th September. During the period 3 days were lost as the result of wet weather. Two days were occupied in repairing tools and three days were spent in clearing lines and bore sites. The actual time for boring was 38½ days. The number of of bores completed was 168, ranging in depth from 3 to 20 feet, for a total footage of 1,463 feet. The southern portion of the area was the deepest.

The leases tested were as follows :-

Lease No. 11557/M	of	5 acres in the name of R. Young and C.B. White.
Lease application 38M/43	"	10 acres in the name of L.D. McRae.
" " 10M/44	"	8 acres I" " " " " "
" " 24M/44	"	5 acres since applied for by L.D. McRae.

An additional small area to the North East of 38M/43 was also tested.

The boring was carried out on a grid pattern with bores spaced at half chain intervals on each bore line. On lease 11557/M and lease application 38M/43 the bore lines

were spaced at 2 chain intervals whilst on the remaining areas the lines were spaced at 4 chain intervals.

Nature of the Wash -

The Coles Bay area is composed essentially of Granite and the wash encountered in boring was, in all cases, granitic in nature. The surface soil-cover varies to about 18 inches in depth to give place to a band of clay of variable thickness. Underlying the clay the wash occurs varying to a maximum of 5 feet in depth. In the southern portion of the area there is little or no soil or clay and the wash there is covered for the most part by an occurrence of sea sand. In most cases the bottom was decomposed granite, only an occassional bore bottoming on boulders.

Difficulty was experienced in determining the bottom of the bores. The wash being granitic in nature was, at times, indistinguishable from the bottom, which being churned continued to depths greater than was necessary.

Results of Boring Operations -

THe following is a complete list of bores put down:-

Bore No.	Depth. ft.	ins.	Grade oz. p.c.y.	% Sn.	Grade corrected to 70% Sn
1	5	6	5.67	26.4	2.15
2	17	0	15.75	"	5.98
3	10	6	11.55	"	4.38
4	14	0	8.6	"	3.26
5	20	0	5.88	"	2.23
6	15	0	26.46	52.4	19.84
7	7	9	4.0	"	3.0
8	12	0	8.61	"	6.45
9	19	0	14.48	26.4	5.50
10	9	0	9.66	"	3.67
10a	8	6	10.29	"	3.91
11	7	6	32.76	"	13.44
12	10	0	10.08	"	3.83
13	5	6	4.8	"	1.82
14	6	0	2.0	"	.76
15	7	0	4.83	"	1.83
16	15	6	3.57	52.4	2.67
17	16	6	8.82	"	6.61
18	12	6	5.25	"	3.93
19	5	6	63.0	"	47.25
20	5	6	10.5	"	7.87
21	10	0	15.75	"	11.80
22	3	6	3.36	"	2.52
23	8	6	27752	36.2	14.3
24	11	0	4.20	"	2.18
25	9	0	7.98	"	4.14
26	8	6	10.92	"	5.67
27	8	0	Nil		Nil
28	8	6	11.76	36.2	6.11
29	8	6	5.67	"	2.94
30	7	6	21.63	"	11.24
31	8	6	15.96	"	8.29
32	6	9	5.88	"	3.05

Bore No.	Depth. ft.	ins.	Grade oz. p.c.y.	%Sn.	Grade cor. to 70% Sn.	
33	7	6	16.59	36.2	8.60	
34	7	6	Nil.	Nil.	Nil.	
35	7	6	24.78	36.2	13.88	
36	7	6	7.98	"	4.14	
37	6	0	10.71	"	5.56	
38	6	0	20.58	"	10.70	
38A	6	0	11.34	"	5.89	
39	6	6	7.14	"	3.71	
40	5	6	6.30	"	3.27	
41	6	6	6.93	"	3.60	
42	6	0	3.78	"	2.06	
43	7	0	5.76	"	2.99	
44	5	3	4.83	"	2.51	
45	3	6	Trace		Trace	
46	5	0	"		"	
47	5	0	"		"	
48	5	0	3.15	36.2	1.63	
49	5	6	7.56	"	3.93	
50	7	6	12.18	"	6.33	
51	7	0	16.59	"	8.62	
52	7	0	3.36	"	1.74	
53	4	0	9.45	"	4.91	
54	3	6	17.01	"	8.84	
55	6	6	10.08	"	5.24	
56	6	9	5.04	"	2.62	
57	7	6	7.14	"	3.71	
58	7	6	3.99	25.8	1.47	
59	5	6	Trace		Trace	.. pump stuck Bore lost.
59A	9	0	6.3	"	2.33	
60	9	0	4.62	"	1.70	
61	9	0	3.15	"	1.16	
62	11	6	6.3	"	2.33	
63	11	0	2.31	"	.85	
64	12	6	7.14	"	2.64	
65	9	0	4.41	"	1.63	
66	10	6	Trace		Trace	
67	7	3	"		"	
68	9	6	4.62	"	1.70	
69	11	6	2.31	"	0.85	
70	10	0	7.77	"	2.87	
71	10	6	2.94	"	1.08	
72	11	0	3.15	"	1.16	
73	7	6	Trace		Trace	
74	7	0	4.41	"	1.63	
75	5	6	4.62	36.2	2.40	
76	6	0	17.43	"	9.06	
77	3	6	8.82	"	4.58	
78	7	0	Trace		Trace	
79	8	6	2.31	"	1.20	
80	8	0	23.73	"	12.33	
81	6	6	10.92	"	5.67	
82	4	0	27.51	"	14.20	
83	4	6	3.78	25.8	1.40	
84	4	6	2.52	"	0.93	
85	5	0	2.73	"	1.01	
86	6	0	6.51	"	2.40	
87	7	6	3.57	25.8	1.32	
88	8	6	2.52	"	0.93	
89	8	6	12.18	"	4.50	

Bore No.	Depth. ft.	ins.	Grade oz. p.c.y.	% Sn.	Grade cor.to 70% Sn
90	10	0	3.36	25.8	1.24
91	8	0	3.57	"	1.32
92	11	0	not	bottomed	
93	11	6	Trace		Trace
94	11	3	2.1	25.8	0.77
95	9	9	5.25	"	1.94
96	9	0	6.93	"	2.56
97	8	0	Nil.		Nil.
98	8	6	3.15	36.2	1.63
99	7	6	Trace		Trace.
100	8	0	"		"
101	7	0	3.15	"	1.63
102	8	0	9.03	"	4.69
103	4	6	8.61	"	4.47
104	7	3	27.3	25.8	10.10
105	6.	3	Trace		Trace
106	7	3	33.6	"	12.43
107	6	6	Trace		Trace
108	8	3	9.03	"	3.34
109	7	6	4.2	40.4	2.43
109A	7	6	5.25	"	3.04
110	8	3	17.22	"	9.98
111	6	6	Trace	"	Trace
111A	6	6	"		"
112	6	6	52.5	"	30.45
113	8	0	57.33	"	33.25
114	8	0	14.49	"	8.40
115	3	0	6.93	"	4.01
116	7	6	3.15	"	1.82
117	11	0	21.42	"	12.42
118	11	0	8.82	"	5.11
119	9	6	25.41	"	14.73
120	8	0	2.73	"	1.58
121	7	9	24.78	"	14.37
122	5	0	Trace		Trace
123	8	6	"		"
124	8	6	2.73	"	1.58
125	6	0	Trace		Trace
126	9	0	"		"
127	10	6	"		"
128	10	6	9.87	"	5.72
129	8	6	4.41	"	2.55
130	11	6	Trace		Trace
131	12	6	65.73	"	38.12
132	11	6	Nil		Nil
133	13	0	Trace		Trace
134	13	3	"		"
135	15	0	5.46	"	3.16
136	14	6	11.34	"	6.47
137	13	0	Trace		Trace
138	10	0	8.4	"	4.87
139	4	6	23.1	42.2	13.86
140	6	0	187.11	"	112.26
141	13	0	19.57	"	11.71
142	13	6	17.43	"	10.45
143	14	6	Trace		Trace
144	13	0	"		"
145	10	0	"		"
146	11	6	"		"
147	15	6	18.48	"	11.08
148	12	6	Trace		Trace

40

Bore No.	Depth ft. ins.	Grade oz. p.c.y.	%Sn	Grade cor. to 70% Sn
149	4 6	Trace		Trace
150	10 0	7.56	42.2	4.53
151	14 0	6.72	"	4.03
152	15 0	6.93	"	4.15
153	15 0	Trace		Trace
154	11 6	"		"
155	7 6	12.81	51.2	9.35
155A	8 3	8.19	"	5.97
156	10 0	Not	Sampled	
157	7 6	Trace		Trace
158	7 9	35.7		26.06
159	7 3	11.34		8.37
160	6 0	Trace		Trace
161	9 3	6.51		4.75
162	12 0	36.96		26.98

The accompanying plan shows the positions of the bores put down. On the plan is also shown the area on each lease over which it is considered that profitable mining operations could be carried out. As insets on the plan are detailed figures for each area. The following table shows in summarised form the data shown on the plan.

Lease No.	Area of Lease	No. of Bores put down	Total foot-age.	Area consid-ered profit-able.	Aver. depth	Aver. Grade oz. p.c.y.	Volume c.yds.	Tons Tin Oxide.
11557/M	5 acres.	25	264'6"	0.8 ac.	12'2"	9.0	14500	3.5
38M/43	10 "	70	493'	1.6 "	6'9"	8.14	17400	3.9
10M/44	8 "	38	315'3"	2.9 "	8'6"	9.0	39300	9.8
24M/44	5 "	17	194'	1.5 "	11'2"	8.54	26900	6.3
Outside	10 " lease.	13	134'6"					
"	8 " lease.	5	61'9"					
Total		168	1463'	6.8	-	-	98100	23.5

Future Operations -

The lease areas, being more or less coincident with the Valley of Saltwater Creek are, for the most part, swampy lands occurring at or near sea level. Operators will, therefore, have to provide facilities for elevating the material fof treament either by gravel pump or hydraulic elavator.

Water Supply -

Previous mining operations in the district have been hampered by the failure to secure a water supply adequate for the purpose of treating the wash. They have, therefor, been entirely dependent on rainfall and were possible only in wet weather. The present proprietor has applied for a dam site situated three quarters of a mile to the east of, and about 170 feet in altitude above the leases. At this site both the foundations and the abutments of the dam would be of granite occurring in situ. The crest line of the dam would be approximately one chain in length, 15 feet in height and the dam would have a storage capacity of approximately five million gallon The average annual rainfall for the district is 22 inches and is distributed fairly evenly throughout the year. With a catchment area of approximately 4,000 acres, it is considered that sufficien water will be available to a monitor (nozzle). The following table shows the monthly rainfall for the years 1939 to 1944 inclusive:-

RAINFALL AT SWANWICK - TASMANIA.

Year	Jan.	Feb.	Mar.	April.	May.	June.
1939	11	311	121	87	99	683
1940	227	32	150	268	193	97
1941	371	88	278	22	29	174
1942	97	80	130	23	427	176
1943	159	213	19	N.R.	115	230
1944	134	231	107	69	592	80

July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year
408	561	112	192	242	37	2964
163	26	185	39	66	292	1738
207	248	159	214	81	508	2369
369	259	171	107	176	188	2153
98	267	284	108	389	N.R.	-
N.R.	N.R.	246	-	-	-	-

N.R. = No record.

Conclusions -

From the foregoing it is seen that previous mining operations at Coles Bay have been hampered by failure to ensure an adequate water supply.

The present proprietor has applied for a dam site which would ensure an adequate supply by impounding at least five million gallons which, with the average yearly rainfall of 22 inches, is considered sufficient for continous operati

The results of boring show that in the areas held as leases or lease applications, 6.8 acres are considered of such a grade that profitable mining could be carried out.

The grade of ore, based on an assay result of 70% for the concentrates, ranges from 8.14 oz. to 9 oz. per cubic yard. The quantity of material available is 98,100 cubic yards with a tin oxide content of 23.5 tons. On present official prices the monetary value of this ore would be £5,346.

(H.G.W. Keid)
FIELD GEOLOGIST.

Department of Mines,
HOBART

20th October, 1944.