

1081 - TRANS
UK 1949/7-13.

Department of Mines,
HOBART, Tasmania.

14th June, 1949

BAUXITE IN THE SWANSEA DISTRICT

Preliminary reports on the Bauxite deposits of the Swansea District were written in 1943 by the Extension Officer of the Mines Department, Mr. D.R. Dickenson.

Samples taken at that time from outcrops showed that the available alumina content ranged from 34% to 43%. It was then suggested that developmental work was necessary to determine grades and volumes of ore available.

Samples taken at the end of 1948 ranged in grade to 48% available alumina and suggested that development was advisable. Testing of the deposits by shaft sinking was commenced on 10th February and was completed by the end of May.

Bauxitic material occurs in four localities in the vicinity of Swansea and are here referred to as:

- (1) The Avoca Road Area;
- (2) The Milton Area;
- (3) The Six Mile Area;
- (4) The Springs Area.

(1) The Avoca Road Area.

About three miles along the Avoca Road north from Cranbrook and the main Swansea - St. Mary's Road and within a mile south from the Waters Meetings Homestead, Bauxite occurs on a comparatively flat area extending from the Avoca Road easterly towards the Swan River.

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Numerous boulders and small outcrops suggested a fairly extensive deposit but shaft sinking proved the Bauxite to be only superficial and except for two shafts revealed only clay. In the shafts where sampling was considered advisable only low grade ore resulted.

Eleven shafts of varying depths were sunk but only four samples, Nos. 161-164, were taken.

Sample positions are shown on the plan accompanying this report and the analyses of samples is shown in the attached Schedule of Samples.

(2) The Milton Area.

On the Western side of the main highway, about half a mile south from the Milton Homestead and eight miles north from Swansea a small outcrop of Bauxite occurs.

A second occurrence of Bauxite is to be seen on the south bank of the creek just north of the Milton Homestead and fragments of the ore extending westerly from the homestead along the creek suggested a further potential area.

Two shafts were sunk in the vicinity of the Main Road. To the east of the Main Road only alluvium was revealed whilst samples, Nos. 172-173, from the shaft on the outcrop showed only low grade ore to a depth of 5 feet. Along the creek near the homestead seven shafts were sunk. In only one of these was ore revealed and that only of low grade. The remaining shafts proved only clay or alluvium composed of rounded dolerite boulders.

The samples from this area are numbered 165 to 171.

(3) The Six Mile Area.

The Six Mile Area is situated about six miles north of Swansea and about 20 chains north of the Campbell

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Town road turnoff. It covers the area between the Grange Road and the main highway.

The Bauxitic material occurs in two sections each trending westerly and separated by a broad gully of about 60 chains in width. The more northern section occurs on the southern flank of a Dolerite ridge whilst the southern section occupies the summit and flanks of a low ridge with only an occasional outcrop of Dolerite.

The area was tested by shaft sinking, eight shafts being sunk on the southern section and seven shafts on the northern section.

The shafts ranged in depth from three to eighteen feet. Where Bauxite was shown in the shafts samples were taken by channelling from top to bottom in the shafts. The channels had in general a cross section of three inches square and the length of sample was limited to two feet.

The sampling showed that the Bauxite was not of economic grade.

The positions of the samples are shown on the plan and the sample results are tabulated in the Schedule of Samples attached.

The samples taken from shafts at the Six Mile Area are numbered 1-36 and 75-84. Of the forty-six samples taken only four yielded greater than 40%, six yielded between 30 and 40%, nine between 20 and 30%, and 27 less than 20% alumina.

(4) The Springs Area.

The area is situated on the Springs estate, the property of Mr. Brewis Lyne, and is about one and a half miles west from the school house which is four miles north from Swansea on the main Swansea - St. Mary's Road.

The area is within a mile of the Whye River and is bounded on its southern and western sides by the now disused Swansea - Campbell Town Road.

Twenty-two shafts were sunk to determine the quantity and grade of ore available. Channel sampling of the ore in two foot sections was carried out and a total of 76 samples, Nos. 85 to 160, were taken. Of these samples, only four exceed 40% Alumina whilst 24 ranged from 30 to 40%. The remaining 48 samples yielded less than 30% Alumina.

The average grade of ore represented by the samples exceeding 30% Alumina is -

34.3% Alumina 3.8% Silica & 22.3% Ignition Loss
This grade of ore extends over an area of 5.2 acres with an average depth of 8 feet under an average depth of two feet of overburden. The yield would therefore be 94,000 tons.

Signed H.G.W. Kaid M.Sc.

CHIEF GEOLOGIST

SCHEDULE OF SAMPLES.

SIX MILE AREA.

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NaOH Available per cent				NaOH Available per cent			
Samp.	Alumina.	Sil.	Ig.Loss.	Samp.	Alumina.	Sil.	Ig.Loss.
1	41.4	3.1	26.2	24			14.1
2	20.6	5.3	18.6	25			13.1
3	25.1	6.3	19.6	26			14.3
4	42.1	3.2	25.9	27			14.6
5	38.6	4.1	23.5	28			15.1
6			15.3	29			14.5
7	34.6	5.6	22.7	30	38.4	2.5	24.7
8	27.9	8.4	19.8	31	45.0	2.1	25.7
9	29.6	7.9	20.4	32	42.6	2.0	24.1
10	28.2	8.2	19.6	33	47.7	2.5	25.3
11	29.9	8.5	20.0	34			18.0
12	26.3	7.8	19.2	35			18.5
13			15.9	36	28.7	7.3	20.4
14			14.7	75			14.4
15			16.3	76	26.8	8.0	19.0
16			15.8	77			16.4
17			16.2	78	40.7	4.5	24.3
18	25.7	5.7	18.3	79	32.4	5.4	21.7
19	18.8	9.0	15.6	80			14.6
20	16.8	9.4	13.5	81	34.6	5.3	22.2
21	31.7	5.2	20.8	82	29.7	5.6	21.2
22			17.5	83			18.8
23			17.7	84	32.7	5.7	21.6

THE SPRINGS AREA.

(Mr. Brewis Lyne's property).

85	34.2	2.5	23.1	91	30.3	5.2	21.0
86	35.0	2.9	23.3	92	33.5	4.6	22.2
87	30.0	5.5	21.7	93	35.3	3.4	22.8
88			19.0	94	34.3	4.9	22.5
89	40.2	2.9	24.6	95	37.5	3.4	23.5
90	43.7	4.1	26.2	96	40.7	2.1	25.0

SCHEDULE OF SAMPLES. (cont'd)

<u>THE SPRINGS AREA</u>							
NaOH Available per cent				NaOH Available per cent			
Samp.	Alumina.	Sil.	Ig.Loss.	Samp.	Alumina.	Sil.	Ig.Loss.
97	40.5	2.4	24.7	129	34.6	4.2	22.4
98			18.0	130	36.8	2.8	24.0
99	29.3	6.2	20.4	131			14.0
100	34.8	4.6	22.5	132			14.3
101	30.8	5.8	21.3	133			16.3
102			18.6	134			16.9
103			18.5	135			14.7
104			17.9	136			16.9
105			15.8	137			16.7
106			19.9	138	32.3	3.4	21.2
107			16.7	139	32.8	3.0	21.0
108	27.2	6.3	20.6	140	33.1	3.3	21.6
109	28.6	8.0	20.5	141	32.3	3.1	22.4
110	36.0	4.3	23.2	142	32.2	2.5	21.8
111			12.9	143	33.0	2.4	21.8
112			13.4	144	30.4	2.1	21.1
113			13.5	145	29.8	5.1	20.7
114			15.7	146			17.4
115			15.6	147	30.7	5.7	20.5
116			17.6	148	33.5	4.2	21.9
117			19.7	149	22.1	6.6	20.2
118			19.5	150			17.4
119			15.7	151			19.8
120			17.8	152	39.6	3.6	23.2
121				153	39.8	2.8	22.0
122			15.7	154			15.3
123			17.4	155			16.0
124			13.9	156			18.5
125			17.4	157			17.6
126			14.7	158			12.1
127			17.9	159			12.2

SCHEDULE OF SAMPLES (cont'd)

NaOH Available per cent				NaOH Available per cent			
Samp.	Alumina.	Sil.	Ig.Loss.	Samp.	Alumina.	Sil	Ig.Loss.
128			17.4	160			15.3
161			21.0	163			14.6
162			21.2	164			13.8

MILTON AREA.

(Mr. Gordon Amos).

165			13.2	169			11.0
166			16.9	170			12.1
167			16.4	171			12.1
168			9.9	172			15.1
				173			15.4