

REPORT ON BAUXITE OCCURRENCES ON THE  
BRAMBLETYE AND MILFORD ESTATES IN THE  
CONARA DISTRICT

SUMMARY

Two areas of limited extent containing economic bauxite on the Brambletye and Milford Estates have been isolated. The tonnages available amount to 14,000 tons of bauxite material containing an average percentage of 28.5% available alumina.

The average thickness of the bauxite is 47 inches and the average thickness of overburden to be removed is 5.8 inches.

The maximum thickness of the bauxite is 113" in hole 10.

LOCATION OF THE DEPOSIT (See accompanying plan)

At a distance of approximately 9 miles from Campbell Town and 4 miles along the Conara - Avoca Road, a remnant crust of bauxite was tested. The deposit occurs mainly on the property of J.N. Archer's Estate but it protrudes at one point on to the property of J.R. Nicholson. Two separate areas were tested and, although surrounding hills were pitted no other deposits of economic value were located.

DESCRIPTION OF THE DEPOSIT

Both occurrences are characterised by the sparse vegetation - chiefly gums - and the total lack of undergrowth under these trees. The northern most occurrence is practically flat, with a maximum difference of 23' in the reduced levels of the bottom of the bauxite. The southern occurrence has a maximum difference of 5 feet but it is much more limited in extent.

2.

It was noted that an apparent outcrop ran south from hole 16. The bearing along this outcrop was 145 degrees and no bauxite was located to the west of this line.

The eastern and southern boundaries of this northern section were determined by steep inclines.

The only holes in which bedrock was broken were Nos. 6 and 7 and in these cases, the rock appeared doleritic to the writer.

SAMPLING METHODS USED

For holes Nos. 1 - 10, where samples appeared warranted, the method employed was to channel samples adjacent walls in 5 foot sections cutting approximately 1 lb. per foot of sample.

From hole 11 to hole 43, sampling was limited to the apparent bauxite sections only. The shaft walls were cleaned down with a brush and then a channel approximately 2" wide and 1" deep was cut. The sample was caught on a canvas sheet and then bagged.

Check sampling was done of holes 8 and ten of the bauxite only.

Bulk samples of holes 9, 10, 11, 13, 14, 15, 16, 17 23, and 29; and holes 30 - 38 were taken of the bauxite only. It is interesting to note that the sample with the highest percentage of available alumina - 37.9% - was the first of these two bulk samples.

DESCRIPTION OF THE HOLES

Hole 1.	Sunk 15'	Bored 15' - 17'
Clay only.	Reduced Level	808.02'

(Corner post between Brambletye and Milford Estates along the road frontage taken as datum 800' )

3.

Samples :	0 - 5'	5' - 10'	10' - 15'
SiO <sub>2</sub> %	7.3	8.3	9.75
Al <sub>2</sub> O <sub>3</sub> %	21.25	20.8	18.00
Ignition Loss%	17.25	16.25	15.50
Borings 15' -			
17' -	7.9		
	17.4		
	16.2		

Hole 2. Sunk 7' Clay only

Clay had a distinctive lilac colour similar to the lithium mineral colouration in flame tests. Reduced level 751.0

0 - 5'	Silica	14.00
	Alumina	12.80
	Ignition Loss	12.95

Hole 3. Sunk 6' White sand only. Reduced level 793.55

Hole 4. Sunk 13' 0 - 3' White sand 3-10' clay Bored 10'-12' Clay only. Reduced level 798.15

SiO <sub>2</sub>	0-5'	5-10'
	14.20	10.35
Al <sub>2</sub> O <sub>3</sub>	13.30	13.70
Ignition Loss	7.00	13.80

Hole 5. Sunk 4' Sand 0 - 3 1/2' Hardrock 3 1/2' - 4'

Reduced Level 792.10

Hole 6. Sunk 3' Rock Reduced Level 806.16.

Hole 7 Sunk 6' 0" - 34" Bauxite 34" - 70" Clay

Bored 6' - 8' Clay only

Reduced Level 801.31

Sample 0 - 34"	Silica	8.35%
	Alumina	26.95%
	Ignition loss	17.8%

4.

Hole 8. Sunk 7' 0 - 50" Bauxite  
 50 - 84" Clay  
 Bored 2' 84" - 108" Clay  
 Sample 0.60" Silica 6.3  
 Alumina 30.1  
 Ignition loss 19.25

Reduced level 802.93

Hole 9. Sunk 9' 0 - 55" Bauxite  
 55 - 66" Clay  
 66 - 82" Bauxite

Reduced level 799.67

82 - 108" Clay  
 Samples 0 - 55" Silica 8.4  
 Alumina 24.9  
 Ignition loss 15.15  
 66" - 82" Silica 9.2  
 Alumina 22.25  
 Ignition loss 16.45

Hole 10. Sunk 12' 0 - 54" Bauxite  
 54 - 59" Clay  
 59 - 118" Bauxite

Reduced level 806.28 118 - 142" Clay

Samples 0 - 60" 3.0  
 29.0  
 18.8  
 60" - 120" 5.9  
 26.25  
 18.55

Bauxite only 0 - 54" and 59" - 118" 2.0  
 34.2  
 20.4

5.

Hole 11. Sunk 5' 0-8" sand, bauxite and clay  
8-60" Clay

Reduced level 804.38

Hole 12 Sunk 4' 0-48" Sand only

Reduced level 803.36'

Hole 13 Sunk 6' 0-47" Bauxite  
47-72" Clay

Bored 6'-8' Clay only

Reduced level 801.21'

Sample 10.25, 19.05, 16.4

Hole 14. Sunk 9' 0-10" Sand  
10-77" Bauxite  
77-108" Clay

Reduced level 794.91

Sample 10" - 77" Silica 2.8

Alumina 34.65

Ignition loss

20.35

Hole 15. Sunk 6' 0.48" Bauxite  
48.72" Clay

Reduced level 786.42

Sample 0-48" Silica 3.00

Alumina 32.50

Ignition loss 20.40

Hole 16 Sunk 5' 0-15" Sand  
15-40" Bauxite  
40-60" Clay

Reduced level 778.22"

Sample 15" - 40" Silica 3.45

Alumina 32.20

Ignition loss 19.95

Hole 17 Sunk 4' Clay only

Reduced level 775.53

## Sample

	Silica	11.7
	Alumina	14.3
	Ignition Loss	14.5
Hole 18.	Sunk 3'	0 - 36" sand and gravel
	Reduced level	771.53
Hole 19.	Sunk 5'	0 - 18" Sand
		18 - 22" few bauxite pebbles in clay
		22 - 60" clay
	Reduced level	776.56
Hole 19 (a)	Old latrine open to 8'	
		0 - 24" Sand
		24 - 42" Gravel
		42 - 84" Clay
		84 - 96" Clay
Sample 24" - 84"	Silica	11.7
	Alumina	14.3
	Ignition loss	14.5
	Reduced level	762.70
Hole 20.	Sunk 4'	0 - 18" Sand
		18 - 48" Clay
	Bored 2' clay only	
	Reduced level	780.67
Hole 21.	Sunk 4'	0 - 24" sand
		24 - 48" clay
	Reduced level	790.30
Hole 22.	Sunk 4'	0 - 24" sand
		24 - 36" sandy gravel
		36 - 48" clay
	Reduced level	773.79'
Hole 23.	Sunk 5'	North and west walls in clay
	East Wall	0 - 10" sand
		10 - 37" bauxite

7.

		37 - 60" clay
Borings		60 - 84" clay
Reduced level		784.97
Sample East wall		0 - 37"
	Silica	4.8
	Alumina	30.3
	Ignition loss	17.7
Hole 24.	Sunk 4'	0 - 48" Clay
	Reduced level	784.22
Hole 25.	Sunk 4'	0 - 18" sand
		18 - 48" yellow clay
	Reduced level	779.93
Hole 26.	Sunk 4'	0 - 48" sand only
	Reduced level	784.37
Hole 27.	Sunk 7'	0 - 15" sand
		15 - 60" clay and bauxite
		60 - 84" clay
	Reduced level	795.32"
	Sample 15 - 60"	Silica 11.0
		Alumina 16.5
		Ignition loss 15.7
Hole 28.	Sunk 5'	0 - 18" sand
		18 - 59" clay
	Reduced level	799.84
Hole 29.	Sunk 4'	0 - 11" sand
		11 - 21" Bauxite
		21 - 48" clay
	Reduced level	805.03
Hole 30.	Sunk 6'	0 - 36.5" Bauxite
		36.5 - 72" clay
	Reduced level	778.23
	Sample 0 - 36.5	Silica 2.2
		Alumina 35.45
		Ignition loss 21.65

8.

Hole 31. Sunk 5'6" 0 - 36" bauxite  
36 - 66" clay

Reduced level 773.10

Sample 0 - 36" Silica 2.2  
Alumina 33.05  
Ignition loss 19.75

Hole 32. Sunk 4' 0 - 9" bauxite  
9 - 48" sand

Reduced level 773.70

Sample 0 - 9" Silica 3.0  
Alumina 35.0  
Ignition loss 20.9

Hole 33. Sunk 4' Sand only

Reduced level 769.65

Hole 34. Sunk 6' 0 - 49" bauxite  
49 - 72" sand

Reduced level 773.80

Sample 0 - 49" Silica 4.2  
Alumina 33.1  
Ignition loss 19.9

Hole 35. Sunk 4' 0 - 9 bauxite clay  
9 - 48" sand

Reduced level 772.9

Sample 0 - 9" Silica 10.4  
Alumina 21.9  
Ignition loss 16.8

Hole 36. Sunk 3'6" sand only

Hole 37. Sunk 5' sand only

Hole 38. Sunk 7' 0 - 24" sand  
24 - 48" clayey bauxite  
48 - 84" sand

Sample 24" - 48" Silica 10.3  
Alumina 19.5  
Ignition loss 12.9

Hole 39. Sunk 5' 0 - 24" sand  
24 - 60" clay

Reduced level 775.0

Hole 40. Sunk 18'

0 - 39" sand

39 - 96" bauxite 96" - 216"

Reduced level 782

Sample 39 - 96" Silica 3.7

Alumina 36.4

Ignition loss 21.55

Hole 41. Sunk 10' 0 - 36" sand

36 - 45" clayey bauxite

45 - 120 clay

Reduced level 778.5

Sample 37 - 46"

Silica 2.95

Alumina 31.7

Ignition  
loss 18.7

Hole 42. Sunk 11' 0 - 30" sand

30 - 54" clayey bauxite

54 - 132 clay

Reduced level 781.0

Sample 30" - 54" Silica 2.5

Alumina 33.7

Ignition loss 21.0

Hole 43. Sunk 18' 0 - 48" sand

48 - 216" clay

Sample 32 - 56" Silica 2.0

Alumina 35.0

Ignition loss 20.8

Hole 44. Sunk on Meadowbank property

Depth 24'

0 - 42" sand with limonite residues

42 - 288" clay

Bulk Samples:

Holes 9,10,11,13,14,15,16,17, 23 and 29

Silica 2.2

Alumina 29.2

Ignition loss 18.8

Hole 30 - 38

Silica 1.5

Alumina 37.9

Ignition loss 18.8

Summary of above information:

Table 1 - shows in tabulated form the  
above information

Table 2 - shows the grouping employed in  
calculating available quantities.

TABLE 1

HOLE NO.	R.L.	BAUXITE SAMPLED	R.L. OF BOTTOM OF BAUXITE	% ALUMINA	% SILICA	IGNITION LOSS
7	801.31	0 - 33"	798.56	26.95	8.35	17.8
8	802.93	0 - 66"	797.43	30.10	6.30	19.25
9	799.69	0 - 53"	792.86	24.90	8.40	16.00
		66 - 82"		22.25	9.10	15.15
10	806.28	0 - 54"	796.45	33.9	2.0	20.4
		59 - 118"				
11	804.43	9 - 48"	798.43	29.2	1.9	18.8
		60 - 66"				
13	801.21	0 - 38"	798.03	19.1	10.25	16.45
14	794.91	14 - 82"	788.08	34.65	2.8	21.95
15	786.42	0 - 48"	782.42	32.50	3.00	20.40
16	778.22	15 - 40"	774.89	32.20	3.45	19.95
23	784.97	10 - 37"	781.89	30.3	4.8	17.7
27	795.32	15 - 60"	790.32	16.2	10.85	16.35
29	805.03	10 - 19"	803.45	17.7	5.65	11.00
30	778.23	0 - 36"	775.23	35.45	2.2	21.65
31	773.10	0 - 36"	770.10	33.05	2.2	19.65
32	773.70	0 - 9"	772.95	28.60	1.5	15.9
34	776.35	0 - 48"	772.35	33.10	4.20	17.4
35	772.98	0 - 9"	772.23	21.90	10.4	16.8
38	776.37	24 - 48"	772.37	19.50	10.3	12.9
40	782.14	39 - 96"	774.14	36.4	3.7	21.55
41	778.69	37 - 46"	774.85	31.7	2.95	18.7
42	781.06	30 - 54"	776.56	33.7	2.5	21.0
43	780.18	32 - 56"	775.51	35.0	2.0	20.8

TABLE II

HOLDS LIMITING AREA	AREA sq. ft.	AVERAGE DEPTH IN INS.	CUBIC CONTENTS Cub. ft.	AVERAGE ALUMINA %	CUBIC CONTENTS Alumina
10,29,11,10	3,260	56	15,213	26.9	4,093
29,11,9,8,7,29	26,640	44	97,680	25.5	24,908
11,28,9,11	1,920	38	6,080	26.38	1,603
10,13,14,10	4,400	73	26,766	29.22	7,841
10,14,27,10	2,120	75	13,250	28.25	3,743
14,15,16,14	5,200	47	20,366	33.10	6,741
13,14,16,13	7,400	44	27,133	28.65	7,773
16,23,15,16	1,960	33	5,390	31.66	1,706
30,31,32,36	2,800	18	4,200	29.15	1,224
38,37,30	-	-	-	-	-
30,31,40,37,30	2,840	32	7,573	34.96	2,647
37,40,42,37	1,680	27	3,780	35.00	1,323
30,31,41,40	4,400	34	12,475	34.15	4,260
			<u>237,906</u>		<u>67,862</u>

13.

It will be seen from Table 2, that the total cubic contents of bauxitic material is approximately 238,000 cubic feet containing 68,000 cubic feet of available alumina. This gives an average percentage of 28.5% available alumina.

The maximum depth of overburden in the northern area is 15 inches and 36 inches in the southern area.

ACKNOWLEDGEMENT OF COURTESIES

I wish to record my appreciation of the owner's co-operation in allowing access to the several properties and to acknowledge the diligence of the workmen employed in sinking the shafts.

Sgd. KEITH A. BEATSON

TECHNICAL & ADMINISTRATIVE  
ASSISTANT