

TENEMENT: EXPLORATION LICENCE 408

TENEMENT HOLDER: COMALCO LIMITED

REPORTS:

BUCHHORN, I.J. 1978

E.L. 408 Pioneer Bend Quarterly report for the period
7/6/78 to 7/9/78 (pgs. 4-10)

Plans:

SA 78/117	Location Plan.	(pg. 18)
SA 78/118	Bore Hole Location Plan.	(3310-1)

REPORT:

BUCHHORN, I.J. 1979

Quarterly report E.L. 408 For the period 7/9/78
to 7/12/78 (pgs. 11-17)
(No Plans)

BUCHHORN, I.J. 1979

Quarterly report for the period 7/12/78 to 7/3/79
(pgs. 19-99)

Plans:

Table 1	Kangaroo Island drill hole summary	(3310-2)
SA 78/117	Location Plan.	(pg. 18)
SA 78/118	Bore hole location plan.	(3310-1)
SA 79/151	Kaolin Reconnaissance	(3310-3)
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BUCHHORN I.J. 1979
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WHITE A.H. 1979
.E.L. 408 Final report Pioneer Bend (pgs. 103-196)

Plans:

SA 78/118 Bore hole location Plan. (3310-1)
SA 79/190 Rock sample location plan. (3310-9)

TABLE 1 Kangaroo Island Drill hole summary (3310-2)

EXPLORATION LICENCE NO. 408

PIONEER BEND

Quarterly Report for the period

7.6.78 - 7.9.78.

I.J. Buchhorn

3310

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Commonwealth Aluminium Corporation Limited,
Exploration Department,
31. Deeds Road,
North Plympton, Adelaide,
South Australia.

September, 1978

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- SA78/117. Location plan
- SA78/118. bore hole location plan.

EXPLORATION LICENCE NO. 408

PIONEER BEND

Quarterly Report for the period

7.6.78 - 7. 9.78

INTRODUCTION

The Exploration Licence, in conjunction with E.L. 396, was taken out to assess the bauxite potential of the Kangaroo Island laterite surface.

Kangaroo Island is felt to have potential for bauxite occurrences similar to those of the Mount Saddleback area in the Darling Ranges of Western Australia. At Mount Saddleback, the economic bauxite is overlain by a surface iron-rich hardcap of between two and six metres thickness. An analogous situation is being sought on Kangaroo Island.

The target bauxite bodies would be of ten to twenty million tonnes, ranging in thickness from one to two metres, and occupying areas of around two square kilometres. To be economical, six or seven such bodies, aggregating 100 million tonnes, would need to be located.

Initial work on Kangaroo Island has consisted of road-side vacuum airlift drilling at two kilometre intervals along all points of access. A total of fourteen holes, eleven of which were in Exploration Licence 408, were completed between July 10th and July 20th. Drilling was then suspended, as a result of wet ground conditions, which prevented sample recovery in the airlift drill.

Much of Kangaroo Island consists of a dissected, Triassic or Tertiary age, laterite plateau.

In Comalco's exploration licences, the laterite capping is only preserved in the high elevation areas of the western parts of Exploration Licence 396, in the Snug Cove area. At this locality, the capping consists of about 50 cm of yellow-brown iron-rich pisolitic nodules cemented by goethite, with interstitial sandy silt and clay.

Elsewhere in the licence area, a truncated profile is present, which from drilling is as follows:

Thickness (metres)	Zone	Description
0.5-3.0	Yellow Mottled Clay	yellow, sticky lumpy clay and fine grained quartz sand, extensive red and white mottling, with incipient iron-rich red concretions Often transported ironstone nodules present in the upper 30 cm.
0.0-0.2		white vein quartz clasts in a yellow clay matrix - probably an erosional surface
0.0-2.0	Red and White Mottled Clay	red and white mottled clay and fine grained quartz sand
0.0-4.5	Mottled Weathered Bedrock	highly weathered and leached kaolinitic sandstone bedrock, contains red and yellow ferruginous mottled clays
0.0-6.0	Pallid Weathered Bedrock	highly weathered and leached white kaolinitic sandstone

To date, no geological examination of Kanmantoo Group bedrock has been necessary. Where located during drilling, bedrock has consisted of fine to medium grained kaolinitic quartz sandstones. Exposures are restricted to deep gully sections.

A small trailer-mounted Edson vacuum airlift rig was used. The rig develops a torque of 2400 lb. in. at 140 r.p.m., with a vacuum pump capacity of 22 c.f.m.

This drill performance proved to be inadequate for drilling in wet sticky clays. Problems with clay-blocked bits and rods necessitated suspension of the present programme.

A total of eleven holes, aggregating 37.4 metres, were drilled to the pallid zone bedrock. Sampling was at 0.5 metre intervals, with all samples to be submitted to Comalco Research Centre for standard alumina analysis.

RECOMMENDED PROGRAMME

The inadequacy of the Edson rig has necessitated the purchase from J. & M. B. Thomas Pty. Ltd. in Perth of a Vacuum Adaptor for fitting to a Gemco 210B drill. This work is at present in progress.

Drilling will be recommenced in the summer months when ground conditions are anticipated to be more satisfactory.

A total of 200 holes, aggregating some 2000 metres, are planned for Exploration Licence 408.

STATEMENT OF EXPENDITURE

010

E.L. 396 and E. L. 408.

7.6.78 - 9.6.78

Geological:

(a) literature searches	300.00
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Drilling:

(a) preparation of equipment	2100.00
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(b) mobilisation	120.00
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(c) maintenance	270.00
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Logistics:

(a) geologists' salaries	2500.00
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(b) field assistants' salaries	1300.00
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(c) accommodation	170.00
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(d) vehicles, maintenance etc.	1100.00
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(e) equipment, supplies	350.00
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(f) report compilation, drafting	200.00
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Administration	1000.00
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Total:	\$9410.00
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Expenditure attributable to E.L. 408	<u>\$4705.00</u>
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COMALCO LIMITED

Incorporated in Victoria

95 Collins Street
Melbourne Australia

Please reply to: Adelaide Regional Office,
Exploration Department,
P.O. Box 20,
PLYMPTON, S. AUST. 5038.

IJB/SW

16th January, 1979.

The Director General,
South Australian Department of Mines and Energy,
191. Greenhill Road,
EASTWOOD, S.A. 5063.

Dear Sir,

Quarterly Report, Exploration Licence 408, for the
period 7.9.78 - 7.12.78.

During the quarter to 7th December, 1978, results were received for the initial roadside drilling programme. Predictably, the clays proved to be non-bauxitic, with only 10% of analyses exceeding 30% Al_2O_3 .

Drilling will re-commence in February, 1979, using a Gemco 210B with Edson vacuum adaptor. The intention is to continue roadside drilling at approximately two kilometre intervals.

Yours faithfully,
COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

I J Buchhorn

I. J. Buchhorn
Senior Field Geologist.



STATEMENT OF EXPENDITURE

E.L. 396 and E.L. 408

7.9.78 - 7.12.78

Logistics:

(a) geologists' salaries	250.00
(b) field assistants' salaries (sample preparation)	280.00
(c) analytical costs	855.00
(d) report compilation	70.00

Administration	70.00
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\$1525.00

Expenditure attributable to E.L. 408	\$762.50
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APPENDIX I

Analytical Results Drill Holes KI.1 - KI.14

(Bore hole Locality Plan - refer quarterly report
for the period 7. 6.78 - 7. 9.78).

LABORATORY REPORT

015

Sample: Exploration Bauxite Drill ChipsReport No.: AP-71Submitted by: Dr. A. White P.O. Box 20
Plympton, S.A. 5038Requisition No.: 1575Comm. ✓Cont. ✓Conc. ✓

ANALYSIS

SAMPLE		Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I. %			
1	KI - 2/C3	84.4	3.6	7.9	3.4			
2	KI - 3/C1	48.7	20.1	<u>22.9</u>	8.0			
3	- 3/C2	59.0	10.5	<u>23.4</u>	8.1			
4	- 3/C3	71.4	4.0	18.1	6.2			
5	- 3/C4	80.4	<u>1.7</u>	13.6	4.2			
6	- 3/C5	77.8	<u>1.4</u>	14.0	4.6			
7	- 3/C6	73.8	5.6	13.2	4.7			
8	- 3/C7	74.9	2.7	14.8	4.7			
9	- 3/C8	81.7	<u>1.9</u>	9.9	3.1			
10	KI - 4/C1	41.4	10.7	<u>32.1</u>	13.1			
11	- 4/C2	41.6	13.5	<u>30.7</u>	12.7			
12	- 4/C3	49.5	11.2	<u>29.3</u>	10.6			
13	KI - 5/C1	36.2	17.4	<u>32.7</u>	14.4			
14	- 5/C2	42.2	12.2	<u>30.4</u>	13.5			
15	KI - 6/C1	61.1	10.5	19.3	7.8			
16	- 6/C2	83.1	<u>1.6</u>	8.9	3.8			
17	- 6/C3	86.9	<u>1.1</u>	7.9	2.8			
18								

LABORATORY REPORT

016

Sample: Exploration, Bauxite, Drill ChipsReport No.: AP-71 (21-36)Submitted by: Dr. A. White P. O. Box 20
Plympton, S.A. 5038Requisition No.: 1575

Comm.

Cont. ✓✓

Conc.

ANALYSIS

	SAMPLE	Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I %			
21	KI-7/c2	41.6	19.3	<u>27.5</u>	12.1			
22	-7/c3	37.9	24.9	<u>24.4</u>	12.1			
23	KI-8/c1	43.0	21.0	<u>24.4</u>	11.2			
24	-8/c2	42.0	22.2	<u>23.8</u>	10.7			
25	-8/c3	55.3	13.1	<u>21.7</u>	8.9			
26	KI-9/c1	74.8	3.5	7.1	8.2			
27	-9/c2	50.1	2.7	5.3	19.6 *	* CO ₃ ²⁻ - limestone?		
28	KI-10/c1	79.9	9.1	7.1	4.2			
29	-10/c2	64.2	11.2	17.6	6.9			
30	-10/c3	44.6	8.0	<u>33.1</u>	12.3			
31	KI-11/c1	55.9	11.9	<u>24.7</u>	9.0			
32	-11/c2	73.7	3.9	16.1	5.3			
33	-11/c3	70.5	4.1	19.2	6.2			
34	-11/c4	71.2	3.1	19.0	6.4			
35	-11/c5	67.7	4.6	19.4	6.8			
36	KI-12/c1	53.9	12.9	<u>23.3</u>	10.5.			

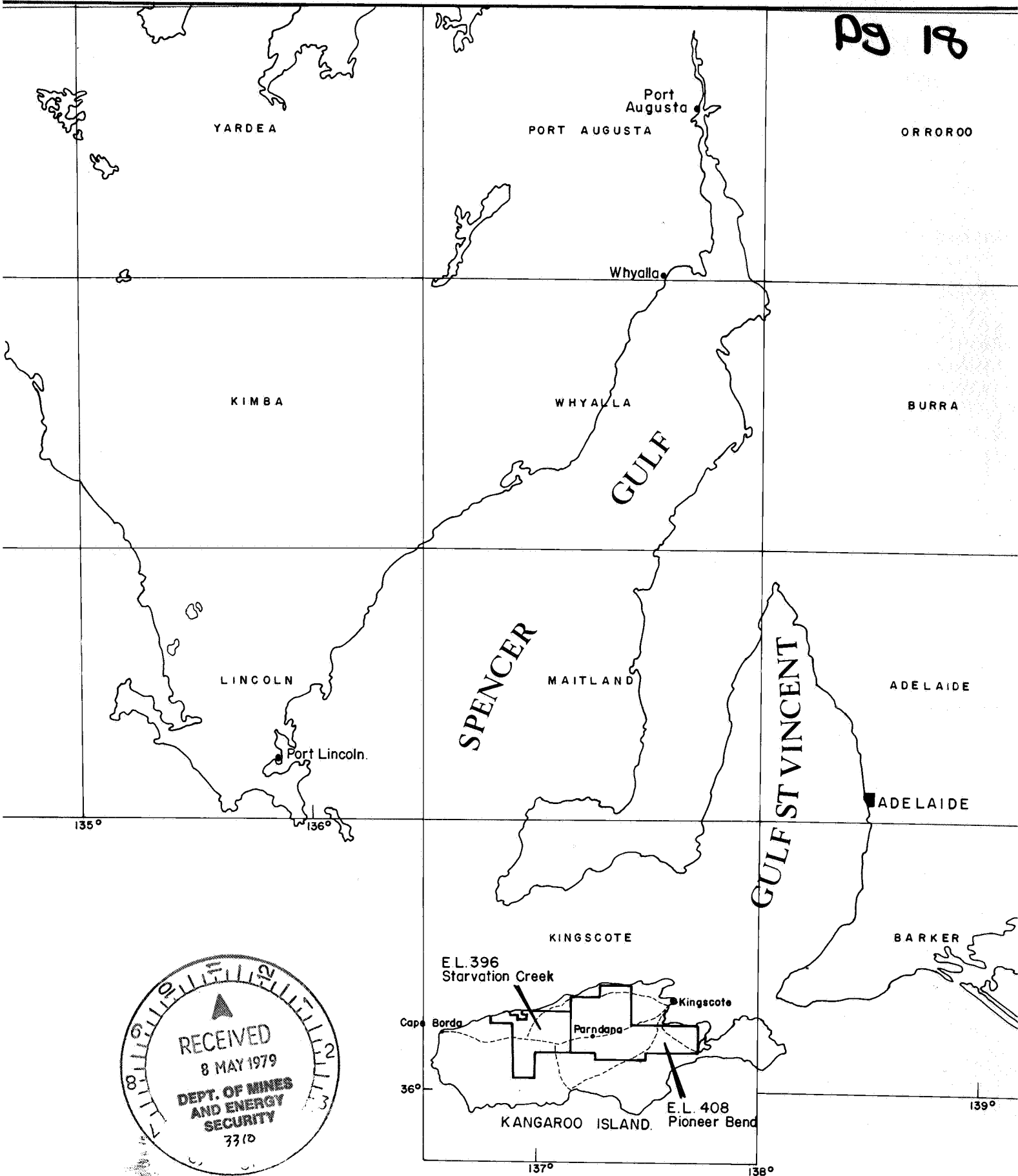
LABORATORY REPORT

017

Sample: Exploration - Bauxite, Drill Chips Report No.: AP-70 (23-36)Submitted by: Dr. A. White P.O. Box 20 Requisition No.: 1575 Comm. ☒
Plympton, S.A. 5038. Cont. ☒
Conc. ☐

ANALYSIS

	SAMPLE	Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I. %			
23	KI-12/C2.	65.2	4.0	<u>22.0</u>	7.8			
24	KI-12/C3	68.0	4.1	<u>20.2</u>	6.8			
25	KI-12/C4	62.8	6.8	<u>22.0</u>	7.8			
26	KI-12/C5	68.6	2.7	<u>21.2</u>	7.3			
27	KI-12/C6	63.4	<u>1.5</u>	<u>25.9</u>	8.4			
28	KI-13/C1	39.1	27.2	<u>23.7</u>	9.2			
29	KI-13/C2	40.0	14.5	<u>30.8</u>	13.8			
30	KI-13/C3	75.4	3.1	15.0	5.3			
31	KI-13/C4	77.2	2.1	14.9	5.1			
32	KI-13/C5	73.1	3.8	16.0	5.8			
33	KI-13/C6	75.8	<u>1.3</u>	16.4	5.9			
34	KI-14/C1	67.6	7.0	18.1	6.6			
35	KI-14/C2.	72.4	2.1	18.9	6.0			
36	KI-14/C3	75.2	<u>2.0</u>	16.7	5.5			



SOUTHERN OCEAN

COMALCO LIMITED		
SOUTH AUSTRALIA		
LOCATION PLAN EL 396 (Starvation Creek) and EL 408 (Pioneer Bend)		
Compiled I. J. B.	Revised:	Drawn: M.A.
Date: Aug., 1978	Scale 1:2,000,000	Dwg No SA-78-11

EXPLORATION LICENCE 408

Quarterly Report for
the period 7.12.78 - 7.3.79.

I.J. Buchhorn



Commonwealth Aluminium Corporation Limited,
Regional Exploration Office,
10 Hampton Road,
Kewwick,
ADELAIDE, South Australia.

April, 1979.

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Appendix I - Kangaroo Island Field Drill Logs

Figures:

SA78/117	Location Plan, E.L. 396 (Starvation Creek) and E.L. 408 (Pioneer Bend)
SA78/118	Borehole Location Plan, E.L. 396 (Starvation Creek) and E.L. 408 (Pioneer Bend)
SA79/151	Kaolin Reconnaissance
SA79/155	Kangaroo Island Seismic Traverse 1
SA79/156	Kangaroo Island Seismic Traverse 2
SA79/157	Kangaroo Island Seismic Traverse 3
SA79/158	Kangaroo Island Seismic Traverse 4
SA79/159	Kangaroo Island Seismic Traverse 5

EXPLORATION LICENCE 408

Quarterly Report for the period 7.12.78 - 7.3.79

Introduction

As a result of the drilling carried out during the quarter ending 7th March, 1979, exploration within Exploration Licence 408 has reached the stage of re-assessment. The vacuum airlift/auger system of drilling proved to be very slow, although relatively uncontaminated drill samples were obtained. Accordingly, it was felt necessary to suspend the drilling programme pending the availability of a reverse circulation rig in November, 1979.

Bauxite, the original target, was not found, and a truncated laterite profile was invariably encountered. Exploration was therefore directed towards coating grade kaolin, with numerous sub-grade occurrences being located. To aid the clay exploration, roadside reconnaissance was carried out to examine water dam and gully exposures for clay. Only three occurrences of any note were located.

The only specific bauxite exploration carried out was a seismic survey on the southern margin of the Cygnet River basin. The survey was aimed at evaluating the thickness of the Quaternary cover overlying possible down-faulted Tertiary laterites.

Drilling

During the quarter, a further 29 holes aggregating 230.5 metres, were completed. A Gemco 210B fitted with vacuum airlift and auger was used for the drilling. In most cases, holes penetrated to weathered bedrock. Initially only vacuum airlift drilling was used, and wet ground conditions prevented numerous holes from reaching the pallid zone target. All such holes will be re-drilled in November, 1979.

Copies of field drill logs are provided in Appendix I, and a summary of drilling logs is presented in Table 1. The following generalised profile is representative of drill sections:

depth	soil horizon	description
0.0 - 0.5 m.	A	fine wind blown beach sand with variable loose, siliceous goethite-quartz ironstone nodules
0.5 - 2.0 m.	laterite	yellow-brown massive nodular ironstone, with fine clay-sand occurring in 'tubular' interstices (laterite is mainly preserved in the Snug Cove area, at elevations exceeding 280 metres, and is absent in all other areas)
2.0 - 3.0 m.	B	mottled yellow clay, generally no quartz sand, occasionally incipient red sandy ironstone 'nodules'
3.0 - 4.5 m.	B-C	mottled red and light grey (sandy) clay often underlain by mottled red, white and yellow silty and clayey sand
4.5 - 8.0 m.	C	pallid zone, kaolinitic clay, sandy clay and clay-sand, occasional bands of pure white kaolin
8.0 + m.	-	weathered pink and yellow fine grained micaceous silty sand (quartzite) bedrock

This profile is termed the Eleanor Sand (Northcote, 1946), and represents a truncated lateritic profile of probable Tertiary age. Northcote (op. cit.)

TABLE II

Summary of Seismic Velocities

Lithology	Traverse Number				
	1	2	3	4	5
loose dry surficial sand	316	854			250
surficial clay			317	347	
wet compacted sand	1880				1424-2053
sand (completely wth qtzite)		1407	1279		
weathered quartzite		2515	3671	2681	
fresh quartzite			5060	4557	

terms the sand a 'fossil' Pliocene 'lateritic residual' soil, which now appears in podsolic form.

The bauxite potential of the Eleanor Sand profile is very poor. The initial exploration programme on Kangaroo Island was based on a 'Mount Saddleback' model, in which economic bauxite occurs beneath a barren lateritic ironstone capping. On Kangaroo Island, mottled and pallid (clayey) sands underlie the ironstone, and no bauxitisation of the Mount Saddleback-type occurs in this position.

A total of 942 drill samples and 22 rock samples have been submitted to Comalco Research Laboratories, Melbourne for standard alumina analysis. In addition, 66 drill sample composites will be submitted to AMDEL, Adelaide for clay determinations (percentage yield and brightness).

Seismic Refraction Surveying

A seismic refraction survey was carried out in the Cygnet River area in order to outline the structure of the Cygnet River basin and its bounding Cygnet Fault. This structural setting could be favourable for low iron bauxite occurrences (see page 7 'Exploration Targets').

Field Work: Five seismic traverses were run, using a Bison 1570B signal enhancement seismograph. The surveys were aimed at obtaining the thickness of Quaternary sediments within the Cygnet River basin. Traverses 1 and 5 were run in the basin proper, traverse 2 on the Cygnet Fault escarpment, and traverses 3 and 4 on the uplifted plateau, where Proterozoic meta-quartzites subcrop at very shallow depths (1 to 3 metres). The plateau traverses were necessary to obtain the seismic velocity of the meta-quartzite bedrock, for use as a control in interpreting the basin profiles.

Results: Seismic velocities for the various lithologies are shown in Table II. In general, seismic velocities show a gradational increase with depth. A typical sequence would be:

loose and dry surficial sand	450 m/sec
wet compacted sand, increasing with depth	from 1400 to 2000 m/sec
weathered quartzite bedrock	from 2500 to 4000 m/sec
fresh quartzite bedrock	from 4000 to 5000 m/sec

In most cases, the depth ' d_1 ' corresponds to the water table depth.

Occasional velocity inversions occur, probably as a result of clay lenses within the otherwise uniform Quaternary sand. In addition, step-like displacements occur in traverses 1 and 5, and probably reflect small step-faults associated with the main Cygnet Fault.

From Table II it can be seen that quartzite bedrock is readily distinguished as a +2500 m/sec refractor. Hence, it can be seen that traverses 1 and 5 failed to delineate a bedrock refractor, and confirm quartzite bedrock to be at depths exceeding 160 metres. Nothing can be said regarding the presence or absence of downfaulted ironstone.

Additional Seismic Work: In the area studied, (i.e. around drill hole KI42, see borehole location plan), any bauxitic horizon present would be at depths normally regarded as uneconomic. However, additional seismic surveying should be carried out in areas marginal to the Cygnet Fault in order to look for shallow sub-basins flanking the main Cygnet River basin. Prior to this work, an orientation seismic survey should be run in the vicinity of drill holes KI44 and KI48, to establish the seismic velocity of massive lateritic ironstone, and around drill holes KI1 to KI8 to define the seismic velocity of mottled lateritic clay.

At least two weeks of seismic work will be necessary to adequately test the 'downfaulted ironstone' exploration model, and to define the optimum site for a deep (200 metre) exploration hole.

Exploration Targets

Although results so far appear to be disappointing, continued exploration is warranted, the targets being:

- a. Coating grade kaolin, occurring in areas with argillaceous bedrock and good groundwater drainage, such as breaks of slope.

An area yet to be investigated is the Dewrang area (6047N 698E), where known pyritic phyllites should provide ideal low pH groundwater conditions for kaolin formation.

- b. Low iron bauxite, located within downthrown basins marginal to the Cygnet Fault. This exploration model involves downfaulting and burial of a ferruginous laterite beneath a cover of porous sands. Groundwater flow within the sands would be under moderately low Eh and pH conditions, so that iron leaching leading to the formation of white, low iron bauxite could be expected (White, 1976).
- c. Stratiform base metals. A pronounced linear airborne magnetic low occurs in the Snellings Beach area (6048N 688E). The eastern limit of the anomaly is associated with known stratiform mineralisation at Dewrang. Reconnaissance magnetometer surveying and drilling of the magnetic feature will be done during the November, 1979 field programme.

Drilling will be recommenced in November, 1979 the targets being:

1. coating grade kaolin
2. low iron bauxite in the Cygnet River basin
3. stratiform base metals in Snellings Beach area

Seismic, and probably gravity surveying, will continue in areas marginal to the Cygnet River basin. All other work will be a purely drill sampling programme.

References

- Northcote, K.H., 1946. A fossil soil from Kangaroo Island, South Australia. Trans. R. Soc. S. Aust., v. 70, pp. 294 - 296.
- White, A.H., 1976. Genesis of Low Iron Bauxite, Northeastern Cape York, Queensland, Australia. Econ. Geol., v. 71, no. 8, pp. 1526 - 1532.

Statement of Expenditure

Exploration Licence 408

for the period 7.12.78 - 7.3.79

Geological:

(a) literature searches on kaolin	187.00
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Drilling:

(a) preparation of equipment (Edson airlift adaptor)	2119.00
(b) mobilisation to Kingscote	70.00
(c) maintenance, fuel	128.00

Logistics:

(a) geologists' salaries	2275.00
(b) field assistants' salaries	2625.00
(c) accommodation (Kangaroo Island Holiday Village)	342.00
(d) vehicles, maintenance etc.	374.00
(e) equipment, supplies	477.00
(f) report compilation, drafting	198.00

Depreciation:

(a) Gemco 210B with airlift adaptor, rods	312.00
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Administration

456.00

\$9563.00

Accumulative expenditure to third quarter of tenure	\$15 030.50
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E.L. 408 annual expenditure commitment	\$40 000.00
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APPENDIX I

FIELD DRILL LOGS

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift
Hole No: KI 1 Location: 604200N 719800E Angle: vert Azimuth: - Collar R.L.: ~ 42 m Total Depth: 5.0 m Date: 12-7-78

Gentle slope between Cognet River and escarpment

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger
Hole No: KI 2 Location: 6041300 N 717900 E Angle: vert Azimuth: — Collar R.L.: ~ 50 m Total Depth: 3.0 m Date: 13-7-78

Base of hill slope, 100m east of Branch Creek

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, FL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, airlift
Hole No: KI 3 Location: 6040460N 716200E Angle: vert Azimuth: — Collar R.L.: ~ 142m Total Depth: 9.0m Date: 10/10/01

On Cygnus Fault scarp, on slope immediately below summit

[illegible]

455

Hill slope, 300 m east of plateau crest on edge of plateau

[illegible]

On top of plateau northern edge minor undulations

Steep slope west of Deep Creek, well drained, heavily vegetated

[illegible]

metres. Adjacent nodular laterite outcrop, 100 m from hill crest, above steep creek valley, well drained.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Air Lift

Hole No: HI 8 Location: 6043600 N 700150 E Angle: vert Azimuth: — Collar R.L.: ~ 149m Total Depth: 2.0 m Date: 15-7-78

On crest of plateau above Lynx River, yellow med grt sst in river bed

[illegible]

Well drained surficial beach sand, 3 km south of Cygnet Fault escarpment, on plateau, 200 m below hill crest.

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

On slope, midway between Curley Creek and crest, well drained

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Air lift
Hole No: KI 11 Location: 6032050 N 704500 E Angle: vert Azimuth: - Collar R.L.: ~ 154 m Total Depth: 5.5 m Date: 18.7.78

metres

Crest of hill, yellow weathering kaolinitic qtz sandstone outcrop, common indurated nodular qtz

[illegible]

Project: KANGAROO ISLAND, EL 396 Logged by: T. Buchhorn Drilled by: G. King Drilling Method: Auger, airlift
Hole No: KI 12 Location: 6040900 N 691050 E Angle: vert Azimuth: - Collar R.L.: ~195 m Total Depth: 6.5 m Date: 20-7-78

On crest of rise north of Bullock Creek, well drained

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

res

Crest of ridge abundant nodular laterite float, well drained

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL396 Logged by: F. Buchhorn Drilled by: G. King Drilling Method: Auger
Hole No: KI 14 Location: 604000N 678100E Angle: vert Azimuth: — Collar R.L.: ~241m Total Depth: 4.0m Date: 20-7-78

metres

Plateau crest, 300 m north of Middle River, heavy nodular laterite float

[illegible]

Top of plateau, Cynnet Fault 1 km north

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
Hole No: KI 16 Location: 604300 N 714300 E Angle: vert Azimuth: - Collar R.L.: ~ 61 m Total Depth: 19.0 m Date: 30-1-79

Plateau area ~ 2 km north of Cygnus Fault - 12.0 m KAO/LIN

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
Hole No: KI 18 Location: 6044400 N 710550 E Angle: vert Azimuth: - Collar R.L.: ~ 70m Total Depth: 12.0 m Date: 31-1-79

metres		High ground 1 km north of Cygnet River										Assay			
From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.					
				Drill	Compos									qual	color
0.0	0.5				C1	bn-yl	w	-	bn-yl mottled clay, v. min sdy "fest" med	YELLOW MOTTLE CLAY				VP	100
	1.0					(trig)-wh	-	-	wh clay, dry, friable, no visible gtz, ^{silty gtz} prob	PALLID WHITE CLAY				G	1
	1.5				*C2	(gn)-wh	-	-	" min f gtz sd-silt					G	1
	2.0					(yl)-wh	-	-	(yl)-wh clay, slight trace gtz					G	1
	2.5				*C3	(gn-yl)-wh	-	-	" becoming more cohesive					G	1
	3.0				*C4	wh	-	-	wh clay-sand, f-med, subang gtz, kaol	KAOLIN - QTZ SAND				M	41
	3.5					(gn-yl)-wh	-	-	gn-yl/wh clay, gtz sd, f-med	YELL-WHITE CLAYEY SAND				D	10
	4.0				*C5	wh-gn-yl	-	-	f-med clayey gtz sd, subang, "silty" taste					-	100
	4.5					yl/wh-yl-gn	-	-	" + yellow mottled clay begin with b/r					-	100
	5.0					(wh-gn)/yl	-	-	(wh-gn) & yl mottle, banded clayey sand, f silty gtz	YELLOW CLAYEY SAND (WITH B/R?)				-	100
	5.5					(wh-gn)/yl	-	-	"					-	100
	6.0					yl	-	-	yl silty clayey f-med gtz sand					-	100
	6.5				C6	yl	-	-	"					-	100
	7.0					yl	-	-	yl f sd. clay, "salty", med "gritty", ^{pass with b/r}	YELLOW CLAY-SAND (WITH B/R?)				-	100
	7.5					bn-yl	-	-	"					-	100
	8.0					(gn)-yl	-	-	yl clayey silt, min f gtz, weak "gritty"					-	100
	8.5					"	-	-	yl silty clay, v. min f gtz, "salty, with b/r?"	YELLOW CLAY (WITH B/R?)				-	100
	9.0					"	-	-	"					-	100
	9.5				C7	bn/yl	-	-	(bn) & yl mottled clay					-	100
	10.0					(gn)-yl	-	-	(gn)-yl mottled clay, with gy phyllite frag ^{bedrock?}	WITH BEDROCK					
	10.5					(yl)-gn	-	-	prob strong with (yl)-gn claystone - shale fr						
	11.0					"	-	-	"						
	11.5					"	-	-	def yl-gn shale-phyllite bedrock	FRESH BEDROCK					
11.5	12.0				KIEM 18	"	-	-	"						
EOM Phyllite bedrock															
* Clay analysis															

Hole No: KI 20 Location: 6046 300 N 705550 E Angle: vert Azimuth: — Collar R.L.: ~ 201 m Total Depth: 18.5 m Date: 1-2-79

Edge of localized plateau, on gentle eastward slope

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assdy			percent		
				Drill	Compos.						qualit	color	gtz			
0.0	0.5				21	yl	m	-	dry, yl clay-sand, f-ers gtz, 2-10 min mag test neg	YELL CLY-SD						
	1.0					yl	-	-	dry yellow clay, no fest	YELLOW CLAY						
	1.5					(yl)-rd	-	-	(yl) & rd mottled clay, no gtz "grit"	RED CLAY						
	2.0				22	"	-	-	"							
	2.5					"	-	-	"							
	3.0					(wh/yl)/rd	-	-	" begin wh clay							
	3.5					wh/rd/yl	-	-	wh, rd, yl mottled sandy clay, v. fine sand							
	4.0				23	dk rd	-	-	(wh, yl) & rd mottled clay, no "grit"							
	4.5					"	-	-	wh clay (coated with rd in drill cuttings)	↓ grad						
	5.0					rd/wh	-	-	(rd) & wh clay, v. min gtz "grit"	WHITE CLAY				P	4	5
	5.5				*24	(rd)/wh	-	-	wh clay, min rd mottling & banding					M	2	45
	6.0					(tr y)/wh	-	-	wh clay, min yl & rd banding, min gtz					M	1-2	10
	6.5					(tr rd, yl)/wh	-	-	wh clay, slight trace yl & rd mottl, v. min gtz					M	2	45
	7.0					"	-	-	"	↓				M	1-2	45
	7.5					(s/tr rd)/wh	-	-	white kaolin clay, v. slight red mottl, v. min "grit"	(KAOLIN)				G	1	45
	8.0				*25	(gy)/wh	-	-	white kaolin, "greasy" common gtz fragments					G	1	10-15
	8.5					(gy-bn)/wh	-	-	(bn, yl) wh kaolin, "greasy", min gtz sand					M	2	10
	9.0					(tr m rd)/wh	-	-	wh kaol, min mv-rd mottl, v. min "grit"	↓				M	2	45
	9.5				*26	mv/wh	-	-	f sd & silty "clay", poss high gtz content	WHITE & MAUVE SANDY CLAY				P	15	40?
	10.0					wh/mv	-	-	" mainly clay	↓				P	25	20?
	10.5				*27	wh	-	-	white kaolin, no color, no "grit"	KAOLIN				VG	41	45
	11.0					wh/bn-yl	-	-	wh clay, bn-yl mottling, min "grit"	MOTTLED CLAY				P	20	10-20
	11.5				*28	(pk)/wh	-	-	(pk) & wh mottled sand-clay, f-med gtz	SANDY CLAY				P	5	40?
	12.0					"	-	-	mottled sandy clay, min sand	↓				P	4	20?
	12.5				*29	mv-pk	-	-	f, clayey-silty gtz sand	PINK SANDS				-	60	75?
	13.0					"	-	-	"	↓				-	60	75?
	13.5					wh	-	-	f, clayey-silty gtz sand, "salty" taste	SAND-CLAY				P	1	85?
	14.0				*30	(fr mv)/wh	-	-	wh f sand-clay					P	1-2	40?
	14.5					wh	-	-	"	↓				P	1	40?
14.5	15.0				311	mv-rd	-	-	mv-rd, f-med clayey gtz sand	SAND				-	50	70

Project: KANGAROO ISLAND, EL 408 Logged by: J. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
 Hole No: KI 20 Location: 6046300 N 705550 E Angle: vert Azimuth: - Collar R.L.: ~ 201 m Total Depth: 18.5 m Date: 1-2-79

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay										
From	To			Drill	Compos.														qualit	color	gtz
15.0	15.5				111	rd-mv	-	-	mv, f - med clayey gtz sand, prob. subang	SAND									-	60	85
	16.0					"	-	-	"										-	60	85
	16.5					"	-	-	"										-	60	85
	17.0					rd-mv/wh	-	-	mv & wh banded										-	40	85
	17.5					wh/yl	-	-	yl & wh banded (10 cm) F clayey gtz sd, 1										-	40	75
	18.0				112	yl-mv-rd	-	-	mv-rd f - med clayey gtz sand										-	60	80
18.0	18.5			KI 20		mv-yl/wh	-	-	mv-yl & wh mottled, f - med, subang-subred										-	40	86
FOH Damp sample blocking bit																					
probably deeply weathered med gtz sst b/r from 14.5 m																					
* clay analysis																					

Edge of localized plateau, on gentle eastward slope

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
Hole No: KI 21 Location: 6050400N 706550 E Angle: vert Azimuth: — Collar R.L.: ~ 233 m Total Depth: 10.5 m Date: 2-2-79

metres		Gentle plateau area, on crest, strong drainage 700 m south														
From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			percent		
				Drill	Compos.									qualit	color	gtz
0.0	0.5				C1	yl	S	—	yl sdy clay, loose rd & yl clayey fast mud	YELL CLAY - IRON						
	1.0					yl	—	—	yl mottled clay, no gtz	YELL CLAY						
	1.5					rd/wh	—	—	rd & wh mottled clay, no gtz	RED & WHITE CLAY						
	2.0				C2	(rd)/wh	—	—	"							
	2.5					"	—	—	rd & wh banded (10cm) & mottled clay, min gtz							
	3.0					wh/yl/rd	—	—	wh, yl & rd banded (2cm) & mottled sdy clay	↓						
	3.5					(red/yl)/wh	—	—	rd, yl & wh mottled sandy clay	YELL & WHITE SANDY CLAY						
	4.0					"	—	—	" med gtz sd							
	4.5				* C3	"	—	—	(rd), yl & wh mottled sdy clay, f-med gtz sd							
	5.0					"	—	—	"							
	5.5					"	—	—	" slight "greasy"	↓						
	6.0				* C4	(mv)/wh	—	—	wh sdy clay, min mv clay mottling	WHITE SANDY CLAY				P	5	5
	6.5					wh	—	—	wh sdy clay, f gtz, min mica flakes	↓				M	2	5-10
	7.0					yl/wh/rd	—	—	yl, wh & rd mottled sdy clay	RD, YL, WH MOTTLED SDY CLAY				VP	40	10-20
	7.5					rd/yl/wh	—	—	"					VP	30	20
	8.0					"	—	—	" f-med gtz sd					VP	20	20
	8.5				* C5	(trub/yl)/rd	—	—	" prodn rd mottling	↓				VP	40	20
	9.0					yl/rd	—	—	yl & rd mottled clay-sand, f-crs, subang-subrd	MOTTLED CLAY-SAND				VP	40	45
	9.5					"	—	—	"					VP	50	45
	10.0					(rd/wh)/yl	—	—	yl mottl clay-sand, f-crs, subang-subrd gtz sd					VP	20	50
10.0	10.5			K18M 21		"	—	—	"	↓				VP	20	55
									EOH soft red clay blocking bit							
									* Clay analysis							

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
 Hole No: KI 23 Location: 6052650 N 711000 E Angle: vert Azimuth: — Collar R.L.: ~222m Total Depth: 4.5 m Date: 2-2-79

From		To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent
					Drill	Compos.										
0.0	0.5						yl	S	—	yl, f silty sd & clay, dk rd sdy fct med	YELL CLAY - IRON					
	1.0					C1	yl	—	—	(wh) & yl mottled clay, slight "sticky", min qtz	YELL CLAY					
	1.5						rd brn / yl	—	—	" " min rd mottling	↓ grad					
	2.0						rd / wh / yl	—	—	rd / wh & yl mottled clay, 10 cm kaol band	RED & WHITE CLAY	VP	15		25	
	2.5					C2	rd / yl / wh	—	—	rd, yl & wh mottled sandy clay		VP	20		5-10	
	3.0						rd / wh	—	—	(rd) & wh mottled clay-sand, ers, subrd qtz	RED & WHITE CLAY-SAND	P	6		50	
	3.5					* C3	(rd) / wh	—	—	" " min kaolin bands		P	4		50	
	4.0						"	—	—	(rd) & wh clay-sand, f-ers qtz, min kaolin bands	↓	P	4		50	
4.0	4.5				KIBM 22	* C4	wh	—	—	wh, f-ers, subang-subrd clay-sand, kaolinitic	WHITE CLAY SAND	G	41		60	
										FROM Damp kaolinitic sand						
										* clay analysis						

Pg 1 of 1

Gentle slope near plateau crest, on drainage divide

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			percent		
				Drill	Compos.						qualit	color	gln			
0.0	0.5				C1	yl	-	-	yl clay-sand, f-crs gtz, loose 2-8mm rd fest nod	YELL SBY CLY - IRON						
	1.0					(wh, rd)/yl	-	-	(wh, rd) & yl mottled clay, no "grit"	YELLOW CLAY						
	1.5					yl/wh/rd	-	-	yl wh & rd mottled clay, no "grit", min f-med sd	RED & WHITE CLAY						
	2.0				C2	yl/rd/wh	-	-	"							
	2.5					"	-	-	yl, rd & wh mottled sandy clay, f-crs gtz							
	3.0					"	-	-	"							
	3.5					yl/rd/wh	-	-	"							
	4.0				C3	wh/yl	-	-	" lower 20cm wh crs sd subord wh sdy clay	WHITE SAND						
	4.5					yl/rd/wh	-	-	yl & wh mottled, f-med, subang clayey gtz sand, damp	MOTTLED SAND						
	5.0					(tr yl, rd)/wh	-	-	rd & wh mottled sandy clay, crs, subord gtz	RED & WHITE SBY CLAY						
	5.5				* C4	(sltr pk)/wh	-	-	wh sdy clay, min rd & yl mottling	WHITE SANDY CLAY						
	6.0					yl/wh	-	-	wh sdy clay, v. slight pk mottl, f-med, subord sd							
	6.5					wh/yl	-	-	f-med, clayey gtz sand, yl & wh mottling	MOTTLED SAND						
	7.0				C5	(yl)/wh	-	-	" prdm med grain size							
	7.5					yl/wh	-	-	yl & wh mottled, f-med, subord-subang, clayey gtz sd							
	8.0					wh/yl	-	-	"							
	8.5					wh/rd/yl	-	-	" prdm subord grains	↓ grad MOTTLED SANDY CLAY						
	9.0				C6	yl/wh	-	-	wh, rd, yl mottled sandy clay, crs subord gtz sd							
9.0	9.5			K18M 24		(pk)/yl/wh	-	-	yl & wh mottled sandy clay, pose up to 30% gtz							
									FOH wet clay blocking bit							
									* Clay analysis							

Project: KANGAROO ISLAND, FL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Liemco AirliftHole No: KI 25 Location: 6050050 N 715600 E Angle: vert Azimuth: - Collar R.L.: ~ 133m Total Depth: 8.0 m Date: 3.2.79

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent	
From	To			Drill	Compos.										qualit	color gtz
0.0	0.5					yl	S	-	yl f sd - clay, 2-4 mm mag bk fest nod	YELL SD-CLY - IRON						
	1.0					(rd)/yl	-	-	yl clay, min f qtz sd, 5% dk rd siliceous fest nod	↓						
	1.5					yl/wh/rd	-	-	yl, wh & rd mottled clay, ^{2%} min dk rd fest nod	RED & WHITE CLAY						
	2.0					dk rd	-	-	rd & wh mottled clay, no "grit", ^{2%} min fest nod							
	2.5				C2	(yl)/dkrd	-	-	rd, yl & wh mottled clay, no "grit", no fest							
	3.0					wh/yl	-	-	yl & wh mottled clay							
	3.5					rd/wh	-	-	rd & wh mottled clay, min f - crs, subang-subrd sd	↓ grad						
	4.0					(trrd)/wh	-	-	wh sd clay, v. min rd mottl, crs, subang qtz	WHITE SANDY CLAY					M	1-2 20
	4.5				*C3	wh	-	-	wh clay-sand, f - med, subang-subrd qtz	WHITE CLAY-SAND					G	1 50
	5.0					wh	-	-	"						G	1 50
	5.5					(pk)/wh	-	-	wh (min rd & yl mottl), f - crs, subang-subrd qtz	↓					P	3 50
	6.0					wh	-	-	wh, subang-subrd, f - crs clayey qtz sand	CLAYEY SAND					-	21 70
	6.5					dkrd/wh	-	-	rd & wh mottled						-	15 70
	7.0				*C4	"	-	-	rd & wh mottled, f - crs, subang-subrd clayey qtz sd						-	15 75
	7.5					bn/yl/wh	-	-	bn, yl & wh mottled	↓ grad					-	15 75
7.5	8.0			KIBM 25	*C5	wh	-	-	wh sd clay (20cm bn/yl sd at top)	WHITE SANDY CLAY					P	5 20
									EOT wet white kaolin clay blocking bit							
									* Clay analysis							

Towards base of slope, well drained, probable shallow bedrock (yl sst)

From		To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			percent		
					Drill	Compos.									qualit	color	qtz
0.0	0.5					C1	gy-y/wh	s	-	gy & dk rd siliceous fest nod in f-med sd matrix	SAND -IRON						
	1.0					C2	wh/y/	w-m	-	wh & yl mottled clay, min lignite "bands", min peat	YELLOW CLAY						
	1.5						wh	-	-	f (-med) qtz sd, min yl clay at top	BEDROCK SST						
	2.0					C3	yl/wh	-	-	yl, f-med qtz sd							
2.0	2.5				K18M 26		"	-	-	yl-wh, f-med, kaolinic qtz sst (-qtz) EOH SST BEDROCK	↓						
										too hard to bore							
										No clay analysis							

EXPLORATION DEPARTMENT DRILLING LOG.

Plateau 600 m NNW of KI 16 Keelin hole

From		To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
					Drill	Compos										qualit	color	qty
0.0	0.5					c1	gy-yl	s	-	loose dk gy, mag fest med in f-med acal sd mat	SAND - IRON							
	1.0					c2	yl	w	-	(wh, rd) & yl mottled clay, no qtz, v. min fest	YELLOW CLAY							
	1.5						wh/rd/yl	-	-	"	↓ grad							
	2.0						yl/rd/wh	-	-	(yl) rd & wh mottled clay, no qtz	RED & WHITE CLAY							
	2.5					c3	rd/wh	-	-	rd & wh mottled clay, min f qtz sd								
	3.0						rd/yl-wh	-	-	rd & wh mottled sandy clay, subang med qtz	↓							
	3.5					c4	(tr yl)/wh	-	-	(rd, yl) & wh mottled clay-sand, f-med subang	WHITE CLAY-SAND							
	4.0						yl/rd/wh	-	-	yl, rd & wh mottled	MOTTLED CLAY-SAND							
	4.5						yl	-	-	yl, f-med, subang clayey qtz sand	YELLOW SAND							
	5.0					c5	wh/yl	-	-	yl & wh mottled	↓							
	5.5					c6	(wh)/yl	-	-	wh & yl mottled clay, v. min qtz "grit"	MOTTLED CLAY							
	6.0						(wh)/bn/yl	-	-	wh, bn & yl mottled clay	↓							
	6.5					*c7	yl/wh	-	-	wh kaolin clay, subord yl clay, no "grit", salty	WHITE CLAY					P	4	25
	7.0						(rd)/wh	-	-	wh kaolin clay, no "grit", min rd cly, salty	KAOLIN					M-G	1-2	25
	7.5						(bn)/wh/yl	-	-	wh & yl mottled clay, no "grit"	MOTTLED CLAY					VP	15	25
	8.0					*c8	"	-	-	"						VP	15	25
	8.5						(wh)/yl	-	-	(wh) & yl mottled clay, min "grit", salty						VP	15	5
	9.0						"	-	-	" min white clay, wet	↓					VP	15	5
	9.5					*c9	wh-gy	-	-	pure wh-gy kaolin clay, no "grit", salty	KAOLIN					L	1	25
9.5	10.0				MBM 27		(yl)/gy	-	-	yl & gy-wh mottled kaolin clay, no "grit"	↓					P	3	25
										EDH damp kaolin clay bleeding bit								
										* clay analysis								

metres

Base of slope near valley floor, 450 m WNW of HI 16 Kaelin h.

[illegible]

Hole No: KI 29 Location: 6042900N 715250E Angle: vert Azimuth: - Collar R.L.: ~69m Total Depth: 3.0m Date: 5-2-79

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

Hole No: KI 30 Location: 6047700N 719000 E Angle: vert Azimuth: - Collar R.L.: ~ 101 m Total Depth: 1.0 m Date: 5-2-79

Localized plateau, 100 m east of steep gully, well drained

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

Hole No: KI 31 Location: 6043800N 730700E Angle: vert Azimuth: - Collar R.L.: ~11m Total Depth: 1.5 m Date: 6-2-79

Very gentle rise within flood plain deposits of Cyghet River

[illegible]

Project: KANGAROO ISLAND, EL408 Logged by: I. Burkhorn Drilled by: G. King Drilling Method: Cement Airlift
 Hole No: KI 32 Location: 6042950N 714400E Angle: vert Azimuth: - Collar R.L.: ~ 60m Total Depth: 7.0 m Date: 5-2-79

metres										300m SE of KI 16 kaolin hole, at break of steep slope, 20m upslope from sdy fest									
From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			percent			quality		
				Drill	Compos.														
0.0	0.5				C1	gy-yl	m	-	base gy fest in sandy soil matrix, yl clay & rd clay	IRON -YELL CLAY									
	1.0					rd/yl	-	-	rd & yl mottled (sandy) clay, med gtz sd	YELLOW CLAY									
	1.5				C2	(rd)/yl	-	-	rd & yl mottled sandy clay										
	2.0					(rd)/wh/yl	-	-	rd, wh & yl mottled sandy clay, f-med gtz	↓									
	2.5					(yl)/wh	-	-	wh sandy clay, v. min parts of good kaolin	WHITE SANDY CLAY							P	4	5-10
	3.0				*C3	wh	-	-	wh sandy clay, no color, f-med, subang gtz								G	4	30-40
	3.5					(yl)/wh	-	-	(yl) & wh mottled sdy clay								P	3	30-40
	4.0					wh	-	-	wh sdy clay, f-med, subang gtz sd	↓ grad							G	4	30-40
	4.5					yl/wh	-	-	yl & wh mottled clay-sand, f-med, subang	CLAY-SAND							P	10	50
	5.0				*C4	(tr. yl)/wh	-	-	"	↓							M-G	1-2	50
	5.5					(tr. gy)/wh	-	-	wh clay-sand, f-med, subang-subrd gtz, wet	WHITE CLAY-SAND							G	4	50
	6.0					(tr. yk)/wh	-	-	wh sdy clay	WHITE SANDY CLAY							M-G	1-2	30-40
	6.5				C5	yl/wh	-	-	yl & wh sdy clay	YELLOW WHITE SANDY CLAY							VP	15	40
6.5	7.0			KIBM 32		yl/mv-rd/wh	-	-	yl, mv-rd & wh mottled sandy clay, pass with sh	WHITE MOTTLED SANDY CLAY							VP	20	30
										FOH water in yellow clay-sand									

* Clay analysis

Hole sited immediately upslope from massive, sandy, cellular ironstone, but failed to intersect any ironstone, so the laterization has occurred on an undulatory surface ie present topography (always at yellow clay part of profile) is an inherited Tertiary topography.

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG. 066

Project: KANGAROD ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
Hole No: KI 33 Location: 6243000 N 714150 E Angle: vert Azimuth: — Collar R.L.: ~57m Total Depth: 12.5m Date: 6-2-79

metres

On hill slope below KI 16 plateau, ~200 m ssw of KI 16, sdy test of

From	To	Adv.	Rec.	Sample No Drill Compos	Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay	quality	color	percent
0.0	0.5			C1	gy-yl	w	-	yl f sdy soil, minor gy fest nod	SANDY SOIL - IRON				
	1.0				yl	-	-	yl clay, no "grit"	YELLOW CLAY				
	1.5			C2	(bn)-yl	-	-	yl clay, main mv & wh banded clay (sh)					
	2.0				"	-	-	" , common gy-mv clay (sh)					
	2.5				"	-	-	" , gy-mv clay at base					
	3.0			*C3	gy/gy-mv	-	-	wh-gy & gy-mv kaolin clay, no "grit", greasy	GREY-MAUVE CLAY				
	3.5			*C4	yl/gy-mv	-	-	" , & yl clay					
	4.0				yl/dkrd	-	-	dkrd & yl mottled clay, no "grit"					
	4.5				yl/gy-mv	-	-	gy-mv "shaly" clay	SHALE BEDROCK				
	5.0				gy-mv	-	-	" , min yl & gy clay					
	5.5			*C5	"	-	-	" , common yl & gy clay					
	6.0				"	-	-	gy-mv & subord yl "shaly" clay, no "grit"					
	6.5				"	-	-	gy-mv clayey shale bedrock					
	7.0				"	-	-	"					
	7.5				yl/gy-mv	-	-	"					
	8.0				"	-	-	"					
	8.5				"	-	-	"					
	9.0				kh/yl	-	-	khaki-yellow clayey shale bedrock	YELLOW SHALE B/R				
	9.5				"	-	-	"					
	10.0				"	-	-	"					
	10.5				"	-	-	"					
	11.0			C6	yl-bn	-	-	bn-mv clayey phyllite (visible schistos)	BROWN PHYLLITE				
	11.5				wh-gy/yl	-	-	"	YELLOW SHALE B/R				
	12.0				"	-	-	"					
12.0	12.5			KIDM 33	gn-yl	-	-	gn-yl weathered clayey shale bedrock FOH water & bedrock					
								* Clay analysis					

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: T. Burke Drilling Method: Gemco AirliftHole No: KI 34 Location: 6043300N 714400E Angle: vert Azimuth: - Collar R.L.: ~62m Total Depth: 3.5m Date: 7.2.79

metres

200m north along fence from KI 16 kaolin hole, top of plateau

From	To	Adv.	Rec.	Sample No Drill Compos.	Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay	percent
0.0	0.5			C1	gy-y/l	S	-	gy fest med in y/l f-med sd matrix	SANDY SOIL - IRON		
	1.0				(rd)/y/l	-	-	rd & y/l mottled clay, no sand	YELLOW CLAY		
	1.5			C2	rd/y/l	-	-	" " v. min med sand	RED & YELL SANDY CLAY		
	2.0				"	-	-	rd & y/l mottled sandy clay, f-ers, schamy-subrd			
	2.5				"	-	-	" " becoming clay-sand	↓		
	3.0			C3	"	-	-	rd & y/l mottled clayey sand, f-ers (max 0.5mm), subang-	RED & YELL SAND		
3.0	3.5				(rd)/y/l	-	-	" "	↓		
								EOH Water in sand			
								No clay analysis			
								Sand intersected in mottled zone, probably indicates sandstone bedrock			
								is poor potential for clay			
								The KI 16 kaolin hole is a very localized occurrence, possibly related to a narrow shale band at the sandstone contact.			

Redrill of KI 34, using auger instead of airlift

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

Hole N^o: KI 35 Location: 6037550N 736000 E Angle: vert Azimuth: — Collar R.L.: ~50m Total Depth: 2.0 m Date: 12.2.79

Localized plateau 2.5 km south of escarpment

[illegible]

metres Eastern edge of localized plateau, probably well drained, yellow sst outcrop 1 km ntl

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Airlift
Hole No: KI 37 Location: 6033150 N 727 600 E Angle: vert Azimuth: - Collar R.L.: ~ 30m Total Depth: 4.5 m Date: 13-2-79

metres

Eastern margin of laterite plateau area, laterite profile possibly absent, poor drainage

[illegible]

[illegible]

[illegible]

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift
Hole No: KI 41 Location: 6038250 N 739550 E Angle: vert Azimuth: - Collar R.L.: ~76 m Total Depth: 2.5 m Date: 16-2-79

Crest of gentle hill, poor to moderate drainage

[illegible]

Hole No: KI 42 Location: 604100 N 733850 E Angle: vert Azimuth: - Collar R.L.: ~ 8 m Total Depth: 25.0 m Date: 17.2.79

Flats, 700m north of Cypet Fault, down faulted block

[illegible]

western edge of plateau, 200m east of Squashy Creek, well drained

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						qual	color	gtz	low
0-0	0.5			Airlift		dk bn-yl	-	-	yl, f-med, silty gtz sd, prob subrd, min rd clayey	SAND (-IRON)				
	1.0					yl	-	-	f silty yl sand, pass v. min clay	SAND				
	1.5					lt yl	-	-	"					
	2.0					"	-	-	"					
	2.5					"	-	-	"					
	3.0					yl	-	-	f silty yl sd, v. min rd mottled silty clay					
	3.5					yl-bn	-	-	f silty (wh)/yl-bn sd, v. min wh clay-sand "nod"					
	4.0					wh-yl	-	-	wh-yl silty f sd, no clay					
	4.5					"	-	-	"					
	5.0					wh/yl/or	-	-	wh, yl & or mottled f silty sd					
	5.5					or/yl	-	-	"					
	6.0					rd-bn/yl	-	-	wh, yl & or mottled f silty sd, ~20% wh sdg kaol clay					
	6.5					mv/bn-yl	-	-	"					
	7.0					wh/mv/yl	-	-	20-30% good qual kaol "nod" becoming clay-sd	MOTTLED CLAY-SAND				
	7.5					wh/rd/yl	-	-	clayey & silty f gtz sd, mv & bn-yl mottling	MOTTLED SANDY CLAY				
	8.0					wh/yl	-	-	wh, mv & yl mottl sandy (f-med) clay, 10-15% wh kaol clay					
	8.5					wh/yl	-	-	(wh, rd) & yl mottled (sandy) clay, v. "greasy" f-med gtz	WHITE & YELL SANDY CLAY				
	9.0					rd/wh/yl	-	-	wh sdg clay (20% gtz) with abund yl mottl, kaol is					
	9.5					pk-yl	-	-	yl & wh mottled sandy clay, f-med gtz, wet sample	PINK-YELL SANDY CLAY				
	10.0					"	-	-	pk-yl f gtz sand-clay, pass yl-wh sdg clay					
	10.5					"	-	-	pk-yl sdg (f gtz) clay					
	11.0					"	-	-	"					
	11.5					yl-gn	-	-	pk-yl sand-clay, f-med, subrd gtz					
	12.0					"	-	-	yl-gn sdg clay, f-med gtz, min wh mottl, banding	YELL-GREEN SAND-CLAY				
	12.5					"	-	-	"					
	13.0					"	-	-	f-med gtz, becoming sand-clay					
	13.5					"	-	-	yl-gn sand-clay, min wh sdg kaol clay "patches"					
	14.0					"	-	-	"					
	14.5					"	-	-	yl-gn sand-clay, f-med gtz, no kaol					
	15.0					"	-	-	"					
									water table 9.0 m					
									green sand-clay possibly indicates highly weathered bedrock					

Project: KANGAROO ISLAND, EL 36 Logged by: F. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger
Hole No: KI 44 Location: 6037300N 673800E Angle: vert Azimuth: - Collar R.L.: ~278 m Total Depth: 20.5 m Date: 3-8-79

Plateau area, grey aeolian sand cover, probably massive nodular laterite suboutcrop

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. BuchhornDrilled by: G. KingDrilling Method: Auger, AirliftHole No: KI 45 Location: 6041800 N 671600 E Angle: vertAzimuth: - Collar R.L.: ~288m Total Depth: 20.5m Date: 8-3-79

meters		Narrow plateau on drainage divide, very well drained										Assay				percent				
from	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.							quartz	color	gls	conts
				Drill	Compos															
0	0.5			Airlift	*C1	yl	m	-	yl, f-ers, subang - subred gtz sandy soil, ^{glassy quartz pebbles and cobbles} f-ers siliceous	SANDY SOIL - IRON										
	1.0					wh/bn-yl	w-m	-	wh & rd banded sdly clay, loose rd-bn siliceous	↓										
	1.5				*C2	(tr rd)/wh	-	-	wh sdly clay, v. min rd banding & mottling, f gtz	WHITE (+ RD) CLAY							P	2-4	10	-
	2.0					yl/rd/wh	-	-	yl, rd & wh mottled silty f sd, min wh (sdly) clay nodules	MOTTLED SILTY SAND							VP	15	55	-
	2.5				*C3	wh/rd	-	-	rd & wh mottled silty f sand	RED & WHITE SILTY SAND							VP	20	60	-
	3.0					yl/rd/wh	-	-	50% pure wh, kaol clay, rd & yl silty f sd	SILTY SAND & WH CLAY							P	40	30	-
	3.5				*C4	wh	-	-	wh silty (sandy) clay, gtz sand v. fine & silty	WHITE CLAY							G	<1	5-10	-
	4.0					(tr rd)/wh	-	-	" min glassy gtz pebbles	WHITE SANDY CLAY							P	2-3	10-20	-
	4.5			↓	*C5	"	-	-	" min pk-rd mottling, A	WHITE SAND-CLAY							P	3-4	30-45	-
	5.0			Auger		"	-	-	wh sand-clay, min pk-rd mottl, gtz sand v. fine & silty	↓							P	2-3	40	-
	5.5	run 1				(pk)/wh	-	-	"	WHITE CLAY-SAND							P	5	60	-
	6.0				*C6	wh	-	-	f-med, clayey gtz sand, prob high silt content	WHITE CLAYEY SAND							-	<1	75	-
	6.5					"	-	-	"								-	<1	80	-
	7.0					"	-	-	"								-	<1	80	-
	7.5	run 2				(pk)/wh	-	-	pk & wh mottl (f)-med clayey gtz sand								-	2-4	80	-
	8.0				*C7	(yl)/wh	-	-	yl & wh								-	5-10	80	-
	8.5					"	-	-	yl & wh mottl fine-med clayey gtz sand, well sorted	↓							-	5	80	-
	9.0				*C8	(tr pk, yl)/wh	-	-	(pk, yl) & wh sd-clay, f-med gtz	WHITE SAND-CLAY							P	2	40-50	-
	9.5	run 3				"	-	-	"	↓							P	3-4	50	-
	10.0					"	-	-	wh clay-sand, f-med gtz	WHITE CLAY-SAND							P-M	1-2	55	-
	10.5					"	-	-	"								P	2	55	-
	11.0				*C9	(tr yl)/wh	-	-	tr yl & wh mottled clay-sand, f-med gtz, ^{mottled & banded} trace f bk heavy mineral "sticky"								M	1	55	-
	11.5	run 4				"	-	-	"								M	1-2	55	-
	12.0					yl/wh	-	-	"	↓							P	2-5	55	-
	12.5					(tr yl)/wh	-	-	wh sand-clay, f-med gtz, ^{trace f bk heavy mineral} common yl mottled "red"	WHITE SAND-CLAY							M	1-2	40	-
	13.0				*C10	"	-	-	"								M	1-2	45	-
	13.5	run 5				wh	-	-	wh sand-clay, f-med gtz, ^{becoming sandier} min yl banding, A	↓ grad						M	1-2	45	-	
	14.0					"	-	-	wh clay-sand, f-med gtz, no yl mottling	WHITE CLAY-SAND							G	<1	55	-
	14.5				*C11	"	-	-	"								G	<1	65-70	-
14.5	15.0	run 6				"	-	-	"								G	<1	60	-
note: C6 good white color, due to very good leaching conditions																				

note: C6 good white color, due to very good leaching conditions

metres

Narrow plateau, drainage divide, very well drained, common base forest

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Air lift
Hole No: KI 47 Location: 6041250 N 674650 E Angle: vert Azimuth: - Collar R.L.: ~ 275m Total Depth: 23.0m Date: 9. 3. 79

Plateau abundant here mod fast flow, prob poorly drained

core		Plateau, abundant loose med fest float, prob poorly drained																	
from	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent				
				Drill	Compos										qualit	color	qtz	contn	
0.0	0.5			Airlift	C1	rd/bn-yl	w	-	bn-yl f silty sd, min wh, rd & yl mottled clay	YELLOW CLAY & SAND									
	1.0				C2	wh/rd	-	-	rd & wh banded & mottled clay, min f silty qtz sd	RED & WHITE CLAY									
	1.5				C3	wh/yl/rd	-	-	wh, yl & rd mottled clayey & silty f qtz sd	MOTTLED SILTY SAND									
	2.0					rd/wh/yl	-	-	"	↓									
	2.5				C4	wh/yl	-	-	wh & yl mottled clayey & silty f - med qtz sd	WHITE & YELL SILTY SAND									
	3.0					yl/wh	-	-	"	↓									
	3.5					wh/yl/rd	-	-	wh, yl & rd mottled silty clay, v. min f qtz sd	RED MOTTLED SILTY CLAY									
	4.0				C5	yl/rd	-	-	" , incip dk rd "fest" clay										
	4.5					wh/rd	-	-	wh & rd mottled silty clay, v. min f qtz sd	↓									
	5.0				* C6	(tr. yl, pk)/wh	-	-	white silty clay, trace yl & pk mottled, tr f qtz	WHITE CLAY							P	1-3	5
	5.5					"	-	-	"	WHITE SANDY CLAY							P	3-5	25
	6.0			↓		pk/wh	-	-	pk & wh mottled sandy clay, f - med qtz	PINK & WHITE SANDY CLAY							VP	15	30
	6.5			Auger		(yl)-pk	-	-	pk sandy clay, no wh clay	PINK SANDY CLAY							VP	100	5-10
	7.0				C7	"	-	-	"								VP	100	30
	7.5		run 1			"	-	-	"								VP	100	30
	8.0					"	-	-	" , poss becoming sand-clay								VP	100	30-50?
	8.5					rd-yl-pk	-	-	(mv) & rd-yl-pk sandy clay	↓ grad							VP	100	30
	9.0					mv-pk	-	-	rd-mv sdy clay, min wh sdy clay banding	MAUVE SANDY CLAY							VP	80	30
	9.5		run 2			pk-mv	-	-	" , incr qtz sd								VP	80	30
	10.0				C8	wh/mv	-	-	wh & mv banded sandy clay, f - med qtz								VP	40	30
	10.5					(wh)/mv	-	-	(wh) & mv sdy clay, f - med qtz								VP	70	30
	11.0					mv	-	-	mv sdy clay, f - med qtz								VP	100	30
	11.5		run 3			"	-	-	"								VP	100	30
	12.0					yl/wh/mv	-	-	finely banded (.05m-2mm) (yl), wh & mv sdy clay								VP	45	20
	12.5					"	-	-	"	↓							VP	45	20
	13.0					rd-pk	-	-	rd-pk silty f qtz sand, ^{prob min clay} no mottling	RED PINK SILTY SAND							-		
	13.5		run 4			"	-	-	"								-		
	14.0				C9	"	-	-	"								-		
	14.5					"	-	-	"								-		
14.5	15.0					"	-	-	"								-		
top .05m - yl med fest in yl f sd mat, removed for road making																			

metres

Plateau, abundant loose nod fast float, probably poorly drained

[illegible]

metres

Highest elevation of plateau, in situ massive nodular fest laterite 0.85 km north

om	To	Adv.	Rec.	Sample N°		Colour	Magnetic	Carbonate	Description	Schem.Sec.	Assay				percent	
				Drill	Compos.						qualit	color	qtz	cent'm		
0	0-5			AirLift	c1	dk y/-bn	m	-	f-med qtz sd, often fe stained, min fest med ^{prob windblown bench sand}	FERRUGINOUS SAND						
	1-0					y/-bn	w	-	bnt wh ferrug clay, common f-med qtz sd, common ^{sandy}	IRON-CLAY SAND						
	1-5					bn-wh-y/l	-	-	y/-wh f silty qtz sd, min wh clay	SILTY SAND						
	2-0				C2	y/-wh	-	-	" , common wh & yl clay							
	2-5					wh-y/l	-	-	wh-y/l f silty & clayey qtz sand, min wh clay							
	3-0				C3	mv-red/wh/yl	-	-	mottled mv-red, wh & yl sandy clay	MOTTLED SANDY CLAY				VP	20	10 -
	3-5					rd/yl/wh	-	-	" , min pure wh clay					VP	15	5-15 -
	4-0				*C4	(tr-yl, rd)/wh	-	-	wh sdy clay, min f-med qtz sand "grit", a ^{u/min rd & yl mottl}	WHITE SANDY CLAY				M	1-2	5-15 -
	4-5			↓		wh/red	-	-	wh & rd sdy clay	WHITE & RED SANDY CLAY				VP	50	5-15 -
	5-0			Auger	c5	pk/wh	-	-	pk & wh mottled silty & clayey, f-med qtz sd							
	5-5					wh/rd-pk	-	-	pk with wh banding mottled clayey sand, f-med qtz ^{prob wth b/r}	PINK CLAYEY SAND						
	6-0					yl-pk	-	-	" "	↓ grad						
	6-5					pk-yl	-	-	pk-yl (clayey) & silty f-med qtz sand	YELLOW SILTY SAND						
	7-0					yl	-	-	yl (clayey) & silty f-med qtz sand	(WITH SST B/R)						
	7-5					(pk)-yl	-	-	" "							
	8-0				C6	(trgn)-yl	-	-	" "							
	8-5					"	-	-	" increased clay							
	9-0					"	-	-	yl clayey & silty f-med qtz sand							
	9-5					(gn)-yl/wh-yl	-	-	" + wh-yl silty sand							
	10-0					yl	-	-	yl, silty, f-med silty qtz sand	↓ grad						
	10-5					(trgn)-yl	-	-	trace green & yr clayey & silty f-med qtz sand, ^{with sst b/r}	(GREEN)-YELL SILTY SAND						
	11-0					"	-	-	" , trace yl & gn-yl banding	(WITH SST B/R)						
	11-5					"	-	-	" , def with sst b/r							
	12-0				C7	"	-	-	" "							
	12-5					(wh)/gy-yl	-	-	(wh) & gy-yl clayey & silty qtz sd, with sst bedrock ^(min bandings)							
	13-0					"	-	-	" "							
	13-5					gy-gn-yl	-	-	gy-gn-yl silty f(-med) qtz sd, with sst b/r							
	14-0					"	-	-	" "							
14c	14-5			↓		gn-yl	-	-	gn-yl " minor micaceous	↓						
									EOTI silty sandstone bedrock							
									hard boring							
									* clay analysis							

[illegible]

Hole No: KI 49 Location: 6043900N 680750E Angle: vert Azimuth: - Collar R.L.: ~ 231 m Total Depth: 23.0 m Date: 14.3.79

Edge of plateau near break of slope, abundant nodular ^{Assay} laterite float

[illegible]

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger
Hole No: KI 50 Location: 6040800N 677750E Angle: vert Azimuth: - Collar R.L.: ~ 251 m Total Depth: 23.0 m Date: 19.3.79

metres

Localized platy, loose nodular laterite in pit

[illegible]

metres

Plateau area ~ 10 m dissection by Starvation Creek, very well drained

				Sample N°		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
From	To	Adv.	Rec.	Drill	Compos.						qualit	color	qtz	con			
0.0	0.5			Airlift	C1	bn-yl	S	-	blk & dk bn mag fest med in yl f silty sand matrix	IRON SAND							
	1.0					wh/yl/red	m	-	blk siliceous fest med in rd & wh f silty sand matrix	↓							
	1.5					(wh)/yl/red	-	-	wh, rd & yl f silty sand	MOTTLED SILTY SAND							
	2.0					wh/red/yl	-	-	"								
	2.5				C2	"	-	-	"								
	3.0					"	-	-	"								
	3.5			↓		wh-yl	-	-	wh-yl silty f-med qtz sand	↓							
	4.0			Auger		wh-yl/dkrd	-	-	dk-rd f clayey & silty qtz sand, poss 30% clay	MOTTLED SILTY & CLAYEY SD							
	4.5				C3	wh-yl/or-rd	-	-	wh-yl & or-rd mottled f clayey & silty qtz sand								
	5.0					"	-	-	"								
	5.5					wh-yl/pk	-	-	wh-yl & pk f silty qtz sand	↓							
	6.0				* C4	yl-rd/wh	-	-	yl-rd & wh mottled & banded sandy clay	(RED) & WHITE SANDY CLAY			P	3-5	10-25	1-6	
	6.5					wh/yl/red	-	-	wh, yl & rd mottled sandy clay, poss <5% qtz?	WH & RED SANDY CLAY			VP	25	5-15	-	
	7.0				* C5	(wh)/mv-rd	-	-	"	↓			VP	25	5-15	-	
	7.5					yl-rd-mv	-	-	yl-rd-mv silty clay, min micaceous, pebb with rd sh b/r	YL-RD-MV SILTY CLAY			VP	30	5-15	-	
	8.0					(wh)/mv-yl-rd	-	-	mv-yl-rd silty clay, min whaly veinlets, micaceous, with sh b/r	(WITH SH B/R)			VP	25	5-15	-	
	8.5				* C6	mv-yl-rd/wh	-	-	" & wh (silty) clay	WHITE SILTY CLAY			P	5	5-15	-	
	9.0					mv-yl-rd	-	-	mv-yl-rd silty clay, min ar & yl mottled with st	MV-YL-RD SILTY CLAY							
	9.5					wh/yl-rd	-	-	wh & yl-rd mottled silty clay ^{subord} v. f qtz sand - with sh	(WITH SH B/R)							
	10.0					yl/yl-rd	-	-	yl-rd silty clay, min v. f qtz sand, with shale b/r								
	10.5					"	-	-	"								
	11.0				C7	yl-pk-rd	-	-	yl-pk-rd silty clay, min ^{with P sh} yl & rd mottling, with sh b/r								
	11.5					"	-	-	"								
	12.0					"	-	-	"								
	12.5					"	-	-	"								
12.5	13.0					"	-	-	rd-pk silty clay, common f qtz sd, with sandy sh b/r	↓							
										EOH Too hard to bore							
										Under suitable leaching conditions, clay would be a suitable kaolin source.							

Sheet laterite plateau, at break of slope, well drained

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem.Sec.	Assay					
				Drill	Compos.						qualit	color	g%	cent		
0.0	0.5			Airlift	c1	bn	w	-	bn silty f-med qtz sd, subord dk bn loose fest med	LOOSE IRONSTONE						
	1.0					yl/bn	w	-	bn fest nod in yl & bn clayey sand matrix	MASSIVE IRONSTONE						
	1.5				c2	(tr rd)/wh/yl	-	-	wh & yl mottled sand-clay, f qtz sand	MOTTLED CLAY-SAND						
	2.0					"	-	-	"							
	2.5					wh/rd/yl	-	-	yl, rd & wh mottled clay-sand, f-med qtz sand							
	3.0				c3	"	-	-	"							
	3.5					(yl)/pk-rd	-	-	yl & pk-rd mottled clay-sand, f-med qtz sand	↓						
	4.0				* c4	(tr pk-rd)/wh	-	-	(pk) & wh (sd) clay, min qtz sand	WHITE SANDY CLAY	P-M	2	10-20	-		
	4.5					pk-rd	-	-	pk-rd sand-clay, f-med qtz sand, min whtyl	PINK-RED SAND-CLAY						
4.5	5.0			↓	c5	(tr wh)/pk-rd	-	-	"	↓						
									EDH Sand-clay							
									Surface laterite too hard to auger drill, damp clay at 5.5m prevents airlift.							
									Good leaching situation, & good clay development, a hole should be drilled 100m - 200m south downslope, where the indurated laterite will probably be absent.							

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift
Hole No: KI 53 Location: 6031000 N 676900 E Angle: vert Azimuth: - Collar R.L.: ~ 248 m Total Depth: 16.0 m Date: 22-3-79

094

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
From	To			Drill	Compos.						qualit	color	qtz	kaol			
0.0	0.5			Airlift		br-yl	m	-	loose dk rd-br fest nod in br-yl qtz sd matrix	LOOSE IRONSTONE							
	1.0				c1	yl-br	m	-	dk rd-br nodular fest, br silty sand matrix	MASSIVE IRONSTONE							
	1.5					(wh)/yl/rd	-	-	yl-rd silty sand, subord dk rd fest nod	SILTY SAND - IRON							
	2.0					(yl)/pk-rd	-	-	pk-rd clay-sand, f-med qtz	PINK & WHITE CLAY SAND							
	2.5					(pk)/wh	-	-	(pk) & wh clay-sand, f-med qtz						VP	60	60
	3.0			Auger	c2	wh/rd-pk	-	-	wh & pk						P	5-10	60
	3.5					rd-ph/wh	-	-	rd-pk & wh mottled sand-clay, f-med qtz						VP	15	40
	4.0					(rd-pk)/wh	-	-	(rd-pk) & wh mottled clay-sand, f qtz						P	10	60
	4.5					wh	-	-	wh clay-sand, f-med qtz, possibly extractable clay	WHITE CLAY SAND					M	1-2	70
	5.0				* c3	"	-	-	"						M	1-2	70
	5.5					"	-	-	"						G	1	70
	6.0					"	-	-	"						G	1	70
	6.5					(tr-yl-pk)/wh	-	-	(tr-yl-pk) & wh clay-sand, f (-med) qtz, clayey sand	(PINK) & WHITE CLAY SAND					P	2	70
	7.0				* c4	"	-	-	" clayey sand	(PINK) & WHITE CLAY SAND					P	2	75
	7.5					"	-	-	(tr-yl-pk) & wh clayey, f (-med) qtz sand						-	2	80
	8.0					(tr-pk)/wh	-	-	"						-	2	80
	8.5					"	-	-	(pk) & wh clayey f-med qtz sand, mottled & banded						-	2	80
	9.0					"	-	-	"						-	2	80
	9.5				* c5	"	-	-	"						-	2	80
	10.0					"	-	-	"						-	2	85
	10.5					"	-	-	"						-	2	85
	11.0					"	-	-	"						-	2	85
	11.5					"	-	-	"						-	2	85
	12.0					(tr-yl-pk)/wh	-	-	" min yl mottling						-	2-3	85
	12.5					yl/wh	-	-	yl-wh clayey f (-med) qtz sand, prob with sst b/r	YELLOW-WHITE SAND							
	13.0					(pk)/wh-yl	-	-	"								
	13.5					(pk)/yl-wh	-	-	"								
	14.0				c6	"	-	-	" yl-gn mottling								
	14.5					(pk)/gn-yl-wh	-	-	wh-yl-gn clayey f-med qtz sand, prob with sst b/r	WH-YL-GN SAND (WITH SST B/R)							
	15.0					"	-	-	"								
	15.5					wh-yl-gn	-	-	"								
15.5	16.0					"	-	-	" prob subord qtz								
EOM									Sandstone bedrock								

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift AugerHole No: KI 55 Location: 6046150 N 693750 E Angle: vert Azimuth: - Collar R.L.: -206m Total Depth: 17.0m Date: 23-3-79

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay										percent	
From	To			Drill	Compos.						g	qualit	color	qtz	lim							
0.0	0.5			Airlift	c1	yl	m	-	yl silty f - cgs qtz sand, subord loose fest nod	SAND - IRON												
	1.0					(wh)/rd/yl	-	-	rd + yl mottled clayey & silty f qtz sand, ^{+ wh clay} min yla	YELLOW SAND												
	1.5				c2	wh/dkrd	-	-	wh + dkrd mottled f sandy clay	RED + WHITE SANDY CLAY												
	2.0					"	-	-	" becoming sand-clay													
	2.5					dkrd/gg-wh	-	-	rd + wh sandy clay	↓												
	3.0					pk/wh	-	-	pk + wh mottled f-med silty sand	PINK + WHITE SILTY + CLAYEY SD												
	3.5					"	-	-	"													
	4.0				c3	wh/pk-rd	-	-	wh + pk-rd mottled clayey & silty f-med qtz sd, ^{subang - subrd}													
	4.5					(wh)/rd	-	-	"													
	5.0			↓		wh/pk	-	-	" main yl mottling	↓												
	5.5			Auger		pk-yl-wh	-	-	pk-yl clayey & silty f-med qtz sand	PINK-YELLOW SILTY SAND												
	6.0					"	-	-	" decreased clay													
	6.5				c4	pk-yl	-	-	pk-yl silty f-med qtz sand													
	7.0					wh/pk-yl	-	-	" main yl mottling, coarse ^{grained}													
	7.5					"	-	-	wh + pk-yl mottled silty, subang - subrd, f-med qtz sd	↓												
	8.0					wh/pk	-	-	pk + wh f-med qtz sand	PINK + WHITE SAND												
	8.5				c5	"	-	-	"													
	9.0					pk/wh	-	-	" subang - subrd qtz	↓												
	9.5					tr pk/wh	-	-	wh, (subang -) subrd f-med qtz sand	WHITE SAND												
	10.0					"	-	-	"													
	10.5					"	-	-	"													
	11.0					"	-	-	"													
	11.5				c6	"	-	-	"													
	12.0					"	-	-	" min clay & silt													
	12.5					"	-	-	"													
	13.0					"	-	-	wh, subang - subrd, f(-med) qtz sand													
	13.5					"	-	-	"	↓												
	14.0				*c7	"	-	-	wh, f-med qtz sand & clay	WHITE CLAY-SAND												
	14.5					gg-yl-wh	-	-	gg-yl-wh silty, subang - subrd, f-med quartz sand ^(with sst b/c?)	GN-YL-WH SAND												
14.5	15.0			1	c8	"	-	-	" tending to clayey sd	1												

M 1-2 65 -

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger

Hole N^o: KI 55 Location: 8046150N 193750 E Angle: vert Azimuth: — Collar R.L.: ~ 206 m Total Depth: 17.0 m Date: 23-3-79

metres

Localized laterite plateau, common ironstone float, very well drained

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger
Hole No: KI 56 Location: 6043650 N 687550 E Angle: vert Azimuth: - Collar R.L.: ~ 205 m Total Depth: 17.5 m Date: 24-3-79

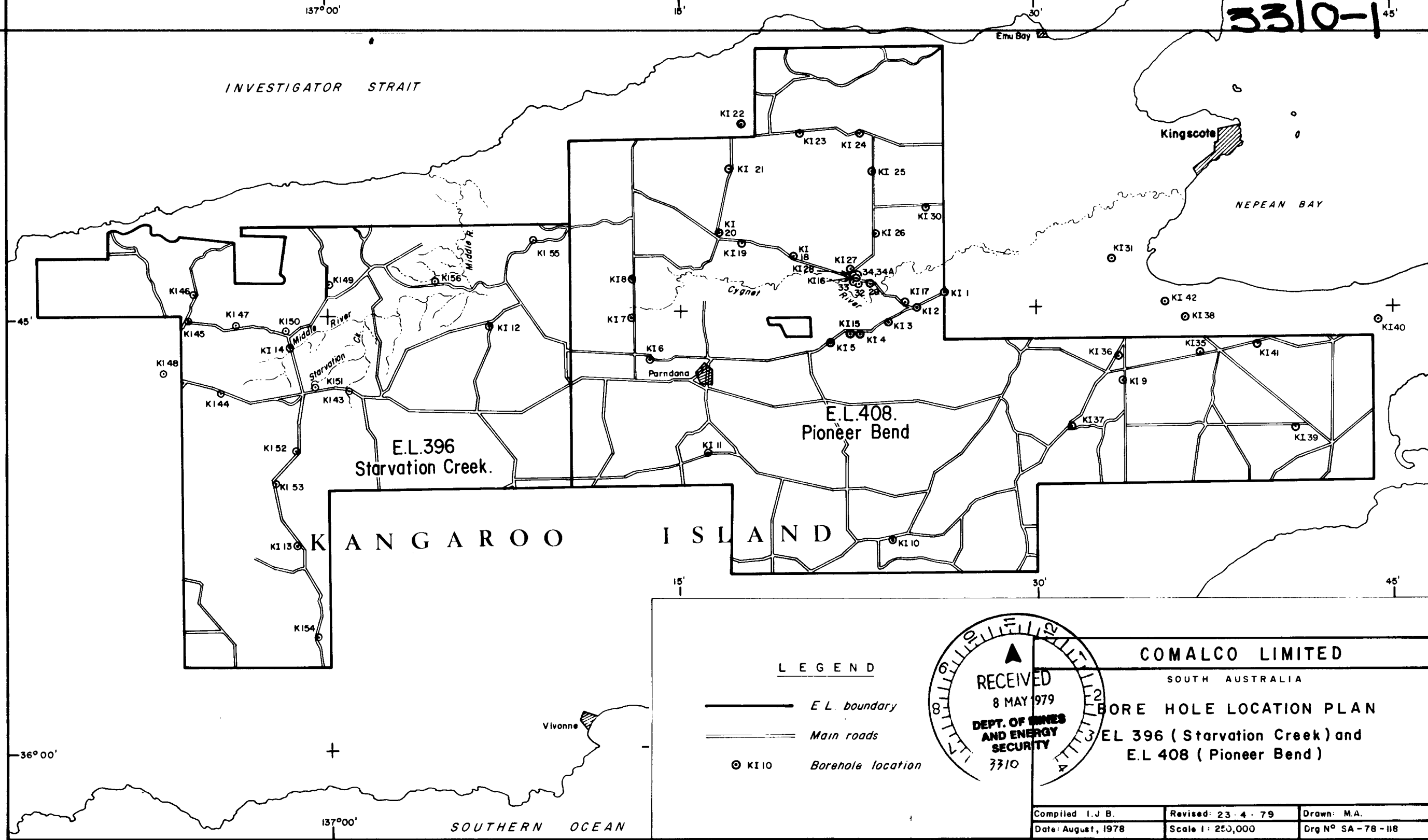
Borrow pit, loose and massive nodular ironstone, small plateau, well drained

EXPLORATION DEPARTMENT DRILLING LOG.

Borrow pit, loose and massive nodular ironstone, small plateau, well drained

[illegible]

3310-1



LEGEND

- E.L. boundary
- Main roads
- ⊙ KI 10 Borehole location



COMALCO LIMITED

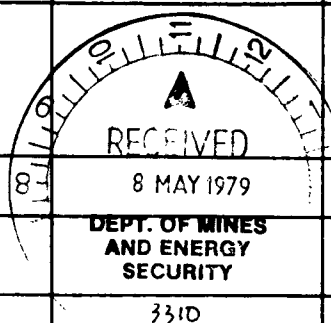
SOUTH AUSTRALIA

BORE HOLE LOCATION PLAN
EL 396 (Starvation Creek) and
E.L 408 (Pioneer Bend)

Compiled I.J.B.	Revised: 23.4.79	Drawn: M.A.
Date: August, 1978	Scale 1: 250,000	Dwg N° SA-78-118

3310-2

Hole No	OVER BURDEN		MOTTLED ZONE					PALLID ZONE		WEATHERED BEDROCK		FRESH BEDROCK		TOTAL DEPTH	WATER TABLE	BAUXITE POTENTIAL	KAOLIN POTENTIAL	REMARKS
	Quaternary sand	"Loose" ironstone -sd-clay	Yellow (sandy) clay	White & red (sandy) clay	Mottled (clay) & sand	(Kaolin bearing white, clay/sand)												
KI 1														5.0	5.0	negative, truncated profile	POOR, since sst b/r	prob with sst b/r
KI 2								5.0+	wh-yl clay-sand	3.0+	vl-wh formed qtz sst			3.0	1.0	"	POOR, since sst b/r	def sst b/r
KI 3								9.0+	3.0-5.0 wh clay -sd 50-90 wh kaolin					9.0	-	"	GOOD, 6.0m of kaol & wh clay sd	kaolinized sst b/r
KI 4														2.0	0.5	"	untested, but sand free clay	re-drill to deepen
KI 5														1.5	0.5	negative, truncated profile	"	re-drill to deepen
KI 6								2.0	clayey qtz sand	5.0+	kaol qtz sst			5.0	-	"	GOOD, 4.0m of kaol qtz sd	re-drill to deepen
KI 7			1.0	loose fest in sd-clay mat				1.5+	(yl,wh) &rd clay					1.5	1.5	"	untested, but sand free clay	redrill to deepen
KI 8								2.0+	wh & rd clay					2.0	-	"	untested " " " "	re-drill to deepen
KI 9	1.5	aeol beach sd, calc												2.0	-	"	untested	re-drill to deepen
KI 10	0.5	beach sand						1.5+	yl clay					1.5	-	negative, truncated profile	untested, but sand free clay	re-drill to deepen
KI 11								0.5	yl clay,min fest	1.5	yl,rd &wh sd clay			5.5	5.5	"	MOD, kaol assoc c sst b/r	re-drill to deepen
KI 12			0.5	loose fest & sd-clay				1.0	yl clay,min incip rd fest					6.5	-	"	GOOD,E.O.H. is 0.5m pure kaolin	definite re-drill
KI 13			1.0	loose fest & yl sd-clay				1.5	yl,rd &wh sd clay	3.5	rd & yl mottl clayey sd			6.5	-	"	POOR, min kaol in sst	prob sst b/r
KI 14			0.5	sd soil & loose fest										2.0	-	"	POOR poss 30% kaol in sst	sst b/r
KI 15			1.0+	yl clay-fest,subord sd										4.0	-	negative, truncated profile	untested	in situ fest clay
KI 16			0.5	fest,clay & sd				1.0	yl clay					1.0	-	"	GOOD, good yield, poor bright	discovery clay hole
KI 17								3.0	rd & yl mottl silty sd	18.0	3.0-6.5 kaol qtz sd. 6.5-18.0 kaolin	19.0+		19.0	-	"	GOOD, good yield, poor bright	discovery clay hole
KI 18								1.0	rd & wh clay					2.5	-	"	untested	re-drill to deepen
KI 19			0.5	sd,clay & fest				0.5	yl clay,v.min fest					3.0	-	"	POOR, 2.5m kaolin	phyllite b/r
KI 20			0.5	sd,clay & fest				1.0	yl clay & fest	1.5	rd & wh clay			12.0	-	"	POOR, 3.5m wh sd clay	sst b/r
KI 21			0.5	yl clay-sd & fest				1.0	yl sd & clay	4.5	(wh,yl) & rd clay			12.0	-	negative, truncated profile	POOR, 7.5m wh sd clay	sst b/r
KI 22			0.5	yl sd clay & fest				1.0	yl clay	3.0	rd & wh clay			6.5	-	"	POOR, 1.0m wh sd clay	poss sst b/r
KI 23			0.5	yl sd clay & fest				0.5	yl sd clay, min fest	2.5	(rd) & wh sd clay			3.5	3.5	"	VERY GOOD, 1.0m wh kaol	definite re-drill
KI 24			0.5	yl sd & clay, loose fest				1.5	yl clay	2.5	rd & wh sd clay	4.0	(rd) & wh clay-sd	4.5	-	"	GOOD, 0.5m wh clay-sd	re-drill to deepen
KI 25			0.5	yl clay-sd & loose fest				1.0	yl clay	4.5	1.0-2.0 yl,rd & wh clay 2.0-4.5 yl,rd &wh clay			9.5	-	"	POOR, 1.0m wh sd clay	-
KI 26			0.5	yl sd-clay,loose fest				1.0	yl clay	3.5	rd & wh clay			8.0	-	"	POOR, 4.5m wh sd-clay	-
KI 27			0.5	yl wh sd & loose fest				1.0	yl clay					2.5	-	negative, truncated profile	NONE, sst b/r	sst b/r



KANGAROO ISLAND DRILL HOLE SUMMARY

3310-2

Page two

all depths to base of horizon

Table I

OVERBURDEN																		MOTTLED ZONE										PALLID ZONE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</	
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KANGAROO ISLAND DRILL HOLE SUMMARY

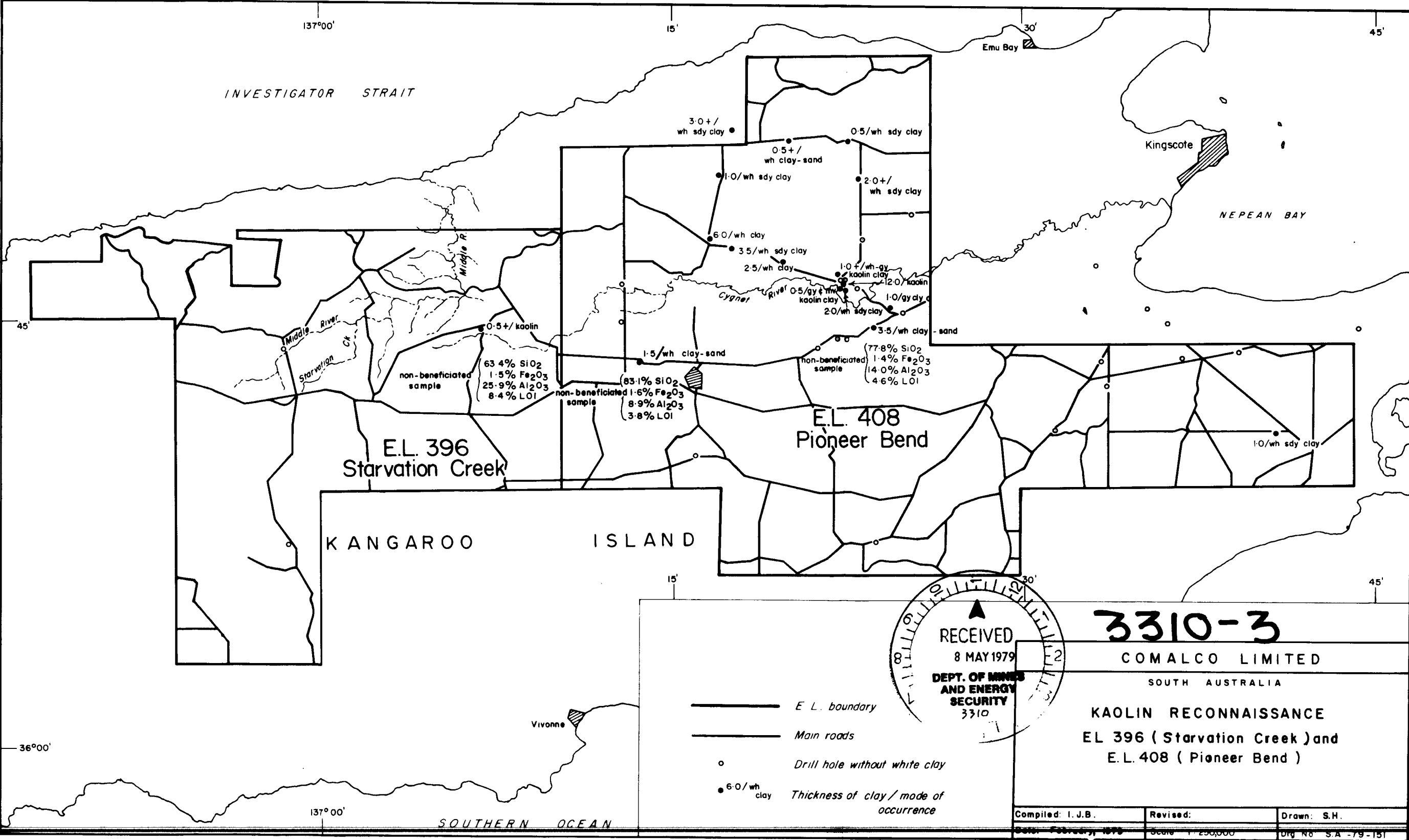
Page three

all depths to base of horizon

Table I

3310-2

Hole No.	OVER BURDEN		MOTTLED ZONE					(Kaolin bearing) white clay/sand	WEATH. BEDROCK	FRESH BEDROCK	TOTAL DEPTH	WATER TABLE	BAUXITE POTENTIAL	KAOLIN POTENTIAL	REMARKS			
	Quaternary Sand	"Loose" Ironstone-sd-clay	yellow(sandy) clay	White & Red(sdy) clay	Mottled (Clay) & Sand													
KI 48		1.0	ferrug sd & fest			3.5	wh & yl silty sd & sdy clay	4.0	wh sdy clay	14.5+	4.6-5.0 rd & wh sdy clay 5.0-10.0 yl silty sd 10.0-14.5 (gn)-yl silty sd	14.5	4.5	negative truncated profile	V.POOR, 0.5m wh sdy clay	sst b/r		
KI 49		0.5	sd & fest	1.5	rd & yl sdy clay		7.5	(wh) & yl silty & clayey sd	12.0	7.5-9.5 wh clay-sd 9.5-12.0 wh clayey silty sd	23.0+		5.0	"	V.POOR 2.0m wh clay-sd	sst b/r		
KI 50		0.5	sd & fest				8.0	pk yl & wh silty sd	11.0	(pk-yl) & wh clayey & silty sd	23.0+	11.0-17.5 mv silty sd (sst) 17.5-23.0 yl silty sd (sst)	23.0	5.0	negative, truncated profile	V.POOR, 0.5m (pk-yl) & wh clay-sd	sst b/r	
KI 51		1.0	fest & sd				8.0	10-55 wh, rd & yl silty sd 5.5-8.0 yl, wh & rd sdy clay	8.5	wh silty clay	13.0+	mv-yl-rd silty clay (sh)	13.0	4.0	"	V. POOR 0.5m wh clay	sh b/r	
KI 52		1.0	0.0-0.5 sd & fest 0.5-1.0 mass bn & yl fest				3.5	wh, rd & yl mott. clay-sd	4.0	wh sdy clay	5.0+	pk-rd sd-clay, poss sst b/r	5.0	5.0	"	V.POOR, 0.5m sdy clay	(shaley) sst b/r?	
KI 53		1.0	0.0-0.5 sd & fest 0.5-1.0 mass yl-bn fest				4.0	pk & wh clay-sd	12.0	(pk) & wh clayey sd	16.0+	12.0-14.0 yl-wh sd (sst) 14.0-16.0 wh-yl-gn sd	16.0	3.0	"	V.POOR, 2.0m wh clay-sd	sst b/r	
KI 54		0.5	sd & fest	1.0	yl clay	2.5	rd sdy clay		4.5	(pk) & gy-wh silty sd	5.5+	pk, yl & wh sd (sst)	5.5	3.0	"	NEGATIVE, no clay	sst b/r	
KI 55		0.5	sd & fest	1.0	yl clayey & silty sd	2.5	rd & wh sdy clay	9.0	pk, wh & yl silty sd	14.0	wh sd	17.0+	14.0-16.0 gn-yl-wh sd (sst) 16.0-17.0 yl & wh sd (sst)	17.0	5.5	negative, truncated profile	V. POOR, 0.5m wh clay - sd	sst b/r
KI 56		2.0	0.0-0.5 sd & fest 0.5-2.0 mass fest & sd			3.0	wh & rd clay-silt	13.0	wh, rd & yl mottl silty sd		17.0+	gn-yl sd (sst)	17.5	7.0	negative, massive ironstone	NEGATIVE, no clay	sst b/r	

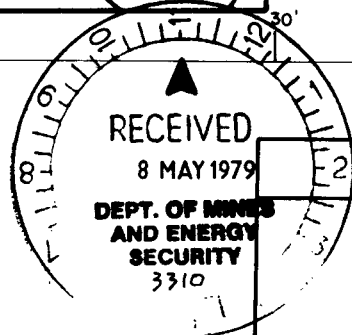


E.L. 396
Starvation Creek

E.L. 408
Pioneer Bend

KANGAROO ISLAND

- E.L. boundary
- Main roads
- Drill hole without white clay
- 6.0 / wh clay Thickness of clay / mode of occurrence



3310-3

COMALCO LIMITED
SOUTH AUSTRALIA

KAOLIN RECONNAISSANCE
EL 396 (Starvation Creek) and
E.L. 408 (Pioneer Bend)

Compiled: I.J.B.	Revised:	Drawn: S.H.
Date: February, 1978	Scale: 1:250,000	Org No: S.A. - 79-151

3310-4

Equipment: Bison signal enhancement seismograph model 1570 B.

Summary of seismic results:

m/sec	metres	lithology
V1 = 316	d1 = 3.0	loose, dry sand
V2 = 1918	d2 = 27.0	compacted sand, below water table
V3 = 1843		compacted sand, below water table

Location: Centred on drill hole K142, at same topographic height sand flats in down-faulted Cygnet River basin, approximately 1 km north of Cygnet Fault scarp.

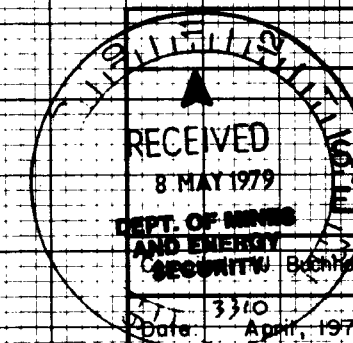
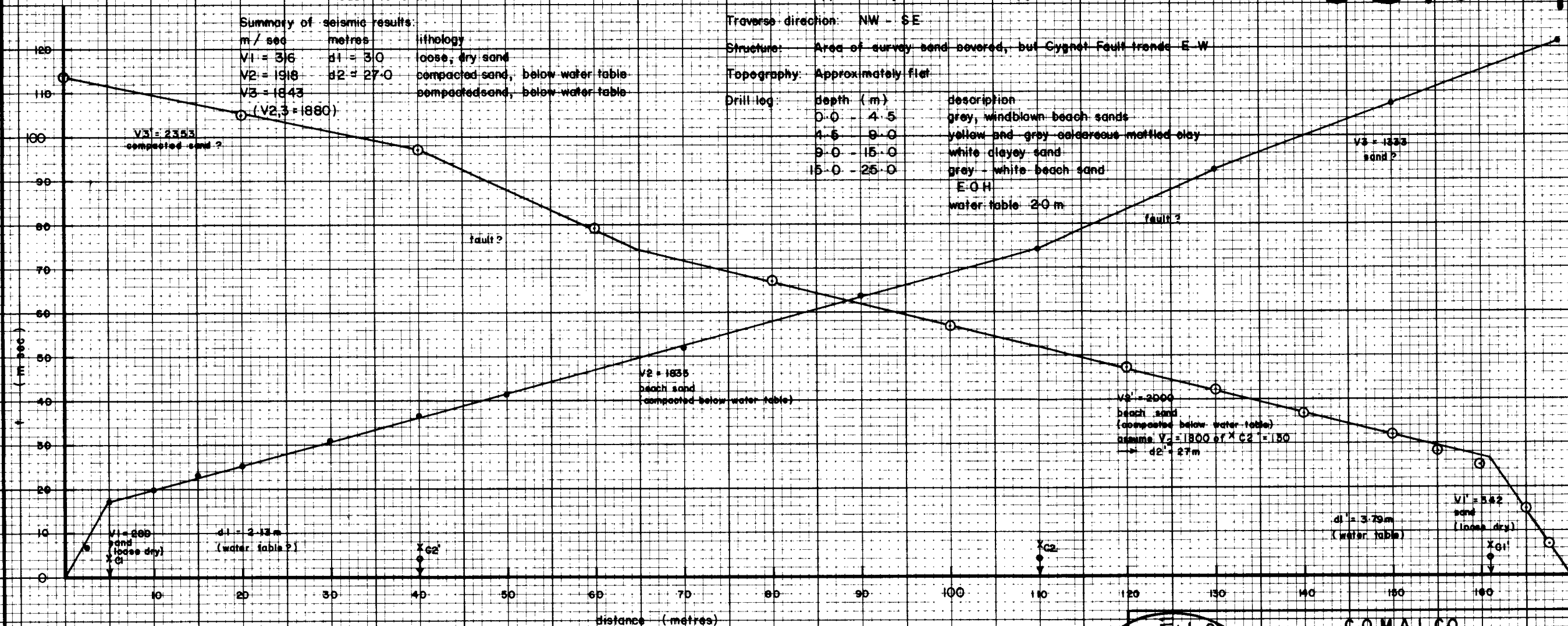
Traverse direction: NW - SE

Structure: Area of survey sand covered, but Cygnet Fault trends E-W

Topography: Approximately flat

Drill log:

depth (m)	description
0.0 - 4.5	grey, windblown beach sands
4.5 - 8.0	yellow and grey calcareous mottled clay
8.0 - 15.0	white clayey sand
15.0 - 25.0	gray-white beach sand
	E.O.H.
	water table 20 m



COMALCO
SOUTH AUSTRALIA
KANGAROO ISLAND
SEISMIC TRAVERSE I
EL. 408 (Pioneer Bend)

Revised:	Drawn: S. Hutchison
Scale: 1:1000	Drp. No: SA-79-155

Equipment Bison signal enhancement seismograph model 1570 B

Summary of seismic results:

m/sec metres
V1 = 854 d1 = 8.6
V2 = 1407 d2 = 27.0
V3 = 2515

lithology
loose dry silty sand
sand (highly weathered quartzite b/r)
weathered sandstone
quartzite bedrock

Location Centred on drill hole K138 (approximately 3m below collar height)
Directly on Cygnet fault escarpment, NW of traverse is mottled red and yellow fine silty sand, S.E. of traverse is loose, transported nodular ironstone

Traverse direction: NW SE

Structure Cygnet Fault trends E-W

Topography From 0 (NW) to 110m, approx 2.5 m increase along a gentle hill.
From hill crest, approx 1.0 m decrease to 180 m (SE)

Drill log

depth (m)	description
0-0 - 1.0	loose ironstone nodules, in quartz sand matrix
0 - 3.5	mottled red and yellow sand clay
3.5 - 15.0	yellow quartz sand (highly weathered bedrock?)

E Q H

water table (moist ground) approx. 11.5 m

V2' = 1250

sand (below water table)

d2' = 20.0 m

(with quartzite b/r interface?)

V3 = 2000

(weathered?) quartzite bedrock

V3' = 3030
quartzite bedrock

V2 = 1563

sand (below water table)

d2 = 24.0 m

(with quartzite b/r interface?)

V1 = 938

silty sand (loose dry)

d1 = 8.7 m

(water table?)

X C1

X C2

X C2'

X C1'

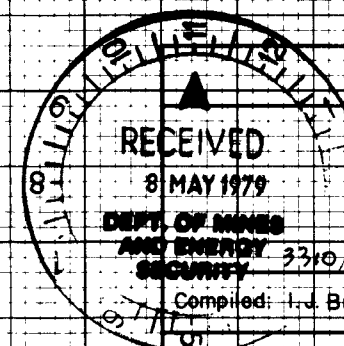
V1' = 769

d1' = 8.4 m

Loose nodular transported soil
overlying loose and dry silty sand

distance (metres)

3310-5



COMALCO
SOUTH AUSTRALIA
KANGAROO ISLAND

SEISMIC TRAVERSE 2
E.L. 408 (Pioneer Bend)

Compiled: I. J. Buchhorn

Revised:

Drawn: S. Hutchison

Date: April, 1979

Scale: 1:1000

Dwg. No: SA-79-156

Equipment: Bison signal enhancement seismograph
model 1570 B

Summary of seismic results

m/sec	metres	lithology
V1 = 317	d1 = 1.6	clay
V2 = 1279	d2 = 7.6	sand (highly weathered quartzite bedrock)
V3 = 3671	d3 = 21.1	weathered quartzite bedrock
V4 = 5060		fresh quartzite bedrock

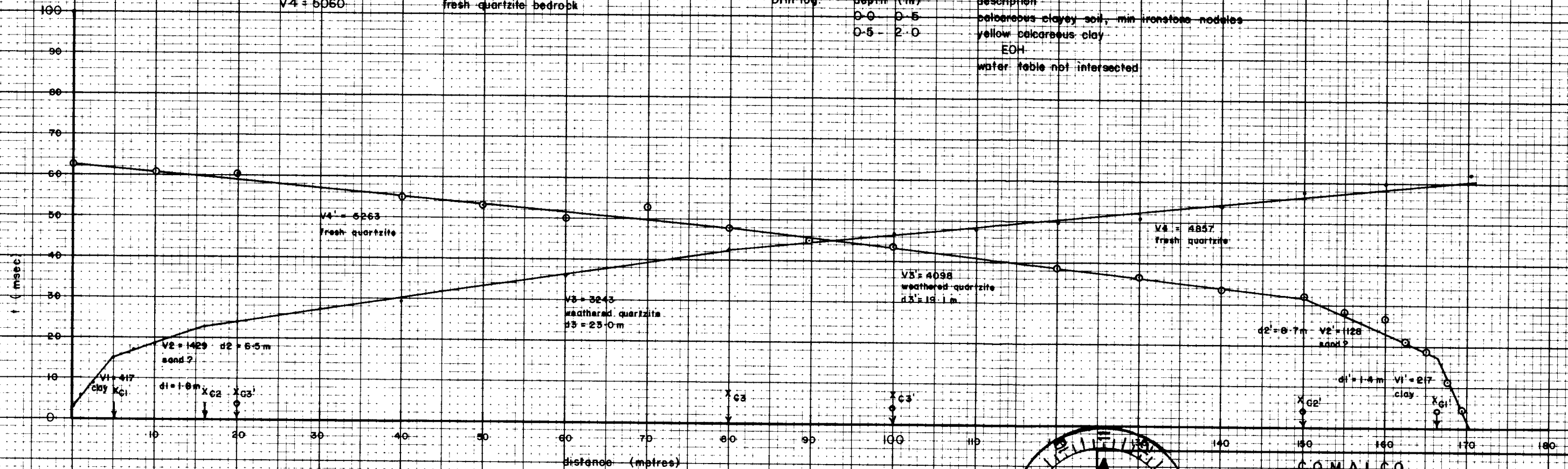
Location: Centred on drill hole K135, on plateau surface 2.5 km south of
Cygnet Fault escarpment. Entire traverse sand covered.

Traverse direction: W - E

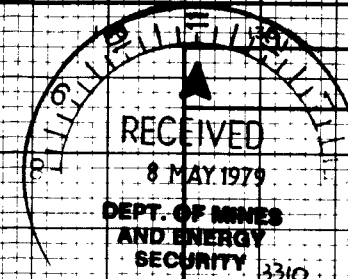
Structure: Cygnet Fault trends E-W, layering within sub-outcropping
meta-quartzites inferred to trend E-W

Topography: Approximately flat

Drill log:	depth (m)	description
	0-0	0.5
	0.5	2.0
		yellow calcareous clay
		EOH
		water table not intersected



3310-6



COMALCO
SOUTH AUSTRALIA
KANGAROO ISLAND
SEISMIC TRAVERSE 3
E.L. 408 (Pioneer Bend)

Compiled: J. J. Buchhorn	Revised:	Drawn: S. Hutchison
Date: April, 1979	Scale: 1:1000	Drq No: SA-79-157

Equipment: Bison signal enhancement seismograph model 1570 B

Summary of seismic results

m/sec	metres	ithology
V1 = 347	d1 = 1.6	surficial clay
V2 = 2681	d2 = 12.2	weathered quartzite (above w.t.)
V3 = 4557		fresh qtzite bedrock

Location: Centred on drill hole K141, on plateau surface 2-8 km south of Cygnet Fault escarpment. Entire traverse sand covered.

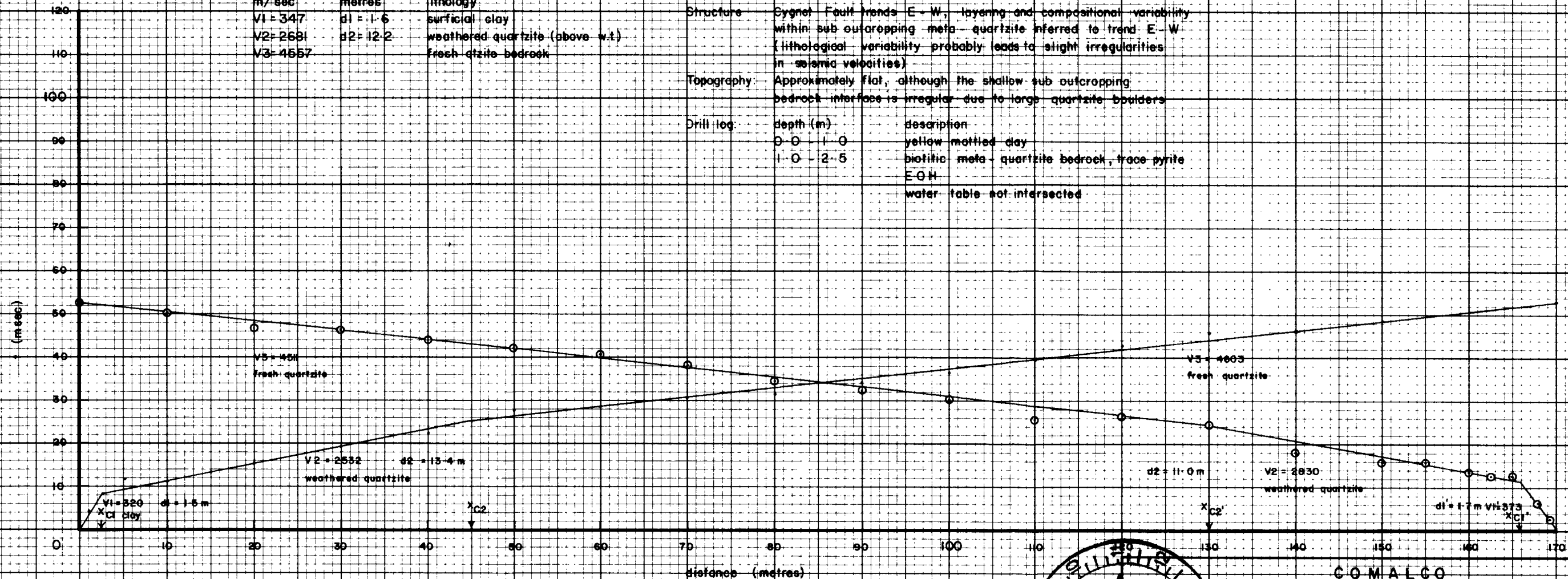
Traverse direction: W - E

Structure: Cygnet Fault trends E - W, layering and compositional variability within sub outcropping meta-quartzite inferred to trend E - W (lithological variability probably leads to slight irregularities in seismic velocities)

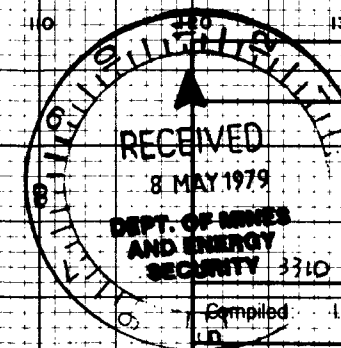
Topography: Approximately flat, although the shallow sub outcropping bedrock interface is irregular due to large quartzite boulders

Drill log:

depth (m)	description
0-0 - 1-0	yellow mottled clay
1-0 - 2-5	biotitic meta-quartzite bedrock, trace pyrite EOH
	water table not intersected



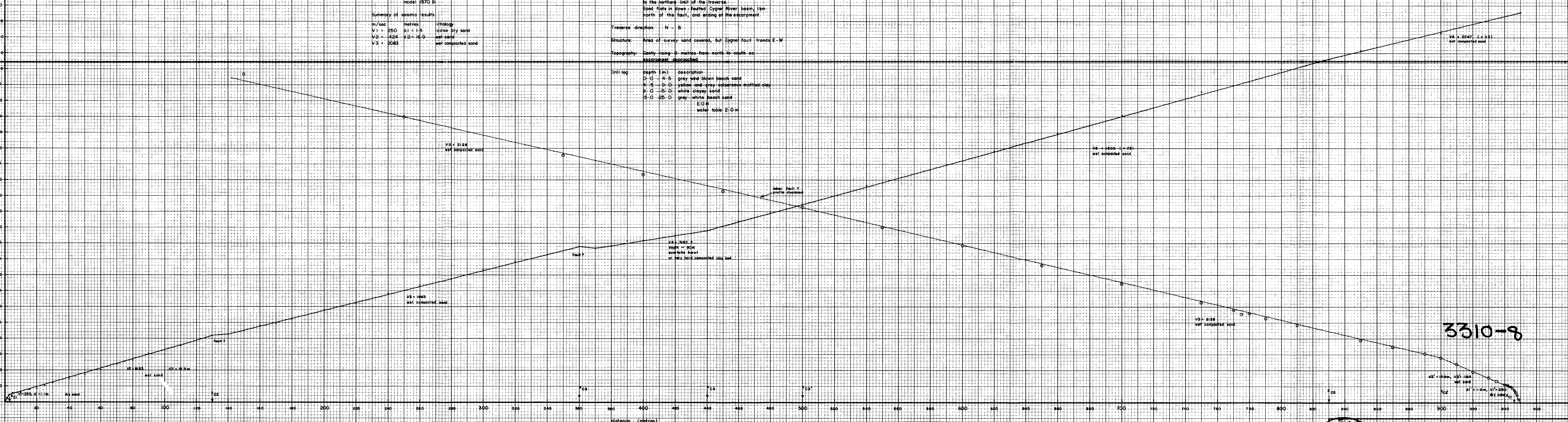
3310-7



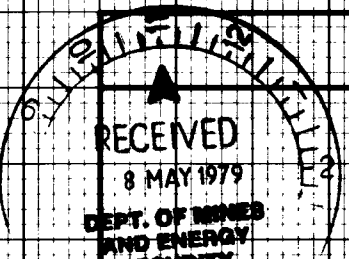
COMALCO
SOUTH AUSTRALIA
KANGAROO ISLAND
SEISMIC TRAVERSE 4
E.L.408 (Pioneer Bend)

Compiled by: J. Buchhorn	Revised:	Drawn: S. Hutchison
Date: April, 1979	Scale: 1:1000	Drg. No: SA 79-158

V (m/sec)



3310-8

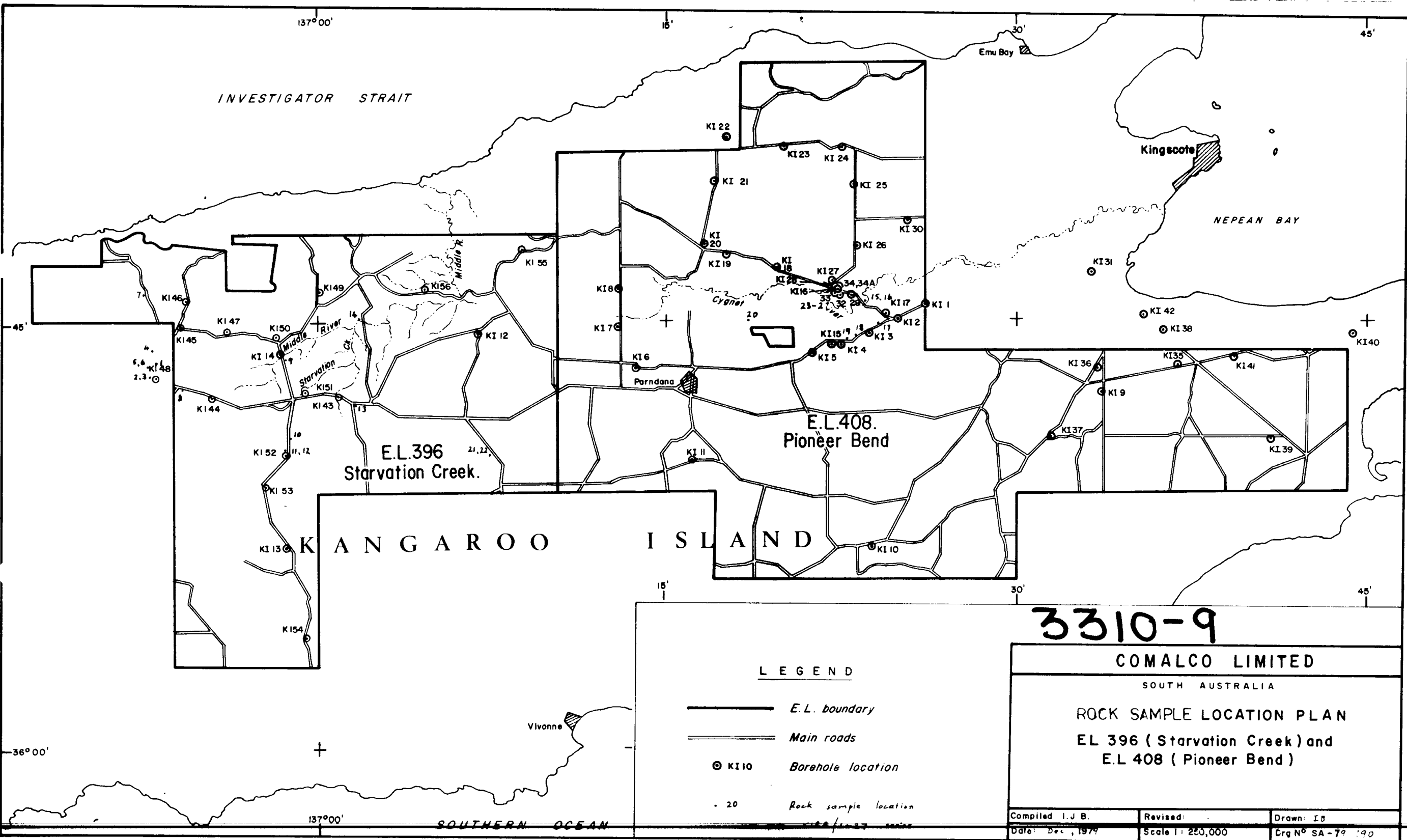


COMALCO
SOUTH AUSTRALIA
KANGAROO ISLAND
SEISMIC TRAVERSE 5
E.L. 408 (Pioneer Sand)

Compiled: F. J. Buchhorn
Date: April, 1979

Revised:
Scale: 1:1000

Drawn: S. Hutchison
Drg No: SA - 79 - 159



LEGEND

- E.L. boundary
- == Main roads
- KI 10 Borehole location
- 20 Rock sample location

3310-9

COMALCO LIMITED

SOUTH AUSTRALIA

ROCK SAMPLE LOCATION PLAN
EL 396 (Starvation Creek) and
E.L 408 (Pioneer Bend)

Compiled I.J.B.	Revised:	Drawn: I.B.
Date: Dec., 1979	Scale 1: 250,000	Crg No SA-79 190

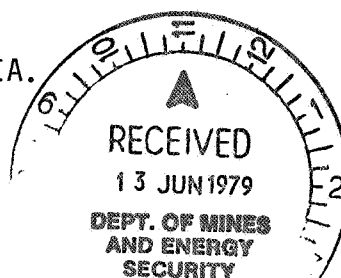
EXPLORATION LICENCE 408

Quarterly Report
for the period 7.3.79 - 7. 6.79

I.J. Buchhorn

COMMONWEALTH ALUMINIUM CORPORATION LIMITED,
Regional Exploration Office,
10 Hampton Road,
Keswick,
ADELAIDE. S. AUSTRALIA.

June, 1979.



EXPLORATION LICENCE 408

Quarterly Report for the period 7.3.79 - 7.6.79

No field work was carried out in Exploration Licence 408 for the quarter ending 7.6.79.

Analytical work on drill samples is in progress at Comalco Research Centre, Melbourne. Preliminary results indicate that Fe_2O_3 contents of the clays are too high for them to be suitable as filler or coating grade products.

Geochemical results were received for end of hole drill samples. The samples are generally from the pallid zone or weathered bedrock, and in some cases, show evidence of lateritic enrichment (high Co, Cr, Ni and V background). There are no base metal results of any interest. Maximum values were 110 ppm Cu, 90 ppm Pb, 150 ppm Zn and 300 ppm Ni. In all cases, higher values were associated with Fe values exceeding 3.0%, and would appear to be scavenging effects.

The only work remaining to be done in Exploration Licence 408 is the compilation of a final report. This will not be possible until all clay analyses are available. The low iron bauxite and base metal targets mentioned in earlier reports are not on their own of sufficient potential to warrant retention of the licence.

STATEMENT OF EXPENDITURE

102

E. L. 396 and E. L. 408

7.3.79 - 7. 6.79

Geological:

(a) literature searches kaolin, low iron bauxite	130.00
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Drilling:

(a) modification of equipment (Florance Diesel Service)	338.00
(b) drill bits (E.J. & F.M. Thomas Pty. Ltd, Perth)	135.00
(c) mobilisation from Kingscote to Adelaide	66.00
(d) maintenance, fuel	170.00
(e) analytical costs - Comalco Research Centre	6550.00
(f) analytical costs - AMDEL	358.00

Logistics:

(a) geologists' salaries (38 days @ \$130.00 per day)	4940.00
(b) field assistants' salaries (39 days @ \$70.00 per day)	2730.00
(c) contract seismic assistants	105.00
(d) accommodation (K.I. Holiday Village)	360.00
(e) airfares, Kingscote - Adelaide	235.00
(f) vehicles, maintenance etc. (4250 km @ \$0.45 km)	1912.00
(g) equipment, supplies	702.00
(h) report compilation, drafting	910.00

Depreciation:

(a) Gemco 210B with airlift adaptor, rods	625.00
(b) Bison seismograph	50.00

Administration	<u>1016.00</u>
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TOTAL:	<u>\$21332.00</u>
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Expenditure attributable to E.L. 408	\$10666.00
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E.L. 408 - accumulative expenditure, first year of tenure	\$25696.50
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E.L. 408 - annual expenditure commitment	\$40000.00
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FINAL REPORTE.L. 408 - Pioneer Bend

by A.H. WHITE

Chief Geologist

COMMONWEALTH ALUMINIUM CORPORATION LTD.

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FINAL REPORT - E.L. 408

INTRODUCTION

Exploration Licence 408 (Fig. SA-78-118) was taken up to assess the potential for bauxite and low iron bauxite to occur in the eastern part of Kangaroo Island. The basis of the search was the hypothesis that Kangaroo Island may be analogous to south western W.A., where bauxite occurs beneath an ironstone capping in the upper part of a Tertiary laterite profile preserved on upthrown blocks east of the Darling Fault. Most of Kangaroo Island is an upthrown block, south of the Cygnet Fault, and remnants of a laterite profile were known on the island.

Handwritten: Mesozoic (Jurassic)
Kangaroo Island is comprised mainly of arenaceous and argillaceous low grade metamorphics belonging to the Cambrian Kanmantoo Group, with some Adelaidean metamorphics and Palaeozoic granites (see Sprigg, 1953). Minor outliers of Permian occur in the northern part of the island near Kingscote (Fig. SA-78-118), where late Cainozoic basalts also occur. The Cygnet Fault, the most prominent structural feature of the island, is a normal fault with north block down thrown, trending east-west approximately 10 km south of Kingscote. The Adelaidean and early Palaeozoic rocks are commonly deeply weathered, and a lateritic weathering profile believed to be mid-Tertiary in age, is preserved over a wide area of the island. The complete profile is comprised, from base to top, of a pallid clayey zone overlying highly weathered bedrock, overlain by a mottled zone consisting of pallid clay with ironstone (hematite and limonite) mottling, overlain by nodular and locally pisolitic cemented ironstone. Younger, locally carbonaceous unconsolidated sands overlies the laterite profile in many areas.

Reconnaissance showed that the laterite profile was commonly exposed at the edges of plateau areas on the island south of the Cygnet Fault. However, outcrop is rare away from the edges of the plateaux, and initial drilling was aimed at testing the central plateau areas for possible bauxite remnants concealed beneath the surface sand.

The search subsequently switched to drilling for kaolinitic clays in the pallid zone. Seismic refraction was also carried out in down faulted areas to determine whether laterite weathering profiles above bedrock were at economic depths.

DRILLING

33 holes were drilled in E.L. 408, totalling 198.5 m (average depth 6 m, greatest depth 19 m). The first few holes were drilled using a vacuum drill, and when this proved to be unsatisfactory, vacuum drilling was used in combination with spiral auger drilling, using a modified Gemco 210B drill. The auger drilling proved to be reasonably satisfactory in obtaining uncontaminated samples, whereas the vacuum drilling was generally stopped by excessive ground water a metre or two below the surface. Both methods were very slow, and it was our intention to replace these drilling methods by reverse circulation air lift drilling if we had obtained any prospects worth further investigation. Experience gained drilling soft Tertiary clays on Lake Frome indicates that the reverse circulation air lift drilling technique would have been eminently suitable for the clay drilling on Kangaroo Island.

SURFACE SAMPLING

A reconnaissance surface sampling programme was carried out to ascertain kaolin contents of rock samples from road cuttings, dams etc. (Fig. S.A.-79-190).

ANALYSES

Composite samples obtained from the drill samples were analysed at Comalco Research Centre for crude SiO_2 , Al_2O_3 , Fe_2O_3 and Loss on Ignition (LOI). Selected samples were analysed for brightness and yellowness at AMDEL. Samples of weathered bedrock obtained during drilling were scanned by AMDEL using emission spectroscopy for 20 elements, and selected samples were analysed by AAS for Cu, Pb, Zn,

Fe and Ag. All drill hole logs and analytical results are given in Appendix 1.

DISCUSSION OF RESULTS

The drilling in E.L. 408 showed conclusively that no bauxite is preserved in the laterite profile in this part of Kangaroo Island, south of the Cygnet Fault. The possibility of bauxite preserved in the down faulted areas covered by post Pliocene sediments north of the Cygnet Fault has not been tested, since the seismic refraction surveys indicated that weathered bedrock was at depths exceeding 150 m, and it was surmised that any overlying weathering profile would be at uneconomic depth.

Kaolinitic clays discovered in the pallid zone were tested by drilling and analysis. Several intersections of kaolinitic clay with low iron content ($< 1.5\% \text{ Fe}_2\text{O}_3$) were found, however brightness and yellowness tests showed that even the best clays were well below the minimum requirements for coating grade kaolin, and are thus of no further interest. Multi-element emission spectroscopy scanning and AAS did not find any anomalous concentration of any minerals, with the exception of tungsten. High tungsten values in some samples are believed to be due to contamination of samples by tungsten carbide from the drilling bits.

In the surface sampling programme, only one sample of low-iron clay was found. All other samples had high iron and quartz content and are not of any interest.

Because of the total lack of encouragement from the drilling and sampling, E.L. 408 was allowed to lapse.

EXPENDITURE

198

Details of expenditure are contained in the quarterly reports
(refer list of previous reports).

Total expenditure on E.L. 408 to 7.6.79 was	\$ 25,696.50
Subsequent expenditure has been - analyses	5,242.00
- report preparation	<u>610.00</u>
TOTAL EXPENDITURE ON E.L. 408:	<u>\$ 31,548.50</u>

edward white

REFERENCES

Sprigg, R.C., 1953, Kingscote 1:253,440 Geological Map, S.A.
Geological Survey.

LIST OF PREVIOUS REPORTS

Buchhorn, I.J., 1978: E.L. 408 - Pioneer Bend, Kangaroo Island
Quarterly Report 7.6.78 to 7.9.78.

Buchhorn, I.J., 1979: Quarterly Report 7.9.78 to 7.12.78.

Buchhorn, I.J., 1979: Quarterly Report 7.12.78 to 7.3.79.

Buchhorn, I.J., 1979: Quarterly Report 7.3.79 to 7.6.79.

COMALCO RESEARCH CENTRE
LABORATORY REPORT

110

Sample: Expl: Bauxite/Rock - KIRA.

Report No.: AR-05 (1-29)

Submitted by: Mr. I. Buchhorn Plympton
S.A.

Requisition No.: 1578

Comm. ☒
Cont. ☐
Conc. ☒

ANALYSIS

SAMPLE		Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I %			
1	KIRA 1	29.8	36.0	18	11.9			
2	" 2	42.6	19.8	19	13.9			
3	" 3	8.4	67.1	10	11.2			
4	" 4	45.4	32.5	12	7.8			
5	" 5	37.7	32.0	16	10.1			
6	" 6	39.0	35.1	11	6.9			
7	" 7	70.6	6.0	13	6.1			
8	" 8	33.9	41.5	17	14.0			
9	" 9	78.4	<u>1.1</u>	13	4.9			
10	" 10	34.8	35.3	15	11.2			
11	" 11	44.7	32.9	15	3.5			
12	" 12	32.1	34.6	16	12.4			
13	" 13	79.1	<u>1.5</u>	12	4.8			
14	" 14	69.1	<u>2.0</u>	16	7.2			
15	" 15	72.1	6.5	11	3.9			
16	" 16	90.9	2.6	4	1.5			
17	" 17	93.3	<u>1.0</u>	4	1.1			
18	" 18	82.7	<u>1.3</u>	9	3.2			
19	" 19	70.3	2.3	15	6.1			
20	" 20	80.2	<u>1.0</u>	12	4.1			
21	Continued	---	1/2					

LABORATORY REPORT

112

Sample: Expt 5 Kangaroo Island Clay Report No.: AQ-61 (1-35)Submitted by: Mrs. I. Buchhorn S. Australia Requisition No.: 1577 Comm. ✓
Cont. ✓
Conc. ✓

ANALYSIS

SAMPLE			Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I. %			
1	KI-15	C1	56.7	19.6	18	6.2			
2	KI-16	C1	53.4	24.0	18	6.2			
3		C2	61.6	4.7	25	8.7			
4		C3	83.4	2.1	11	3.6			
5		C4	89.6	0.8	9	2.3			
6		C5	70.7	2.3	20	5.4			
7		C6	69.1	2.2	22	5.3			
8		C7	69.9	2.0	21	5.4			
9		C8	65.0	2.1	23	5.6			
10		C9	69.0	2.1	21	5.4			
11		C10	71.1	2.2	20	5.0			
12		C11	68.7	2.6	20	4.9			
13		C12	70.1	3.0	18	4.7			
14	KI-17	C1	78.0	4.3	15	4.9			
15		C2	79.4	1.8	14	4.5			
16		C3	81.3	2.2	12	4.1			
17	KI-18	C1	65.0	9.6	16	7.6			
18		C2	67.7	4.6	19	5.6			
19		C3	65.7	4.2	19	5.1			
20		C4	81.0	1.5	14	4.0			
21	Continued - - - - /2								

Copies to: 1. 2.B - A.H.W. 2. A.H.B.Chief Chemist: [Signature]3. W.H.H. 4. Date: 28/6/79

LABORATORY REPORT

113

Sample: Expt. Kangaroo Island ClayReport No.: AG-61(1-35)Submitted by: Mr. J. Buchhorn. S. AustraliaRequisition No.: 1577Comm. ☒
Cont. ☒
Conc. ☐

ANALYSIS

SAMPL.		Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L O I %			
21	KI-18 C5	81.7	2.5	12	3.4			
22	C6	78.5	5.0	10	3.2			
23	C7	72.3	6.2	14	4.0			
24	KI-19 C1	46.1	12.3	28	12.5			
25	C2	50.2	13.2	26	10.5			
26	C3	64.0	3.8	23	8.5			
27	C4	74.1	1.5	19	6.4			
28	C5	86.4	0.7	11	3.5			
29	C6	85.0	0.7	10	3.0			
30	C7	87.7	1.4	8	2.5			
31	KI-20 C1	41.5	17.3	28	13.3			
32	C2	51.0	10.5	27	10.4			
33	C3	66.3	7.5	18	6.2			
34	C4	65.4	4.5	21	6.3			
35	C5	62.9	4.3	24	6.8			
Analytical notes for Kangaroo Island Samples (Lab. Ref. AG-61 to AG-67) Crude SiO₂ and L. O. I. determined by Gravimetric methods. Fe₂O₃ determined by Shimadzu Spectrophotometric technique. Al₂O₃ determined by A.A.S., result to nearest whole number. TiO₂ approx 0.5%.								

Copies to: 1. IB-AHW 2. A.H.B.3. W.H.A. 4. (2)Chief Chemist: [Signature]Date: 28/6/79

LABORATORY REPORT

114

Sample: Expt 5 Kangaroo Island; Clay Report No.: AQ-62 (1-33)Submitted by: M. I. Buchhorn, S. Australia Requisition No.: 1577 Comm.
Cont. ✓✓
Conc.

ANALYSIS

SAMPLE			Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I. %			
1	KI-20	C6	65.7	7.0	21	5.9			
2		C7	65.2	3.2	25	6.4			
3		C8	71.5	3.6	19	5.6			
4		C9	69.9	5.5	18	5.6			
5		C10	67.9	3.1	22	6.2			
6		C11	72.6	4.7	18	5.5			
7		C12	71.1	3.9	19	5.6			
8	KI-21	C1	45.8	13.6	27	12.5			
9		C2	64.6	5.6	23	8.3			
10		C3	75.6	1.2	19	6.2			
11		C4	74.0	2.8	20	6.4			
12		C5	72.4	2.8	20	6.7			
13	KI-22	C1	49.1	16.3	25	10.6			
14		C2	73.7	1.3	20	6.6			
15		C3	67.9	0.6	24	8.0			
16	KI-23	C1	56.8	10.8	22	9.8			
17		C2	69.2	3.7	21	7.2			
18		C3	78.3	0.7	18	5.7			
19		C4	78.9	0.7	17	5.3			
20	Continued . .	-- /2.							

Copies to: 1. IB. AW 2. AHBChief Chemist: [Signature]3. W.H.A. 4.Date: 28/6/79

LABORATORY REPORT

115

Submitted by: Mr. J. Buchhorn S Australia. Requisition No.: 1577 Comm.
Cont. ✓
Conc.

[illegible]

Chief Chemist:

Date: 28/6/79

LABORATORY REPORT

116

Sample: Expt 5 Kangaroo Island, Clay Report No.: AQ-63 (1-35)Submitted by: Mr. I. Buchhorn - S. Australia Requisition No.: 1577 Comm.
Cont. ✓
Conc.

ANALYSIS

SAMPL			Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I %			
1	KI-27	C1	64.9	19.6	12	4.6			
2		C2	50.5	8.6	27	11.2			
3		C3	71.6	2.9	19	6.9			
4		C4	84.4	1.2	11	3.8			
5		C5	91.2	1.0	7	2.1			
6		C6	65.9	9.0	14	5.5			
7		C7	66.6	5.6	17	6.2			
8		C8	65.2	7.1	17	6.2			
9		C9	66.5	3.3	18	5.4			
10	KI-28	C1	76.0	11.9	8	3.4			
11		C2	68.5	7.3	14	5.6			
12		C3	77.7	5.6	8	3.0			
13		C4	70.3	5.1	13	4.1			
14		C5	80.2	6.1	7	2.8			
15	KI-29	C1	50.9	12.4	23	10.6			
16		C2	61.8	9.0	19	6.5			
17	KI-30	C1	60.6	8.8	19	8.8			
18	KI-31	C1	38.6	2.5	4	26.3	← CaCO ₃ (?)		
19	Continued . . . /2.								

Copies to: 1. IB-AW 2. A.H.B.3. W.H.A. 4.Chief Chemist:Date: 28/6/79

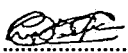
LABORATORY REPORT

117

Sample: Expl^r: Kangaroo Island Clay Report No.: AG-63 (1-35)Submitted by: Mr. I. Buchhorn, S. Australia Requisition No.: 1577 Comm.Cont.Conc.

ANALYSIS

SAMPLE			Crude SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	L.O.I. %			
19	KI-32	C1	65.0	14.0	13	6.4			
20		C2	69.9	8.3	15	6.4			
21		C3	74.2	3.2	16	5.6			
22		C4	73.3	1.4	16	5.7			
23		C5	70.4	2.5	17	5.9			
24	KI-33	C1	69.3	7.1	12	6.2			
25		C2	63.2	11.4	15	5.8			
26		C3	64.1	5.1	19	5.0			
27		C4	62.8	10.7	15	5.4			
28		C5	64.9	6.9	17	4.7			
29		C6	67.6	6.6	14	4.6			
30	KI-34	C1	55.5	21.6	15	6.1			
31		C2	67.0	4.9	17	7.3			
32		C3	89.6	1.0	7	2.6			
33	KI-34 A.	C1	48.0	24.8	16	7.7			
34		C2	65.4	5.8	19	8.1			
35		C3	88.7	1.4	7	2.8			

Copies to: 1. IB-A.W. 2. A.H.B.3. W.H.A. 4.Chief Chemist: Date: 28/6/79



The Australian
National Development
Laboratories

on Street, Frewville,
South Australia 5063
e Adelaide 79 1662
Telex AA 82520

Please address all
correspondence to
Box 114 Eastwood
SA 5063
In reply quote:

amdel

NATA CERTIFICATE

REPORT COMPLETE

Dr. A.H. White,
Commonwealth Aluminium Corp. Limited.,
P.O. Box 20,
PLYMPTON S.A. 5038

REPORT AC 5006/79

YOUR REFERENCE:

Ref: OL 211.

IDENTIFICATION:

Drill Chips.

DATE RECEIVED:

11 June 1979.

ANALYSIS ppm

SAMPLE MARK	MERCURY Hg
KIBM/26	0.10
KIBM/39	0.04
METHOD:	El.

*Ag. W anomaly
in K.I. bedrock
samples.*

Enquiries quoting AC 5006/79 to the Manager please

D. K. Rowley
Manager
Analytical Chemistry Division

for Norton Jackson

for Norton Jackson
Managing Director

cc Mr. A.H. Bartlett,
Exploration Dept.
95 Collins Street,
Melbourne Vic 3000

dg

Plant: Osman Place
Thebarton S.A.
Telephone 43 8053
Laboratory: Perth



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SA 5063
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75-76
amdel

NATA CERTIFICATE

119

AC3/1/4/0-5006/79

PART 1

27 June 1979

Dr A.M. White,
Commonwealth Aluminium Corp. Limited,
Box 20,
PLYMPTON, SA 5038

REPORT AC 5006/79

YOUR REFERENCE:

Requisition Note
Reference No. OL 211

IDENTIFICATION:

Drill chips as listed

DATE RECEIVED:

11 June 1979

Enquiries quoting AC 5006/79 to the Manager please

D.K. Rowley
Manager
Analytical Chemistry Division

J.B. Bartlett
for Norton Jackson
Managing Director

c.c. Mr A.H. Bartlett,
Exploration Dept.,
Commonwealth Aluminium Corp.
95 Collins Street,
Melbourne, Vic 3000

mhb



REPORT AN

5006 / 79

120

ANALYSIS

ppm

[illegible]

METHOD: *B1*

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 1 A.

121

FORM 6 JOB 5006179

TT	Sample No.	Cd	Ag	Au	F %
1	KIBM 26	<1	34	<0.05	0.02
2	" 39 x	<1	48	<0.05	0.01
3	STD.				
4	39 x				
5	BIK.				
6					
7	CODE	C ₁	C ₂	C ₃	E 3
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Sample No. Composite	Drill Sample No.		Sample No. Composite	Drill Sample No.		Sample No. Composite	Drill Sample No.		Sample No. Composite	Drill Sample No.	
	From	to		From	to		From	to		From	to
KI 42 / C1	KI 42/0.5	KI 42/4.5	KI 46 / C1	KI 46/0.5	KI 46/1.0	KI 50 / C1	KI 50/0.5		KI 56 / C1	KI 56/0.5	
C2	5.0	9.0	C2	1.5	2.0	C2	1.0	2.0	C2	1.0	2.0
C3	9.5	15.0	C3	2.5	5.0	C3	2.5	5.0	C3	2.5	3.0
C4	15.5	20.0	C4	5.5	8.0	C4	5.5	8.0	C4	3.5	6.5
KI 42 / C5	KI 42/2.0	KI 42/25.0	C5	8.5	12.0	C5*	8.5	11.0	C5	7.0	10.5
			KI 46 / C6	KI 46/12.5	KI 46/16.0	C6	11.5	17.5	C6	11.0	13.0
						KI 50 / C7	KI 50/18.0	KI 50/23.0	KI 56 / C7	KI 56/13.5	KI 56/17.5
KI 43 / C1	KI 43/0.5	KI 43/4.5						46			35
C2	5.0	6.5	KI 47 / C1	KI 47/0.5		KI 51 / C1	KI 51/0.5	KI 51/1.0	END OF PROGRAM (30.1.79 to 24.3.79) composites 235 drill samples 942 metreage 471		
C3	7.0	5.0	C2	1.0		C2	1.5	3.5			
C4*	8.5	9.0	C3	1.5	2.0	C3	4.0	5.5			
C5	9.5	11.0	C4	2.5	3.0	C4*	6.0				
C6	11.5	16.0	C5	3.5	4.5	C5*	6.5	8.0			
C7	16.5	21.0	C6*	5.0	5.5	C6*	8.5				
KI 43 / C8	KI 43/0.5	KI 43/24.5	C7	6.0	8.5	C7	9.0	13.0			
			C8	9.0	12.5	KI 51 / C7	KI 51/9.0	KI 51/13.0			
			C9	13.0	15.5			46			
KI 44 / C1	KI 44/0.5	KI 44/1.0				KI 52 / C1	KI 52/0.5	KI 52/1.0			
C2	1.5	2.5	C10	16.0	20.0	C2	1.5	2.0			
C3*	3.0		KI 47 / C11	KI 47/20.5	KI 47/23.0	C3	2.5	3.5			
C4	3.5	7.0			46	C4*	4.0				
C5	7.5	9.0	KI 48 / C1	KI 48/0.5	KI 48/1.0	KI 52 / C5	KI 52/4.5	KI 52/5.0			
C6	9.5	12.5	C2	1.5	2.5			10			
C7	13.0	16.5	C3	3.0	3.5	KI 53 / C1	KI 53/1.5	KI 53/1.5			
KI 44 / C8	KI 44/17.0	KI 44/20.5	C4*	4.0		C2	2.0	4.0			
		46	C5	4.5	6.0	C3*	4.5	6.0			
			C6	6.5	12.0	C4*	6.5	8.0			
KI 45 / C1	KI 45/0.5	KI 45/1.0	KI 48 / C7	KI 48/10.5	KI 48/14.5	C5*	8.5	12.0			
C2*	1.5				29	KI 53 / C6	KI 53/12.5	KI 53/14.0			
C3*	2.0	3.0						32			
C4*	3.5		KI 49 / C1	KI 49/0.5		KI 54 / C1	KI 54/1.5	KI 54/1.0			
C5*	4.0	5.0	C2	1.0	1.5	C2	1.5	2.5			
C6*	5.5	7.0	C3	2.0	3.0	KI 54 / C3	KI 54/3.0	KI 54/5.5			
C7*	7.5	8.5	C4	3.5	6.5			11			
C8*	9.0	9.5	C5	7.0	7.5	KI 55 / C1	KI 55/0.5	KI 55/1.0			
C9*	10.0	12.0	C6*	8.0	9.5	C2	1.5	2.5			
C10*	12.5	13.5	C7	10.0	12.0	C3	3.0	5.0			
C11*	14.0	17.5	C8	12.5	17.0	C4	5.5	7.5			
KI 45 / C12*	KI 45/15.0	KI 45/20.5	KI 49 / C9	17.5	23.0	C5	8.0	9.0			
					46	C6	7.5	13.5			
						C7*	14.0				
					137	KI 55 / C8	KI 55/16.5	KI 55/17.0			
					74.2						
					27.0						



amdel

The Australian Mineral Development Laboratories

Flemington Street, Frewville, South Australia 5063
Phone Adelaide 79 1662, telex AA 82520

Pilot Plant Osman Place, Thebarton, Sth. Aust.
Phone Adelaide 43 8053
Branch Offices Perth and Sydney
Associated with Professional Consultants Australia Pty Ltd

Please address all correspondence to Frewville.

In reply quote: MD 3/1/4/0

3450/79

14 March 1979

Comalco Limited
Adelaide Regional Office
Exploration Department
P.O. Box 20
PLYMPTON SA 5038

REPORT MD 3450/79

YOUR REFERENCE: Application dated 22 February 1979.

SUBJECT: Suitability of Clay for Paper Coating.

MATERIAL: Eleven Composite Samples.

DATE RECEIVED: 23 February 1979.

INFORMATION REQUIRED: Brightness and Yield.

Investigation and Report by: Lyn J. Day.

Acting

Manager, Materials Division: Dr William G. Spencer.

for Norton Jackson
Managing Director

1. INTRODUCTION

Forty three samples of clay were submitted to Amdel to be made up into eleven composites and tested in order to determine their suitability for use as coating, filler or refractory clays. The composites were designated as follows :

KI 16C/C1 - KI 16C/C5

KI 19C/C1 - KI 19C/C2

KI 20C/C1 - KI 20C/C2

KI 22C/C1 - KI 22C/C2

It was requested that the amount of material less than 2 micrometres in size be determined for each composite and a brightness determination be performed on this fraction of the sample.

2. PROCEDURE

The amount of material finer than 2 micrometres was determined by the pipette sedimentation method. Portions of the minus 2 micrometre fraction were measured for brightness using a Zeiss Elrepho electric reflectance photometer. Brightness quoted is at 457 nanometres, using the R457 filter. Yellowness quoted is the difference between R457 and R57 values.

3. RESULTS

The yield of minus 2 micrometre material and their brightness are as follows :

Composite	-2 μ m fraction %	Brightness R457	Yellowness R57-R457
KI 16C/C1	22	61.3	14.0
KI 16C/C2	27	64.6	7.8
KI 16C/C3	23	67.6	9.2
KI 16C/C4	23	57.2	8.9
KI 16C/C5	20	45.4	11.1
KI 19C/C1	62	50.8	21.4
KI 19C/C2	44	58.6	13.9
KI 20C/C1	32	36.3	18.2
KI 20C/C2	30	47.1	17.7
KI 22C/C1	55	50.4	19.9
KI 22C/C2	46	71.9	8.4

4. DISCUSSION

Although some of these clays yield a considerable fraction of material less than two micrometres in size, none of them has a high enough brightness to be considered suitable for use as paper coating or filling clays. The materials are such that beneficiation of the clays would still not yield a suitable product. Normally, beneficiation can be expected to raise a white clay a few percentage points depending on the proportion and type of impurities.

Most of the clays examined are strongly coloured and likely contain too much impurity to be used on refractory clays and no high-priced applications for these materials is envisaged.

dk:2.

Please reply to:

Adelaide Regional Office,
Exploration Department,
P.O. Box 20,
PLYMPTON, S. AUST 5038

IJB/SW

22nd February, 1979.

The Director,
Australian Mineral Development Laboratories,
Flemington Street,
FREWVILLE, S.A. 5063.

Attention Dr. W. Spencer

Dear Sir,

The accompanying drill samples are from a pallid zone lateritic profile on Kangaroo Island. Could you please carry out an economic assessment of the clay (code MC8). Sample requisition OL.205 accompanies the samples.

The samples are to be composited for assay as follows:

<u>Drill hole numbers</u>	<u>Composite number</u>
KI16C/ 7.0 to 8.0	KI16C/C1
KI16C/ 8.5 to 12.5	KI16C/C2
KI16C/13.0 to 15.0	KI16C/C3
KI16C/15.5 to 18.0	KI16C/C4
KI16C/12.5 to 19.0	KI16C/C5
KI19C/ 2.0 to 3.0	KI19C/C1
KI19C/ 3.5 to 5.0	KI19C/C2
KI20C/ 5.0 to 7.0	KI20C/C1
KI20C/ 7.5 to 9.0	KI20C/C2
KI22C/ 1.0 to 2.5	KI22C/C1
KI22C/ 3.0 to 3.5	KI22C/C2

Copies of logs of the relevant holes are enclosed.

Yours faithfully,
CGM/LCO LIMITED.

I. J. Buchhorn
Senior Field Geologist.

Encl.

APPENDIX I

KANGAROO ISLAND SAMPLING RECORD

* denotes minor

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Sample No. Composite	Drill Sample No.		Sample No. Composite	Drill Sample No.		Sample No. Composite	Drill Sample No.		Sample No. Composite	Drill Sample No.	
	From	To		From	To		From	To		From	To
KI 15 - C1	KI 15/0.5	KI 15/1.0	KI 20 / C1	KI 20/0.5	KI 20/1.0	KI 26 / C1	KI 26/0.5		KI 34 / C1	KI 34/0.5	
KI 16 / C1	KI 16/0.5		C2	1.5	3.0	C2	1.0		C2	1.0	2.5
C2	1.0		C3	3.5	4.5	KI 26 / C3	KI 26/1.5	KI 26/2.5	KI 34 / C3	KI 34/2.0	KI 34/3.5
C3	1.5	3.0	C4*	5.0	7.0			5			
C4*	3.5	6.5	C5*	7.5	9.0	KI 27 / C1	KI 27/0.5		KI 34A / C1	KI 34/0.5	
C5*	7.0	8.0	C6*	9.5	10.0	C2	1.0	1.5	C2	1.0	1.5
C6*	8.5	9.5	C7*	10.5		C3	2.1	3.0	KI 34A / C3	KI 34/2.0	KI 34/3.0
C7*	10.0	11.0	C8*	11.0	12.0	C4	3.5	4.0			
C8*	11.5	12.5	C9*	12.5	13.0	C5	4.5	5.0	KI 35 / C1	KI 35/0.5	KI 35/2.0
C9*	13.0	15.0	C10*	13.5	14.5	C6	5.5	6.0			
C10*	15.5	17.0	C11	15.0	16.5	C7*	6.5	7.0	KI 36 / C1	KI 36/0.5	KI 36/1.5
C11*	17.5	18.0	KI 20 / C12	KI 20/17.0	KI 20/18.5	C8*	7.5	9.0	C2	2.0	4.5
16 / C12	KI 16/18.5	KI 16/19.0			27	KI 27 / C9*	9.5	10.0	KI 36 / C3	KI 36/4.5	KI 36/7.5
		3.0	KI 21 / C1	KI 21/0.5	KI 21/1.0			2.0			
KI 17 / C1	KI 17/0.5	KI 17/1.0	C2	1.5	3.0	KI 28 / C1	KI 28/0.5		KI 37 / C1	KI 37/0.5	KI 37/2.5
C2*	1.5	2.0	C3*	3.5	5.5	C2	1.0	1.5	C2	3.5	4.5
KI 17 / C3	KI 17/2.5		C4*	6.0	1.5	C3	2.0	3.0	KI 37 / C3	KI 37/4.5	
			KI 21 / C5	KI 21/7.0	KI 21/1.5	C4*	3.5	4.0			
KI 18 / C1	KI 18/0.5				21	KI 28 / C5	4.5	6.0	KI 38 / C1	KI 38/0.5	KI 38/1.0
C2*	1.0	1.5	KI 22 / C1	KI 22/0.5				1.0	C2	1.5	2.0
C3*	2.0	2.5	C2*	1.0	2.5	KI 29 / C1	KI 29/0.5	KI 29/1.0	C3	2.0	3.5
C4*	3.0		KI 22 / C3*	KI 22/3.0	KI 22/3.5	KI 29 / C2	KI 29/1.5	KI 29/2.0	C4	6.0	9.0
C5	3.5	4.5			7			1.0	KI 38 / C5	KI 38/7.5	KI 38/15.0
C6	5.0	8.0	KI 23 / C1	KI 23/0.5	KI 23/1.5	KI 30 / C1	KI 30/0.5	KI 30/1.0			
18 / C7	KI 18/5.5	KI 18/12.0	C2	2.0	2.5			2	KI 39 / C1	KI 39/0.5	KI 39/1.0
			C3*	3.0	4.0	KI 31 / C1	KI 31/0.5	KI 31/1.5	C2	1.5	3.0
KI 19 / C1	KI 19/0.5	KI 19/1.0	KI 23 / C4*	KI 23/4.5				5	C3	3.5	4.5
C2	1.5				9	KI 32 / C1	KI 32/0.5		C4	5.0	5.5
C3*	2.0	3.0	KI 24 / C1	KI 24/0.5	KI 24/1.0	C2	1.0	2.0	C5	6.0	6.5
C4*	3.5	5.0	C2	1.5	2.0	C3*	2.5	4.0	KI 39 / C6	KI 39/7.0	
C5*	5.5	7.0	C3	3.5	4.5	C4*	6.0	6.0			
C6*	9.5	12.0	C4*	5.0	5.5	KI 32 / C5	KI 32/6.5	KI 32/7.0	KI 40 / C1	KI 40/0.5	KI 40/2.5
KI 19 / C7	KI 19/12.5	KI 19/14.0	C5	6.0	5.0			1.0	C2	3.0	6.0
		2.5	KI 24 / C6	8.5	9.5	KI 33 / C1	KI 33/0.5		KI 40 / C3	KI 40/1.5	KI 40/7.5
					19	C2	1.0	2.5			
			KI 25 / C1	KI 25/0.5	KI 25/1.0	C3*	3.0		KI 41 / C1	KI 41/0.5	KI 41/1.0
			C2	1.5	2.5	C4*	3.5	4.0	KI 41 / C2	KI 41/1.5	KI 41/2.5
			C5*	4.0	5.5	C5*	6.5	8.5			
			C6*	6.0	7.5	KI 33 / C6	KI 33/8.0	KI 33/12.5			
			KI 25 / C6*	8.0	10.0						

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL408 Logged by: E. Buchhorn Drilled by: G. King Drilling Method: AirLift
 Hole No: KI 1 Location: 604200N 719800E Angle: vert Azimuth: - Collar R.L.: 42m Total Depth: 5.0m Date: 12-7-78

Gentle slope between Lygnet River and escarpment

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	Li ₂ O
0.0	0.5		Auger	1.1	C1	yl	-	-	f sdy clay, poss roadside constr, min rd mottl	YELLOW SANDY CLAY	66.5	5.9	17.9	7.7
	1.0			1.2		bn-yl	-	-	f sdy clay, min fest nod, unconstr					
	1.5		↓	1.3	C2	"	-	-	yl f sdy clay, min fest nod (1cm), min rd mottl		65.1	8.1	18.6	6.9
	2.0		AirLift	1.4		yl	-	-	yl, f, sdy clay, moderately consolidated					
	2.5			1.5		"	-	-	"					
	3.0			1.6	C3	"	-	m	" , min soft, white carbonate frags	↓	69.6	4.9	16.0	6.9
	3.5			1.7		rd-yl	-	w	f sdy clay, min rd & wh mottl clay,	YELL-RO-WH SANDY CLAY				
	4.0			1.8	C4	wh-yl	-	-	f clay-sand, poss pallid zone with b/c.	CLAY-SAND (BEDROCK?)	82.5	3.3	9.6	3.6
	4.5			1.9		"	-	-	f clay-sand, distinct qtz grains					
4.5	5.0		↓	1.10	C5	"	-	-	"	↓	78.0	3.4	12.9	4.7
									EOH Wet clay blocking bit poss weathered bedrock					

Project: KANGAROO ISLAND, EL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger
Hole No: KI 2 Location: 6041300 N 717900 E Angle: vert Azimuth: — Collar R.L.: ~ 50m Total Depth: 3.0 m Date: 13-7-70

Base of hill slope 100m east of Branch Creek

[illegible]

metres

Hill slope, 300 m east of plateau crest on edge of plateau

From	To	Adv.	Rec.	Sample N°		Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE				Assay
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	L.O.I.	
0.0	0.5		Auger	4.1	C1	yl	-	-	yl sticky clay, min mottl, rd sdy fest "incip" nod in clay common 5cm fest nod. (transported?)	IRON - YELL CLAY	41.4	10.7	32.1	13.1	
	1.0			4.2	C2	bn-yl/rd	-	-	yl, bn, rd & wh mottled clay, sticky	RED & WHITE CLAY	41.6	13.5	30.7	12.7	
	1.5			4.3		rd/bn/wh	-	-	strongly mottled (yl), bn, rd & wh clay sticky						
1.5	2.0		↓	4.4	C3	rd/wh/yl	-	-	strongly mottled rd & wh clay, min yl clay, min EOL! Water from 0.5 m auger unable to penetrate	↓	49.5	11.2	29.3	10.6	

Steep slope west of Deep Creek, well drained, heavily vegetated

[illegible]

Project: KANAKARCO ISLAND, EL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger
Hole No: KI 7 Location: 6041200N 700100E Angle: Vert Azimuth: - Collar R.L.: 161m Total Depth: 1.5m Date: 15-7-78

metres

Adjacent nodular laterite outcrop 100m from hill crest, above steep creek valley, well drained

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE				Assay							
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	L.O.I.								
0.0	0.5		Auger	7-1	C1	bn-yl	-	-	nodules: weak mag, subrd, clay-hematite loose bn, yl & rd fest nod in gtz sd-clay matrix	IRONSTONE	52.1	19.6	19.7	8.3								
	1.0		Airlift	7-2	C2	bn-rd/bn-yl	w	-	weak mag, lens, subrd bn, yl, rd clay-hem fest nod, a long in gtz sd clay	↓ RED CLAY	41.6	19.3	27.5	12.1								
1.0	1.5		↓	7-3	C3	yl/rd	w	-	red (min yl, wh) clay, main gtz sd, no fest nod FOH water table, wet sticky clay, not able to auger, fest nodules at surface		37.9	24.9	24.4	12.1								

EXPLORATION DEPARTMENT DRILLING LOG. 136

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: air
Hole No: KI 8 Location: 6043600 N 700150 E Angle: vert Azimuth: — Collar R.L.: — Total Depth: 2.0 m Date: 15

[illegible]

Well drained surficial beach sand, 3 km south of Cygne Fault escarpment, on plateau, 200 m below hill crest.

[illegible]

res

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: T. Buchhorn Drilled by: G. King Drilling Method: Auger - air
Hole No: KI 12 Location: 6040900 N 691050 E Angle: vert Azimuth: - Collar R.L.: ~ 195 Total Depth: 6.5 m Date: 20-7-78

Hole N°: KI 12 Location: 6040900 N 691050 E Angle: vert Azimuth: — Collar R.L.: ~195 Total Depth: 6.5 m Date: 20-7-78

metres

On crest of rise north of Bullock Creek well drained

[illegible]

metres

Crest of ridge abundant nodular laterite float, well drained

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem.Sec.	CRUDE				Assay					
				Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	L.O.I.						
0.0	0.5		Auger	13-1	c1	yl	min mag ned,	-	yl sdy clay, up to 30% reded fast ned (up to 2cm)	I RCH YELL CLAY	39.1	27.2	23.7	9.2						
	1.0			13-2	c2	(wh/red)/yl	min mag ned,	-	fest ned, dk rd, non-mag, up to 4%, yl qtz sd-clay matrix	↓ RED & WHITE CLAY	40.0	14.5	30.8	13.8						
	1.5			13-3		yl / wh / rd	-	-	yl, rd & wh mottled sandy clay, no fest ned	MOTTLED CLAYEY SAND										
	2.0			13-4		(wh) / yl / rd	-	-	f clayey qtz sand, strongly mottled, no fest ned											
	2.5			13-5	c3	(wh) / rd / yl	-	-	" , prob with b/r		75.4	3.1	15.0	5.3						
	3.0			13-6		wh / rd / yl	-	-	"	↓										
	3.5			13-7		wh / rd	-	-	" , mottled, prob with sst b/r	WEATHERED BEDROCK										
	4.0			13-8	c4	yl / rd / wh	-	-	" , transitional pallid zone	PALLID ZONE WITH B/R	77.2	2.1	14.9	5.1						
	4.5			13-9		(rd) / wh	-	-	(rd) & wh f clayey qtz sd subrd, with sst b/r											
	5.0			13-10		(yl / rd) / wh	-	-	" min "fast contact" clay with b/r with min matrl											
	5.5			13-11	c5	"	-	-	wh & yl f clayey qtz sd / sst b/r), min dk rd, clay-rich with ferromag Fe concret		73.1	3.8	16.0	5.8						
	6.0			13-12		"	-	-	wh f qtzite-sst b/r, common rd, yl mattl clay, main x											
6.0	6.5		↓	13-13	c6	(rd) / wh	-	-	f clayey (kaolin) qtz sandstone EOH Weathered pallid zone bedrock	↓	75.8	1.3	16.4	5.9						

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger
Hole No: KI 14 Location: 604000N 678100E Angle: vert Azimuth: — Collar R.L.: ~241m Total Depth: 4.0m Date: 20-7-78

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metres

Plateau crest, 300 m north of Middle River, heavy nodular laterite flat

[illegible]

Hole No: KI 15 Location: 6039800N 714100E Angle: vert Azimuth: - Collar R.L.: ~ 162m Total Depth: 1.0m Date: 30-1-79

metres ~ 200m west of KI 4

Top of plateau, Cynnet Fault 1 km north

From	To	Adv.	Rec.	Sample N°		Colour	Magnetic	Carbonate	Description	Schem.Sec.	Assay				
				Drill	Compos.						Fe	Al	Si	LOI	
0	0.5			K18A	61	yl	strong mag. red	—	hard yl clay, subord f. qtz sd, strong mag. fest nodules, 2-6 mm	MOTTLED	56.7	17.6	18	6.2	
0.5	1.0			K18A	15	bn-yl	S	—	hard bn-yl clay, subord f- med qtz sd, strong mag. silicified	IRON-CLAY					
									FOH bit blocked with sticky clay.						
No clay analysis															

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Plateau area ~ 2 km north of Cygnus Fault - 12.0 m - KACHIN

metres						Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
From	To	Adv.	Rec.	Drill	Compos.	Fe ₂ O ₃	Al ₂ O ₃						LOI	qualit	color	qtz	con		
0-0	0.5				C1	yl	S			hard yl clay, f-med qtz sd, gy fest nod, neg	MOTTLED IRON-CLAY	53.4	24.0	18	6.2				
	1.0				C2	(rd)/yl	-			(rd) & yl mottled clay, hard, v. min qtz	MOTTLED YELLOW CLAY	61.6	4.7	25	8.7				
	1.5					rd/yl	-			rd & yl mottled clay, common f qtz sd	RED & YELL MOTTLED SAND								
	2.0				C3	rd/yl	-			rd & yl f sd & silt, min clay		83.4	2.1	11	3.6				
	2.5					yl/rd	-			f silty, mottled yl & rd quartz sand, ang									
	3.0					(rd)/wh/yl	-			f mottled - pallid wh/yl silty qtz sd, ang	PALLID SAND								
	3.5					(tr yl)/wh	-			f-med, ang, (kaol) qtz sd, strong with blr									
	4.0					(tr rd/yl)/wh	-			"									
	4.5					(tr gy)wh	-			" inv silty									
	5.0				*C4	(yl)/wh	-			f (-med) ang (kaol) qtz sd, with sst "b/r"		89.6	0.8	9	2.3				
	5.5					wh	-			"									
	6.0					(tr yl)/wh	-			"	PALLID SAND & KAOLIN								
	6.5					(yl)/wh	-			pure wh, good quality kaolin i yl with sst b/r	KAOLIN								
	7.0					(yl)/wh	-			wh (min yl) kaolin, min f-f qtz sd									
	7.5				*C5	(tr gy)wh	-			wh kaolin, med quality; min f - f qtz sd		70.7	2.3	20	5.4				
	8.0					(tr gy)wh	-			"									
	8.5					(tr gy)wh	-			wh kaolin, good quality, v. min "grit"									
	9.0				*C6	"	-			"		69.1	2.2	22	5.3				
	9.5					"	-			" trace mica flakes									
	10.0					"	-			wh kaolin, v. min "grit" & mica flakes									
	10.5				*C7	"	-			wh kaolin, no color, no "grit"		69.9	2.0	21	5.4				
	11.0					"	-			" v. min "grit"									
	11.5					(tr bl-gy)/wh	-			(blue-grey)-white kaolin									
	12.0				*C8	"	-			" forms good slurry, no qtz		65.0	2.1	23	5.6				
	12.5					"	-			(blue-grey)-white kaolin, "blue" is mottled									
	13.0					(tr gy/yl)/wh	-			(grey-yellow) white kaolin v. min "grit"									
	13.5					(tr yl)/wh	-			(yl)/wh kaolin, v. min "grit"									
	14.0				*C9	(sl tr yl)/wh	-			"		69.0	2.1	21	5.4				
	14.5					"	-			"									

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Genie Air/Lite
 Hole No: KI 16 Location: 6043/CDN 714 300E Angle: vert Azimuth: — Collar R.L.: ~ 61 m Total Depth: 19.0 m Date: 30.1.77

metres

Plateau ~ 2 km north of Cygnet Fault - 12.2 m KACHIN

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				Percent		
				Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	grat	color	at %
15.0	15.5					(gy) wh	—		wh kaolin, v. min "grit" + mica, slt pk mott	KACHIN							
	16.0				* C10	(lt pk) wh	—		" " " " min pk mott		71.1	2.2	20	5.0	G	1	5
	16.5					(pk) wh	—		pk & wh banded & mottled kaolin, min gls, mica						M	2	5
	17.0					(tr pk) wh	—		" " " " slight "salty" taste, good cherry						P	5	5
	17.5				* C11	(gy) wh	—		(gy) wh kaolin, v. min mica, "grit", v. plastic		68.7	2.6	20	4.9	P-M	3	5
	18.0					(dk gy) wh	—		gy & wh kaolin clay, 10-20% silty - fgtz						M	2	10
	18.5					gy-mu	—		pale red "chocolate" (gy-mu) clay, strong with phyllite	WEATH BEDROCK	70.1	3.0	18	4.7	P	3	15
18.5	19.0			KIBM 16	C12	"	—		gy-mu clay, f. sd "grit", "salty" taste						VP	100	45
									FOH Phyllite bedrock?						VP	100	5
									fit sticking with								
									damp clay (with br)								
									Note: 1. Type laterite profiles								
									(viz. Fe-st. clay overlying								
									pallid zone kaolin)								
									occur both nth & sth								
									of Cygnet Fault, so								
									that either:								
									a. faulting post-dates								
									laterization								
									b. laterites formed on								
									variable (fault controlled)								
									land surfaces.								
									2. Farmer Terry Bennett								
									states that hill around								
									6042 N / 713 E contains								
									extensive kaolin								
									visible from air, since								
									good to locate dams								
									in.								

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Hole No: KI 17 Location: 6041450 N 717150 E Angle: vert Azimuth: - Collar R.L.: ~70m Total Depth: 2.5 m Date: 3-1-79

Roadside cutting has ~ 3m y/l mottled fss clay, immediately north of Cygnat Fault, small plateau area

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
0.0	0.5				C1	gy-wh/mvrd	-	-	gy-wh & mvrd mottled clay, min f qtz sd	RED & WHITE MOTTLED CLAY	78.0	4.3	15	4.9
	1.0								"	↓ PALLID CLAY				
	1.5				*C2	wh-gy	-	-	soft grey clay, min f-mrd, subang qtz sd		79.4	1.8	14	4.5
	2.0					"	-	-	" inner qtz sd	↓ MOTTLED CLAY				
2.0	2.5			K18M 17	C3	y/l/gy	-	-	y/l & gy mottled sandy clay EOH Clay blocking bit		81.3	2.2	12	4.1
									* Clay analysis					

metres[illegible]

Project: KANGAROO ISLAND EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Air LiftHole No: KI 19 Location: 6045800 N 707100 E Angle: vert Azimuth: — Collar R.L.: ~ 205 m Total Depth: 14.0 m Date: 1-2-79

metres

Top of localized plateau surface, extensive loose nodular ironstone floor

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
				Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	quali	color	qtz
0.0	0.5					yl	m	—	yl sdy clay, f-med qtz sd, mag dk br fest ^{hard}	YELL CLAY - IRON	46.1	12.3	28	12.5			
	1.0				c1	(bn/rd)/yl	m	—	mottled yl sticky clay, min fest nod (2-5 mm)	↓							
	1.5				c2	bn-rd	—	—	(yl), wh & rd mottled clay, no fest, no "grit"	RED & WHITE MOTTLED CLAY	50.2	13.2	26	10.5			
	2.0					(rd)/wh	—	—	wh kaolin clay, min "grit", min rd mottling	KAOLIN ^{sharp}							
	2.5				*c3	wh	—	—	wh kaolin clay, no "grit"		64.0	3.8	23	8.5		M	2 5
	3.0					wh	—	—	wh kaolin clay, min f qtz "grit"	↓ sharp						G	1 45
	3.5					(rd)/wh	—	—	rd & wh mottled sandy clay, med qtz sd	SANDY CLAY						G	1 5-10
	4.0				*c4	(trrd)/wh	—	—	alternating sdy clay and clayey sd, med, subang		74.1	1.5	19	6.4		P	3-5 20-30
	4.5					"	—	—	banded wh clayey sandy clay, lower 25cm good kaol							P	2 50
	5.0					"	—	—	wh sdy kaol clay	↓ grad						M	1-2 10-50
	5.5					(gy)/wh	—	—	f-med, subang, clayey qtz sd	CLAYEY SAND						M	1-2 10
	6.0					"	—	—	"							—	1 80
	6.5					wh	—	—	"							—	1 80
	7.0				*c5	wh	—	—	"		86.4	0.7	11	3.5		—	<1 80
	7.5					wh	—	—	"							—	<1 70
	8.0					wh	—	—	" prob finer grain							—	<1 80
	8.5					wh	—	—	"							—	<1 80
	9.0					wh	—	—	f (-med) (clayey) qtz sand	↓ grad						—	<1 85
	9.5					wh	—	—	white silty f qtz sand	WHITE SAND						—	<1 85
	10.0					wh	—	—	"							—	<1 90
	10.5				c6	wh	—	—	" prob coarser grain		85.0	0.7	10	3.0		—	<1 90
	11.0					wh	—	—	wh f-med qtz sand							—	<1 90
	11.5					wh	—	—	"							—	<1 90
	12.0					wh	—	—	"	↓ sharp						—	<1 90
	12.5					yl	—	—	yl med (-co), subang qtz sd (with b/v?)	YELL SST BEDROCK?						—	50 90
	13.0				c7	yl	—	—	15 cm yl & wh bands of med qtz sd ^{hard drilling}		87.7	1.4	8	2.5		—	50 90
	13.5					yl	—	—	" v. hard boring							—	50 90
13.5	14.0				KI 19	yl	—	—	" hard boring	↓						—	50 90
EOT BEDROCK																	
* Clay analysis																	

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Air Lift
 Hole No: KI 20 Location: 6046300N 705550E Angle: vert Azimuth: — Collar R.L.: ~201m Total Depth: 18.5m Date: 1-2-79

metre

Edge of localized plateau, on gentle eastward slope

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE	Fe ₂ O ₃	Al ₂ O ₃	LOI	Assay			percent
				Drill	Compos											qualit	color	gts
0.0	0.5				*c1	yl	m	—	dry, yl clay-sand, f-ers gtz, 2-10mm mag fest nod	YELL CLY-SD - IRON	41.5	17.3	28	13.3				
	1.0					yl	—	—	dry yellow clay, no fest	YELLOW CLAY								
	1.5					(yl)-rd	—	—	(yl) & rd mottled clay, no gtz "grit"	RED CLAY								
	2.0				*c2	"	—	—	"		51.0	10.5	27	10.4				
	2.5					"	—	—	"									
	3.0					(wh/yl)/rd	—	—	" , begin wh clay									
	3.5					wh/rd/yl	—	—	wh, rd, yl mottled sandy clay, v. fine sand									
	4.0				*c3	dk rd	—	—	(wh, yl) & rd mottled clay, no "grit"		66.3	7.5	18	6.2				
	4.5					"	—	—	wh clay (coated with rd in drill cuttings)	↓ grad WHITE CLAY								
	5.0					rd/wh	—	—	(rd) & wh clay, v. min gtz "grit"							P	4	5
	5.5				*c4	(rd)/wh	—	—	wh clay, min rd mottling & banding							M	2	45
	6.0					(tryl)/wh	—	—	wh clay, min yl & rd banding, min gtz		65.4	4.5	21	6.3		M	1-2	10
	6.5					(trrd,yl)/wh	—	—	wh clay, slight trace yl & rd mottl, v. min gtz							M	2	45
	7.0					"	—	—	"	↓						M	1-2	45
	7.5					(s/trrd)/wh	—	—	white kaolin clay, v. slight red mottl, v. min "grit"	(KAOLIN)						G	1	45
	8.0				*c5	(gy)/wh	—	—	white kaolin, "greasy", common gtz fragments		62.9	4.3	24	6.8		G	1	10-15
	8.5					(gy-bn)/wh	—	—	(bn,yl) wh kaolin, "greasy", min gtz sand							M	2	10
	9.0					(trmv-rd)/wh	—	—	wh kaol, min mv-rd mottl, v. min "grit"							M	2	45
	9.5				*c6	mv/wh	—	—	f sil & silty "clay", poss high gtz content	WHITE & MOVE SANDY CLAY	65.7	7.0	21	5.9		P	15	40?
	10.0					wh/mv	—	—	" , mainly clay	↓						P	25	20?
	10.5				*c7	wh	—	—	white kaolin, no color, no "grit"	KAOLIN	65.2	3.2	25	6.4		VG	41	45
	11.0					wh/bn-yl	—	—	wh clay, bn-yl mottling, min "grit"	MOTTLED CLAY						P	20	10-20
	11.5				*c8	(pk)/wh	—	—	(pk) & wh mottled sand-clay, f-med gtz	SANDY CLAY	71.5	3.6	19	5.6		P	5	40?
	12.0					"	—	—	mottled sandy clay, min sand	↓						P	4	20?
	12.5				*c9	mv-pk	—	—	f, clayey-silty gtz sand	PINK SAND	69.9	5.5	18	5.6		—	60	75?
	13.0					"	—	—	"	↓						—	60	75?
	13.5					wh	—	—	f, clayey-silty gtz sand, "salty" taste	SAND-CLAY						P	1	85?
	14.0				*c10	(trmv)/wh	—	—	wh f sand-clay		67.9	3.1	22	6.2		P	1-2	40?
	14.5					wh	—	—	"	↓						P	1	40?
14.5	15.0				c11	mv-rd	—	—	mv-rd, f-med clayey gtz sand	SAND	72.6	4.7	18	5.5		—	50	70

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Air Lift
Hole No: KI 20 Location: 6046300 N 705550 E Angle: vert Azimuth: - Collar R.L.: ~ 201 m Total Depth: 18.5 m Date: 1-2-79

metres

Edge of localized plateau, on gentle eastward slope

[illegible]

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Remco Airlift
 Hole No: KI 21 Location: 6050400N 706550 E Angle: vert Azimuth: — Collar R.L.: ~ 233 m Total Depth: 10.5 m Date: 2-2-79

metres

Gentle plateau area, on crest, strong drainage 700 m south

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
				Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	qualit	color	qtz
0.0	0.5				C1	yl	S	—	yl sdy clay, loose rd & yl clayey fct und	YELL CLAY - FERN	45.8	13.6	27	12.5			
	1.0					yl	—	—	yl mottled clay, no qtz	YELL CLAY							
	1.5					rd/wh	—	—	rd & wh mottled clay, no qtz	RED & WHITE CLAY							
	2.0				C2	(rd)/wh	—	—	"		64.6	5.6	23	8.3			
	2.5					"	—	—	rd & wh banded (10cm) & mottled clay, min qtz								
	3.0					wh/yl/rd	—	—	wh, yl & rd banded (2cm) & mottled sdy clay	↓							
	3.5					(rd/yl)/wh	—	—	rd, yl & wh mottled sandy clay	YELL & WHITE SANDY CLAY							
	4.0					"	—	—	" med qtz sd								
	4.5				* C3	"	—	—	(rd), yl & wh mottled sdy clay, f-med qtz sd		75.6	1.2	19	6.3			
	5.0					"	—	—	"								
	5.5					"	—	—	" slight "greasy"	↓							
	6.0				* C4	(mv)/wh	—	—	wh sdy clay, min mv clay mottling	WHITE SANDY CLAY	74.0	2.8	20	6.4	P	5	5
	6.5					wh	—	—	wh sdy clay, f qtz, min mica flakes	↓					M	2	5-10
	7.0					yl/wh/rd	—	—	yl, wh & rd mottled sdy clay	RD, YL, WH MOTTLED SDCY					VP	40	10-20
	7.5					rd/yl/wh	—	—	"						VP	30	20
	8.0					"	—	—	" f-med qtz sd						VP	20	20
	8.5				C5	(truh)/yl/rd	—	—	" predm rd mottling	↓					VP	40	20
	9.0					yl/rd	—	—	yl & rd mottled clay-sand, f-crs, subang-subrd	MOTTLED CLAY-SAND	72.4	2.8	20	6.7	VP	40	45
	9.5					"	—	—	"						VP	50	45
	10.0					(rd/wh)/yl	—	—	yl mottl clay-sand, f-crs, subang-subrd qtz sd						VP	20	50
10.0	10.5				KI 21	"	—	—	"	↓					VP	20	55
									EOH soft red clay blocking b.t								

* Clay analysis

Hole No: KI 22 Location: 6053150N 707300E Angle: vert Azimuth: — Collar R.L.: ~ 250m Total Depth: 3.5m Date: 2-2-79

Gentle plateau on narrow drainage divide

				Gentle plateau on narrow drainage divide				Assay									
From	To	Adv.	Rec.	Sample No Drill Compos.	Colour	Magnetic	Carbonate	Description	Schem.Sec.	CaO % SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	percent			
														qualit	color	qtz	
0.0	0.5			C1	yl	m	—	yl sdy clay, loose sdy mv fort nod	YELL CLAY - IRON	49.7	16.3	25	10.6				
	1.0			* C2	(tr rd)/wh	—	—	wh sdy clay, v. min qtz "grit", min fine rd matl	WH (+ RD) SDY CLAY					M-4	1-2	5-10	
	1.5				(rd)/wh	—	—	"						M	2	5-10	
	2.0				(tr rd)/wh	—	—	wh sdy clay, v. main rd mottle		73.7	1.3	20	6.6	M-4	1-2	15	
	2.5			*	(rd)/wh	—	—	wh sd. cly, f-crst, subord qtz, min mv-rd motil	↓ grad					M-C ₁	1-2	40	
	3.0			RBM Z2	* C3	wh	—	wh kaolin clay, v. min qtz sd	KAO LIN					VH	L1	LS-	
3.0	3.5				wh	—	—	wh sdy kaol clay, damp sample + EOT WATER	↓	67.9	0.6	24	8.0	VH	L1	5-10	
									occurs in good quality sandy kaolin clay — hole to be deepened by auger.								
									* Clay analysis								

trcs _____ op of large plateau area

meters		top of large plateau area										Assay									
From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI				qualit	color	percent	
				Drill	Compos																
0.0	0.5					yl	s	-	yl, f silty sd & clay, dk rd sdy fnt med	YELL CLAY - IRON											
	1.0				C1	yl	-	-	(wh) & yl mottled clay, slight "sticky", min qtz	YELL CLAY	56.8	10.8	22	7.8							
	1.5					rd-bn/yl	-	-	" " min red mottling	↓ grad											
	2.0					rd/wh/yl	-	-	rd, wh & yl mottled clay, 10cm kaol band	RED & WHITE CLAY	69.2	3.7	21	7.2				VP	15	25	
	2.5				C2	rd/yl/wh	-	-	rd, yl & wh mottled sandy clay									VP	20	5-10	
	3.0					rd/wh	-	-	(rd) & wh mottled clay-sand, min kaol	RED & WHITE CLAY SAND								P	6	50	
	3.5				*C3	(rd)/wh	-	-	" " min kaolin bands		78.3	0.7	18	5.7				P	4	50	
	4.0					"	-	-	rd & wh clay-sand, f - crs qtz, min kaolin bands	↓								P	4	50	
4.0	4.5			KIRM 22	*C4	wh	-	-	wh, f - crs, subang - subrd clay-sand, kaolinitic EOH	WHITE CLAY SAND	78.9	0.7	17	5.3				G	41	60	
Damp kaolinitic sand																					
* clay analysis																					

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Air Lift
 Hole No: KI 24 Location: 6052600 N 714950 E Angle: vert Azimuth: - Collar R.L.: ~ 182m Total Depth: 9.5 m Date: 3-2-79

metres

Gentle slope near plateau crest, on drainage divide

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	qualit	color	g/l
0.0	0.5				C1	yl	m	-	yl clay-sand, f-crs gtz, base 2-8mm rd fct nod	YELL SBY CLY - IRON	50.9	13.7	25	11.0			
	1.0					(wh,rd)/yl	-	-	(wh,rd) & yl mottled clay, no "grit"	YELLOW CLAY							
	1.5					yl/wh/rd	-	-	yl wh & rd mottled clay, no "grit", min f-mottsd	RED & WHITE CLAY							
	2.0				C2	yl/rd/wh	-	-	"		62.2	5.1	15	8.7			
	2.5					"	-	-	yl, rd & wh mottled sandy clay, f-crs gtz								
	3.0					"	-	-	"								
	3.5					yl/rd/wh	-	-	" lower 20cm wh ccs sd	WHITE SAND							
	4.0				C3	wh/yl	-	-	yl & wh mottled, f-med, subang clayey gtz sand, dms	MOTTLED SAND	82.5	2.1	11	3.9			
	4.5					yl/rd/wh	-	-	rd & wh mottled sandy clay, ccs, subrd gtz	RED & WHITE SBY CLAY							
	5.0					(tryl,rd)/wh	-	-	wh sdy clay, min rd & yl mottling	WHITE SANDY CLAY	76.0	0.9	18	5.8			
	5.5				* C4	(sltrpk)/wh	-	-	wh sdy clay, v. slight pk mottl, f-med, subrd sd								
	6.0					yl/wh	-	-	f-med, clayey gtz sand, yl & wh mottling	MOTTLED SAND							
	6.5					wh/yl	-	-	" prdm med grain size								
	7.0				C5	(yl)/wh	-	-	yl & wh mottled, f-med, subrd - subang, clayey gtz sd		78.2	1.3	17	5.7			
	7.5					yl/wh	-	-	"								
	8.0					wh/yl	-	-	" prdm subrd grains	↓ grad							
	8.5					wh/rd/yl	-	-	wh,rd,yl mottled sandy clay, ccs subrd gtz sd	MOTTLED SANDY CLAY							
	9.0				C6	yl/wh	-	-	yl & wh mottled sandy clay, pose up to 30' gtz		73.3	1.4	19	6.2			
9.0	9.5				K1BM 24	(pk)/yl/wh	-	-	"	↓							
									FOH Wet clay blocking bit								

* Clay analysis

Project: KANGAROO ISLAND, FL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Liencre Air LiftHole No: KI 25 Location: 6050050 N 715600 E Angle: vert Azimuth: - Collar R.L.: ~ 133m Total Depth: 8.0 m Date: 3.2.79

metres

Top of plateau, 600m north of Brown Creek, probably poorly drained

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				Percent		
				Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	quartz	clay	at%
0.0	0.5				C1	yl	S	-	yl f sd - clay, 2-4mm mag bk fest nod	YELL SD-CLY - IRON							
	1.0					(rd)/yl	-	-	yl clay, min fgtz sd, 5% dk rd siliceous fest nod	↓	41.1	21.0	25	11.9			
	1.5					yl/wh/rd	-	-	yl, wh & rd mottled clay, min dk rd fest nod	RED & WHITE CLAY							
	2.0					dk rd	-	-	rd & wh mottled clay, no "grit", min fest nod								
	2.5				C2	(yl)/dkrd	-	-	rd, yl & wh mottled clay, no "grit", no fest		51.5	15.5	24	9.6			
	3.0					wh/yl	-	-	yl & wh mottled clay								
	3.5					rd/wh	-	-	rd & wh mottled sdy clay, min f - crs, subang - subrd sd	↓ grad							
	4.0					(tr rd)/wh	-	-	wh sdy clay, v. min rd mottl, crs, subang gtz	WHITE SANDY CLAY					M	1-2	20
	4.5				*C3	wh	-	-	wh clay-sand, f - med, subang - subrd gtz	WHITE CLAY-SAND					G	1	50
	5.0					wh	-	-	"		78.0	1.2	15	5.2	G	1	50
	5.5					(pk)/wh	-	-	wh (min rd & yl mottl), f - crs, subang - subrd gtz	↓					P	3	50
	6.0					wh	-	-	wh, subang - subrd, f - crs clayey gtz sand	CLAYEY SAND					-	41	70
	6.5					dkrd/wh	-	-	rd & wh mottled		81.7	1.9	13	4.2	-	15	70
	7.0				*CA	"	-	-	rd & wh mottled, f - crs, subang - subrd clayey gtz sd						-	15	75
	7.5					bn/yl/wh	-	-	bn, yl & wh mottled	↓ grad					-	15	75
7.5	8.0			KI 25	*C5	wh	-	-	wh sdy clay (20cm bn/yl sd as top)	WHITE SANDY CLAY	85.3	1.3	6	3.6	P	5	20
									EOL wet white kaolin clay blocking bit								

* Clay analysis

156

Towards base of slope, well drained, probable shallow bedrock (yl srt)

Towards base of slope, well drained, probable shallow bedrock (yl srt)

[illegible]

Project: KANGAROO ISLAND, EL 408 Logged by: T. Buchhorn Drilled by: C. King Drilling Method: Geanco AirliftHole No: KI 27 Location: 6043600N 714100 E Angle: vert Azimuth: - Collar R.L.: ~ 62m Total Depth: 10.0m Date: 4-2-79

metres

Plateau 600 m NNW of KI 16 kaolin hole

From	To	Adv.	Rec.	Sample No Drill Compos.	Colour	Magnetic	Carbonate	Description	Schem. Sec.	Fe ₂ O ₃	Al ₂ O ₃	LOI	Assay	percent	qualit	color	gtz
0.0	0.5			c1	gy-yl	s	-	loose dk gy, mag fest med in f-med acal sd mat	SAND - IRON	64.9	19.6	12	4.6				
	1.0			c2	yl	w	-	(wh, rd) & yl mottled clay, no gtz, v. min fest	YELLOW CLAY	50.5	8.6	27	11.2				
	1.5				wh/rd/yl	-	-	"	↓ grad								
	2.0				(yl)/rd/wh	-	-	(yl)/rd & wh mottled clay, no gtz	RED & WHITE CLAY								
	2.5			c3	rd/wh	-	-	rd & wh mottled clay, min fgtz sd		71.6	2.9	19	6.9				
	3.0				rd/yl-wh	-	-	rd & wh mottled sandy clay, subang med gtz	↓								
	3.5			c4	(tr-yl)/wh	-	-	(rd, yl) & wh mottled clay-sand, f-med subang	WHITE CLAY-SAND	84.4	1.2	11	3.8				
	4.0				yl/rd/wh	-	-	yl, rd & wh mottled	MOTTLED CLAY-SAND								
	4.5				yl	-	-	yl, f-med, subang clayey gtz sand	YELLOW SAND	91.2	1.0	7	2.1				
	5.0			c5	wh/yl	-	-	yl & wh mottled	↓								
	5.5			c6	(wh)/yl	-	-	wh & yl mottled clay, v. min gtz "grit"	MOTTLED CLAY	65.9	9.0	14	5.5				
	6.0				(wh)/bn/yl	-	-	wh, bn & yl mottled clay	↓								
	6.5			*c7	yl/wh	-	-	wh kaolin clay, subang yl clay, no "grit", salty	WHITE CLAY	66.6	5.6	17	6.2		P	4	<5
	7.0				(rd)/wh	-	-	wh kaolin clay, no "grit", min rd clay, salty	KAOLIN						M-G	1-2	<5
	7.5				(bn)/wh/yl	-	-	wh & yl mottled clay, no "grit"	MOTTLED CLAY						V P	15	<5
	8.0			*c8	"	-	-	"		65.2	7.1	17	6.2		V P	15	<5
	8.5				(wh)/yl	-	-	(wh) & yl mottled clay, min "grit", salty							V P	15	5
	9.0				"	-	-	" min white clay, wet	↓						V P	15	5
	9.5			*c9	wh-gy	-	-	pure wh-gy kaolin clay, no "grit", salty	KAOLIN						G	1	<5
9.5	10.0			NBM 27	(yl)/gy	-	-	yl & gy-wh mottled kaolin clay, no "grit"	↓	66.5	3.3	18	5.4		P	3	<5
								EDH damp kaolin clay blocking bit									

* clay analysis

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Hole No: KI 29 Location: 6042900N 715250E Angle: vert Azimuth: — Collar R.L.: ~69m Total Depth: 3.0 m Date: 5-2-7

metres

Top of plateau 950 m ESE of KI 1A kaolin hole

From		To	Adv.	Rec.	Sample N°		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
0.0	0.5					c1	yl	w	-	yl clay, v. min qtz, min fct med.	YELLOW CLAY	50.9	12.4	23	106																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

Hole No: KE 30 Location: 6047700N 719000 E Angle: vert Azimuth: - Collar R.L.: ~ 101m Total Depth: 1.0 m Date: 5-2-79

Localized plateau, 100 m east of steep gully, well drained

[illegible]

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Airlift
Hole No: KI 31 Location: 6043800N 730700E Angle: vert Azimuth: - Collar R.L.: ~11m Total Depth: 1.5 m Date: 6-2-79

Very gentle rise within flood plain deposits of Cygnet River

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
From	To			Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
0.0	0.5					wh-yf	w	VS	wh-yf f calc sand, common wh-marly clay, min fest red	CALLAREOUS SAND				
	1.0				C1	yl-wh	-	VS	yl-wh f calc sand, common wh marly clay	↓	38.6	2.5	4	26.3
1.0	1.5			FIBRE 31		"	-	VS	yl-wh sandy marl, dense, sticky EOH Sticky clamp clay	WHITE MARL				
									Pushed rods to 3.0 m, brown clay, no yellow clay of usual laterite profile					
									No clay analysis					

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

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Project: KANGAROO ISLAND, EL408 Logged by: I. Ruchhorn Drilled by: G. King Drilling Method: Gemen Airli
 Hole No: KI 32 Location: 6042950N 714400E Angle: vert Azimuth: — Collar R.L.: ~ 60m Total Depth: 7.0 m Date: 5.2.79

Hole No: KI 32 Location: 6042950N 714400E Angle: vert Azimuth:										300m SE of KI 16 kaolin hole, at break of steep slope, 20m upslope from sdy fest										
metres								Assay										percent		
om	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI		qualit	color	g/2		
				Drill	Compos.															
0.0	0.5				C1	gy-yl	m	-	loose gy fest in sandy soil matrix, yl clay & rd clay	IRON - YELL CLAY	65.0	14.0	13	6.4						
	1.0					rd/yl	-	-	rd & yl mottled (sandy) clay, med gtz sel	YELLOW CLAY	69.9	8.3	15	6.4						
	1.5				C2	(rd)/yl	-	-	rd & yl mottled sandy clay											
	2.0					(rd)/wh/yl	-	-	rd, wh & yl mottled sandy clay, f-med gtz	WHITE SANDY CLAY						P	4	5-10		
	2.5					(yl)/wh	-	-	wh sandy clay, v. min pools of good kaolin		74.2	3.2	16	5.6		G	41	30-40		
	3.0				*C3	wh	-	-	wh sandy clay, no color, f-med, subang gtz							P	3	30-40		
	3.5					(yl)/wh	-	-	(yl) & wh mottled sdy clay							G	41	30-40		
	4.0					wh	-	-	wh sdy clay, f-med, subang gtz sel	↓ grad						P	10	50		
	4.5					yl/wh	-	-	yl & wh mottled clay-sand, f-med, subang	CLAY-SAND	73.3	1.4	16	5.7		M-G	1-2	50		
	5.0				*C4	(tryl)/wh	-	-	"	↓						G	41	50		
	5.5					(trgy)/wh	-	-	wh clay-sand, f-crs, subang-subrd gtz, wet	WHITE CLAY-SAND						M-G	1-2	30-40		
	6.0					(tryl,ph)/wh	-	-	wh sdy clay	WHITE SANDY CLAY										
	6.5					(tryl,ph)/wh	-	-	"	YELLOW WHITE SANDY CLAY	70.4	2.5	17	5.9		VP	15	40		
	6.5				C5	yl/wh	-	-	yl & wh sdy clay	MOTTLED SANDY CLAY						VP	20	30		
6.5	7.0				KIBM 32	yl/mv-rd/wh	-	-	yl, mv-rd & wh mottled sandy clay, pass with sh											
FOH water in yellow clay-sand																				

* Clay analysis

Hole sited immediately upslope from massive, sandy, cellular ironstone, but failed to intersect any ironstone, so the laterization has occurred on an undulatory surface ie present topography (always at yellow clay part of profile) is an inherited topography

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. — EXPLORATION DEPARTMENT DRILLING LOG. 163

Project: KANGAROD ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Gemco Air Lift

Hole No: KI 33 Location: 6043000 N 714150 E Angle: vert Azimuth: — Collar R.L.: ~57m Total Depth: 12.5m Date: 6-2-79

metres

On hill slope below KI 16 plateau, ~200 m SSW of KI 16, sdy fest cl

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay					percent	
				Drill	Compos						FeO ₂	Al ₂ O ₃	LOI		qualit	color	gts
0.0	0.5				C1	gy-yl	w	—	yl f sdy soil, minor gy fest nod	SANDY SOIL - 2 RAN	69.3	71	12	6.2			
	1.0					yl	—	—	yl clay, no "grit"	YELLOW CLAY-1							
	1.5				C2	(bn)-yl	—	—	yl clay, min mv & wh banded clay (sh)		63.2	11.4	15	5.8			
	2.0					"	—	—	" , common gy-mv clay (sh)								
	2.5					"	—	—	" , gy-mv clay at base								
	3.0				*C3	gy/gy-mv	—	—	wh-gy & gy-mv kaolin clay, no "grit", greasy	GREY-MAUVE CLAY	64.1	5.1	19	5.0			
	3.5				*C4	yl/gy-mv	—	—	" , & yl clay								
	4.0					yl/dkrd	—	—	dkrd & yl mottled clay, no "grit"		62.8	10.7	15	5.4			
	4.5					yl/gy-mv	—	—	gy-mv "shaly" clay	SHALE BEDROCK							
	5.0					gy-mv	—	—	" , min yl & gy clay	GREY-MAUVE SHALE B/R							
	5.5				*C5	"	—	—	" , common yl & gy clay								
	6.0					"	—	—	gy-mv & subord yl "shaly" clay, no "grit"		64.9	6.9	17	4.7			
	6.5					"	—	—	gy-mv clayey shale bedrock								
	7.0					"	—	—	"								
	7.5					yl/gy-mv	—	—	"								
	8.0					"	—	—	"								
	8.5					"	—	—	"								
	9.0					kh/yl	—	—	khaki-yellow clayey shale bedrock	YELLOW SHALE B/R							
	9.5					"	—	—	"								
	10.0					"	—	—	"								
	10.5				C6	yl-bn	—	—	bn-mv clayey phyllite (visible schistos)	BROWN PHYLLITE	67.6	6.6	14	4.6			
	11.0					wh-gy/yl	—	—	"	YELLOW SHALE B/R							
	11.5					"	—	—	"								
	12.0					"	—	—	"								
12.0	12.5			KI 33		gn-yl	—	—	gn-yl weathered clayey shale bedrock EOTI water & bedrock								
									* clay analysis								

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. ——— EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: T. Burke Drilling Method: Cement Air Lift
Hole No: KI 34 Location: 6043300N 714400E Angle: vert Azimuth: — Collar R.L.: ~62m Total Depth: 3.5m Date: 7.2.79

metres

200m north along fence from KI 16 kaolin hole, top of plateau

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				Percent		
				Drill	Compos.						Crude Solids	Fe ₂ O ₃	Al ₂ O ₃	LOI	qualit	corr	at 2
0.0	0.5				C1	gy-yl	S	-	gy fest med in yl f-med sd matrix	SANDY SOIL - IRON	55.5	21.6	15	6.1			
	1.0				C2	(rd)/yl	-	-	rd & yl mottled clay, no sand	YELLOW CLAY							
	1.5					rd/yl	-	-	" , v. min med sand	RED & YELL SANDY CLAY							
	2.0					"	-	-	rd & yl mottled sandy clay, f-ccs, subang-subrd		67.0	4.9	17	7.3			
	2.5					"	-	-	" becoming clay-sand	↓							
	3.0				C3	"	-	-	rd & yl mottled clayey sand, f-ccs (max 0.5mm), subang-subrd	RED & YELL SAND	89.6	1.0	7	2.6			
3.0	3.5					(rd)/yl	-	-	"	↓							
									EOH Water in sand								
									No clay analysis								
									Sand intersected in mottled zone, probably indicates sandstone bedrock								
									∴ poor potential for clay								
									The KI 16 kaolin hole is a very localized occurrence possibly related to a narrow shale band at the sandstone contact.								

Project: KANGAROO ISLAND, EL408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger
 Hole No: KI 34 A Location: 6043300 N 714400 E Angle: vert Azimuth: — Collar R.L.: ~62m Total Depth: 9.0 m Date: 9-2-79

metres

Redrill of KI 34, using auger instead of airlift

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						Crude Oil	Fe ₂ O ₃	Al ₂ O ₃	LOI
0.0	0.5				C1	yl	S	—	loose gy fest nodules in yl clay + f sd mat	IRON-YELL CLY-SD	48.0	24.8	16	7.7
	1.0				C2	yl	m	—	fl clay + f qtz sand	YELLOW CLAY-SAND				
	1.5					(rd)/yl	—	—	rd, wha yl mottled sdy clay, parts of	YELL & RED SANDY CLAY	65.4	5.8	19	8.1
	2.0					rd/yl	—	—	rd & yl mottled f-med, subang-subrd qtz sand	MOTTLED SAND				
	2.5					yl	—	—	yellow mottled f-med, subang-subrd qtz sand	YELL MOTTL SAND				
	3.0					"	—	—	"					
	3.5					"	—	—	"					
	4.0					"	—	—	"					
	4.5					"	—	—	"					
	5.0					"	—	—	"		38.7	1.4	7	2.8
	5.5				C3	(wh)/yl	—	—	below water table composited samples yellow f-med, subang-subrd qtz sd					
	6.0					"	—	—						
	6.5					"	—	—						
	7.0					"	—	—	composite samples yl, f-med, subang-subrd qtz sd					
	7.5					"	—	—						
	8.0					"	—	—						
	8.5					"	—	—	"					
8.5	9.0					"	—	—	END water bearing sand end of auger rods					
									no clay analysis					

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger Air lift
 Hole No: KI 35 Location: 6037550N 736000E Angle: vert Azimuth: — Collar R.L.: ~50m Total Depth: 2.0 m Date: 12-2-7

metres

Localized plateau, 2.5 km south of escarpment

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						Crude SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	L.O.I.
0.0	0.5			Auger		bn-yl-wh	m	s	yl-wh calc clay, min fest nodules in soil	calc clay "soil"				
	1.0			Air lift	Cl	wh-yl	w	s	wh-yl calc clay, no gtz "grit"	calcareous yellow clay	55.1	4.4	7	19.1
	1.5			↓		"	w	s	"					
1.5	2.0					yl	—	s	yl sandy calc clay, min f-ccs gtz sd	↓				
									EDH Hard & sticky clay cannot be penetrated by auger or air lift					

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Air LiftHole No: KI 36 Location: 6037850N 730850E Angle: vert Azimuth: — Collar R.L.: ~91 m Total Depth: 7.5 m Date: 13-2-79

metres Eastern edge of localized plateau probably well drained yellow sst outcrop 1 km nt

From	To	Adv.	Rec.	Sample No Drill Compos	Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE S.O.I.	Fe ₂ O ₃	Al ₂ O ₃	LOI	Assay
0.0	0.5			Auger	yl/rd	S	—	rd & yl mottled clay, coarse gray fst nod, f sand	IRON- SOIL — RD & YL CLY					
	1.0			C1	"	—	—	rd & yl mottled clay	RED & YELLOW CLAY	66.6	6.1	16	7.4	
	1.5				"	—	m-s	" calcareous	↓					
	2.0				(wh)-yl	—	S	f-f, yl calc sand, min silt & mottled clay	↓ CALC SILTY SAND					
	2.5				(yl)-wh	—	S	f-f, silty calcareous sand, probably calc-arenite						
	3.0			C2	"	—	S	"		81.3	2.4	10	4.0	
	3.5				"	—	m-s	f-f silty calc gtz sand						
	4.0				"	—	m-s	"	↓					
	4.5				(gy-yl)-wh	—	w-m	f-f, silty grey gtz "sand", prodn silt?	QUARTZ SILT B/R					
	5.0				(gy)-wh	—	—	gy, gtzose, silty sst bedrock, grains < 0.25mm	SILTY SST BEDROCK					
	5.5			↓	wh-yl	—	—	wh-yl f silty gtz sand						
	6.0			Air Lift C3	"	—	—	"		81.4	3.0	11	3.2	
	6.5				"	—	—	"						
	7.0				(yl)-gy-wh	—	—	gy-wh f silty gtz sand, grains < 0.25mm	↓					
7.0	7.5			KI36M 36	(+rgy)-wh	—	—	wh f kaolinitic gtz sst, strongly ground EOM QTZ SST BEDROCK very hard boring						
								no clay analysis						

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Air/G
Hole No: KI 37 Location: 6033150 N 727600 E Angle: vert Azimuth: - Collar R.L.: ~ 30m Total Depth: 4.5 m Date: 13-2-7

metres

Eastern margin of laterite plateau area, laterite profile possibly absent, near drain

[illegible]

0-0.5m loose gy fest nod in sandy soil, bk mag nod & beryl clay
 nod, minor mass nod fest laterite float
 0.5-2.0m yl-wh clay, min sand, indurated through exposure
 2.0m → red sdy clay nodules ("incipient" sdy fest) in yl clayed mat.
 red sdy clay nodules ("incipient" sdy fest) in yl clayed mat.

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG. 169

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Airlift

Hole No: KI 38 Location: 6039950 N 735000 E Angle: vert Azimuth: — Collar R.L.: ~32 m Total Depth: 15.0 m Date: 14.2.7

From		To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
					Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
0.0	0.5			Auger		11	bn-rd	m	w	loose bk hm fest nod in f-crs, rd qtz sct mat	IRON SANDY SOIL				
	1.0						rd-bn	m-s	—	" acation sd, subang- rdd	↓	70.9	9.3	12	5.8
	1.5					12	yl/rd	w	m	yl & rd sdy clay, min 2-4mm fest nod, banded	YELLOW (RED) SANDY CLAY				
	2.0						(yl)/rd	—	m	yl & rd mottled sandy clay	↓	71.9	5.6	13	7.7
	2.5						rd	—	m	rd (& min yl) mottled sandy clay, f-crs sd	RED SANDY CLAY				
	3.0					13	(yl)/rd	—	m	"	↓	74.9	3.7	11	6.6
	3.5			↓			rd/yl	—	m	(rd & yl) mottled clayey sand, f-crs, subang-rdd	↓				
	4.0			Airlift			yl	—	—	yl, f-crs, subang-rdd qtz sand	YELLOW SAND				
	4.5						yl	—	—	" occ qtz granules					
	5.0						(wh)/yl	—	—	"					
	5.5						yl/wh	—	—	"	↓				
	6.0					14	(tror)/wh	—	—	wh, f-crs (fine gran), subang-rdd qtz sand	WHITE SAND	94.0	0.9	4	1.8
	6.5						(yl)/wh	—	—	"	↓				
	7.0						wh/yl	—	—	"	YELLOW SAND				
	7.5						yl	—	—	yellow, f-crs, subang-subrd qtz sand, min gran					
	8.0						"	—	—	" trace heavy minerals					
	8.5						"	—	—	"					
	9.0						"	—	—	"					
	9.5						dk-yl	—	—	"					
	10.0						"	—	—	" 0.25-1.0mm pedn subang, mid sort					
	10.5						"	—	—	yl, f-crs (0.25-1.0mm, med sct), subang-subrd qtz sd					
	11.0						"	—	—	" trace heavy minerals					
	11.5					15	"	—	—	" becoming damp					
	12.0						"	—	—	"		94.2	1.0	3	1.3
	12.5						"	—	—	"					
	13.0						"	—	—	"					
	13.5						"	—	—	"					
	14.0						"	—	—	"					
	14.5			↓			rd/yl	—	—	rd & yl mottled					
14.5	15.0			↓	KIRM 38		cr	—	—	orange mottled med-crs (gran), subang-subrd qtz sand	↓				
FOT damp sand blocking rods															
Sand is good building sand quality															

Top of plateau, adjacent steep break-away well drained to east and west, type yl clay-rd clay

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, AirliftHole No: KI 39 Location: 6032900N 741900E Angle: vert Azimuth: — Collar R.L.: ~55m Total Depth: 7.0 m Date: 14.2.79

metres

Plateau area, 100 m east of break of slope, possibly poorly drained.

From	To	Adv.	Rec.	Sample No Drill Compos.	Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	Assay	quality	color	qtz	calc
0.0	0.5		Airlift	C1	gy-yl	m	—	gy-yl, f-med acaol sd overlying yl clay c bn fest nod	YELLOW CLAY - FROP									
	1.0				bn-yl	s	—	yl & gy-wh mottled clay with bn-bk fest nod	↓	67.1	14.2	13	6.4					
	1.5				yl	—	—	yl & gy-wh mottled clay, no qtz "grit"	YELLOW CLAY									
	2.0				(wh)/yl	—	w-m	"	↓	47.9	9.6	27	11.6					
	2.5	↓		C2	(rd)/wh/yl	—	—	gy-wh & yl mottled clay, peds of gy-wh kaol	GRAY & YELL CLAY									
	3.0	Auger			gy-wh/yl	—	—	(rd) gy-wh & yl mottled clay	↓									
	3.5				wh/rd	—	—	rd & wh (min yl) mottled clay becoming sandy	RED & WHITE SANDY CLAY									
	4.0			C3	yl/wh/rd	—	—	(yl), rd, & wh mottled sandy clay		68.8	6.3	16	6.0					
	4.5	↓			(yl)/rd/wh	—	—	" becoming clay-sand	↓									
	5.0	Airlift		C4	/pk/wh	—	—	pk & wh mottled f-med, clayey qtz sand	CLAYEY SAND	75.9	8.3	9	3.3					
	5.5	↓			wh/bnrd	—	—	wh & rd mottled " gy-wh kaol	↓									
	6.0	Auger		* C5	bn/gy-wh	—	—	wh sandy kaolinitic clay, strong contamination	WHITE SANDY CLAY	75.8	4.2	12	4.0		P	5	20	5
	6.5	↓			"	—	—	"	↓						P	5	20	5
6.5	7.0	Airlift		C6	(gy-yl)-wh	—	—	glassy white qtz fragments, prob qtzite b/v	QUARTZITE BEDROCK	84.4	2.4	7	2.3					
								EDH QUARTZITE BEDROCK										
								very hard strong,										
								possibly gravel bound, but										
								more likely bedrock										

* Clay analysis

Hole N°: KI 40 Location: 6039450 N 747300 E Angle: vert Azimuth: - Collar R.L.: ~100 m Total Depth: 7.5 m Date: 15.2.79

Plateau area, 300 m downslope from crest, probably poorly drained

[illegible]

Project: KANGAROO ISLAND, EL 408 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Airlift

Hole No: KI 42 Location: 6041000 N 733850 E Angle: vert Azimuth: — Collar R.L.: ~ 8m Total Depth: 25.0 m Date: 17-2-7

Flats 700 m north of Cygnet Fault, downfaulted block

From To		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	L.O.I.
0.0	0.5			Airlift		yl/gx-yl	w	—	minor organic materials reworked beach sand gx-yl & yl sandy soil, f-ers, subang-subrd, A	SANDY SOIL				
	1.0			↓		bn-yl/yl	—	—	yl, f-ers, (subang)-rded qtz sand, min pl	SAND				
	1.5			Auger		yl	—	—	"					
	2.0				C1		—	—	yl, med-v-ers, subrd-rded, well sorted qtz sd					
	2.5					gx/yl	—	—	gx & yl mottled		96.6	0.9	2	1.3
	3.0					(yl)/gx	—	—	grey (reduced)					
	3.5					"	—	—	grey, med-v-ers, subrd-rded, well sorted qtz sd					
	4.0					"	—	—	"					
	4.5					"	—	—	" , becoming clayey	↓				
	5.0					gx/yl	—	—	gx & yl mottled & banded clay, no "grit", salty taste	MOTTLED YL & GY CLAY				
	5.5					"	—	—	"					
	6.0					"	—	w	"	↓				
	6.5					wh/yl	—	m	yl & wh mottled (sandy) calcareous clay, calcite in small vugs	CALCAREOUS MOTTLED CLAY				
	7.0				C2	"	—	m	"		66.9	4.0	8	11.2
	7.5					"	—	m	"					
	8.0					(yl)/gx	—	m	gx & gx-yl mottled clay, no "grit", carb in small vugs					
	8.5					"	—	m	"					
	9.0					"	—	m	"	↓				
	9.5					gx	—	—	gx, clayey, med-ers, subrd qtz sd, non-calc	GREY CLAYEY SAND				
	10.0					"	—	—	"					
	10.5					wh/gx	—	—	"	↓				
	11.0					(gx)/wh	—	—	wh, f-med, subrd-rded clayey sd, heavy sand caving	WHITE CLAYEY SAND				
	11.5					"	—	—	"					
	12.0					"	—	—	"		90.2	0.9	6	2.5
	12.5				C3	"	—	—	" , main rded magnetite					
	13.0					"	—	—	"					
	13.5					"	—	—	"					
	14.0					"	—	—	(gx)-wh, f-med, subang-rded clayey qtz sd, min mag					
	14.5					"	—	—	"					
14.5	15.0					"	—	—	"	↓				

Hole No: KI 42 Location: 604100 N 733850 E Angle: vert Azimuth: - Collar R.L.: ~ 8 m Total Depth: 25.0 m Date: 17.2.79

Flgs, 700m north of Cyquet Fault, down faulted block

[illegible]

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Hole No: KI 43 Location: 6037200 N 681950E Angle: vert Azimuth: - Collar R.L.: ~ 245 m Total Depth: 76.5 m Date: 28.2.79

western edge of plateau, 200m east of Squashy Creek, well drained

[illegible]

Project: KANGAROO ISLAND, EL 396 Logged by: J. Buchhorn Drilled by: G. King Drilling Method: Auger Acid
 Hole No: KJ 43 Location: 6037200 N 681950 E Angle: vert Azimuth: - Collar R.L.: ~245m Total Depth: 26.5 m Date: 1-3-79

western edge of a plateau, 200m east of Squashy Creek well drained

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
15.0	15.5		run		66	yl-gn	-	-	yl-gn sand-clay, f-med qtz, ^{poss high with b/r?} min yl sch-clay-mattl, a	YELL GREEN SAND-CLAY (WITH B/R?)				
	16.0		3			"	-	-	"					
	16.5					yl-gn	-	-	"					
	17.0					"	-	-	"					
	17.5		run			"	-	-	"					
	18.0		4			"	-	-	"		83.1	2.7	9	2.8
	18.5				67	"	-	-	" min wh sdy hoo' clay					
	19.0					"	-	-	"					
	19.5					"	-	-	yl-gn sand-clay, f-med qtz					
	20.0		run			"	-	-	"					
	20.5		5			"	-	-	"					
	21.0					"	-	-	"					
	21.5					yl-gn	-	-	"					
	22.0					"	-	-	"					
	22.5		run			"	-	-	"					
	23.0		6			(yl)/yl-gn	-	-	yl-gn, micaceous sand-clay, common yl clay-sand, ^{f-med qtz}		77.9	4.2	9	3.1
	23.5				68	"	-	-	"					
	24.0					"	-	-	" harder drilling					
	24.5					"	-	-	"					
	25.0		run			yl-gn	-	-	yl-gn clay-sand, f-med qtz, min micaceous					
	25.5		7			"	-	-	"					
	26.0					"	-	-	"					
	26.5		run			"	-	-	" hard drilling	↓				
									EOM Too hard to drill					
									weathered yl-gn sandy shale					
									* clay analysis					

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, AirliftHole No: KI 44 Location: 6037300 N 673800 E Angle: vert Azimuth: - Collar R.L.: ~ 278 m Total Depth: 20.5 m Date: 3-3-7

Plateau area, grey aeolian sand cover, prob massive nodular laterite sub-outcrop

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
				Orill	Compos						Fe ₂ O ₃	Al ₂ O ₃	LOI		qualit	color	qtz
0.0	0.5			Airlift	c1	gy/yf	w	-	windblown f-crs, rubang-subrd qtz sd, gy & yf	SANDY SOIL							
1.0	1.5					yl	-	-	yl silty f-crs, rubang-subrd qtz sd	↓	85.5	2.8	7	4.8			
1.5	2.0					dkrd/yl	-	-	yl coated, br-rd siliceous fest nod, loose, f-crs a	IRONSTONE							
2.0	2.5				c2	yl/dkrd	-	-	" , prob bcl fest nod	↓	47.5	22.2	19	10.2			
2.5	3.0					wh/rd	-	-	rd silty f-crs qtz sd, common fest nod, min wh sd	SAND - IRON							
3.0	3.5				*c3	pk/wh	-	-	pk & wh mottled silty clay, f-crs qtz	SANDY CLAY	71.9	13	18	6.2	P	3-5	30
3.5	4.0					yl/rd/wh	-	-	yl, pk & wh mottled clayey & silty f qtz sd	MOTTLED SILTY SAND							
4.0	4.5					rd/wh/yl	-	-	rd, yf & wh								
4.5	5.0			↓		wh/yl	-	-	wh & yf								
5.0	5.5			Puger	c4	(or)/yl	-	-	(or) & yf silty f (-med) qtz sd, prob rubang-subrd		76.7	2.5	15	5.0			
5.5	6.0					"	-	-	"								
6.0	6.5					"	-	-	"								
6.5	7.0					"	-	-	"								
7.0	7.5					"	-	-	"	↓							
7.5	8.0					pk/wh	-	-	(pk) & wh silty f (-med) qtz sand, poss clayey	WHITE SILTY SAND							
8.0	8.5				c5	"	-	-	" , min yf mottl		78.9	1.3	14	4.5			
8.5	9.0					yl/wh	-	-	yl & wh silty f (-med) qtz sand								
9.0	9.5					(pk)/wh	-	-	(pk) & wh	↓							
9.5	10.0					(wh)/yl	-	-	yl with wh bands (up to 6mm) f-med silty qtz sd	WHITE & YELL SILTY SAND							
10.0	10.5					"	-	-	"								
10.5	11.0				c6	"	-	-	"		79.6	1.7	14	4.3			
11.0	11.5					"	-	-	"								
11.5	12.0					"	-	-	"								
12.0	12.5					"	-	-	"	↓							
12.5	13.0					yl	-	-	yellow, f-med, rubang-subrd silty qtz sand, prob with sit b/r	YELLOW SILTY SAND							
13.0	13.5					"	-	-	"								
13.5	14.0					"	-	-	"								
14.0	14.5				c7	"	-	-	"		80.5	2.4	12	4.1			
14.5	15.0					"	-	-	"								

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. ——— EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL396 Logged by: E. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger
 Hole No: KI 44 Location: 6037300N 673800E Angle: vert Azimuth: — Collar R.L.: ~278 m Total Depth: 20.5 m Date: 3-8-79

Plateau area grey aeolian sand cover, probably massive nodular laterite suboutcrop

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
15.0	15.5			Auger		yl	—	—	yl f - med silty qtz sd, min glassy qtzite p/b's	YELLOW SILTY SAND				
16.0					C7	"	—	—	"	↓				
16.5						"	—	—	"	YELLOW & WHITE SILTY SAND				
17.0						yl/wh	—	—	yl & wh mottled					
17.5						wh/yl	—	—	wh & yl mottled					
18.0						"	—	—	wh & yl mottled f - med silty qtz sd, no qtzite p/b's	↓	80.5	1.8	13	3.7
18.5					C8	(wh)/yl	—	—	"	YELLOW SILTY SAND				
19.0						yl	—	—	yellow f - med silty qtz sd, pass with sst b/r					
19.5						"	—	—	" "bright" yellow	↓				
20.0						"	—	—	"					
20.5				↓		"	—	—	EOH hard drilling probable sandstone bedrock (auger rod pin partly sheared)					
									* clay analysis					

Project: KANGAROO ISLAND, EL 396 Logged by: I. BuchhornDrilled by: G. KingDrilling Method: Auger, AirliftHole No: KI 45 Location: 6041800 N 671600E Angle: vertAzimuth: - Collar R.L.: ~288m Total Depth: 20.5m Date: 8-3-79

metres

Narrow plateau on drainage divide, very well drained

om	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent			
				Drill	Compos						Crude Oil	Fe ₂ O ₃	Al ₂ O ₃	LOI	quartz	calc	gls	const
0.0	0.5			Airlift	*C1	yl	m	-	yl, f-cr, subang-subred qtz sandy soil, ^{glassy quartz pits and cobbles} loose siliceous ^{Ext nod} ^{2-cm qtz sand}	SANDY SOIL-IRON	63.8	14.9	15	6.7				
1.0						wh/bk-yl	w-m	-	wh & rd banded sdy clay, loose rd-bk siliceous festooned	↓								
1.5					*C2	(tr rd)/wh	-	-	wh sdy clay, v. min rd banding & mottling, f qtz	WHITE (+RD) CLAY	66.5	1.3	22	8.5		P	2-4	10
2.0						yl/rd/wh	-	-	yl, rd & wh mottled silty f sd, min wh (sd) clay nodules	MOTTLED SILTY SAND						VP	15	55
2.5					*C3	wh/rd	-	-	rd & wh mottled silty f sand	RED & WHITE SILTY SAND	72.3	2.5	17	5.9		VP	20	60
3.0						yl/rd/wh	-	-	50% pure wh ^{silty} kaol clay, rd & yl silty f sd	SILTY SAND & WH CLAY						P	10	30
3.5					*C4	wh	-	-	wh silty (sandy) clay, qtz sand v. fine & silty	WHITE CLAY	69.3	1.5	20	5.9		G	<1	5-10
4.0						(tr rd)/wh	-	-	" ^{min glassy qtz pebbles} , min pk-rd mottling, A	WHITE SANDY CLAY						P	2-3	10-20
4.5				↓	*C5	"	-	-	wh sand-clay, min pk-rd mottl, qtz sand v. fine & silty	WHITE SAND-CLAY	74.6	1.0	17	5.3		P	3-4	30-45
5.0				Auger		"	-	-	"	↓						P	2-3	40
5.5		run 1				(pk)/wh	-	-	wh clay-sand, common pk mottl, f-med qtz sd	WHITE CLAY-SAND						P	5	60
6.0					*C6	wh	-	-	f-med, clayey qtz sand, prob high silt content	WHITE CLAYEY SAND	76.9	1.0	16	4.7		-	<1	75
6.5						"	-	-	"							-	<1	80
7.0						"	-	-	" ^{incr ccs qtz}							-	<1	80
7.5		run 2				(pk)/wh	-	-	pk & wh mottl (f)-med clayey qtz sand							-	2-4	80
8.0					*C7	(yl)/wh	-	-	yl & wh		79.3	0.8	15	4.5		-	5-10	80
8.5						"	-	-	yl & wh mottl fine-med clayey qtz sand, well sorted	↓						-	5	80
9.0					*C8	(tr pk, yl)/wh	-	-	(pk, yl) & wh sd-clay, f-med qtz	WHITE SAND-CLAY						P	2	40-50
9.5		run 3				"	-	-	"	↓	79.4	0.9	16	4.7		P	3-4	50
10.0						"	-	-	wh clay-sand, f-med qtz	WHITE CLAY-SAND						P-M	1-2	55
10.5						"	-	-	" ^{mottled & banded}							P	2	55
11.0					*C9	(tr yl)/wh	-	-	tr yl & wh mottled clay-sand, ^{trace f bk heavy mineral} f-med qtz, "sticky"		78.7	1.0	15	4.4		M	1	55
11.5		run 4				"	-	-	" ^{incr yl coloration}							M	1-2	55
12.0						yl/wh	-	-	" ^{wh-yl & or-yl banding}	↓						P	2-5	55
12.5						(tr yl)/wh	-	-	wh sand-clay, f-med qtz, ^{trace f bk heavy mineral} common yl mottled "red"	WHITE SAND-CLAY						M	1-2	40
13.0					*C10	"	-	-	" ^{no heavy minerals}		77.3	0.8	15	5.3		M	1-2	45
13.5		run 5				wh	-	-	wh sand-clay, f-med qtz, min yl banding, ^{becoming sandier}	↓ grad						M	1-2	45
14.0						"	-	-	wh clay-sand, f-med qtz, ^{no yl mottling}	WHITE CLAY-SAND						G	<1	55
14.5					*C11	"	-	-	"							G	<1	65-70
14.5	15.0	run 6				"	-	-	" ^{min yl banding}							G	<1	60

note: C6 good white color due to very hard sandstone

Project: KANGAROO ISLAND EL 396 Logged by: Ian Buchhorn Drilled by: G. King Drilling Method: Auger, Air Lift
 Hole No: KE 45 Location: 6041800N 671600E Angle: vert Azimuth: - Collar R.L.: ~ 288m Total Depth: 20.5m Date: 8-3-79

Narrow plateau on drainage divide, very well drained.

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
				Drill	Compos.						CRUDE %O ₂	Fe ₂ O ₃	Al ₂ O ₃	L.O.I.	qualit	color	qtz
15.0	15.5					(yl)/wh	-	-	(yl) & wh clay-sand, f-med qtz, min yl mattl, banding	WHITE CLAY-SAND					P	2	65
16.0		run			* 11	(tr yl)/wh	-	-	" trace bk heavy minerals						P-M	1-2	60
16.5		6				"	-	-	wh clay-sand, f-med qtz, pervasive yl tinge		80.4	0.6	13	4.5	P-M	1-2	55
17.0						wh	-	-	"						M	1	60
17.5		run				(tr yl)/wh	-	-	" increased clay, min yl, banding	↓ (YELL) & WHITE CLAY-SAND					M	1	50
18.0		7				yl/wh	-	-	yl & wh mattl & banded clay-sand, f-med qtz, tr mica						P	2	60
18.5						(tr yl)/wh	-	-	" tr bk heavy minerals						P-M	1-2	70
19.0					* 12	(tr ph yl)/wh	-	-	(ph, yl) & wh mattl & banded clay-sand, f-med qtz, tr bk heavy minerals		80.4	0.9	14	4.3	P-M	1-2	70
19.5		run				(yl)/wh	-	-	yl & wh mattl & banded clay-sand, f-med qtz, tr bk heavy minerals						P	2-3	70
20.0		8				"	-	-	"	↓ extreme grad.					P	2-3	70
20.5						"	-	-	" becoming sandier	(YELL) & WHITE CLAY-SAND					P	2	70-75
EOH hard drilling																	
rocks sheared																	
at 22.0m drill																	
depth																	
Probably weathered kaolinitic																	
sandstone bedrock, since																	
mica beginning to occur																	
in the clay-sand.																	
Sample from drill bit at 22.0m																	
yl & dk gy-grn mottled & banded																	
f-med clayey & silty qtz sat,																	
definite bedrock																	
* clay analysis																	

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL396 Logged by: I. Buchhorn Drilled by: C. King Drilling Method: Auger, Air/Li
 Hole No: KI 46 Location: 6043450 N 672200 E Angle: vert Azimuth: — Collar R.L.: ~ 282 m Total Depth: 16.0 m Date: 8-3-77

metres

Narrow plateau, drainage divide, very well drained, common loose ferrite

From	To	Adv.	Rec.	Sample No Drill Compos	Colour	Magnetic	Carbonate	Description	Schem. Sec.	Fe ₂ O ₃	Al ₂ O ₃	LOI	Assay
0.0	0.5			Airlift c1	yl:bn	m	—	fest nod is bk-rd-bn qtz-mottled-horn, maglastic qtzite pbls	IRON-SANDY SOIL	50.3	18.4	20	10.0
	1.0				yl	w	—	f-med, subrd qtz silty sand, loose fest nod, aaaa	YELLOW SILTY SAND				
	1.5			c2	yl/rd/wh	—	—	yl, f-crs, silty qtz sd, min yl cly nod	RED & WHITE CLAY	65.2	2.5	22	8.6
	2.0				"	—	—	yl, rd & wh mottled clay, v. min qtz "grit" (sili-fest)	RED & WHITE SILTY SAND				
	2.5				or/wh/yl	—	—	yl, rd & wh mottled f silty qtz sd, min wh cly	WHITE & YELL SILTY SAND				
	3.0				wh/or/yl	—	—	wh & yl mottled silty f-med, qtz sd, v. min cly					
	3.5			c3	yl/or/wh	—	—	wh, or & yl		78.1	1.2	14	4.5
	4.0				or/yl/wh	—	—	yl, or & wh	inner clay				
	4.5				"	—	—	or, yl & wh mottled clayey silty f-med qtz sand					
	5.0			Auger	(tr or, yl)/wh	—	—	" becoming damp					
	5.5	run 1			pk/wh	—	—	yl & wh mottled silty f-med qtz sand	PINK SILTY SAND				
	6.0				"	—	—	pk & wh mottled, silty f-med qtz sand, a					
	6.5			c4	"	—	—	"		75.4	2.4	16	6.1
	7.0				wh/yl-pk	—	—	yl-pk, f-med, subang - swirl silty qtz sand	PINK-YELLOW SILTY SAND				
	7.5	run 2			pk-yl	—	—	"					
	8.0				"	—	—	"					
	8.5				yl/pk-or	—	—	pk-or	RED-PINK SILTY SAND (WITH BIR)				
	9.0				yl-pk	—	—	yl-pk					
	9.5	run 3		c5	yl/pk-rd	—	—	pk-rd, f-med, subang - swirl silty qtz sand					
	10.0				rd-pk	—	—	"		71.4	7.1	15	5.3
	10.5				"	—	—	"					
	11.0	run 4			"	—	—	pk-rd, f-med silty qtz sand, common clay					
	11.5				"	—	—	"					
	12.0				yl-gn/pk	—	—	thin bedded contact pk silty ss & yl-gn shale, " inner clay, common yl-gn	grad YELLOW GREEN SANDY CLAY (WITH BIR)				
	12.5	run 5			yl-gn	—	—	highly with sandy shale, micaceous, occurring as sandy clay					
	13.0				"	—	—	"					
	13.5				"	—	—	yl-gn clay-sand, sand facies within shale, f-med	YELL GREEN CLAY-SAND				
	14.0	run 6		c6	yl/yl-gn	—	—	"		74.4	4.0	14	4.7
	14.5				"	—	—	"					
	15.0				yl-gn	—	—	"					
	15.5	run 7			(yl)gn	—	—	f-med qtz sd					
15.5	16.0				"	—	—	light green clay-sand, with sst b/w, hard boring					
						—	—	"	hard boring				

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Hole No: K1 47 Location: 6041250 N 674650 E Angle: vert Azimuth: - Collar R.L.: ~ 275 m Total Depth: 23.0 m Date: 9. 3. 79

Plateau abundant loose mud fest float, prob poorly drained

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Auger, Airlift

Hole No: KE 47 Location: 6041250 N 674650E Angle: vert Azimuth: — Collar R.L.: ~275m Total Depth: 23.0m Date: 9-3-79

Indices

Plateau, abundant here and fast flow, probably partly drained

From	To	Adv.	Rec.	Sample N°		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
15.0	15.5				C9	(trpk)/wh	-	-	wh clayey & silty f qtz sd, & min pk mottling	WHITE FINE CLAYEY SAND				
	16.0					(yl)-pk	-	-	(yl)-pk f silty qtz sand	PINK SILTY SAND				
	16.5					rd-pk	-	-	pk f silty qtz sand					
	17.0					"	-	-	"					
	17.5					yl-pk	-	-	"		74.0	4.2	14	4.6
	18.0				C10	rd-pk	-	-	"					
	18.5					yl-pk	-	-	"					
	19.0					"	-	-	"					
	19.5					"	-	-	"					
	20.0					yl/bn-pk	-	-	gn-yl & bn-pk mottled clayey sand, with gn-yl & pk sdy shale	bedrock WITH SHALE (SDY CLAY)				
	20.5					(gn)-yl/pk	-	-	dk rd. gn-yl & pk clayey f qtz sand, with clayey sst & sh	min sst bkr WITH SST BKR CLAYEY SAND				
	21.0					yl-pk / yl	-	-	yl-pk & yl mottled f silty qtz sand (with sst), min micr.					
	21.5				C11	yl/pk	-	-	yl & pk " , good banding, relic a?	bedding?	74.7	4.2	13	4.6
	22.0					lt bn-pk	-	-	lt bn-pk f silty qtz sand, with sst b/r					
	22.5					lt yl-pk	-	-	yl-pk "					
22.5	23.0					(yl)-pk	-	-	(yl)-pk " , hard boring					
									EOH strongly with pink sst.					
									hard boring					
									* clay analysis					

4-194

Hole No.: KJ 48 Location: 6038400 N 669900E Angle: vert Azimuth: - Collar R.L.: ~ 305 m Total Depth: 14.5 m Date: 13-3-79

Highest elevation of plateau in situ massive nodular Fe²⁺ laterite 0.85 km north

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL396 Logged by: I. Buchhorn

Drilled by: La. King

Drilling Method: Auger Ar 1.0

Hole N°: KI49 Location: 6043900N 680750E Angle: vert

Azimuth: _____

Collar R.L.: ~ 231 m

 Total Depth:

23-0 m Date: 13-3-79

Edge of plateau near break of slope	abundant nodular fast	lentic float
	Assay	percent

[illegible]

Project: KANGAROO ISLAND, EL 396 Logged by: I. BuchhornDrilled by: G. KingDrilling Method: Auger, Air/foHole No: KI 49 Location: 6043900N 680750E Angle: vertAzimuth: - Collar R.L.: ~ 23' m Total Depth: 23.0 m Date: 14 3 79

Edge of plateau near break of slope, abundant nodular fest laterite float

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				
				Drill	Compos						CaO	Fe ₂ O ₃	Al ₂ O ₃	SiO ₂	
15.4	15.5					(yl)-wh	-	-	(yl)-wh silty f - med qtz sand	(YELL)-WHITE SILTY SAND (WITH SST BR)					
	16.0				68	"	-	-	" banding (1-2mm) min mv, or, + y/a						
	16.5					(tr pk)-yl-wh	-	-	" min clay						
	17.0					(yl)-wh	-	-	(yl)-wh silty & clayey f - med qtz sand	↓					
	17.5					(tr pk)/wh	-	-	wh clayey & silty f (-med) qtz sand	PINK & WHITE SILTY SAND (WITH SST BR)					
	18.0					"	-	-	" min pk mottling						
	18.5					wh/pk/yl	-	-	wh, pk & yl mottled & banded clayey & silty f - med						
	19.0					wh-yl	-	-	wh & yl " f bk heavy minerals						
	19.5				69	(pk)/yl-wh	-	-	(pk) & yl-wh						
	20.0					(yl)-wh	-	-	(yl)-wh (clayey & silty) f - med qtz sand		77.7	1.0	15	5.1	
	20.5					"	-	-	"						
	21.0					"	-	-	" min pk banding						
	21.5					(pk)/yl/wh	-	-	pk, yl & wh mottled & banded clayey & silty f - med						
	22.0					"	-	-	"						
	22.5					pk/yl/wh	-	-	"						
22.5	23.0					wh/pk/yl	-	-	wh, pk & yl mottled & fine banded (1-2mm), silty f - med	↓					
									EON weathered sandstone bedrock too hard to bore, difficulty in pulling rods						

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Air-lift Auger
 Hole No: KI 5D Location: 6040500N 177750E Angle: vert Azimuth: — Collar R.L.: ~251 m Total Depth: 23.0 m Date: 19-3-7

Localized plateau, loose nodular laterite in pit

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				Qualit	percent	
From	To			Drill	Compos						CaO	Fe ₂ O ₃	Al ₂ O ₃	LOI		color	gts
0.0	0.5			Air-lift	C1	wh/bn	-	-	yl-wh coated bn fast med (loose) in yl-wh f silty	Loose IRONSTONE	51.7	19.5	17	9.8			
	1.0					wh/yl/rd	-	-	yl & rd mottled f silty sand, min yltwh clay "nd"	RED MOTTLED SILTY SAND	59.0	5.8	22	9.3			
	1.5				C2	yl-pk	-	-	rd & yl mottled f silty sand								
	2.0					"	-	-	"	YELLOW & WHITE SILTY SAND							
	2.5					wh/yl	-	-	yl & wh v. f clayey & silty sand								
	3.0					yl-wh	-	-	"		73.0	1.5	17	6.0			
	3.5				C3	(tr wh) wh	-	-	"								
	4.0					(tr wh) yl	-	-	wh & yl f silty sand								
	4.5					(yl) wh	-	-	"								
	5.0			Auger		yl-wh	-	-	"	PINK-YELLOW & WHITE SILTY SD							
	5.5					pk/yl-wh	-	-	pk & yl-wh f silty sand								
	6.0					pk-yl/wh	-	-	pk-yl & wh f silty sand		74.1	1.2	16	5.5			
	6.5				C4	"	-	-	"								
	7.0					"	-	-	pc-pk tinge								
	7.5					"	-	-	poss min yltwh clay								
	8.0					"	-	-	pk-yl & wh f clayey & silty gts sand	(PK-YL) & WH SILTY SAND					P	2	7.5
	8.5					(pk-yl) wh	-	-	(pk-yl) & wh						P	2	7.2
	9.0					"	-	-	(pk-yl) & wh f clayey & silty gts sand, v. min mica	(PINK-YEL) & WHITE CLAY-SD	75.7	0.8	16	5.5	P	2	7.5
	9.5				* C5	"	-	-	"	(PK-YL) & WHITE SILTY SAND					P	2	7.5
	10.0					(tr pk yl) wh	-	-	(pk-yl) & wh f silty gts sand						P	3-4	7.5
	10.5					(yl-ph) wh	-	-	"						P	3-4	7.5
	11.0					"	-	-	"								
	11.5					(mv) (yl) wh	-	-	wh & mv banded f silty gts sand, min clay	MAUVE SILTY SAND (SST 8/R)							
	12.0					(wh) mv	-	-	(wh) & mv banded (1-4mm) f silty gts sd, prob v. with sst bl		72.6	3.4	16	5.7			
	12.5					"	-	-	"								
	13.0					yl-wh/rd/mv	-	-	"								
	13.5				C6	(tr wh) mv	-	-	mv f clayey & silty gts sand, min mica, with sst bl								
	14.0					"	-	-	def mv f sst bl								
	14.5					"	-	-	"								
14.5	15.0					wh/yl/wh	-	-	"	bands of yltst & rd-mv							

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger
 Hole No: KI 50 Location: 6040800N 677750E Angle: vert Azimuth: - Collar R.L.: ~ 251 m Total Depth: 23.0 m Date: 19.3.79

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				
From	To			Drill	Compos.						Crude Oil	Fe ₂ O ₃	Al ₂ O ₃	LOI	
15.0	15.5					(tr wh)/mv	-	-	mv f silty qtz sd, with mv sst b/r	MAJVE SILTY SAND (SST B/R)					
	16.0				c6	"	-	-	"						
	16.5					"	-	-	" min wh banding (1mm)						
	17.0					wh/mv	-	-	wh & mv mottled & banded clayey f (-med) qtz sand						
	17.5					(wh)/mv	-	-	" becoming yellow color	↓					
	18.0					yl	-	-	yl f silty qtz sand	YELLOW SILTY SAND (SST B/R)					
	18.5					(tr mv)/yl	-	-	yl silty f (-med) qtz sand, with sst b/r						
	19.0					"	-	-	" min mv banding						
	19.5					"	-	-	"						
	20.0					"	-	-	"		71.8	5.8	14	5.6	
	20.5				c7	"	-	-	" min mv banding						
	21.0					"	-	-	" min mv banding						
	21.5					yl-mv	-	-	yl-mv clayey & silty f qtz sand, with sst blv						
	22.0					mv-yl	-	-	mv-yl " common clay						
	22.5					"	-	-	mv-yl "						
22.5	23.0					(mv)-yl	-	-	(mv)-yl silty f qtz sand, with yl sst b/r	↓					
									EOH Sandstone bedrock						

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

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Project: KANGAROO ISLAND EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift Auger
 Hole No: KI 51 Location: 6037200N 679750E Angle: vert Azimuth: - Collar R.L.: ~ 261 m Total Depth: 13.0 m Date: 20-3-79

metres										Plateau area, ~10m dissection by Starvation Creek, very well drained										Assay				percent			
From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE SiO2	Fe2O3	Al2O3	LOI			qualit	color	qtz	cont.							
				Drill	Compos.																						
0.0	0.5			Airlift	C1	br-yf	S	-	blk & dk bn mag fest nod in yf f silty sand matrix	IRON SAND	45.8	26.1	16	9.1													
	1.0					wh/yf/rd	m	-	lk siliceous fest nod in rd & wh f silty sand matrix	↓ MOTTLED SILTY SAND																	
	1.5					(wh)/yf/rd	-	-	wh, rd & yf f silty sand																		
	2.0					wh/rd/yf	-	-	"																		
	2.5				C2	"	-	-	" pass v. min clay		72.7	3.1	16	6.1													
	3.0					"	-	-	"																		
	3.5			↓		wh-yf	-	-	wh-yf silty f-med qtz sand	↓ MOTTLED SILTY & CLAYEY SD																	
	4.0			Auger		wh-yf/dkrd	-	-	dk-rd f clayey & silty qtz sand, pass 30% clay		73.4	3.3	16	5.8													
	4.5				C3	wh-yf/or-rd	-	-	wh-yf & or-rd mottled f clayey & silty qtz sand																		
	5.0					"	-	-	"																		
	5.5					wh-yf/pk	-	-	wh-yf & pk f silty qtz sand	(RED) & WHITE SANDY CLAY	69.0	5.6	23	6.5			P	3-5	10-25	1-6							
	6.0				* C4	yl-rd/wh	-	-	yl-rd & wh mottled & banded sandy clay	WH & RED SANDY CLAY							VP	25	5-15	-							
	6.5					wh/yf/rcd	-	-	wh, yf & rd mottled sandy clay, pass <5% qtz?	↓	60.5	7.9	20	10.3			VP	25	5-15	-							
	7.0				* C5	(wh)/mv-rd	-	-	"	YL-RD-MV SILTY CLAY							VP	30	5-15	-							
	7.5					yl-rd-mv	-	-	yl-rd-mv silty clay, min micaceous, prob with rd sh b/r	(WITH SH 3/4)							VP	25	5-15	-							
	8.0					(wh)/mv-yl-rd	-	-	mv-yl-rd silty clay, min wh clay veinlets, micaceous, with sh	↓	59.6	8.9	19	7.6			P	5	5-15	-							
	8.5				* C6	mv-yl-rd/wh	-	-	" & wh (silty) clay	WHITE SILTY CLAY																	
	9.0					mv-yl-rd	-	-	mv-yl-rd silty clay, min rd & yf mottled with st	MV-YL-RD SILTY CLAY																	
	9.5					wh/yl-rd	-	-	wh & yf-rd mottled silty clay, v. f qtz sand - with sh	(WITH SH 8/R)																	
	10.0					yl/yl-rd	-	-	yl-rd silty clay, min v. f qtz sand with shale b/r		62.0	7.8	18	7.2													
	10.5					"	-	-	" min yf & wh mottling & banding																		
	11.0				C7	5R 4/2 yl-pk-rd	-	-	yl-pk-rd silty clay, min yf & rd mottling, with sh b/r																		
	11.5					"	-	-	"																		
	12.0					"	-	-	"																		
	12.5					"	-	-	" inc- f qtz sand																		
12.5	12.5					"	-	-	rd-pk silty clay, common f qtz rd, with sandy sh b/r	↓																	
										EOL Too hard to bore																	
										Under suitable leaching conditions, clay would be a suitable kaolin source.																	

Sheet laterite plateau, at break of slope, well drained

[illegible]

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift Auger
 Hole No: KI 53 Location: 6031000 N 676900 E Angle: vert Azimuth: - Collar R.L.: ~ 248 m Total Depth: 16.0 m Date: 22-3-79

Plateau with abundant massive laterite float, probably poorly drained

metres		Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay				percent		
From	To			Drill	Compos						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI	qualit	color	qtz
0.0	0.5			Airlift		br-yl	m	-	loose dk rd-bn fest nod in bn-yl gtz sd matrix	LOOSE IRONSTONE							
	1.0				c1	yl-br	m	-	dk rd-bn nodular fest, bn silty sand matrix	MASSIVE IRONSTONE	44.5	23.7	17	11.3			
	1.5					(wh)/yl/rd	-	-	yl-rd silty sand, subord dk rd fest nod	SILTY SAND - IRON							
	2.0					(yl)/pk-rd	-	-	pk-rd clay-sand, f-med gtz	PINK & WHITE CLAY SAND					VP	60	60
	2.5			↓		(pk)/wh	-	-	(pk) & wh clay-sand, f-med gtz						P	5-10	60
	3.0			Auger	c2	wh/rd-pk	-	-	wh & pk		74.1	4.0	14	5.2	VP	20	60
	3.5					rd-pk/wh	-	-	rd-pk & wh ^{mottled} sand-clay, f-med gtz						VP	15	40
	4.0					(rd-pk)/wh	-	-	(rd-pk) & wh mottled clay-sand, f gtz	↓					P	10	60
	4.5					wh	-	-	wh clay-sand, f-med gtz, possibly extractable clay	WHITE CLAY SAND					M	1-2	70
	5.0				* c3	"	-	-	"		80.0	1.1	13	4.1	M	1-2	70
	5.5					"	-	-	"						G	1	70
	6.0					"	-	-	"	↓					G	1	70
	6.5					(tr-yl-pk)/wh	-	-	(tr-yl-pk) & wh clay-sand, f (-med) gtz, ^{clayey sand} pass a	(PINK) & WHITE CLAY SAND					P	2	70
	7.0				* c4	"	-	-	" ^{clayey sand}	(PINK) & WHITE CLAY SAND	75.9	1.1	14	5.1	P	2	75
	7.5					"	-	-	(tr-yl-pk) & wh clayey, f (-med) gtz sand						-	2	80
	8.0					(tr-pk)/wh	-	-	"						-	2	80
	8.5					"	-	-	(pk) & wh clayey f-med gtz sand, ^{banded} mottled & a						-	2	80
	9.0					"	-	-	"						-	2	80
	9.5				* c5	"	-	-	"						-	2	80
	10.0					"	-	-	"		75.2	1.2	14	5.0	-	2	85
	10.5					"	-	-	"						-	2	85
	11.0					"	-	-	"						-	2	85
	11.5					"	-	-	"						-	2	85
	12.0					(tr-yl-pk)/wh	-	-	" min yl mottling	↓					-	2-3	85
	12.5					yl/wh	-	-	yl-wh clayey f (-med) gtz sand, prob with sst flr	YELLOW-WHITE SAND							
	13.0					(pk)/wh-yl	-	-	"								
	13.5					(pk)/yl-wh	-	-	"								
	14.0				c6	"	-	-	" yl-gn mottling	↓	74.3	2.2	13	4.8			
	14.5					(pk)/gn-yl-wh	-	-	wh-yl-gn clayey f-med gtz sand, prob with sst flr	WH-YL-GN SAND (WITH SST B/R)							
	15.0					"	-	-	"								
	15.5					wh-yl-gn	-	-	"								
15.5	16.0			↓		"	-	-	" prob subord gtz	↓							

Hole NO: KI 54 Location: 60 21 250 N 679 250 E Angle: vert Azimuth: - Collar R.L.: ~ 65 m Total Depth: 5.5 m Date: 23-3-79

no. 51755

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Air Lift Auger
Hole No: KI 55 Location: 6046150 N 693750 E Angle: vert Azimuth: — Collar R.L.: ~ 206 m Total Depth: 17.0 m Date: 23-3-79

Project: RANGAROO ESSENTIAL FE Site Logged by: _____
Hole No: KI 55 Location: 6046150 N 693750E Angle: vert Azimuth: — Collar R.L.: ~206m Total Depth: 17.0m Date: 23-3-79

Localized laterite plateau, common ironstone float, very well drained ASSV

[illegible]

EXPLORATION DEPARTMENT DRILLING LOG. 194

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Air-lift Auger
Hole No: KI 55 Location: 6046150N 193750E Angle: vert Azimuth: — Collar R.L.: ~ 206 m Total Depth: 17.0 m Date: 23-3-79

Localized laterite plateau common ironstone float, very well drained

[illegible]

COMMONWEALTH ALUMINIUM CORPORATION LIMITED.

EXPLORATION DEPARTMENT DRILLING LOG.

COMMONWEALTH ALUMINIUM CORPORATION LIMITED. ————— EXPLORATION DEPARTMENT. SWEDEN

Project: KANGAROO ISLAND, EL 376 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger

Hole No: KI 56 Location: 6043650 N 687550 E Angle: vert Azimuth: — Collar R.L.: ~ 205 m Total Depth: 17.5 m Date: 24-3-79

Borrow pit, loose and massive nodular ironstone, small plateau, well drained

Narrow pit, loose and massive hematite										Assay									
From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	CRUDE SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI					
				Drill	Compos.														
0.0	0.5			Air lift	C1	(tr rd)-y'	s	-	bn-yl f silty gtz sand & dk gy fest med	IRON- SILTY SAND INDURATED IRONSTONE	44.1	21.1	21	12.8					
	1.0					dk bn-red	w-m	-	bn-red f silty gtz sand-yl, wh & rd sdy clay + adk-gy nod a massive fest lodiform;		39.9	28.6	14	10.7					
	1.5				C2	"	m	-	" " " " " " " " " "										
	2.0					"	m	-	" " " " " " " " " "	↓ WHITE & RED CLAY-SILT	53.1	22.0	14	7.8					
	2.5				C3	wh/pk/bn-red	w	-	wh & pk-red mottled clay-silt & dk bn-red f silty sand	↓ MOTTLED SILTY SAND									
	3.0					wh/dk-red	-	-	wh & pk-red mottled clay-silt common & f gtz sd	↓ YELLOW SILTY SAND	74.7	3.2	12	5.1					
	3.5					rd/yl	-	-	rd & yl mottled f silty gtz sand	↓ MOTTLED SILTY SAND									
	4.0					wh/rd/yl	-	-	wh, rd & yl " " " " " " " " " " gtz common subrel med.										
	4.5				C4	yl	-	-	yl f silty gtz sand										
	5.0					"	-	-	" " " " " " " " " "										
	5.5					rd/wh/yl	-	-	rd, wh & yl mottled f (clayey &) silty gtz sand										
	6.0					wh/rd/yl	-	-	" " " " " " " " " "										
	6.5				↓	yl	-	-	yellow										
	7.0				Auger	rd-yl	-	-	rd & yl mottled v.f clayey & silty gtz sand										
	7.5				C5	"	-	-	" " " " " " " " " "										
	8.0					"	-	-	" " " " " " " " " " banding pronounced fine (clay)		69.6	5.6	13	5.9					
	8.5					yl/rd-mv	-	-	yl & rd-mv mottled f clayey & silty gtz sand										
	9.0					yl-rd	-	-	yl-rd f clayey & silty gtz sand										
	9.5					pk-mv	-	-	mv " " " " " " " " " "										
	10.0					mv/yl/rd	-	-	mv, yl & rd mottled " " " " " " " " " "										
	10.5					"	-	-	" " " " " " " " " "										
	11.0					(pk-) yl	-	-	(pk-) yl f clayey & silty gtz sand										
	11.5				C6	"	-	-	" " " " " " " " " "		68.3	6.6	13	5.6					
	12.0					"	-	-	" " " " " " " " " "										
	12.5					"	-	-	" " " " " " " " " "	↓ YELL-GREEN SAND (WITH SST B/R)									
	13.0					"	-	-	" " " " " " " " " "										
	13.5					yl-gn	-	-	yl-gn silty f-med gtz sand, with sst b/r										
	14.0					"	-	-	" " " " " " " " " "										
	14.5				C7	wh-yl-gn	-	-	wh-yl-gn " " " " " " " " " "										
14.5	15.0					gn-yl	-	-	gn-yl " " " " " " " " " "										

Project: KANGAROO ISLAND, EL 396 Logged by: I. Buchhorn Drilled by: G. King Drilling Method: Airlift, Auger
Hole No: KI 56 Location: 6043650N 68755EE Angle: vert Azimuth: — Collar R.L.: ~ 205 m Total Depth: 17.5 m Date: 24-3-79

Borrow pit, loose and massive nodular ironstone, small plateau, well drained.

From	To	Adv.	Rec.	Sample No		Colour	Magnetic	Carbonate	Description	Schem. Sec.	Assay			
				Drill	Compos.						SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	LOI
	15.5			Auger		gn-y1	—	—	gn-y1 silty f-med qtz sand, min heavy minerals	GREEN-YELL SAND (WITH SST B/R)				
	16.0				L7	"	—	—	"					
	16.5					"	—	—	gn-y1 f-med qtz sand, min ar-y1 banding & mottling		74.7	4.0	10	4.4
	17.0					"	—	—	"					
17.0	17.5			↓		yl-gn	—	—	" min mica	↓				
									EOH Sandstone bedrock					
									hard boring					