ANNUAL REPORT
EXPLORATION LICENCE 27/90
CORINNA, TASMANIA

for the period
22nd March, 1992 to 22nd March, 1993

BY

C.H.C.SHANNON

22-2-1993

CORINNA CLAYS PARTNERSHIP

(South Raeburn Pty. Ltd & C.H.C. Shannon)
319 Brisbane St West Launceston 7250

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AMG REFERENCE POINTS ADDED

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Contents

Introduction

The project has been on the back burner this year owing to difficult times for both partners, involving complicated commitments and tight finances. However the project is well ahead of its expenditure commitment.

A craft-use project at the Devonport TAFE did not progress during the year but is likely to go ahead this year. The sample material for this project comprises secondary kaolin from site QP 7 and dark ball clay from site QP 6. For the orthodox ceramic assessment project there has been difficulty in getting firm quotes from our ceramic consultants, in New Zealand but this problem is expected to be cleared up by next week, after which progess can be expected on the suite of samples prepared for this purpose from excavator sites QP 14, QP 16 and QP 20.

Summary of previous work

Since the 1 square kilometre licence area was granted the partnership has conducted a rescue operation on the data from the previous Savage Resources sampling effort. The samples themselves proved to be beyond practical salvage but *previously unpublished logs from their* auger drilling were typed up and published in last season's annual report. To substitute or the ruined Savage Resources samples an excavator program of 20 pits was conducted in January 1992. This program provided enough material or the next stage of analysis and ceramic assessment. The assay results came through after the annual report was submitted but before the end of the reporting period and so were included loose in the map pocket. The previous work by Savage Resources did at least show that the excavator approach was practicable since the maximum thickness of the main clay bed; 5 metres is just within reach of most excavators, and a fairly good estimate of the subcrop position o the top of the major clay seam could be made from their sections.

Nevertheless Savage Resources could reasonably been expected to have done all their recording work properly and turned over their samples to our partnership in good order; and because they did not do so we have been put to serious extra expense and delay.

A rapid preliminary assessment of samples from surface exposures was conducted by Rynne Tanton of the University of Tasmania at Launceston and Crickhollow Pottery. This was directed towards suitability for craft use of "as dug" material put through elementary level processing.

Work completed in the 1992-93 report period

No field work was attempted, but an assessment of the assay results from the excavator program has identified a critical core area of the deposit which has to come good if the deposit is to work as an export pottery base producer. Blended samples have been prepared for the next phase of commercial ceramic assessment. An interpretation of the available assay and ceramic assessment work to date is presented below.

Some enquiry as to the demand for a good quality ball clay in Victoria revealed an alarming picture of industry adapted to the use of low grade but dirt cheap material such as that obtained from the overburden over brown coal in the Latrobe valley generally saline clays from Bacchus Marsh. Overseas the situation may well be more promising with a crisis developing in Japan from imminent depletion of the local ball clay equivalent, Kibushi clay, for which there is only 10 years supply left (O'Driscoll (1992) p33). Value averages placed on clay imports other than kaolin vary from yen equivalents of approx $A 115 to $A 248, compared with $A 252 for Australian kaolin (at Y82:$A1).

Commentary on assay and ceramic performance results

By comparison with the overseas commercial ball clay assays in Bristow (1987) the clays are rather high in silica and loss on ignition and low in alumina. The assays on John Hosking's (1987) processed material show notable increase in alumina. Direct observations in the excavations revealed a substantial amounts of fine sand as sandy laminae in the deposit and portions of the main clay bed become obviously more sand than clay in some places.

There is a distinct possibility that the actual kaolin content is quite low. Apart from simple dilution effects attributable to quartz and organic matter there is the relatively high potash content: Although it has the beneficial effect of making the clay self vitrifying (vide Rynne Tanton's pots from bases prepared exclusively from the light "secondary sedimentary kaolin" form of the clay) it does suggest that much of the available alumina is in a muscovite type mica in the deposit; so limiting the alumina and silica component available for a kaolin phase. The base proved "flabby" and of marginal plasticity on the potter's wheel; features which can readily be explained by limited kaolin content.

The unleached "dark ball clay" form of the clay has notably higher L.O.I. than the leached "secondary sedimentary kaolin" form suggesting organics amounting to something like 10% in the dark ball clay. The organics include fossil leaves and woody lignite that could be removed in a wet process.

There is a correlation between hardpan clay and poor craft pottery performance. It proved impossible to make a base from sample MS 4 which comes from the same area as QP 8/2-4 which has both hardpan and a very low alumina content.

For the colouring elements, it appears that most of the iron is present as a sulphide mineral since iron oxide and sulphate assay values have linked varience (expressing the sulphur (S) as artificial SO3 has the effect of pushing totals over the 100%). And I would hazard a guess that the titanium is also largely present as a heavy mineral sand phase such as rutile. It is interesting that the wet process work of Hosking had the effect of upping the alumina without upping the iron or titania which tends to confirm that these oxides will go out with the sand size quartz in wet processing. Possibly some density-sensitive separation approach would work well in bringing down Fe-ox and titania levels.

Sample selection for industrial ceramic assessment

Six sets of representative samples which cover the critical core zone of the prospect have been selected for the next stage of ceramic assessment work. The excavator samples are roughly 25 kg each for samples approximating 1m true stratigraphic intervals. These samples were dried and broken up at Analabs, Burnie with a jaw crusher so that particle size in the sand-silt-clay range should be unaffected.

Using the assay results and visual character as guides I have prepared the six representative samples by making up a composite and splitting out 4 * 200g bagged samples for each set, according to the requirements of ceramic consultant John Clay. The composites are made up from adjacent samples of closely similar chemical character and since each represents a 1m interval the chemistry of the composites is theoretically a simple average of the assays of the samples included.

Present plans

It is hoped to get the commercial ceramic assessment samples treated within the next few months.

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ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

All Units in percent
All method OX 408
X Ray Fluorescence spectroscopy

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	104103.60.08610	13/03/92		1 OF 4

TUBE No.	SAMPLE No.	Al2O3	SiO2	TiO2	Fe2O3	MnO	CaO	K2O
1	QP2-2	13.98	75.9	0.90	0.71	0.01	0.01	2.14
2	QP5-1	12.15	78.7	1.37	0.79	0.01	0.01	2.12
3	QP6-1 & 6-2	9.36	71.3	1.13	0.70	0.01	0.01	1.53
4	QP6-3 & 6-4	12.63	64.7	1.21	0.77	0.01	0.01	2.06
5	QP6-5	8.86	84.1	0.99	0.67	0.01	0.01	1.46
6	QP7-1	14.48	74.8	1.43	0.88	0.01	0.01	2.47
7	QP8-1	15.84	73.7	1.04	0.80	0.01	<0.01	2.42
8	QP8-2 & 8-3 & 8-4	9.49	77.6	1.68	0.70	0.01	0.01	2.25
9	QP8-5	19.87	66.4	1.65	1.04	<0.01	0.01	3.59
10	QP12-1 & 12-2	12.00	62.8	1.17	2.39	0.01	0.01	1.94
11	QP12-3 & 12-4	14.31	63.7	0.97	1.17	0.01	0.01	2.27
12	QP12-5	13.07	75.7	1.34	0.77	0.01	0.01	2.42
13	QP14-1	19.38	65.6	0.85	0.78	0.01	0.01	2.44
14	QP14-2 & 14-3	13.23	64.2	1.27	0.90	0.01	0.01	2.07
15	QP14-4 & 14-5	14.22	62.2	1.20	1.15	0.01	0.01	2.20
16	QP16-1 & 16-2	12.50	67.6	1.06	0.79	0.01	0.02	1.80
17	QP16-3 & 16-4	11.96	68.5	1.14	0.82	0.01	0.02	2.00
18	QP17-1	11.80	81.2	0.60	0.66	0.01	<0.01	1.40
19	QP18-1	14.03	77.4	0.82	0.76	0.01	0.01	1.95
20	QP18-2	15.68	69.3	0.84	0.66	0.01	<0.01	2.27
21	QP19-1 & 19-2	14.02	66.4	0.94	0.98	0.01	0.01	2.07
22	QP20-1	15.08	74.0	1.11	0.74	0.02	0.01	2.31
23	QP20-~~1~~2 & 20-3	11.56	68.6	0.74	1.05	0.01	0.01	1.65
24	QP20-4	11.57	80.6	0.72	0.72	0.01	0.01	1.61
25	Detection limit	0.05	0.1	0.01	0.01	0.01	0.01	0.01

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

033010

ANALABS

All Units in per cent

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

All Method OX408
X-Ray Fluorescence spectroscopy

ANALYTICAL DATA

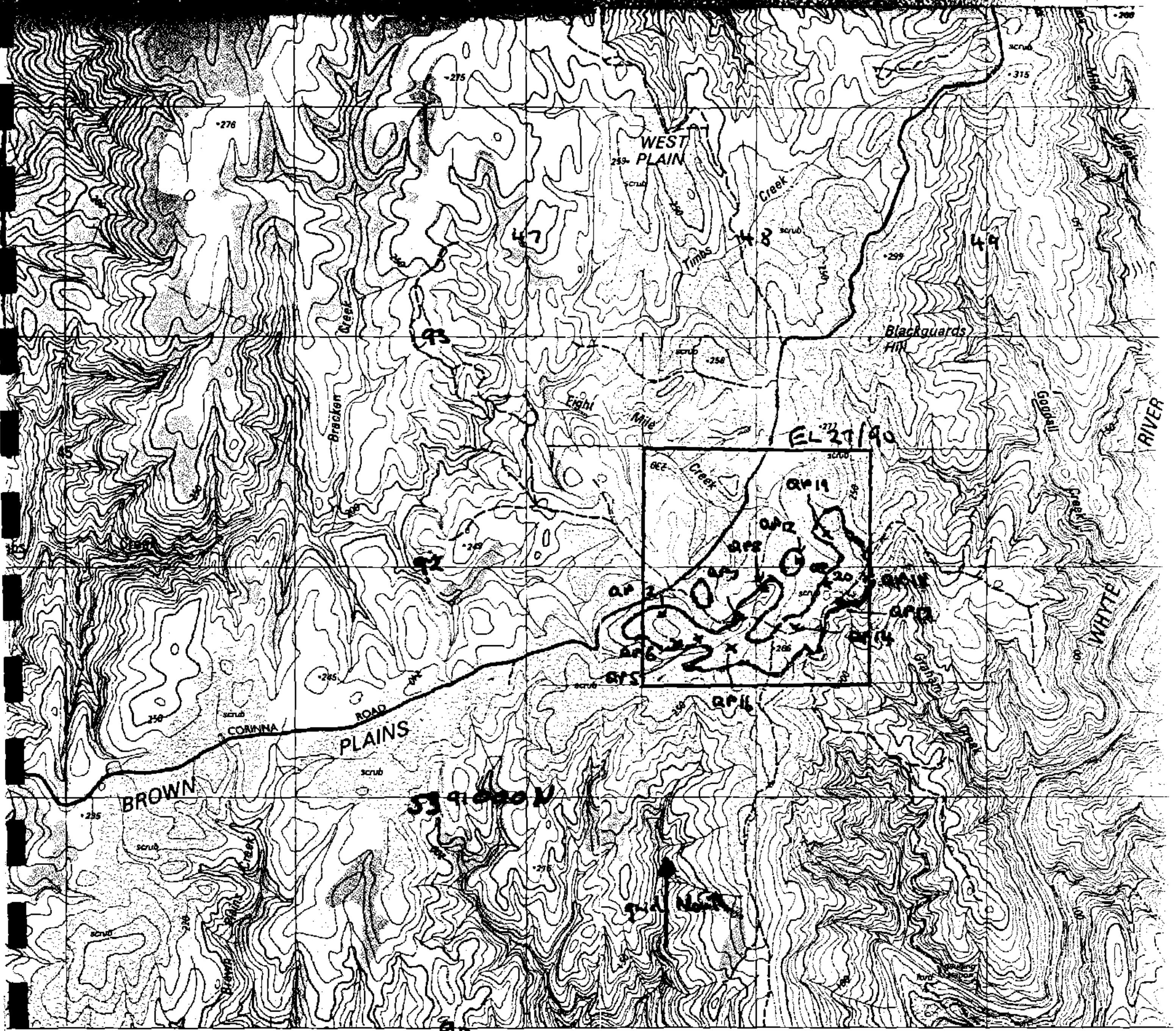
SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	104103.60.08610	13/03/92		3 OF 4

TUBE No.	SAMPLE No.	MgO %	P205 %	S03 %	Na20 %	LOI %	TOTAL %
1	QP2-2	0.54	0.025	0.09	<0.05	5.71	100.02
2	QP5-1	0.51	0.025	0.07	0.17	4.08	100.01
3	QP6-1 & 6-2	0.39	0.024	0.42	<0.05	15.04	100.00
4	QP6-3 & 6-4	0.48	0.023	0.35	0.06	17.82	100.10
5	QP6-5	0.36	0.027	0.13	<0.05	3.09	99.72
6	QP7-1	0.62	0.025	0.12	0.12	4.64	99.65
7	QP8-1	0.56	0.027	0.09	0.07	5.21	99.81
8	QP8-2 & 8-3 & 8-4	0.48	0.033	0.17	0.07	7.39	99.91
9	QP8-5	0.80	0.027	0.09	0.10	6.36	99.95
10	QP12-1 & 12-2	0.46	0.034	2.03	0.12	18.58	101.57
11	QP12-3 & 12-4	0.49	0.029	0.81	0.16	16.45	100.38
12	QP12-5	0.56	0.028	0.16	0.09	5.58	99.76
13	QP14-1	0.52	0.025	0.18	0.06	9.92	99.79
14	QP14-2 & 14-3	0.48	0.020	0.50	<0.05	17.13	99.80
15	QP14-4 & 14-5	0.51	0.024	0.73	<0.05	17.99	100.25
16	QP16-1 & 16-2	0.45	0.023	0.33	0.07	15.64	100.29
17	QP16-3 & 16-4	0.45	0.026	0.26	<0.05	14.74	99.94
18	QP17-1	0.30	0.042	0.11	<0.05	4.16	100.27
19	QP18-1	0.43	0.028	0.11	0.12	4.60	100.26
20	QP18-2	0.47	0.031	0.16	0.06	10.34	99.82
21	QP19-1 & 19-2	0.45	0.025	0.54	<0.05	14.14	99.62
22	QP20-1	0.51	0.026	0.08	0.05	5.80	99.73
23	QP20-2 & 20-3	0.35	0.025	0.80	0.06	15.62	100.47
24	QP20-4	0.34	0.029	0.25	<0.05	4.22	100.06
25	Detection limit	0.01	0.005	0.01	0.05	0.01	0.01

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER [signature]

33011



45 3 46 000 E 47 48 49 WARATAH 64

PIEMAN

SAMPLE LOCATIONS.

1000 500 0 1

metres

Residential area; Commercial buildings

Roads maintained for continuous public use — Primary road with route number; Secondary road with route number; Minor road with route number; Other road (sealed / unsealed)

Roads of restricted use or access — Other roads with bridge; Vehicular track with gate

Walking track, horse trail (approximate position) with bridge

Railway with station; Places entered in National Estate Register — Karoola

Power transmission line with pylon positions

Building; Feature of historic or special interest; Ruin; Mine

Post office; Police station; Fire station; School — PS FS sch

Caravan park; Camping ground; Public toilets

Disposal area; Visitor information centre; Cemetery

Picnic area; Trig station beacon; Spot elevation

Contour with value; Depression contour

Quarry, pit or open cut mine

Rock scree; Broken rocky surface

Dense forest; Medium forest

Low dense vegetation; Distinctive grass

Orchard; Pine plantation

Eucalypt plantation; Submerged trees

AMG REFERENCE POINTS ADDED