Open File Envelope No. 9199

EL 1843

CALCA

PARTIAL SURRENDER REPORT FOR THE PERIOD 12/7/93 TO JUNE 1997

Submitted by
Commercial Minerals Ltd
1997

Enquiries: Customer Services
Ground Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

PRIMARY INDUSTRIES AND RESOURCES SA

ENVELOPE 9199

TENEMENT: EL 1843, Calca (area S and SW of Poochera on northwestern Eyre Peninsula, SA)

TENEMENT HOLDER: Commercial Minerals Ltd

CONTENTS

[Note: Colour microfilm images of Pg. 17, Pg. 18, Pg. 24 and Pg. 27 are at the end of the plans on the microfiche]

END OF CONTENTS

SEPARATELY HELD DATA

DRILLHOLE SAMPLES (held by MESA Core Library)

For up to date information on available drillhole samples, contact the Supervisor, MESA Core Library and quote the Exploration Licence and drillhole number/s you wish to query.

CO 1-23

COMMERCIAL MINERALS LIMITED

A.C.N. 000 971 844

A wholly owned Normandy Company

GEOLOGICAL SERVICES DIVISION

ADELAIDE OFFICE
100 Eastern Parade
GILLMAN, South Australia

Telephone: (08) 8240 8200
Fax : (08) 8341 0644

PO Box 74, Rosewater East, SA 5013 Australia

PARTIAL SURRENDER REPORT EXPLORATION LICENCE NO 1843

POOCHERA PROJECT STREAKY BAY and ELLISTON 1:250 000 SHEETS SI 53-2 and SI 53-6

Author: L. Barnes

Date: July 1997

Authorised By: L Barnes

Distribution: SA Department of Mines and Energy (1)

CML Gillman Office (1)

Norex Library Adelaide (1)

Report No. 21 810

REPORT NUMBER: 21 810

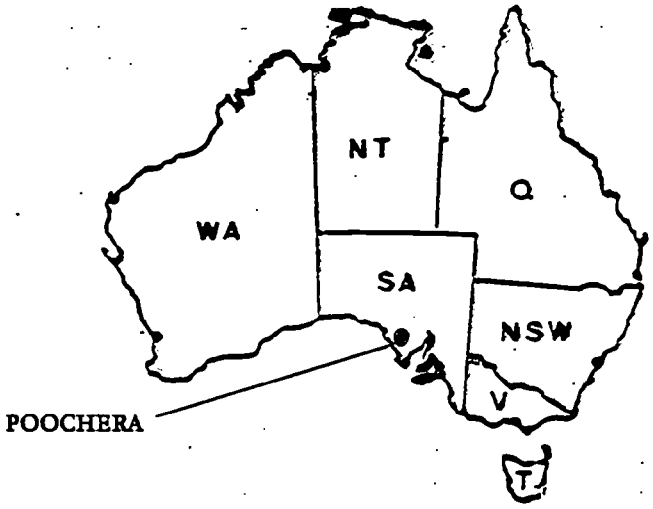
TITLE: PARTIAL SURRENDER REPORT
EXPLORATION LICENCE NO 1843

POOCHERA PROJECT
STREAKY BAY and ELLISTON 1:250 000 SHEETS
SI 53-2 and SI 53-6

AUTHOR: L. BARNES

DATE: JULY 1997

LOCATION MAP:



ABSTRACT

This report summarises exploration carried out by Commercial Minerals Limited and Normandy Exploration Ltd on part of EL 1843 from July 1993 (date of granting) to June 1997 (date of partial surrender).

Drilling over a wide area south and southwest of Poochera on northwestern Eyre Peninsula, South Australia, had recognised the widespread occurrence of deeply kaolinised granitic and metasedimentary basement. In July 1993 Commercial Minerals Limited was granted contiguous Exploration Licences 1843 and 1846 covering a total area of 673km^2. CML's objective was to assess the potential for commercial quality kaolin within the licence areas.

Between September and December 1993 CML completed a 148 hole drilling program covering both Exploration Licences. Twenty three drillholes were located in the Colley Hill - Witera area, within the surrended portion of EL 1843.

Fifteen composite samples from these Colley Hill drillholes were submitted to the University of SA, CSIRO Division of Soils, and CML's TSD Laboratory for testing and ceramic evaluation. Test work comprised; determination of moisture content, conductivity, pH, -45μm yield, -10μm yield, -2μm yield, halloysite content, major element chemical analysis, and reflectance and shrinkage tests. Raw and fired whiteness of Colley Hill kaolin was poor when compared to kaolin elsewhere in the Poochera area. There is little potential for commercial development of kaolin from the Colley Hill - Witera area.

In March 1994 Normandy Exploration Ltd submitted three bottom-hole samples from Colley Hill drillholes that intersected basement lithologies. A multi element suite of analyses, including gold, was completed on each of these samples by Amdel Laboratories, Adelaide. The results were negative.

In March 1997 Normandy Exploration undertook a regional calcrete sampling across ELs 1843 and 1846 on a 1km X 1km grid. Two hundred and sixty five calcrete samples were collected from the surrended portion of EL 1843. Gold values were uniformly low with only four samples reporting gold $\geq$ 3.0 ppb.

Given the extremely low potential for gold or base metal mineralisation, and the generally poor quality of the kaolin it has been decided to surrender that part of EL 1843 east of Longitude 134^{0}. 30'E.

CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 History

In the period 1971 to 1984 a number of companies exploring for base metals and uranium on northwestern Eyre Peninsula reported thick intersections of kaolinised basement. In the period 1986-1991, follow up work in several areas showed that while the quality of the kaolin was highly variable, some samples recorded exceptional unfired and fired whiteness and high -2μm yields.

Commercial Minerals Limited (CML) became actively involved in exploration for kaolin in the Poochera area in 1991 with a bulk sampling program at Carey's Well deposit. In July 1993 CML acquired EL 1846 (formerly EL 1484) and applied for, and was granted, EL 1843.

During September 1993, CML conducted a regional drilling program completing 148 drillholes for 3745m in four areas, namely; Calca - Chilba, Colley Hill - Witera, Karcultaby and Carey Well. Kaolinised granitic basement was intersected in all four areas. Twenty three RC drillholes (379m) were drilled in the Colley Hill area.

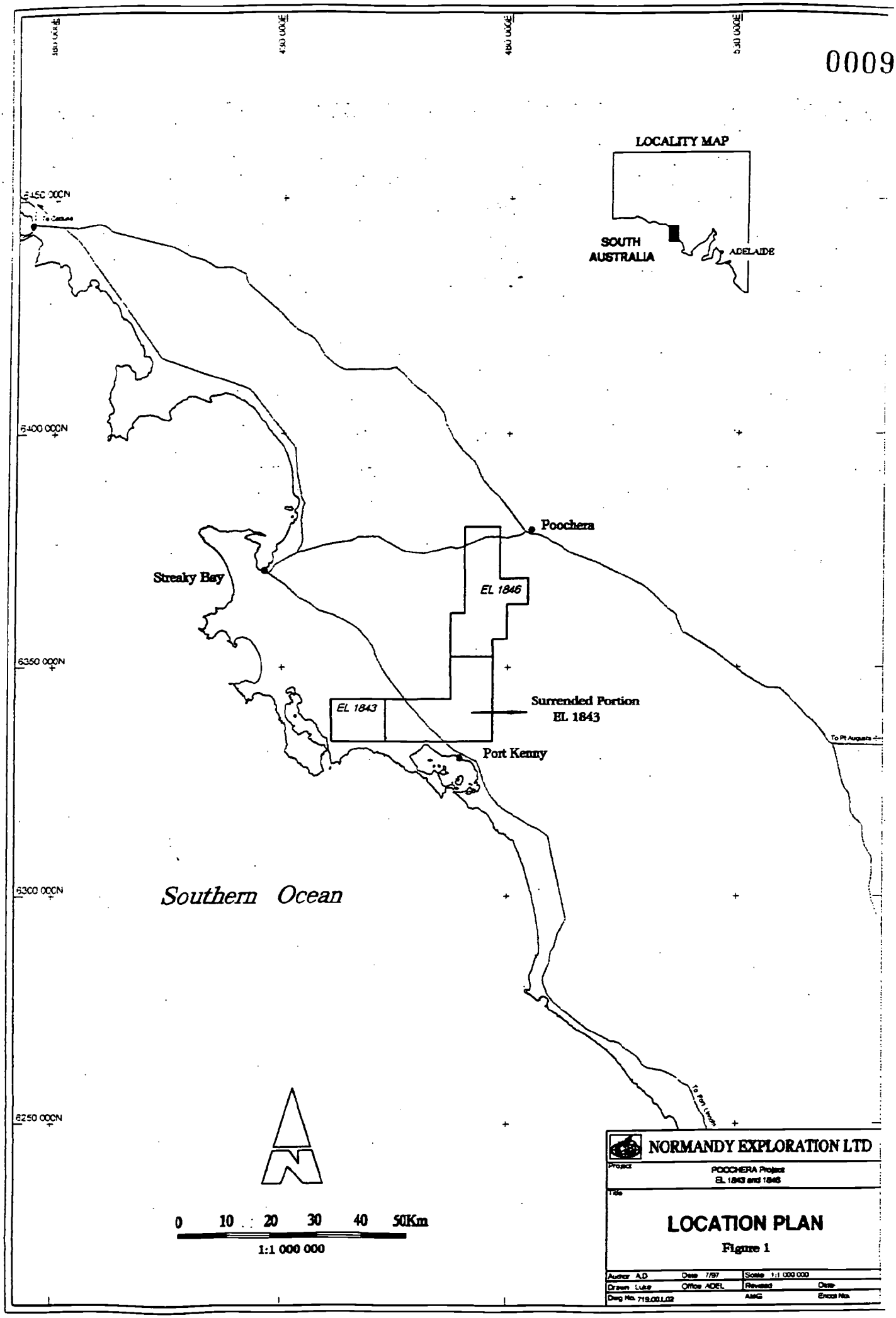
One metre drillhole samples from Colley drillholes were composited giving 15 composite samples which were despatched to several laboratories for characterisation testwork. Analyses comprised; moisture, conductivity, pH, -45μm yield, -2μm yield, halloysite content, major element chemical analysis, and reflectance and shrinkage tests.

In March 1997 Normandy Exploration Limited (Norex) conducted a regional calcrete sampling over the entire area of ELs 1843 and 1846 on a 1 km X 1 km east-west offset grid. Two hundred and sixty five samples were collected from the surrended portion of EL 1843. Calcrete samples were submitted to Analabs, Adelaide for gold analysis.

This report summarises the exploration carried out by CML and Norex on the surrended portion of EL 1843 from July 1993 to June 1997.

1.2 Location & Tenure

Poochera is a small township about 130km east of Ceduna along the Eyre Highway on northwestern Eyre Peninsula. EL 1843 lies to the southwest of Poochera (Fig. 1).



NORMANDY EXPLORATION LTD

Project: POOCHERA Project
EL 1843 and 1846

Title:

LOCATION PLAN

Figure 1

Author A.D	Date 7/97	Scale 1:1 000 000	
Drawn Luke	Office ADEL	Revised	Date
Dwg No. 719.00.L02		AMG	Errors No.

Exploration Licence 1843 was granted on 12 July 1993. The licence is centred about 13km northwest of Port Kenny and covers a total area of approximately 388 km^2. It is defined as commencing at a point being the intersection of latitude 33°03'S and longitude 134°22'E, thence east to longitude 134°39'E, north to latitude 32°58'S, east to longitude 134°45'E, south to latitude 33°08'S, west to a line parallel to and 800m inland from the high water mark, Venus Bay, thence generally westerly along the said parallel line to latitude 33°08'S, west to a line parallel to and 800m inland from the high water mark, Bairds Bay, thence generally northerly along said parallel line to longitude 134°ss'E and north to the point of commencement, but excluding the Areas Reserved from the Mining Act G.G. 2/9/82 and G.G. 13/1/77,(Fig. 2). The surrended area comprises all of EL 1843 east of longitude 134°.30'East.

The topography is flat to gently undulating. The major land use is cereal crops and sheep and cattle grazing so the majority of the land has been cleared, with the exception of some remnant patches of mallee scrub.

The climate is dry with mean annual rainfall being about 300mm. Average maximum January and June temperatures are 28.6° and 16.9°, respectively.

1.3 Previous Work

Ferris and Keeling (1993) detailed kaolin exploration in this area up to 1992. CML's exploration activities on ELs 1843 and 1846 are reported in Collins, (1994 and 1996) and work by Norex is detailed in Downie (1997).

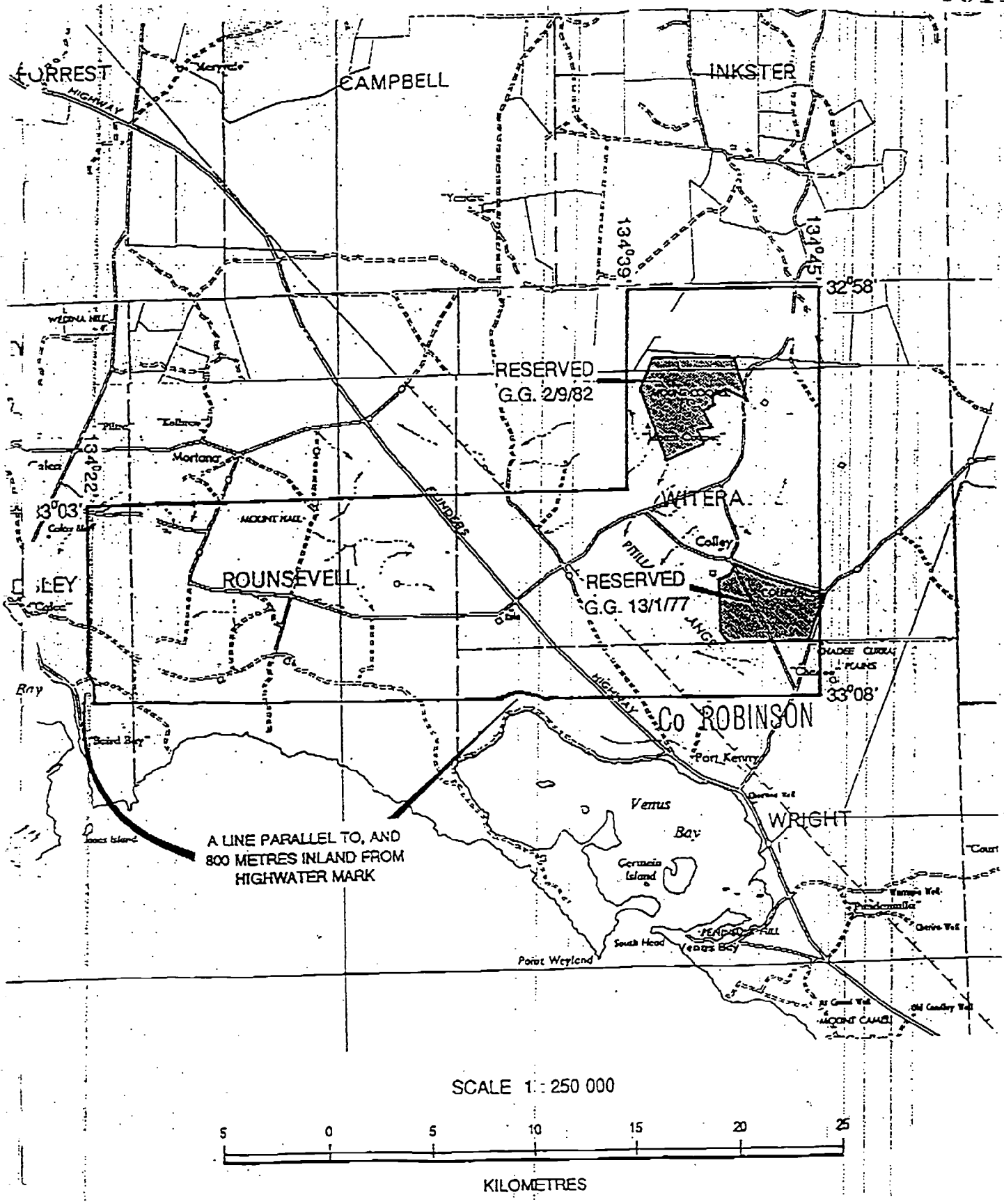


Figure 2
Tenement Details - EL 1843
1:250 000 Scale

2. NATIVE TITLE

The Poochera Project tenements are now covered by the Barngarla Native Title Claim SC 96/4). This claim covers the entire Eyre Peninsula extending up to Leigh Creek in the northeast and across to Bulgunnia homestead in the northwest. This application was lodged with the National Native Title Tribunal on 4 April 1996 and accepted on 21 August 1996. The registered native title claimant is Henry Croft on behalf of the Barngarla families.

3. GEOLOGY

Regional geology is summarised on Figure 3, adapted from the STREAKY BAY (Rankin and Flint, 1991) and ELLISTON (Flint 1989) 1:250 000 geological sheets.

The Poochera area lies within the central region of the Gawler Craton, a large crystalline basement province consisting of variably deformed Late Archaean to Mesoproterozoic rocks. Three tectonic megacycles are recognised within the Gawler Craton.

Late Archaean-Palaeoproterozoic - An Archaean volcanic-sedimentary sequence complexly deformed, metamorphosed, and intruded by granitoids during the Sleafordian Orogeny (2500-2300 Ma). This is known as the Sleaford Complex.

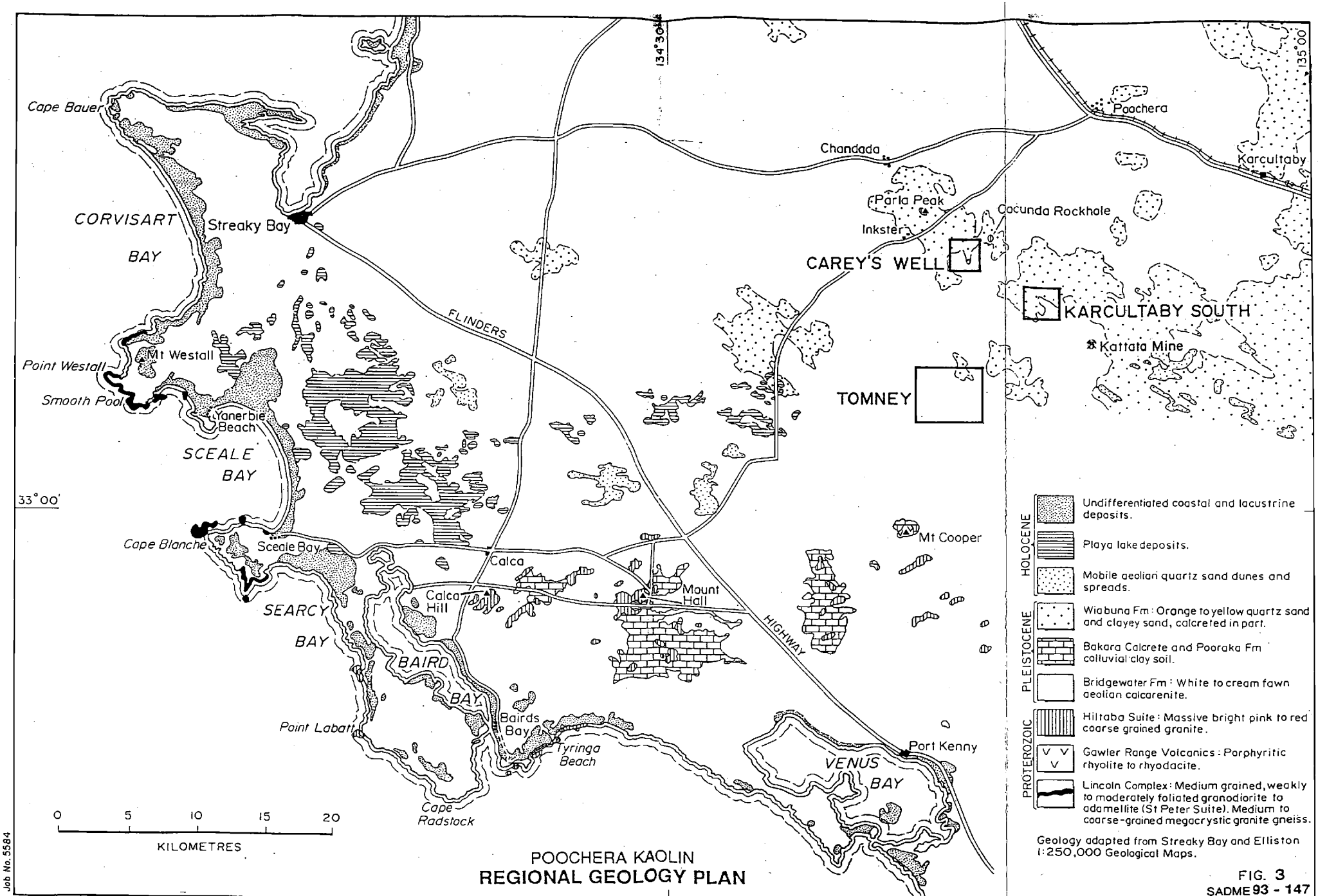
Palaeoproterozoic - Several discrete phases of sediments and volcanism with associated magmatism (Lincoln Complex), deformation, and metamorphism during the Kimban Orogeny (1850-1700 Ma).

Mesoproterozoic - Extensive anorogenic (1590Ma) volcanism (Gawler Range Volcanics) with contemporaneous granitoid plutonism (Hiltaba Suite).

In the Poochera area this Archaean-Proterozoic basement is covered by Quaternary sediments. As a result, the older metamorphic units (Sleaford and Lincoln Complexes) crop out only along coastal areas. Inland outcrops of basement are restricted to Hiltaba Suite granite (or Calca Granite on ELLISTON 1:250 000 sheet) at Parla Peak, Cocunda Rockhole, Kattata Mine, Mt Cooper, Mt Hall, and Calca (Fig. 5).

Unlike the highly deformed gneissic granitoids of the Sleaford and Lincoln Complexes, the Hiltaba Suite granite is undeformed and coarse grained. It is comprised predominantly of potassium feldspar and quartz with minor plagiolase and minor to rare biotite.

The overlying Quaternary cover is dominated by Bridgewater Formation of Pleistocene age, which comprises fine to medium grained calcareous aeolianites and calcarenites. The thickness of this unit varies from <5m inland to over 90m in some coastal sections (i.e. Cape Radstock). During Bridgewater Formation deposition, episodes of sediment accumulation were interspersed with erosion and arid pedogenesis, producing multiple horizons of sheet, nodular and massive calcretes with carbonate soils.



Geology adapted from Streaky Bay and Elliston 1:250,000 Geological Maps.

POOCHERA KAOLIN
REGIONAL GEOLOGY PLAN

FIG. 3
SADME 93 - 147

Job No. 5584

0014

The timing of the kaolinisation event(s) is not known although it is believed to be climatic rather than hydrothermal kaolinisation. The foliated Sleaford and Lincoln Complexes form extensive weathering profiles however, the higher mica and mafics content produce inferior quality kaolin. Because of the coarse-grained unfoliated nature of the Hiltaba Suite granite, weathering profiles are generally thinner, but kaolin quality is superior (e.g. Carey's Well and Karcultaby South).

The distribution of near surface Hiltaba Suite granite can be inferred from regional geophysics.

4. EXPLORATION UNDERTAKEN

4.1 Commercial Minerals Limited

The main objective of CML's exploration program was to assess the potential for commercial quality kaolin in the Poochera-Port Kenny area.

To realise this objective, a two phase program was designed to:

- Increase geological data on the known deposits.
- Assess the regional potential for further deposits.

Phase 1 involved infill and additional drilling and re-sampling in areas of known kaolin mineralisation. The high priority target areas included Carey's Well, Karcultaby, and then Tomney.

Phase 2 required selection of a number of areas for wide spaced drilling along roads to assess the potential for kaolin mineralisation. Only kaolinised Hiltaba Suite granite was targeted. Criteria for area selection were; outcropping or near-surface Hiltaba Suite granite, low overburden thickness, and reported presence of kaolinised basement from water bore logs etc. The Colley Hill - Witera was selected for evaluation under Phase 2 of the exploration program.

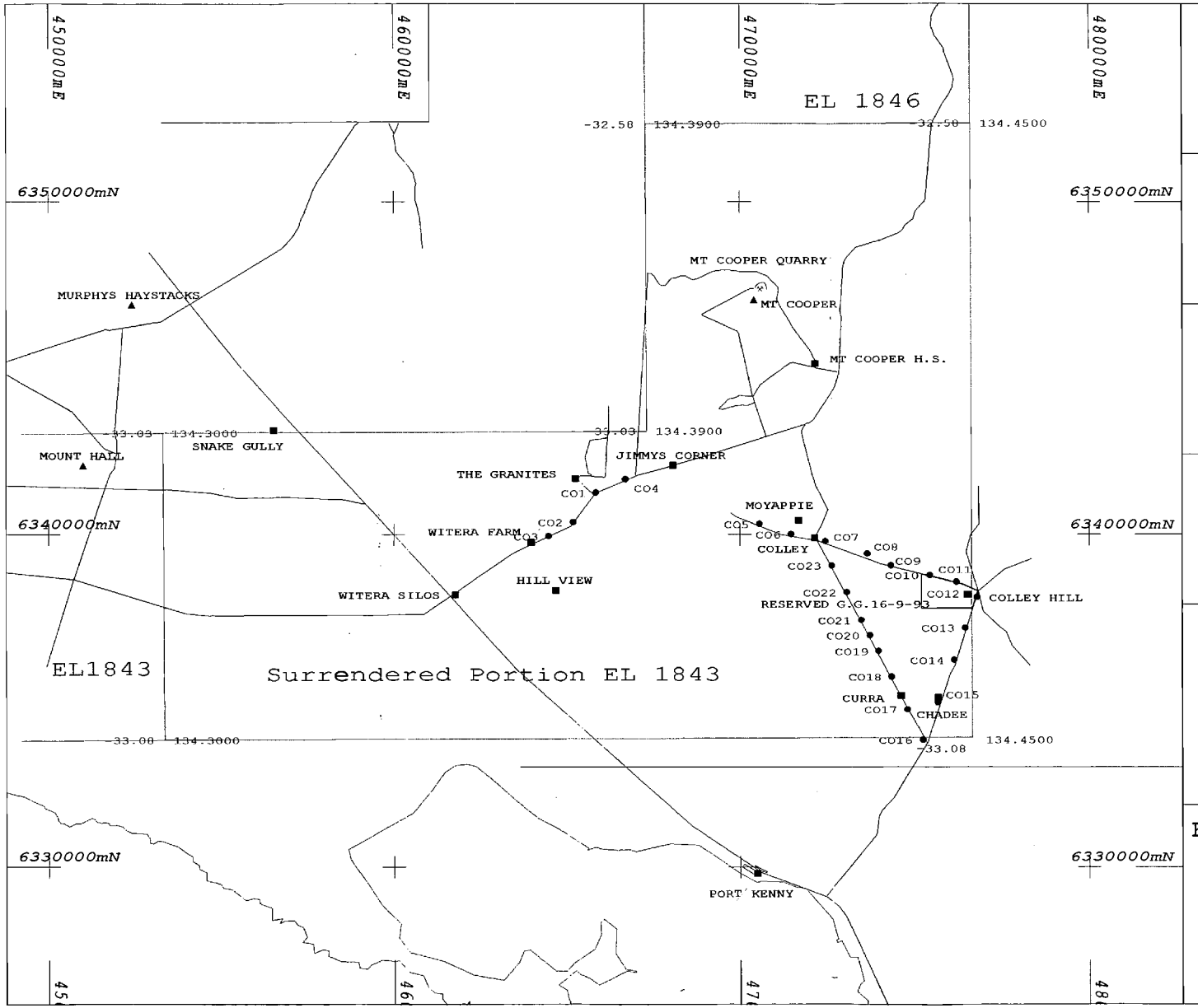
4.1.1 Drilling - Colley Hill area

Drilling was carried out in October 1993. All drilling was completed by Charter Drilling Pty Ltd using a Gemco H22 Multi Purpose drill rig. In the Colley Hill area all drillholes were completed using RC-hammer and RC-air core techniques. A drilling summary is presented in Table I, drillhole locations are shown on Figure 4 and a generalised section through the area is shown on Figure 5.

TABLE I

DRILLING SUMMARY - COLLEY HILL AREA

Open Hole			R.C.			HQ-Core		
Hole	m	Sample	Hole	m	Sample	Hole	m	Sample
0	0	0	23	379	117	0	0	0



Mining and Geological Services
Gillman S.A.
Prepared by D.Archibald
PH (08) 8240 8236

Commercial Minerals LTD
100 Eastern Parade
Gillman S.A. 5013
Ph.(08) 8240 8200
Fax.(08) 8240 1010

Plotted :11\7\97
scale= 1:125000
Grid= :AMG
Datum= :ASSUMED
Pel File:Po51
Prn File:Po51

MM Files used
1843Sur.dat
Pogen.svy
Po94dhc.dat

Poochera Kaolin Project
Poochera S.A.
Surrendered Portion of
EL 1843 showing
Drillhole Locations

Figure 4

Key

- EL Surrendered
- EL Retained
- Road \Track
- CML Drilhole

0017

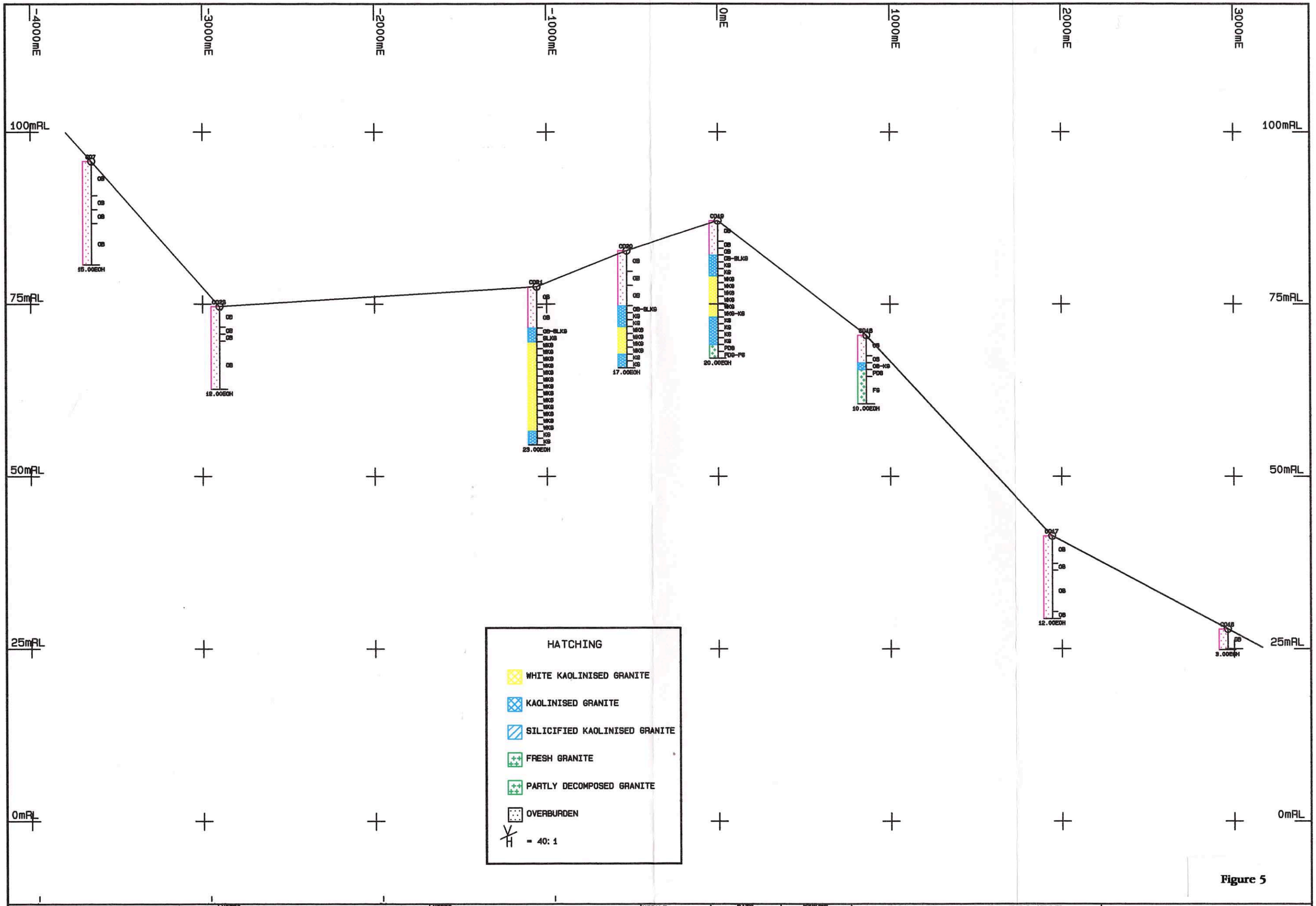


Figure 5

	NOTES :	NOTES :	XSCALE 1: 20000 / YSCALE 1: 500	DATE 10\1\95 / PBLFILE P0016	FIGURE (12) / PLTFILE P0016	POOCHERA KAOLIN PROJECT COLLEY AREA NW-SE SECTION (VIEW NE) FIGURE 12	COMMERCIAL MINERALS LTD OLD MAITLAND ROAD SANDGATE N.S.W.

All holes in this area were drilled using an RC-aircore technique which proved very successful for sampling kaolinsed granite but frustratingly slow penetrating overburden. A technique was developed to allow openhole drilling through the overburden and then converting to RC-aircore to sample the kaolinised profile. This technique was used in all subsequent drilling in the Poochera area.

A total of 117 one metre RC samples were collected in the Colley Hill area. No core holes were drilled.

4.1.2 Sample Compositing

On the completion of drilling all samples were re-located to CML, Gillman. The samples were laid out in holes, and intervals for compositing were determined. Intervals were composited using the following criteria:

Only samples from individual holes to be composited,

A maximum composite thickness of 5m,

All 1m samples in a composite to be consecutive, and

Only white to off-white kaolinised granite to be composited.

When compositing, each 1m sample was split using a 25:75 sample riffle. A standard volume (two scoops) was taken from the 25% split. In this way each 1m sample has equal weighting in the composite. The standard volume from each 1m sample was combined and the composite sample was riffle split to produce a 1-2kg sample for testing, the remainder of the sample was retained.

Fifteen composite samples were generated from the Colley Hill drillholes. Details of the composites are set out on Table II.

TABLE II

SAMPLE COMPOSITES - COLLEY HILL DRILLHOLES

Hole	Interval (m)	Thick (m)	Sample No
CO2	11-16	5	249729
CO2	16-21	5	249730
C02	21-26	5	249731
CO3	12-15	3	249732
CO4	15-20	5	249733
CO5	13-15	2	249734
CO6	22-25	3	249735
CO6	25-29	4	249736
CO9	13-18	5	249737
CO19	7-10	3	249738
CO19	10-13	3	249739
CO20	11-15	4	249740
CO21	8-13	5	249741
CO21	13-17	4	249742
CO21	17-21	4	249743

4.1.3 Sample Preparation and Testing

The composite samples were subjected to a range of tests to determine suitability for various applications.

University of South Australia (UNISA)

The fifteen composite samples from Colley Hill drillholes were sent to the Metallurgy Department of the Gartrell School of Mining, Metallurgy and Applied Geology, University of South Australia for sample preparation and initial evaluation.

Test work comprised;

- as received moisture
- Conductivity and pH
- >45 micron yield
- <45 micron yield

Results of this work are presented in Appendix B

CSIRO

A 100g subsample of the -45μm fraction as prepared by UNISA was sent to the CSIRO Division of Soils Laboratory, Urrbrae, South Australia.

Work undertaken comprised:

- Conductivity,
- <2μm yield,
- Halloysite content in the <2μm fraction, and
- XRD

Results from this work are presented in Appendix C

Halloysite content was determined using the FT-IR Partial Least Squares (FT-IR PLS) technique developed by CSIRO (Janik and Keeling, 1991; Keeling *et al*, 1993). This method proved to be both quick and accurate. Halloysite content is important as it is believed to effect the rheological properties of kaolin, an important factor in paper coating and ceramic applications.

Scanning Electron Microscope (SEM) examination of selected samples was also conducted to compare point counting halloysite determinations with FT-IR results.

TSD

Based on the results received from UNISA and CSIRO four Colley Hill composite samples were sent to CML's Technical Services Division (TSD) laboratory in Melbourne for ceramic evaluation.

Analyses conducted included:

- Major element chemical analysis,
- Brightness determinations on unfired samples and samples fired at 1080°C, 1180°C and 1280°C,
- Water absorption, and
- Shrinkage.

Results from this work are presented in Appendix D.

During firing some discs cracked and/or became concave due to inappropriate firing rates. This cracking and concaving would have a deleterious effect on measured reflectance.

4.2 Normandy Exploration

Exploration completed comprised multi element analysis of bottom hole samples and a regional calcrete sampling program over the entire area.

4.2.1 Drillhole Assaying - March 1994

Three bottom-hole samples from Colley Hill drillholes were submitted to Amdel Laboratories, Adelaide for multi element analysis, including gold. Analysis included Au (2ppb) - AA9 technique involving an aqua-regia digest of 50gm charge, with a AAS carbon rod finish. Cu (1 ppm), Pb (3 ppm), Zn (1 ppm), As (1ppm), Ag (0.5 ppm), Ni (1 ppm), Fe (0.01%), Mn (5 ppm), Cr (2 ppm) and Bi (5 ppm) were analysed using an aqua-regia digest and recorded by ICP-OES (method IC2E) equipment. U (0.02 ppm) was also analysed using an aqua-regia digest and recorded with the ICP-MS (method IC2M) equipment.

Hole numbers and sampled intervals are shown on Table III below.

TABLE III

BOTTOM HOLE SAMPLES - MULTI ELEMENT ANALYSIS
COLLEY HILL DRILLHOLES

Sample No	Hole No	From	To	EOH	Lithology
249837	CO2	27	30	30	PDG
249838	CO11	11	12	12	KG-PDG
249839	CO19	18	20	20	PDG-FG

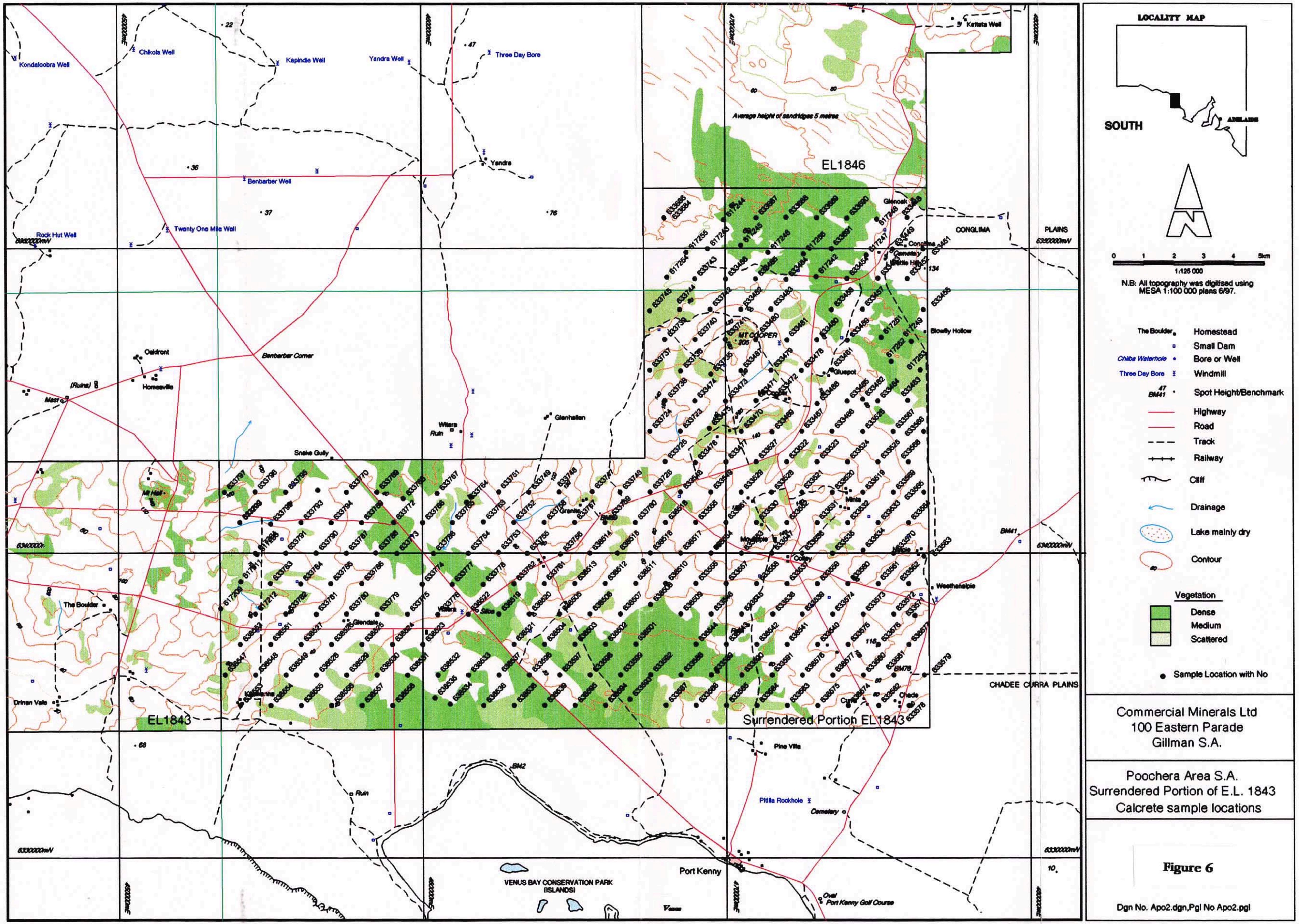
The geological legend for the lithology field in Table III is as follows:

Code		Lithology
PDG	=	partially decomposed granite
KG	=	kaolinised granite
FG	=	fresh granite

4.2.2 Regional Calcrete Program - March 1997

A regional calcrete sampling program was conducted over the entire area of ELs 1843 and 1846. Over the surrended area the program comprised collection and analysis of 265 samples. The sampling grid used was a 1km X 1km east-west offset grid (Fig. 6). The calcrete horizon was typically located between the surface and approximately 0.8m depth, and varied from massive to nodular. Calcrete is very widely distributed throughout the area resulting in a sampling recovery rate in excess of 95%.

Approximately 1-2kg of calcrete was collected at each site and submitted to Analabs, Adelaide for gold analysis using their GG334 technique. This involves an aqua-regia digest of a 30gm sample charge with a AAS carbon rod finish. The achievable detection limit is 1 ppb. The analytical results are listed in Appendix E.



Commercial Minerals Ltd
100 Eastern Parade
Gillman S.A.

Poochera Area S.A.
Surrendered Portion of E.L. 1843
Calcrete sample locations

Figure 6

Dgn No. Apo2.dgn,Pgl No Apo2.pgl

0024

5. EXPLORATION RESULTS

5.1 Kaolin

Kaolin (kaolinised granite) intersected in drillholes in the Colley Hill - Witera area is similar, in most respects, to kaolin intersected elsewhere in the Poochera area. The -45μm (kaolin) fraction typically averages 50%, the remainder being coarse quartz. Halloysite content varies from 0% (CO3/12-15) to about 80% (CO6/22-29). Of the Colley Hill samples tested only one (CO9/13-18) was shown to be relatively pure kaolinite. The other three composite samples reported elevated silica levels probably related to the presence of fine quartz.

Colley Hill kaolin reported markedly lower whiteness (both raw and fired) when compared with results for kaolin samples from elsewhere in the Poochera area. Sample #249737, the purest kaolin, reported a fired whiteness of 98 @ 1180°C, all other results were significantly lower. It is considered that premium ceramic kaolin should have a minimum fired whiteness of 100 at both 1180°C and 1280°C. The poor fired colour of Colley Hill kaolin is probably due to:

- the presence of fine quartz in the kaolin
- the ubiquitous presence of very fine black particles in Colley Hill kaolinised granite. These particles have been identified (SEM) as fine iron oxides.

Because of the poor raw and fired colour of Colley Hill kaolin, particularly when compared with kaolin from other areas in ELs 1843 and 1846, it is considered that kaolin from this area has little potential for commercial development.

5.2 Gold/Base Metals

5.2.1 Drillhole samples

Multi element analytical results for the three bottom hole samples from Colley Hill drillholes are tabulated below.

TABLE IV

MULTI ELEMENT ANALYSIS - COLLEY HILL DRILLHOLES
(All results in ppm, unless otherwise indicated)

Sample No	Cu	Pb	Zn	As	Ag	Ni
249837	4	14	5	2	1.0	2
249838	11	22	15	<1	1.0	4
249839	9	10	11	1	0.5	5

Sample No	Fe%	Mn	Mo	Cr	Bi	U
249837	0.30	20	1	40	<5	1.05
249838	0.95	70	2	48	<5	0.82
249839	1.55	50	3	90	<5	0.98

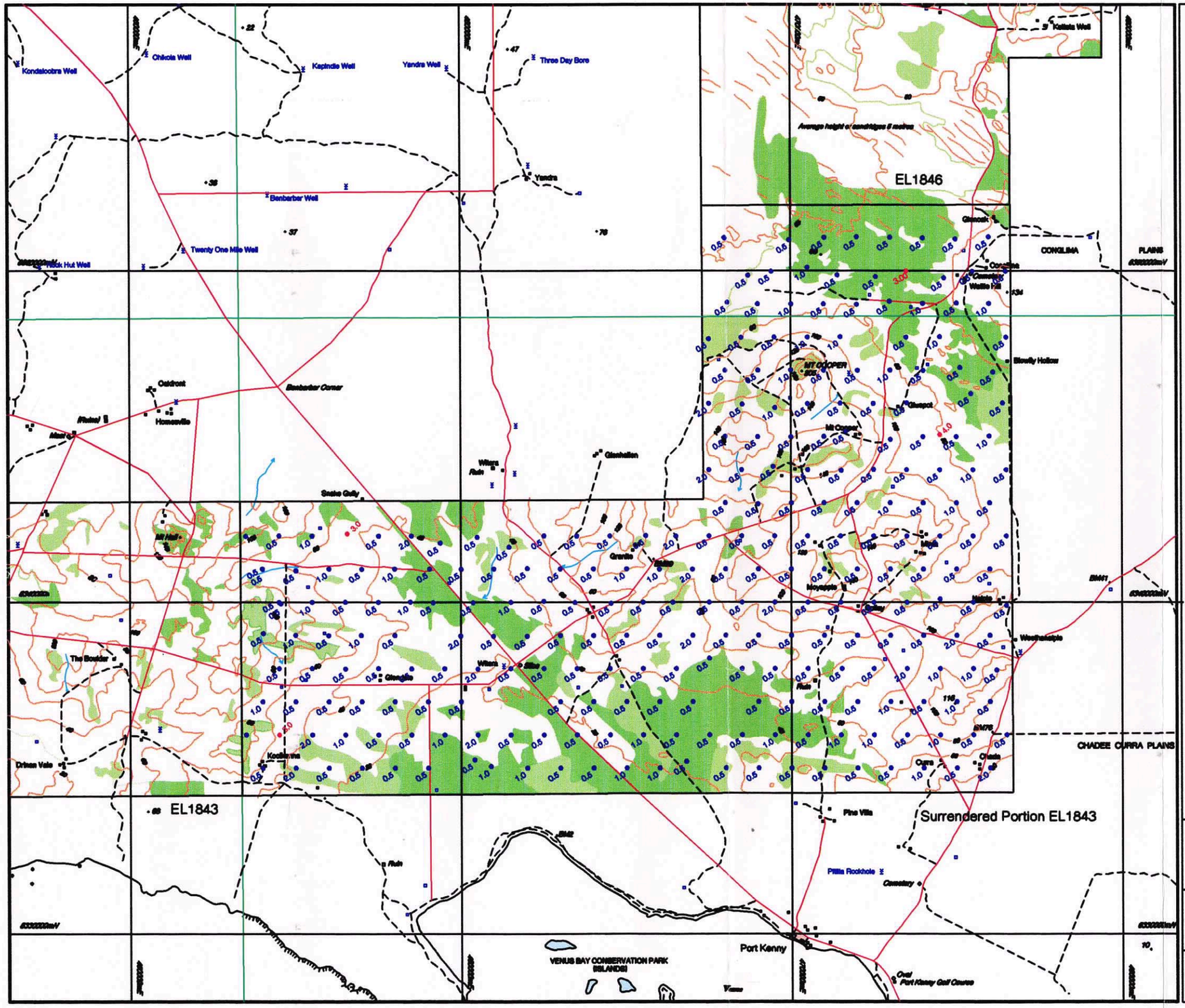
The results were disappointing, with no significant results returned.

5.2.2 Regional Calcrete Sampling

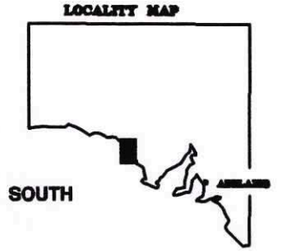
The results returned were disappointing with a overwhelming majority of samples returning gold values $\leq$ 1.0 ppb,(Fig 7). Only four samples returned gold values $\geq$ 3.0 ppb.

There are many exposures of Hiltaba Suite granites through the area investigated and Gawler Range Volcanics are exposed at Mount Cooper. The basement rocks are overlain by Tertiary and Quaternary cover. Overburden thickness is variable but is typically 5m - 10m and invariably less than 20m. Given the relatively shallow nature of the basement rocks, and the widespread distribution of calcrete throughout the area calcrete sampling is considered to be an effective regional screening tool in this area.

The negative results for both the drillhole sampling and the regional calcrete sampling suggests that there is little potential for significant gold/base metal mineralisation in this area.



LOCALITY MAP



0 1 2 3 4 5km

1:125 000

N.B: All topography was digitised using MESA 1:100 000 plans 6/97.

- The Boulder — Homestead
- Small Dam
- Chilba Waterhole — Bore or Well
- Three Day Bore — Windmill
- 47 BM41 — Spot Height/Benchmark
- Highway
- Road
- Track
- Railway
- Cliff
- Drainage
- Lake mainly dry
- Contour

Vegetation
- Dense
- Medium
- Scattered

1.0 Sample Location \PPB Gold

Commercial Minerals Ltd
100 Eastern Parade
Gillman S.A.

Poochera Area S.A.
Surrendered Portion of E.L. 1843
Dgn No. Apo3.dgn Pgi no Apo3.pgi

Calcrete sample locations

Figure 7

0027

6. EXPENDITURE

Expenditure on the surrended portion of EL 1843 totals $ 69 804 for the period July 1993 to June 1997. Tables V and VI summarise expenditure details.

TABLE V

CML EXPENDITURE SUMMARY - PART EL 1843

Drilling	13 550
Consultancy Fees	400
Accommodation & Travel - Local	3 100
- Overseas	5 500
Motor Vehicle Costs	400
Laboratory - External	3 650
- Internal	2 400
Office Expenses	400
Field Living Expenses	500
Sample Storage	730
Time Costs - Geological	10 300
- Head Office	10 300
- Casual Labour	720
TOTAL	**51 950**

TABLE VI

NOREX EXPENDITURE SUMMARY - PART EL 1843

Drillhole Sampling - March 1994	
Analytical Costs	80
Regional Calcrete Program - March 1997	
Drafting/Printing/Office Supplies	20
Courier/Freight/Postage	130
Analytical and Assay	1 970
Travel/ Accommodation/Meals	1 030
Field Supplies/Exploration Consumables	20
Equipment Purchases	14
Vehicle Operating Costs	1 210
Regional Office Allocation	3 290
Depreciation	950
Other Contractors/Casuals	2 400
Salaries & Wages	6 740
TOTAL	**17 854**

7. CONCLUSIONS AND RECOMMENDATIONS

Exploration for kaolin, gold and base metals in the Colley Hill - Witera area has been disappointing.

A potentially large resource of kaolinised granite has been partly defined in the Colley Hill area. The kaolinised granite is at relatively shallow depths with overburden thickness ranging from 2m to 20m and averaging about 10m. In the area investigated kaolinised granite is everywhere developed on Hiltaba Suite Granite and is composed almost entirely of fine (<45μm) kaolinite and coarse (>53μm) quartz in roughly equal proportions. Both the raw and fired whiteness of Colley Hill kaolin is poor. The off-white to cream colour is due to the presence of fine quartz and very fine black iron oxide and unaltered biotite disseminated through the kaolin. There is little, if any, potential for commercial development of kaolin in the Colley Hill - Witera area.

Bottom hole sampling of kaolin exploration drillholes and a regional calcrete sampling program did not define any gold or base metal anomalism worthy of follow-up. Because the basement rocks are at relatively shallow depths, and calcrete is well developed throughout the area the regional calcrete sampling program is considered to be an effective regional exploration tool in this area.

It is considered that there is little potential for significant base metal or gold mineralisation to occur in the Colley Hill - Witera area.

It is recommended that the eastern portion of EL 1843, east of Longitude 134°.30'E be surrended.

8. REFERENCES

Collins, P., 1994. Technical Report on Exploration Licence No's 1843 and 1846 for twelve months to 11 July 1994. Poochera Kaolin Project. STREAKY BAY AND ELLISTON 1:250 000 sheets SI 53-2 and SI 53-6. *Normandy Mining Ltd (CML) Report No 30 045 (unpublished).*

Collins, P., 1996. Technical Report on Exploration Licence No's 1843 and 1846 for twelve months to 11 July 1995. Poochera Kaolin Project. STREAKY BAY AND ELLISTON 1:250 000 sheets SI 53-2 and SI 53-6. *Normandy Mining Ltd (CML) Report No 20 076 (unpublished).*

Downie, A.J., 1997 Progress Report Poochera Project. ELs 1843 and 1846. For period March 1994 to 30th June 1997. STREAKY BAY 1:250 000 Sheet SI 53-2, ELLISTON 1:250 000 Sheet SI 53-6. *Normandy Mining Ltd (Norex) Report No 21 355 (unpublished).*

Ferris, G.M. and Keeling, J.L., 1993. Review of exploration for kaolin near Poochera,, northern Eyre Peninsula, South Australia. *South Australia Department of Mines and Energy. Report Book 93/18. (unpublished)*

Flint, R.B., 1989. ELLISTON map sheet. *South Australia Geological Survey. Geological Atlas 1:250 000, sheet SI 53-6.*

Janik, L.J. and Keeling, J.L., 1991. FT-IR partial least-squares analysis of Tubular halloysite in kaolin samples from the Mount Hope Deposit. *CSIRO Division of Soils, Technical Memorandum 77/1991.*

Keeling, J.L., Janik, L.J., Raven, M.D., McClure, S. G., and Fazey, P.G., 1993. Characterisation of kaolin from Poochera, Eyre Peninsula, and calibration for quantitive determination of halloysite using FT-IR analysis. *CSIRO - Division of Soils, Technical Report 70/1993.*

Rankin, L.R. and Flint, R.B., 1991. Explanatory notes for STREAKY BAY 1:250 000 MAP SHEET. *South Australia Department of Mines and Energy, sheet SI 53-2.*

9. BIBLIOGRAPHIC DATA SHEET

REPORT NUMBER:	21 810
REPORT TITLE:	PARTIAL SURRENDER REPORT EXPLORATION LICENCE NO 1843 POOCHERA KAOLIN PROJECT STREAKY BAY and ELLISTON 1:250 000 SHEETS SI 53-2 and SI 53-6
AUTHOR:	L.C.Barnes
PROSPECT NAME(S):	POOCHERA
TENEMENT NUMBER:	EL 1843
OWNER/JV PARTNERS:	COMMERCIAL MINERALS LIMITED (100%)
COMMODITY(IES):	Kaolin Gold
TECTONIC UNIT(S):	Gawler Craton
STRATIGRAPHIC UNIT:	Lincoln Complex Hiltaba Suite Granite
1:250 000 MAP SHEET(S):	STREAKY BAY SI 53-2 ELLISTON SI 53-6
1:100 000 MAP SHEET(S):	
KEYWORDS:	Gawler Craton Hiltaba Suite Granite RC Drilling Sample Analysis Calcrete Sampling

APPENDIX A

Drill Logs - Colley Hill Area
1993 Drilling Program

Descriptive logs by P Collins (CML) and G Ferris (MESA)

Summary logs by P Collins (CML)

DRILL HOLE SUMMARY - COLLEY AREA

Hole #	Total depth(m)	Easting	Northing	RL
CO1	13	465850.273	6341248.621	90.0342
CO2	33	465189.227	6340362.682	82.0262
CO3	18	464479.360	6339941.253	71.2042
CO4	30	466699.152	6341650.659	70.5932
CO5	24	470553.923	6340302.606	115.6662
CO6	39	471457.018	6339996.973	98.7422
CO7	15	472434.617	6339785.108	95.7562
CO8	15	473650	6339450	
CO9	21	474347.148	6339057.871	94.7252
CO10	5	475443.900	6338765.645	73.4862
CO11	12	476217.331	6338563.640	89.9802
CO12	7	476799.831	6338104.596	82.7882
CO13	16	476470.348	6337186.834	70.3012
CO14	7	476146.211	6336219.779	76.7372
CO15	10	475669.534	6334945.604	42.6842
CO16	3	475253.299	6333806.712	27.8552
CO17	12	474819.051	6334729.928	41.3632
CO18	10	474366.290	6335712.050	70.5262
CO19	20	473982.273	6336484.310	87.1202
CO20	17	473729.840	6336954.640	82.7562
CO21	23	473478.084	6337414.258	77.5672
CO22	13			
CO23	12	472625.858	6339050.543	74.6582

Hole #	From	To	Lithology	Description
CO1	0.0	3.0	OB	Sand, f-m, calcareous, cream-pink
	3.0	4.0	OB	Sandy clay, f-m, brown
	4.0	5.0	KG	Kaolinized granite, cream-brown, fine grained
	5.0	6.0	KG	Kaolinized granite, off-white to cream
	6.0	7.0	KG	Kaolinized granite, orange-tan
	7.0	10.0	PDG	Granite, partly decomposed, pink-tan
	10.0	13.0	FG	Granite, pink
	EOH 13m			
CO2	0.0	4.0	OB	Sand, f-m, calcareous, cream-pink
	4.0	6.0	OB	Sandy clay, f, cream-tan
	6.0	10.0	OB	Sand and gravel, f-c, tan-cream
	10.0	11.0	KG	Kaolinized granite, cream-white
	11.0	26.0	WKG	Kaolinized granite, white
	26.0	27.0	KG-PDG	Kaolinized granite, pink
	27.0	30.0	PDG	Granite, partly decomposed, pink-cream
	30.0	33.0	PDG-FG	As above becoming fresh with depth
	EOH 33m			
CO3	0.0	6.0	OB	Sand, f-m, calcareous, cream-tan
	6.0	12.0	OB	Sand and gravel, f-c, cream-tan
	12.0	13.0	WKG	Kaolinized granite, white to off-white
	13.0	15.0	WKG	Kaolinized granite, white
	15.0	16.0	WKG-KG	Kaolinized granite, white to tan-orange
	16.0	18.0	PDG	Granite, partly decomposed, pink
	EOH 18m			
CO4	0.0	6.0	OB	Sand, f-m, calcareous, cream-pink
	6.0	14.0	OB	Sand and gravel, f-c, brown-white
	14.0	15.0	OB-WKG	Sand, f-m, white grading to kaolinized granite, white
	15.0	20.0	WKG	Kaolinized granite, white
	20.0	21.0	WKG-KG	Kaolinized granite, white to tan
	21.0	22.0	KG?	Kaolinized granite?, cream-tan - NO SAMPLE RETURN
	22.0	27.0	KG	Kaolinized granite, cream - WET
	27.0	30.0	KG	Kaolinized granite, cream - SLURRY
	EOH 30m			

Hole #	From	To	Lithology	Description
CO5	0.0	4.0	OB	Sand, f-m, calcareous, cream-pink
	4.0	11.0	OB	Sand and gravel, f-c, cream-tan
	11.0	12.0	WKG	Kaolinized granite, white
	12.0	13.0	WKG	Kaolinized granite, white -minor patches of tan
	13.0	15.0	WKG	Kaolinized granite, white
	15.0	16.0	WKG	Kaolinized granite, white - minor bands of tan
	16.0	17.0	KG	Kaolinized granite, cream to tan
	17.0	21.0	KG	Kaolinized granite, off-white to tan
	21.0	22.0	KG-PDG	Kaolinized granite, cream-pink, becoming PDG with depth
	22.0	24.0	FG	Granite, pink
	EOH 24m			
CO6	0.0	7.0	OB	Sand, f-m, calcareous, cream-pink, minor gravel
	7.0	11.0	OB	Sand, f-m, calcareous, cream-pink
	11.0	14.0	OB	Sand, f-m, pink-tan
	14.0	15.0	OB	Clayey sand, f-c, cream-tan
	15.0	18.0	OB	As above, f-m, poorly sorted
	18.0	20.0	OB	Sand, f-c, white silicified
	20.0	21.0	OB-SLKG	As above becoming SLKG with depth
	21.0	22.0	KG	Kaolinized granite, cream to white
	22.0	29.0	WKG	Kaolinized granite, white
	29.0	30.0	KG	Kaolinized granite, white to cream
	30.0	33.0	KG	Kaolinized granite, off-white to cream, puggy
	33.0	39.0	KG?	Kaolinized granite, off-white to cream? slurry
	EOH 39m			
CO7	0.0	5.0	OB	Sand, f-m, calcareous, pink-cream
	5.0	7.0	OB	Gravel, f-c, tan-brown
	7.0	9.0	OB	Clayey sand, f-c, tan
	9.0	15.0	OB	Gravel, f-c, tan-yellow, unconsolidated
	EOH 15m			
CO8	0.0	4.0	OB	Sand, f-m, calcareous, cream-pink
	4.0	7.0	OB	Gravel, m-c, brown-pink
	7.0	13.0	OB	Clayey sand, f-c, cream-yellow
	13.0	15.0	OB	Gravel, m-c, cream-white
	EOH 15m			

Hole #	From	To	Lithology	Description
CO9	0.0	3.0	OB	Sand, f-m, calcareous, cream-pink
	3.0	5.0	OB	Sand , f-m, calcareous, minor gravel, cream-brown
	5.0	9.0	OB	As above, tan-yellow
	9.0	10.0	OB	Sand, f-c, white-yellow
	10.0	11.0	OB-KG	As above grading to kaolinized granite, cream
	11.0	12.0	KG	Kaolinized granite, medium, white-tan
	12.0	13.0	KG	Kaolinized granite, white to pale pink
	13.0	17.0	WKG	Kaolinized granite, white
	17.0	18.0	WKG-KG	Kaolinized granite, white to cream
	18.0	19.0	KG	Kaolinized granite, cream-yellow
	19.0	20.0	KG	Kaolinized granite, medium, white to cream
	20.0	21.0	KG	Kaolinized granite, cream-pink
	EOH 21m			
CO10	0.0	5.0	OB	Sandy clay, f, tan-brown, very sticky
	EOH 5m			
CO11	0.0	4.0	OB	Sand and gravel, f-c, pink-cream
	4.0	5.0	OB-KG	Sand, f-c, cream grading to kaolinized granite
	5.0	6.0	KG	Kaolinized granite, white-cream
	6.0	7.0	KG	Kaolinized granite, medium, white-tan
	7.0	9.0	WKG	Kaolinized granite, white
	9.0	10.0	KG	Kaolinized granite, white-tan
	10.0	11.0	KG	Kaolinized granite, medium, white-pink
	11.0	12.0	KG-PDG	As above becoming PDG with depth
	EOH 12m			
CO12	0.0	2.0	OB	Sand, calcareous, cream-pink
	2.0	7.0	FG	Granite, pink
	EOH 7m			
CO13	0.0	3.0	OB	Sand, f-m, calcareous, cream
	3.0	4.0	OB	Sandy clay, f-m, brown
	4.0	14.0	OB	Sand, f-m, tan
	14.0	16.0	OB	Gravel, f-c, cream-yellow, unconsolidated
	EOH 16m			
CO14	0.0	2.0	OB	Sand, f-m, calcareous, cream-pink
	2.0	3.0	OB	Gravel, f-c, cream-brown
	3.0	4.0	PDG	Granite, partly decomposed, cream-pink, minor kaolin
	4.0	7.0	FG	Granite, pink
	EOH 7m			

Hole #	From	To	Lithology	Description
CO15	0.0	3.0	OB	Sand, f-m, calcareous, cream
	3.0	5.0	OB	Clayey sand, f-m, brown-tan
	5.0	10.0	OB	Sand, f, tan-cream, unconsolidated
	EOH 10m			
CO16	0.0	3.0	OB	Sandy clay, f, cream, very sticky
	EOH 3m			
CO17	0.0	4.0	OB	Sand, f-m, calcareous, cream-pink
	4.0	5.0	OB	Sandy clay, f, brown
	5.0	11.0	OB	Sand-sandy clay, f-m, pink-tan
	11.0	12.0	OB	Sand and gravel, f-c, pink
	EOH 12m			
CO18	0.0	3.0	OB	Sand, f-m, calcareous, cream-tan
	3.0	4.0	OB	Sand, f-c, calcareous, tan-pink
	4.0	5.0	OB-KG	Sand, f-m, tan-pink grading to kaolinized granite, cream-tan
	5.0	6.0	PDG	Granite, partly decomposed, pink-cream
	6.0	10.0	FG	Granite, pink
	EOH 10m			
CO19	0.0	3.0	OB	Sand, f-m, calcareous, cream-pink
	3.0	4.0	OB	Sand, f-c, calcareous, minor gravel, tan
	4.0	5.0	OB	Sand, f-c, cream-tan
	5.0	6.0	OB-SLKG	As above grading to SLKG
	6.0	7.0	KG	Kaolinized granite, off-white
	7.0	8.0	KG	Kaolinized granite, off-white to white
	8.0	13.0	WKG	Kaolinized granite, white
	13.0	14.0	WKG-KG	Kaolinized granite, white to yellow
	14.0	15.0	KG	Kaolinized granite, cream-tan
	15.0	18.0	KG	Kaolinized granite, medium, tan-cream
	18.0	19.0	PDG	Granite, partly decomposed, tan-pink
	19.0	20.0	DG-FG	As above becoming fresh granite, pink
	EOH 20m			

Hole #	From	To	Lithology	Description
CO20	0.0	3.0	OB	Sand, f-m, calcareous, cream-pink
	3.0	5.0	OB	Sand, f-c, calcareous, cream-brown
	5.0	8.0	OB	Sand, f-c, off-white to tan
	8.0	9.0	OB-SLKG	Sand, f-c, cream grading to SLKG
	9.0	10.0	KG	Kaolinized granite, pink-cream
	10.0	11.0	KG	Kaolinized granite, white-cream
	11.0	14.0	WKG	Kaolinized granite, white
	14.0	15.0	KG	Kaolinized granite, medium,
	16.0	17.0	KG	Kaolinized granite, pink-off-white
	EOH 17m			
CO21	0.0	3.0	OB	Sand, f-m, calcareous, cream-brown
	3.0	6.0	OB	Sand, f-c, brown-cream
	6.0	7.0	OB-SLKG	Sand, f-c, cream grading to SLKG
	7.0	8.0	SLKG	Slightly kaolinized granite, white-cream
	8.0	21.0	WKG	Kaolinized granite, white
	21.0	22.0	KG	Kaolinized granite, white-tan- poor sample
	22.0	23.0	KG	Kaolinized granite, tan, very wet
	EOH 23m			
CO22	0.0	3.0	OB	Sand and gravel, f-c, calcareous, cream-yellow
	3.0	5.0	OB	Sandy clay, f, brown-tan
	5.0	9.0	OB	Sand and gravel, cream-brown
	9.0	10.0	OB-KG	Sand, f-c, brown grading to kaolinized granite, white-cream
	10.0	11.0	KG?	Kaolinized granite, white-cream - (blocked bit)
	11.0	13.0	KG	Kaolinized granite, tan-cream - VERY DAMP
	EOH 13m			
CO23	0.0	3.0	OB	Sand, f-m, calcareous, cream
	3.0	4.0	OB	Gravel, calcareous, cream-tan
	4.0	5.0	OB	Sand, f-c, cream-tan - unconsolidated
	EOH 5m			

Explanation of Drill log description codes

For these drill logs, a code system has been used in the description of the lithologies intersected. The three part system refers to Colour/Grainsize/Lithology. The abbreviations used are listed below.

Colour

W - White
OW - Off white
C - Cream
F - Fawn
O - Orange
T - Tan
B - Brown

G - Grey
P - Pink

L* - Light
D* - Dark

Grainsize

VF - Very Fine
F - Fine
M - Medium
C - Coarse
VC - Very Coarse

Lithology

Calsand - Calcareous sand
S - Sand
C - Clay
SC - Sandy Clay
CS - Clayey Sand
SCS - Slightly Clayey Sand
SLKG - Silicifed Kaolinised Granite.
KG - Kaolinised Granite.[1]
PDG - Partially Decomposed Granite.[2]
FG - Fresh Granite.[3]
MKG - Mottled Kaolinised Granite.

1. Kaolinised Granite consists of quartz and kaolin only.

2. Partially Decomposed Granite can contain remnant (unkaolinised) feldspar and\or mica (generally biotite).

3. Fresh granite shows no signs of kaolinisation.

HOLE	TYPE	FROM	TO	LITH	IND	DESCRIPT	S	SAMPNO
C01	RCH	0.0	3.0	OB	C	B-P/F-M/CALSAND	N	
C01	RCH	3.0	4.0	OB	C-P	B/F-M/SC	N	
C01	RCH	4.0	5.0	KG	C	C-B/KG - FINE QTZ	N	
C01	RCH	5.0	6.0	KG	F	OW-C/KG	N	
C01	RCH	6.0	7.0	KG	F	O-T/KG	N	
C01	RCH	7.0	8.0	PDG	I	P-T/PDG - FINE GRAINED	N	
C01	RCH	8.0	9.0	PDG	I	P-T/PDG - FINE GRAINED	N	
C01	RCH	9.0	10.0	PDG	I	P-T/PDG - FINE GRAINED	N	
C01	RCH	10.0	11.0	FG	VI	P/FG	N	
C01	RCH	11.0	12.0	FG	VI	P/FG	N	
C01	RCH	12.0	13.0	FG	VI	P/FG	N	
C02	RCAC	0.0	4.0	OB	C	C-P/F-M/CALSAND	N	
C02	RCAC	4.0	6.0	OB	C-P	C-T/F/SC	N	
C02	RCAC	6.0	10.0	OB	C	T-C/F-C/S-GRAV	N	
C02	RCAC	10.0	11.0	KG	SF	C-W/KG	Y	248721
C02	RCAC	11.0	12.0	WKG	SF	W/KG	Y	248722
C02	RCAC	12.0	13.0	WKG	SF	W/KG	Y	248723
C02	RCAC	13.0	14.0	WKG	SF	W/KG	Y	248724
C02	RCAC	14.0	15.0	WKG	SF	W/KG	Y	248725
C02	RCAC	15.0	16.0	WKG	SF	W/KG	Y	248726
C02	RCAC	16.0	17.0	WKG	SF	W/KG	Y	248727
C02	RCAC	17.0	18.0	WKG	SF	W/KG	Y	248728
C02	RCAC	18.0	19.0	WKG	SF	W/KG	Y	248729
C02	RCAC	19.0	20.0	WKG	SF	W/KG	Y	248730
C02	RCAC	20.0	21.0	WKG	SF	W/KG - THIN T/KG BANDS	Y	248731
C02	RCAC	21.0	22.0	WKG	SF	W/KG	Y	248732
C02	RCAC	22.0	23.0	WKG	SF	W/KG	Y	248733
C02	RCAC	23.0	24.0	WKG	SF	W/KG	Y	248734

C02	RCAC	24.0	25.0	WKG	SF	W/KG	Y	248735
C02	RCAC	25.0	26.0	WKG	SF	W/KG	Y	248736
C02	RCAC	26.0	27.0	KG-PDG	SF	P/KG & P-C/PDG	Y	248737
C02	RCAC	27.0	28.0	PDG	SF	P-C/PDG	Y	248738
C02	RCAC	28.0	29.0	PDG	SF	P-C/PDG	Y	248739
C02	RCAC	29.0	30.0	PDG	SF	P-C/PDG	Y	248740
C02	RCAC	30.0	33.0	DG-FG	I	P/DG-FG	N	
C03	RCAC	0.0	6.0	OB	C	C-T/F-M/CALSAND	N	
C03	RCAC	6.0	12.0	OB	C-P	C-T/F-C/S-GRAV	N	
C03	RCAC	12.0	13.0	WKG	F	W-OW/KG	Y	248741
C03	RCAC	13.0	14.0	WKG	F	W/KG	Y	248742
C03	RCAC	14.0	15.0	WKG	F	W/KG	Y	248743
C03	RCAC	15.0	16.0	WKG-KG	F	W/KG & T-O/KG	Y	248744
C03	RCAC	16.0	17.0	PDG	SF	P/PDG	N	
C03	RCAC	17.0	18.0	PDG	SF	P/PDG	N	
C04	RCAC	0.0	6.0	OB	C	C-P/F-M/CALSAND	N	
C04	RCAC	6.0	14.0	OB	C	B-W/F-C/S-GRAV	N	
C04	RCAC	14.0	15.0	OB-WKG	SF	W/F-M/S & W/KG	Y	248745
C04	RCAC	15.0	16.0	WKG	SF	W/KG	Y	248746
C04	RCAC	16.0	17.0	WKG	SF	W/KG	Y	248747
C04	RCAC	17.0	18.0	WKG	SF	W/KG	Y	248748
C04	RCAC	18.0	19.0	WKG	SF	W/KG	Y	248749
C04	RCAC	19.0	20.0	WKG	SF	W/KG	Y	248750
C04	RCAC	20.0	21.0	WKG-KG	SF	W/KG & W-T/MKG	Y	248751
C04	RCAC	21.0	22.0	KG?	F	C-T/KG? - NO SAMPLE RETURN	N	
C04	RCAC	22.0	23.0	KG	P	C/KG - WET	Y	248752
C04	RCAC	23.0	24.0	KG	P	C/KG - WET	Y	248753
C04	RCAC	24.0	25.0	KG	C-SF	C/KG	Y	248754
C04	RCAC	25.0	26.0	KG	C-SF	C/KG	Y	248755

CO4	RCAC	26.0	27.0	KG	C-SF	C/KG	Y	248756
CO4	RCAC	27.0	30.0	KG	S	C/KG - SLURRY	N	
CO5	RCAC	0.0	4.0	OB	C	C-P/F-M/CALSAND	N	
CO5	RCAC	4.0	11.0	OB	C	C-T/F-C/S-GRAV	N	
CO5	RCAC	11.0	12.0	WKG	SF	W/KG	Y	248757
CO5	RCAC	12.0	13.0	WKG	SF	W/KG - MINOR PATCHY T/KG	Y	248758
CO5	RCAC	13.0	14.0	WKG	SF	W/KG	Y	248759
CO5	RCAC	14.0	15.0	WKG	SF	W/KG	Y	248760
CO5	RCAC	15.0	16.0	WKG	SF	W/KG - MINOR BANDS T/KG	Y	248761
CO5	RCAC	16.0	17.0	KG	SF	C-T/KG	Y	248762
CO5	RCAC	17.0	18.0	KG	SF	OW-T/KG	Y	248763
CO5	RCAC	18.0	19.0	KG	SF	OW-T/KG	Y	248764
CO5	RCAC	19.0	20.0	KG	SF	OW-T/KG	Y	248765
CO5	RCAC	20.0	21.0	KG	C	OW-T/KG	Y	248766
CO5	RCAC	21.0	22.0	KG-PDG	C	C-P/KG-PDG	N	
CO5	RCAC	22.0	24.0	FG	I	P/FG	N	
CO6	RCAC	0.0	7.0	OB	C	C-P/F-M/CALSAND-GRAV	N	
CO6	RCAC	7.0	11.0	OB	C	B-P/F-M/CALSAND	N	
CO6	RCAC	11.0	14.0	OB	C-I	P-T/F-M/S	N	
CO6	RCAC	14.0	15.0	OB	C	C-T/F-C/CS	N	
CO6	RCAC	15.0	18.0	OB	C	C-T/F-M/S - POORLY SORTED	N	
CO6	RCAC	18.0	20.0	OB	C	W/F-C/S	N	
CO6	RCAC	20.0	21.0	OB-SLKG	C	W-P/F-C/S & W/SLKG	N	
CO6	RCAC	21.0	22.0	KG	SF	W-C/KG	Y	248767
CO6	RCAC	22.0	23.0	WKG	SF	W/KG	Y	248768
CO6	RCAC	23.0	24.0	WKG	SF	W/KG	Y	248769
CO6	RCAC	24.0	25.0	WKG	SF	W/KG	Y	248770
CO6	RCAC	25.0	26.0	WKG	SF	W/KG	Y	248771
CO6	RCAC	26.0	27.0	WKG	SF	W/KG	Y	248772

C06	RCAC	27.0	28.0	WKG	SF	W/KG	Y	248773
C06	RCAC	28.0	29.0	WKG	SF	W/KG	Y	248774
C06	RCAC	29.0	30.0	KG	SF	W-C/KG	Y	248775
C06	RCAC	30.0	31.0	KG	SF-P	OW-C/KG -PUGGY	Y	248776
C06	RCAC	31.0	32.0	KG	SF-P	OW-C/KG -PUGGY	Y	248777
C06	RCAC	32.0	33.0	KG	SF-P	OW-C/KG -PUGGY	Y	248778
C06	RCAC	33.0	39.0	KG?	S	OW-C/KG? - SLURRY	N	
C07	RCAC	0.0	5.0	OB	C	P-C/F-M/CALSAND	N	
C07	RCAC	5.0	7.0	OB	SF	T-B/F-C/GRAV	N	
C07	RCAC	7.0	9.0	OB	SF	T/F-C/CS	N	
C07	RCAC	9.0	15.0	OB	F	T-Y/F-C/GRAV - UNCOLSOLIDATED	N	
C08	RCAC	0.0	4.0	OB	C	C-P/F-M/CALSAND	N	
C08	RCAC	4.0	7.0	OB	I	B-P/M-C/GRAV	N	
C08	RCAC	7.0	13.0	OB	C	C-Y/F-C/CS	N	
C08	RCAC	13.0	15.0	OB	C	C-W/M-C/GRAV	N	
C09	OHH	0.0	3.0	OB	C	C-P/F-M/CALSAND	N	
C09	OHH	3.0	5.0	OB	I	C-B/M-C/CALS-GRAV	N	
C09	OHH	5.0	9.0	OB	F	T-Y/F-C/S-GRAV	N	
C09	OHH	9.0	10.0	OB	F	W-Y/F-C/S	N	
C09	OHH	10.0	11.0	OB-KG	F	Y-T/F-C/S & C/KG	N	
C09	RCAC	11.0	12.0	KG	F	W-T/MKG	Y	248779
C09	RCAC	12.0	13.0	KG	F	W-LP/KG	Y	248780
C09	RCAC	13.0	14.0	WKG	F	W/KG	Y	248781
C09	RCAC	14.0	15.0	WKG	F	W/KG	Y	248782
C09	RCAC	15.0	16.0	WKG	F	W/KG	Y	248783
C09	RCAC	16.0	17.0	WKG	F	W/KG	Y	248784
C09	RCAC	17.0	18.0	WKG-KG	F	W/KG & C/KG	Y	248785
C09	RCAC	18.0	19.0	KG	F	C-Y/KG	Y	248786
C09	RCAC	19.0	20.0	KG	F	W-C/MKG	Y	248787

C09	RCAC	20.0	21.0	KG	F	C-P/KG	Y	248788
C010	OHH	0.0	5.0	OB	P	T-B/F/SC - VERY STICKY	N	
C011	OHH	0.0	4.0	OB	C	P-C/F-C/S-GRAV	N	
C011	OHH	4.0	5.0	OB-KG	C-F	C/F-C/S & W-C/MKG	N	
C011	RCAC	5.0	6.0	KG	F	W-C/KG	Y	248789
C011	RCAC	6.0	7.0	KG	F	W-T/MKG	Y	248790
C011	RCAC	7.0	8.0	WKG	F	W/KG	Y	248791
C011	RCAC	8.0	9.0	WKG	F	W/KG	Y	248792
C011	RCAC	9.0	10.0	KG	F	W-T/KG	Y	248793
C011	RCAC	10.0	11.0	KG	F	W-P/MKG	Y	248794
C011	RCAC	11.0	12.0	KG-PDG	F-I	W-P/MKG & P/PDG	Y	248795
C012	OHH	0.0	2.0	OB	C	C-P/CLASAND	N	
C012	OHH	2.0	7.0	FG	VI	P/FG	N	
C013	OHH	0.0	3.0	OB	C	C/F-M/CALSAND	N	
C013	OHH	3.0	4.0	OB	P	B/F-M/SC	N	
C013	OHH	4.0	14.0	OB	C	T/F-M/S	N	
C013	OHH	14.0	16.0	OB	F	C-Y/F-C/GRAV - UNCOLSOLIDATED	N	
C014	OHH	0.0	2.0	OB	C	C-P/F-M/CALSAND	N	
C014	OHH	2.0	3.0	OB	SI	C-B/F-C/GRAV	N	
C014	OHH	3.0	4.0	PDG	SF	C-P/PDG - MINOR KAOLIN	N	
C014	OHH	4.0	5.0	FG	I	P/FG	N	
C014	OHH	5.0	6.0	FG	I	P/FG	N	
C014	OHH	6.0	7.0	FG	I	P/FG	N	
C015	OHH	0.0	3.0	OB	C	C/F-M/CALSAND	N	
C015	OHH	3.0	5.0	OB	P	B-T/F-M/CS	N	
C015	OHH	5.0	10.0	OB	F	T-C/F-/S - UNCOLSOLIDATED	N	
C016	OHH	0.0	3.0	OB	P	C/F/SC - VERY STICKY	N	
C017	OHH	0.0	4.0	OB	C	C-P/F-M/CALSAND	N	
C017	OHH	4.0	5.0	OB	P	B/F/SC	N	

CO17	OHH	5.0	11.0	OB	F	P-T/F-M/S-CS	N	
CO17	OHH	11.0	12.0	OB	F	P/F-C/S-GRAV	N	
CO18	OHH	0.0	3.0	OB	C	C-T/F-M/CALSAND	N	
CO18	OHH	3.0	4.0	OB	C	T-P/F-C/CALSAND	N	
CO18	OHH	4.0	5.0	OB-KG	C-F	T-P/F-M/S & C-T/KG	N	
CO18	OHH	5.0	6.0	PDG	SI	P-C/PDG	N	
CO18	OHH	6.0	10.0	FG	I	P/FG	N	
CO19	OHH	0.0	3.0	OB	C	C-P/F-M/CALSAND	N	
CO19	OHH	3.0	4.0	OB	SI	T/F-C/CALSAND-GRAV	N	
CO19	OHH	4.0	5.0	OB	F	C-T/F-C/S	N	
CO19	OHH	5.0	6.0	OB-SLKG	F-C	C-T/F-M/S & W/SLKG	N	
CO19	RCAC	6.0	7.0	KG	F	OW/KG	Y	248796
CO19	RCAC	7.0	8.0	KG	F	OW-W/KG	Y	248797
CO19	RCAC	8.0	9.0	WKG	F	W/KG	Y	248798
CO19	RCAC	9.0	10.0	WKG	F	W/KG	Y	248799
CO19	RCAC	10.0	11.0	WKG	F	W/KG	Y	248800
CO19	RCAC	11.0	12.0	WKG	F	W/KG	Y	248801
CO19	RCAC	12.0	13.0	WKG	F	W/KG	Y	248802
CO19	RCAC	13.0	14.0	WKG-KG	F	W/KG & Y-T/KG	Y	248803
CO19	RCAC	14.0	15.0	KG	F	C-T/KG	Y	248804
CO19	RCAC	15.0	16.0	KG	F	T-C/MKG	Y	248805
CO19	RCAC	16.0	17.0	KG	F	T-C/MKG	Y	248806
CO19	RCAC	17.0	18.0	KG	F	T-C/MKG	Y	248807
CO19	RCAC	18.0	19.0	PDG	F	T-P/PDG	Y	248808
CO19	RCAC	19.0	20.0	PDG-FG	F-I	T-P/PDG & P/FG	Y	248809
CO20	OHH	0.0	3.0	OB	C	C-P/F-M/CALSAND	N	
CO20	OHH	3.0	5.0	OB	C-P	C-B/F-C/CCALSAND	N	
CO20	OHH	5.0	8.0	OB	SF	OW-T/F-C/S	N	
CO20	OHH	8.0	9.0	OB-SLKG	SF-SI	C/F-C/S & W/SLKG	N	

CO20	RCAC	9.0	10.0	KG	SF	P-C/KG	Y	248810
CO20	RCAC	10.0	11.0	KG	SF	W-C/KG	Y	248811
CO20	RCAC	11.0	12.0	WKG	F	W/KG	Y	248812
CO20	RCAC	12.0	13.0	WKG	F	W/KG	Y	248813
CO20	RCAC	13.0	14.0	WKG	F	W/KG	Y	248814
CO20	RCAC	14.0	15.0	WKG	F	W/KG - MINOR STAIN	Y	248815
CO20	RCAC	15.0	16.0	KG	F	W-T/MKG	Y	248816
CO20	RCAC	16.0	17.0	KG	F	P-OW/KG	Y	248817
CO21	OHH	0.0	3.0	OB	C	C-B/F-M/CALSAND	N	
CO21	OHH	3.0	6.0	OB	F	B-C/F-C/S	N	
CO21	RCAC	6.0	7.0	OB-SLKG	F-I	C/F-C/S & W/SLKG	Y	
CO21	RCAC	7.0	8.0	SLKG	I	W-C/SLKG	Y	
CO21	RCAC	8.0	9.0	WKG	F	W/KG	Y	248818
CO21	RCAC	9.0	10.0	WKG	F	W/KG	Y	248819
CO21	RCAC	10.0	11.0	WKG	F	W/KG	Y	248820
CO21	RCAC	11.0	12.0	WKG	F	W/KG	Y	248821
CO21	RCAC	12.0	13.0	WKG	F	W/KG - DAMP	Y	248822
CO21	RCAC	13.0	14.0	WKG	F	W/KG - DAMP	Y	248823
CO21	RCAC	14.0	15.0	WKG	F	W/KG	Y	248824
CO21	RCAC	15.0	16.0	WKG	F	W/KG	Y	248825
CO21	RCAC	16.0	17.0	WKG	F	W/KG	Y	248826
CO21	RCAC	17.0	18.0	WKG	F	W/KG	Y	248827
CO21	RCAC	18.0	19.0	WKG	F	W/KG	Y	248828
CO21	RCAC	19.0	20.0	WKG	F	W/KG	Y	248829
CO21	RCAC	20.0	21.0	WKG	F	W/KG	Y	248830
CO21	RCAC	21.0	22.0	KG	S	W-T/KG - VERY POOR SAMPLE	Y	
CO21	RCAC	22.0	23.0	KG	S	T/KG - VERY WET	Y	
CO22	OHH	0.0	3.0	OB	C	C-Y/F-C/CALSAND-GRAV	N	
CO22	OHH	3.0	5.0	OB	P	B-T/F/SC	N	

CO22	OHH	5.0	9.0	OB	F	C-B/F-C/S-GRAV	N	
CO22	OHH	9.0	10.0	OB-KG	F	B/F-C/S & W-C/KG	N	
CO22	RCAC	10.0	11.0	KG?	F	W-C/KG - SYSTEM BLOCKED	N	
CO22	RCAC	11.0	12.0	KG	P	T-C/KG - VERY DAMP	Y	
CO22	RCAC	12.0	13.0	KG	P	T-C/KG - VERY DAMP	Y	
CO23	OHH	0.0	3.0	OB	C	C/F-M/CALSAND	N	
CO23	OHH	3.0	4.0	OB	I	C-T/F-C/CALGRAV	N	
CO23	OHH	4.0	5.0	OB	P	B/F/SC	N	
CO23	OHH	5.0	12.0	OB	F	C-T/F-C/S UNCONSOLIDATED	N	

APPENDIX B

University of South Australia Test Results

Colley Hill Composite Samples

Extracted from University of South Australia
Report No: MET 1288
By K Quast & S Quast

INTRODUCTION

During October, 1993, the Metallurgy Department was approached by Commercial Minerals Limited (Sydney) to submit a proposal for processing drill core samples from the Poochera Kaolin deposit in South Australia. As a result of visits by Paul Berndt, Adrian Sonego, Lew Barnes and Simon Powell from Commercial Minerals Limited, a series of preliminary tests were conducted on bulk and selected samples over the period November 4-5, 1993. This established the testing procedure to be followed for processing approximately 100 samples to be provided and delivered by Commercial Minerals Limited.

PROCEDURE

The weight of each sample received was recorded. A 600g sample was riffled from the sample provided and added to 600ml of demineralized water. This mixture was then blunged for 10 minutes at 1400 rpm using a 4-bladed turbine propeller. At the completion of this stage, the pH and conductivity of the slurry were measured and recorded. The conductivity was converted to approximate total dissolved solids (TDS) using charts provided by the Materials Science Centre, Engineering and Water Supply Department.

The slurry was wet screened at 45 μm. The oversize was filtered, dried and weighed. The undersize sample was usually allowed to settle overnight to enhance its filtration properties. It was then filtered in either pressure or vacuum filter presses. When the undersize sample was dry it was rolled, weighed and a subsample of approx. 100g removed and placed in a separate labelled sample bag. The coarse fraction and the balance of the fine fraction were placed in plastic bags, and held in boxes prior to collection by Commercial Minerals Limited.

RESULTS

Data for CO Samples

Location	Sample Number	Conductivity		pH	Sample Weight (g)	% Coarse	% Fine	Dry Weight	Approx. % Moisture
		mS	ppm TDS						
CO2 11-16	249729	2.95	1680	5.5	600	41.1	58.9	585.9	2.35
CO2 16-21	249730	3.40	1960	5.2	600	54.0	46.0	500.5	16.6
CO2 21-26	249731	2.85	1620	5.0	600	47.7	52.3	481.5	19.8
CO3 12-15	249732	0.883	475	6.5	600	64.4	35.6	575.5	4.1
CO4 15-20	249733	2.81	1600	6.6	600	55.9	44.1	551.7	8.1
CO5 13-15	249734	4.55	2670	4.45	600	48.5	51.5	523	12.8
CO6 22-25	249735	3.76	2185	5.3	600	48.7	51.3	501.5	16.4
CO6 25-29	249736	1.09	595	5.4	600	54.7	45.3	529.5	11.8
CO9 13-18	249737	4.48	2360	5.0	600	36.1	63.9	545	9.2
CO19 7-10	249738	5.96	3590	4.9	600	47.5	52.5	569	5.2
CO19 10-13	249739	6.08	3700	4.3	600	57.0	43.0	555	7.5
CO20 11-15	249740	5.73	3470	4.4	600	56.5	43.5	551.5	8.1
CO21 8-13	249741	4.70	2770	5.2	600	51.3	48.7	511.5	14.8
CO21 13-17	249742	2.27	1275	4.6	600	49.4	50.6	510	15.0
CO21 17-21	249743	4.53	2660	5.2	600	45.1	54.9	536	10.7

APPENDIX C

CSIRO Test Results - Colley Hill Composite Samples

Extracted from CSIRO Division of Soils Technical Report No. 22/1995

By J.L. Keeling, L.J. Janik, G.M. Ferris, M.D. Raven,
S.G. McClure & G. Cameron

Kaolin samples **Colley Hill area**: results of size analysis, conductivity and halloysite content by IR.

Hole No/ Depth (m)	CML Sample No	Size distribution		Electrical Conductivity	Total soluble salts (approx.)	IR spectra	IR spectra	Halloysite % (<2 µm fraction)	Mineralogy XRD
		>53 µm (%)	<2 µm (%)	dS/m	ppm	A	B		
C02 / 11-16	249729	41.1	35.6	0.19	646	r5485	r5540	32	
C02 / 16-21	249730	54.0	30.5	0.15	510	s5486	s5541	32	
C02 / 21-26	249731	47.7	36.6	0.11	374	s5497	s5542	12	
C03 / 12-15	249732	64.4	16.1	0.14	476	s5487	s5543	0	
C04 / 15-20	249733	55.9	26.8	0.20	680	s5488	s5544	<5	
C05 / 13-15	249734	48.5	44.7	0.22	748	s5489	s5545	<5	
C06 / 22-25	249735	48.7	33.4	0.14	476	s5490	s5546	82	Crys kaolinite + halloysite?
C06 / 25-29	249736	54.7	30.5	0.16	544	s5491	s5547	78	
C09 / 13-18	249737	36.1	55.1	0.21	714	s5492	s5548	9	
C019 / 7-10	249738	47.5	38.7	0.19	646	s5493	s5549	5	
C019 / 10-13	249739	57.0	30.1	0.20	680	s5494	s5550	<5	
C020 / 11-15	249740	56.5	20.7	0.19	646	s5495	s5551	9	
C021 / 8-13	249741	51.3	31.8	0.21	714	s5496	s5552	23	
C021 / 13-17	249742	49.4	43.1	0.18	612	s5498	s5553	28	
C021 / 17-21	249743	45.1	39.5	0.14	476	s5499	s5554	13	

APPENDIX D

CML-TSD Test Results - Colley Hill Composite Samples

Extracted from TSD Report No. 355

COMMERCIAL MINERALS LIMITED

A.C.N. 000 971 844

A Member of the Normandy Poseidon Group

TECHNICAL SERVICES DIVISION :
414 Somerville Road.
WEST FOOTSCRAY, Victoria
Telephone : (03) 314 0477
Facsimile : (03) 314 9490

PO Box 324, West Footscray, Vic 3012 Australia

LABORATORY REPORT

DATE RECEIVED 7.2.94 REF No. 94/66 REPORT No. 355 FILE No. 8

SAMPLE:

POOCHERA KAOLIN
249737-40, 249748-49, 249751-58, 249767/8,
249771-781, 249786, 249790-249803, 249806, 249809, 249812-821.
NZ CHINA CLAY
Sample Submission Sheet DEV 9159
SUBMITTED BY LEW BARNES CML GILLMAN.

Please find attached results for samples received.

Notes:

1. Results for Methods 8 and 2.3 are expressed on a dry (105°C) basis.
2. Powder Reflectance results were performed on the -250 micron fraction which was brushed through.
3. Other reflectance and shrinkage results were performed using the ECC method as attached with the following deviations:
   a) Fired Reflectance was performed on the opposite side as stated in the procedure.
   b) All the 1080°C and 1180°C discs were fired on a ceramic tile instead of a silica bed.
   c) Sample preparation of discs used 25 grams instead of 12.5 grams.
4. Results for Shrinkage indicated with:
   i) ! indicates the disc exhibited cracking on the reflectance face.
   ii) ♦ indicates the disc was cracked horizontally through the core of the disc.
   ii) Φ indicates the disc started to concave.

DATE: 9.5.94

SIGNATORY

pp CHIEF CHEMIST

Note: These results pertain to samples as received.

SAMPLE	Al_2O_3 %	Fe_2O_3 %	SiO_2 %	MgO %	TiO_2 %	CaO %	Na_2O %	K_2O %	LOI %
NZ CHINA	36.7	0.24	48.8	<0.01	0.06	<0.01	0.03	<0.01	14.3
249737	36.9	0.56	48.1	0.07	0.49	0.03	0.04	0.18	13.5
249738	33.6	1.00	50.9	0.21	0.49	0.07	0.11	0.21	13.0
249739	32.9	0.71	52.1	0.18	0.48	0.04	0.10	1.5	11.7
249740	28.6	0.91	58.9	0.07	0.43	0.04	0.11	0.17	11.0
TSD METHOD	8	8	8	8	8	8	8	8	2.3

SAMPLE	POWDER REFLECTANCE	REFLECTANCE AND SHRINKAGE USING ECC DISC METHOD						
		REF 1050°C	REF 1080°C	% SHRINKAGE 1080°C	REF 1180°C	SHRINKAGE 1180°C	REF 1280°C	SHRINKAGE 1280°C
NZ CHINA	84	97	106	6.2	108	6.8	108	13.0
249737	69	85!	93!	5.2	98!	6.1	94	12.4
249738	65	73	86	4.5	86	8.5	83Φ	15.4
249739	76	84	97	4.1	92	12.1	85!	18.5
249740	70	78	86	3.7	94	6.4	90	13.0
TSD METHOD	2.1b							

APPENDIX E

Gold Assay Results - Regional Calcrete Sampling

Extracted from Analabs Reports:
ADO16259
ADO16260
ADO16261

Sample No.	Au	Au:R	Au:S
633448	<1	-	-
633449	<1	-	-
633451	<1	-	-
633452	1	-	-
633453	<1	-	-
633454	1	-	-
633455	<1	-	-
633457	1	-	-
633458	<1	-	-
633459	<1	-	-
633460	<1	<1	<1
633461	<1	-	-
633462	4	3	-
633463	1	-	-
633464	<1	-	-
633465	<1	-	-
633466	<1	-	-
633467	<1	-	-
633468	<1	-	-
633469	<1	-	-
633470	<1	-	-
633471	<1	<1	-
633472	<1	-	-
633473	<1	-	-
633474	<1	-	-
633475	<1	-	-
633476	<1	-	-
633477	<1	-	-
633478	<1	-	-
633479	<1	-	-
633480	<1	-	<1
633481	<1	-	-
633482	1	-	-
633483	1	-	-
633485	<1	-	-
633486	1	2	-
633487	<1	-	-
633519	<1	-	-
633520	<1	-	<1
633521	<1	-	-
633522	<1	-	-
633523	1	<1	-
633524	<1	-	-
633525	1	-	-
633526	<1	-	-

Sample No.	Au	Au:R	Au:S
633527	<1	-	-
633528	<1	-	-
633529	<1	-	-
633530	<1	-	-
633531	<1	-	-
633532	<1	-	-
633533	<1	-	-
633534	1	-	-
633535	<1	-	-
633536	<1	-	-
633537	<1	-	-
633538	<1	-	-
633539	<1	-	-
633540	1	-	2
633541	2	-	-
633542	<1	-	-
633543	<1	-	-
633544	<1	-	-
633545	<1	-	-
633546	<1	-	-
633547	<1	-	-
633548	<1	-	-
633549	<1	-	-
633551	<1	-	-
633552	<1	-	-
633553	<1	-	-
633554	<1	-	-
633556	<1	-	-
633557	<1	-	-
633558	<1	-	-
633559	<1	-	-
633560	<1	2	<1
633561	2	-	-
633562	<1	-	-
633563	<1	-	-
633564	<1	-	-
633565	<1	-	-
633566	<1	-	-
633567	1	-	-
633568	<1	-	-
633569	<1	-	-
633570	<1	-	-
633571	<1	-	-
633572	1	-	-
633573	1	-	-

Sample No.	Au	Au:R	Au:S
633574	2	-	-
633575	<1	-	-
633576	1	-	-
633577	2	<1	-
633578	2	-	-
633579	<1	-	-
633580	1	-	<1
633581	<1	-	-
633582	<1	-	-
633583	<1	<1	-
633584	<1	-	-
633585	<1	-	-
633586	<1	-	-
633587	<1	-	-
633588	<1	-	-
633589	1	<1	-
633590	<1	-	-
633591	1	-	-
633592	<1	-	-
633596	<1	-	-
633597	<1	-	-
633598	1	-	-
633599	<1	-	-
633684	<1	-	-
633686	<1	-	-
633687	<1	-	-
633688	<1	-	-
633689	<1	-	-
633690	<1	-	-
633691	3	-	-
617204	<1	-	-
617205	<1	-	-
617211	<1	-	-
617212	<1	-	-
617242	<1	-	-
617243	<1	-	-
617244	<1	-	-
617245	1	-	-
617246	<1	-	-
617247	<1	-	-
617248	<1	-	-
617249	<1	-	-
617251	<1	-	-
617252	<1	-	-
617253	<1	-	-

Sample No.	Au	Au:R	Au:S
617254	<1	-	-
617255	<1	-	-
617256	<1	-	-
633723	<1	-	-
633724	2	-	<1
633725	<1	-	-
633726	<1	-	-
633735	1	-	-
633736	<1	-	-
633738	2	-	-
633739	<1	-	-
633740	<1	-	-
633741	1	-	-
633742	<1	-	-
633743	<1	-	-
633744	<1	-	<1
633746	<1	-	-
633747	2	-	-
633748	<1	-	-
633749	<1	-	-
633751	<1	-	-
633752	<1	-	-
633753	<1	2	-
633754	1	-	-
633755	<1	-	-
633756	<1	-	-
633757	1	-	-
633758	<1	-	-
633759	1	-	-
633760	2	-	-
633761	<1	-	-
633762	<1	-	-
633763	<1	-	-
633764	<1	-	<1
633765	<1	-	-
633766	<1	-	-
633767	<1	-	-
633768	<1	-	-
633769	2	-	-
633770	<1	<1	-
633771	3	-	-
633772	<1	-	-
633773	<1	-	-
633774	2	-	-
633775	<1	1	-

Sample No.	Au	Au:R	Au:S
633776	2	-	-
633777	<1	-	-
633778	<1	-	-
633779	<1	-	-
633780	<1	-	-
633781	<1	-	-
633782	<1	-	-
633783	1	<1	-
633784	<1	-	<1
633785	1	-	-
633786	<1	-	-
633787	<1	-	-
633788	1	-	-
633789	1	-	-
633790	<1	-	-
633791	1	-	-
633792	<1	-	-
633793	1	-	-
633794	<1	-	-
633795	1	-	-
633796	<1	-	-
633797	1	-	-
633799	<1	-	-
638501	<1	-	-
638502	<1	-	-
638503	<1	-	-
638504	<1	-	<1
638505	<1	-	-
638506	<1	-	-
638507	<1	-	-
638508	<1	-	-
638509	<1	-	-
638510	<1	<1	-
638511	2	-	-
638512	<1	-	-
638513	<1	-	-
638514	<1	-	-
638515	<1	-	-
638516	<1	-	-
638517	<1	-	-
638518	<1	-	-
638519	<1	1	-
638520	<1	-	-
638521	<1	-	-
638522	<1	-	-

Sample No.	Au	Au:R	Au:S
638523	<1	-	-
638524	<1	-	<1
638525	<1	-	-
638526	<1	-	-
638527	<1	-	-
638528	1	-	-
638529	<1	-	-
638530	<1	-	-
638531	1	-	-
638532	2	-	-
638533	<1	-	-
638534	1	1	-
638535	<1	-	-
638536	1	-	-
638537	<1	-	-
638538	<1	-	-
638539	<1	-	-
638547	2	-	-
638548	3	<1	-
638549	2	-	-
638551	<1	-	-
638552	1	-	-
638553	<1	-	-
638554	2	-	-
638555	<1	-	-
638556	<1	-	-
638557	<1	-	-
638558	<1	-	-
638574	1	-	-
638575	<1	-	-
638576	1	-	-
638577	<1	-	-
638593	<1	-	-
638594	1	-	-
638595	1	-	-
Method	GG334	GG334	GG334
Units	ppb	ppb	ppb
Detection Limit	1	1	1