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Cyprus Minerals Australia Company

PART PROJECT A-84-111

MINES	
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12 FEB 1987	
Doc. Ref. 596	
Action Officer	Initials
Resubmit to	Date

PROGRESS REPORT

DECEMBER 1985 TO DECEMBER 1986

KETTERING

EXPLORATION LICENCE 23/83

TASMANIA

P A JONES
CONSULTANT TO CYPRUS MINERALS

JANUARY 1987

REPORT 512

AMG REFERENCE POINTS ADDED

CYPRUS

DISTRIBUTION

- o Denver
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CONTENTS

	Page
SUMMARY AND CONCLUSIONS	1
RECOMMENDATIONS	3
EXPLORATION TARGETS	4
DESCRIPTION OF THE PROPERTY AND OWNERSHIP	5
LOCATION AND ACCESS	7
HISTORY AND PREVIOUS EXPLORATION	8
REGIONAL GEOLOGY AND MINERALIZATION	10
GEOLOGY AND MINERALIZATION OF THE PROPERTY	12
WORK CONDUCTED BY CYPRUS	15
EXPLORATION POTENTIAL	18
PROPOSED PROGRAM	19
EXPENDITURE	20

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FIGURE

1 LOCATION

After Page

7

APPENDIX

1 ANALYTICAL RESULT SHEETS

ENCLOSURES

1 Kettering EL 23/83 - Stream Sediment Geochemistry

Scale

● SAMPLE LOCATION

1:25000

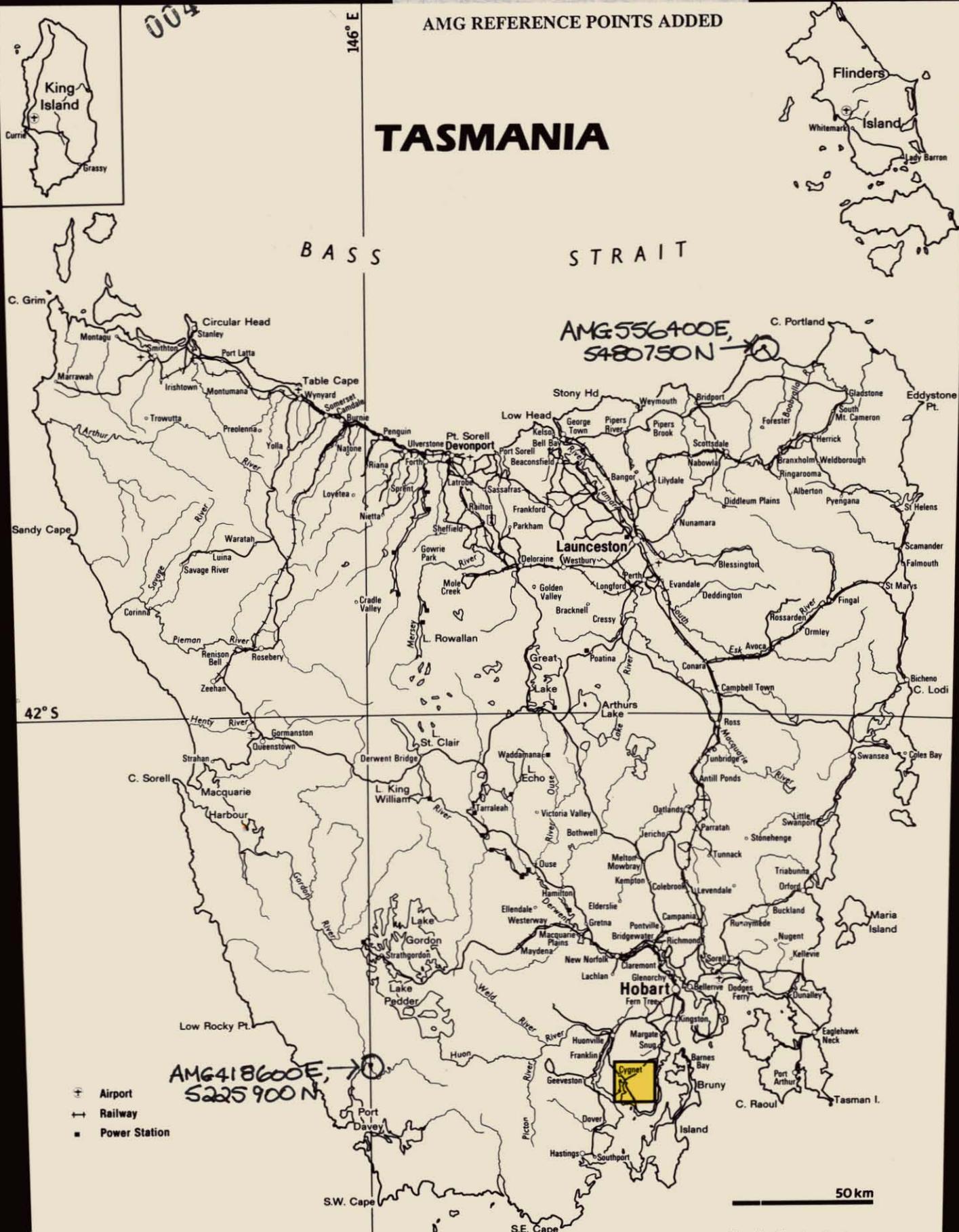
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● GOLD

1:25000

AMG REFERENCE POINTS ADDED

TASMANIA



Project Location

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SUMMARY AND CONCLUSIONS

Exploration Licence 23/83 was granted to J Harris on December 24, 1985 and later transferred to Poseidon Minerals. The licence is renewable for a further twelve months subject to Mines Department approval. The licence is subject to a 50/50 joint venture with Cyprus Minerals as is the adjacent Cyprus Exploration Licence 36/82 Cygnet.

The tenement lies approximately 30 kilometers south-southwest of Hobart and is centered on the Nicholls Rivulet area west of Kettering. It is well situated with respect to potential mine infrastructure.

The targets of exploration are stratabound gold deposits similar to the Carlin deposits of Nevada and disseminated stockwork deposits associated with high level intrusives.

Previous mining was concentrated on the Little Oyster Cove Creek area as both alluvial and hardrock operations.

The tenement is underlain by Permo-Triassic sediments through which have been intruded Cretaceous alkali igneous rocks and Jurassic dolerites. The sediments are gently domed (dips of 5-10° average) away from the epicenters at Mount Mary (Cygnets) and Oyster Cove (Kettering).

The 1986 program was designed to evaluate the entire tenement and generate targets worthy of follow-up surveys. The stream sediment attack outlined five areas over which detailed stream and rockchip surveys are to be conducted. Possible gridding and detailed soil and rockchip surveys may be necessary followed by costeaning and drilling.

RECOMMENDATIONS

Cyprus should undertake follow-up surveys on a number of weakly anomalous gold stream sediment sample sites as well as undertaking rockchip sampling surveys over previously worked (shafts, adits pre 1910) areas.

Dependent upon results gridding and trenching surveys would be undertaken to define possible drill targets.

EXPLORATION TARGETS

The tenement which is being explored concurrently with Cyprus' Cygnet licence has geologic similarities to the Nevada goldfields in the United States and the target is for Carlin Style (replacement) fine grained, open pitable deposits as well as porphyry and/or breccia pipe deposits within the Cretaceous gold-silver bearing intrusive.

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DESCRIPTION OF THE PROPERTY AND OWNERSHIP _____

On May 13, 1983 J E Harris applied for an Exploration Licence at Nicholls Rivulet (EL 23/83) on behalf of Poseidon Minerals; Poseidon at that time not being registered in Tasmania.

The application initially covered 246 square kilometers but was reduced to 129 square kilometers to eliminate landowner objections from developed areas of low geologic potential.

The tenement is described as follows:

Commencing at a northwest angle of the area whose grid coordinates are 505000 meters E, 5229000 meters N, thence grid east to 508000 E, grid south to 5227000 N, grid east to 515000 E, north to 5228000 N aforesaid, grid east to 519000 E, grid south to 5223000 N, grid west to 517000 E, grid south to 5218000 N, grid west to 513000 E, grid south to

5211000 N, grid west to 507000 E, grid north to 5214000 N, grid east to 510000 E, grid north to 5224000 N, grid west to 505000 E aforesaid, thence grid north to the point of commencement

A number of objections remained from the altered area necessitating a Warden's Court hearing before the licence was granted on December 24, 1985 for a period of twelve months. The licence is renewable for a further twelve months subject to Mines Department approval.

A joint venture has been negotiated whereby Cyprus may earn a 50% interest in EL 23/83 and Poseidon may earn a 50% interest in the adjacent EL 36/82 (100 square kilometers) held by Cyprus Minerals Australia Company. Cyprus manages the combined programs.

LOCATION AND ACCESS

The tenement lies approxih the alkali intrusive porphyries is accessible only by four-wheel drive and foot, however the sediments in general are less steep and vary from hilly to flat.

No difficulties would be anticipated with respect to power, water and transport should a mine be developed. The area has an annual rainfall of 70 to 90 centimeters in the lower lying areas and 125 centimeters in the higher areas.



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FIGURE 1

Kettering EL 23/83



HISTORY AND PREVIOUS EXPLORATION

Around the turn of the century numerous mines were developed in the Cygnet and Kettering district and some 3000 ounces of gold were produced to 1902. Early workings concentrated on the richer alluvial deposits and it was not until 1898 that lode mining began on the hornfelsed contact zones between the alkali intrusives and the surrounding flat lying to gently dipping fossiliferous, limey and carbonaceous siltstones, mudstones, tillites and marine limestones. Gold values from the altered sediments averaged from trace to 22 g/t with silver credits, however the very fine grained nature of the gold hindered recoveries and hence further development. Old reports noted gold (to 6 g/t), silver and sulfides were present in some altered alkali to acidic intrusives raising the possibility of porphyry style gold deposits.

No recent exploration has been conducted over the tenement area as distinct to Cygnet where limited work had been carried out during the 1970s and 1980s.

REGIONAL GEOLOGY AND MINERALIZATION

A large block of Permo-Carboniferous lower marine mudstones, sandstones and shales from the relatively horizontal basement complex found throughout southeastern Tasmania. These are disconformably overlain by Triassic fluvio-lucastrine sequences of sandstone, siltstone and mudstone. Doming and faulting of the sediments preceded and accompanied the intrusion of Jurassic dolerites (140-170 million years). Cretaceous Port Cygnet Alkaline Intrusives (100-110 million years) were the final units intruded into the sequence carrying with them gold, silver and minor base metal values.

The dolerite appears to have been injected as multiple sheets and the alkaline rocks as a laccolithic tongue and dike swarm. The alkali intrusive belt is approximately 25 kilometers long by ten kilometers wide and extends from just south of Snug to Surges Bay on the west bank of the Huon River. Recent fluvial and

pleistocene glacial erosion have produced the present topography.

(
you're kidding! not here!

GEOLOGY AND MINERALIZATION OF THE PROPERTY

Geological control within the tenement is hampered by poor outcrop and mapping is based on Mines Department photogeological interpretation (Kingsborough 1:50000 Geological Sheet 8311N [88]) coupled with follow-up roadside mapping.

The sedimentary units within the licence range in age from Permian (850 meters thick) to Triassic (450 meters thick). The basal Permian unit is the Truro Tillite which has a thickness in excess of 300 meters. This unit is overlain paraconformably by a sequence of fossiliferous (bryzoa and branchiopods plentiful) marine mudstones and siltstones (Woody Island Siltstone, Bundella Mudstone and Deep Bay Formation) which pass upwards into Upper Permian Risdon Sandstone and sandy siltstones of the Abels Bay Formation. These units are overlain by the Cygnet Coal Measures (Heaveys Bluff and Morrison Hill) and finally by Triassic coarse

grained quartz sandstones with minor intercalated mudstone and clay pellet beds.

A major Jurassic dike feature cuts the licence from near Morrisons Hill south to Randalls Bay dividing two separate dome structures; the Cygnet dome centered on Mount Mary and the Oyster Cove dome centered on Kettering. The sediments dip gently from 5 to 10° and are cut by a number of radial and concentric faults associated with the emplacement of the Cretaceous alkali intrusive causing the doming. Large expanses of Jurassic dolerite are mapped throughout the tenement occurring as thick sills and cross cutting dikes. The alkaline rocks intrude Permian sediments and Jurassic dolerite but to date have not been found to intrude Triassic rocks. Hybrid rocks also occur where Cretaceous intrusives have partially assimilated Jurassic dolerite during emplacement.

The coincidence of what are apparently unique dome structures at Cygnet and at nearby Oyster Cove and the petrologically distinct alkaline intrusives suggest a strong northeast-southwest generative link between the two. This is borne out by the predominance of workings and anomalous gold stream sediment values occurring along a similar trend.

Several small lode and alluvial gold deposits have been worked in the Cygnet district since 1898. Most of the gold production estimated at 3000 ounces has come from alluvial deposits. Minor lode deposits were opened up at Oyster Cove at the contact between the Permo Triassic sediments and the porphyritic alkali intrusive, with no production figures recorded. Minor prospecting pits were sunk at other localities where pyrite and other sulfides had developed in alkali intrusives and adjacent sediments.

Recent costeaning on the adjacent Cyprus licence has shown the mineralized zones are associated with wide zones of shearing and alteration adjacent to altered feldspar alkali porphyries. A possible mode of genesis for the mineralization invokes selective

replacement of carbonaceous rich strata by solutions associated with intrusion of alkali dikes, sills etc along zones of structural weakness formed by faults. Little to no quartz veining is observed at most workings.

WORK CONDUCTED BY CYPRUS

During the period regional stream sediment and panned concentrate surveys were conducted together with minor rockchip sampling surveys. A 1:25000 scale base map was prepared to present the regional stream data.

Prior to ground surveys being implemented landowners had to be approached and advised of the joint venturers' intentions to satisfy Mines Department regulations.

Contract geologist R Pollock was employed to conduct the majority of the stream program as well as to advise the land-owners of the program.

Both rockchip and stream samples were dispatched to Analabs in Burnie for AAS assay for copper, lead, zinc, silver, arsenic and gold (Appendix 1).

A total of 150 sample sites were visited and 150 stream sediment, 143 panned concentrate and six rockchip samples taken (Enclosure 1). No visible gold was observed during the program. A large tract of ground west of Farewell and Woodbridge Hills remains unsampled due to the unco-operative nature of the landowner.

Panned concentrate values to 0.21 g/t gold were delineated and stream sediment values to 0.05 g/t gold. Five separate areas requiring follow-up stream sediment and rockchip surveys were delineated. They are as follows (Enclosure 2):

- 1 Little Oyster Cove - panned concentrate values to 0.21 g/t
workings at intrusive/sediment contact
- 2 Victoria Creek - stream sediment values to 0.04 g/t, panned concentrate values to 0.08 g/t
- 3 Constance Rivulet - stream sediment values to 0.05 g/t, panned concentrate values to 0.03 g/t
in close proximity to calc-silicate hornfels
- 4 Gardiners Creek - stream sediment values to 0.02 g/t, panned concentrate values to 0.16 g/t
- 5 Heaveys Bluff - a number of background gold values to 0.02 - area of low priority

The five areas were delineated based on geochemical trends observed on the adjacent Cygnet Licence 36/82 where values in excess of 0.02 to 0.03 g/t were indicative of areas of previous workings and/or prospective geology.

Reported alluvial workings on Nicholls Rivulet were not delineated by the stream surveys and the only rockchip sample in the area, that of a pyritic very altered sediment (float), assayed poorly (0.02 g/t gold). Calc-silicate hornfels and other pyritic mudstones returned assays less than 0.02 g/t which is thought to be the background level of the area (equivalent to that at Cygnet).

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EXPLORATION POTENTIAL

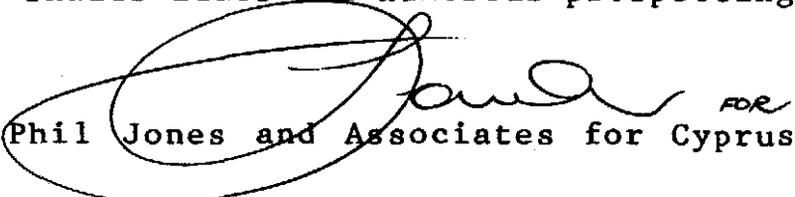
The tenement is considered to have excellent potential for hosting a replacement style (Carlin type) disseminated gold deposit associated with the intrusion of gold anomalous alkali porphyries into limey and carbonaceous mudstones, tillites, siltstones and limestones.

There is possibly secondary potential for a large tonnage, low grade porphyry style gold deposit as well as possible hydrothermal breccia pipe type gold deposits within the alkali intrusive.

PROPOSED PROGRAM

The five anomalous areas (Little Oyster Cove, Victoria Creek, Constance Rivulet, Cardiners Creek, Heaveys Bluff) delineated by stream surveys will be followed-up with more detailed stream sampling surveys at approximately 250 meter spacings. Prospective areas delineated will be detail rockchip sampled in order to define areas requiring gridding, detail soil and rockchip sampling and geological mapping. Anomalies defined are to be costeanned and where appropriate drilled.

Rockchip sampling surveys will be undertaken over previously worked areas, the majority of which occur south of Little Oyster Cove Creek and include shafts adits and numerous prospecting pits.

Signed: P A Jones of  FOR
Minerals

CYPRUS MINERALS AUSTRALIA COMPANY

EXPENDITURE FOR THE 12 MONTHS ENDED 31 DECEMBER 1986

KETTERING - EL 23/83

Salaries and Wages	\$ 1,110.89
Benefits	193.83
Drafting	192.87
Field Office Rent	-
Freight	66.26
Communications	591.43
Consulting	-
Other Contractors	4,704.00
Geological Contractors	457.54
Assays	2,085.63
Equipment Operation & Maintenance	319.00
Property Payments	-

	9,721.45
Overhead	972.14

	10,693.59
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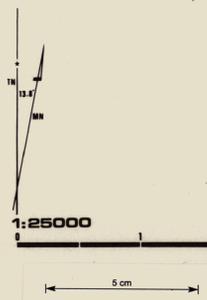
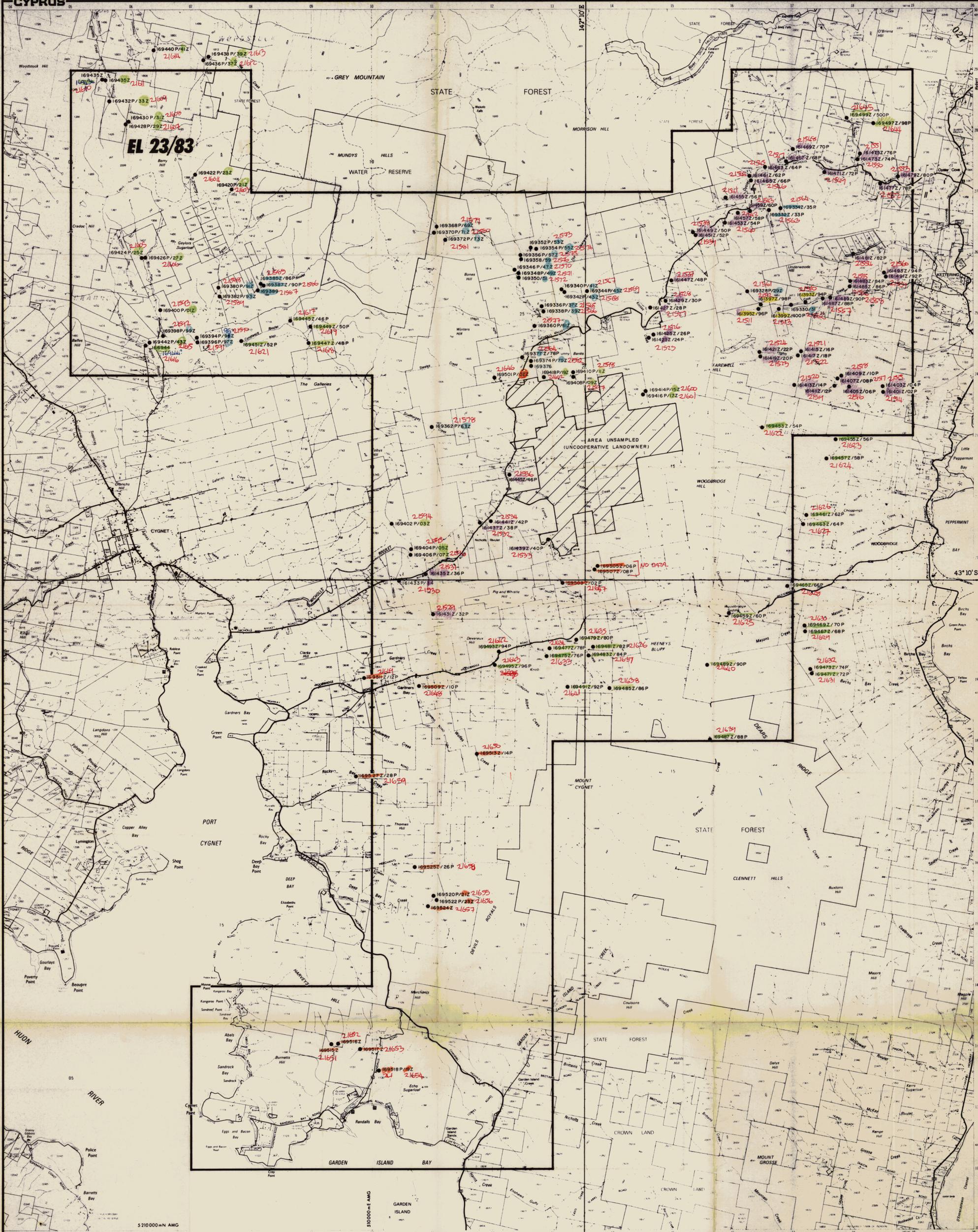


T J CONQUEST
ACCOUNTANT

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ENCLOSURES



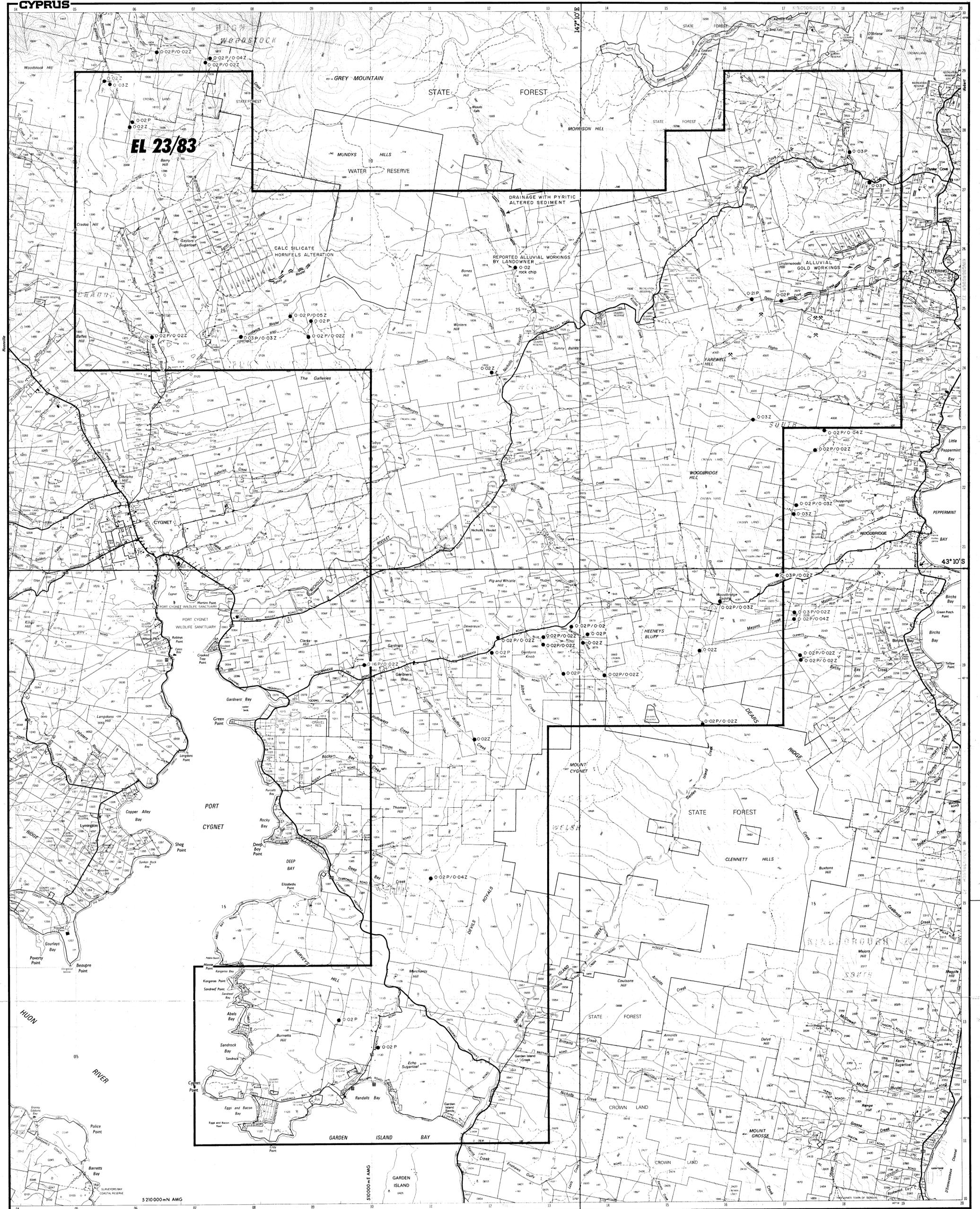
Notes

- Stream sediment sample ● 169520P etc
- Rockchip sample —
- Flout sample *
- P - panned concentrate; Z - stream sediment;
- S - soil (from creek bed)

948028

Cyprus Minerals Australia Company
87-2638

Project	HEEMSKIRK	Nº A-84-111
Project Partner	POSEIDON	
Kettering EL 23/83		
STREAM SEDIMENT GEOCHEMISTRY SAMPLE LOCATIONS		
Map Ref. ANG	K-55-8	Latitude 43°10'5 Longitude 147°00'E
Surveyed	Pottock, Jones	Date 1986 Scale 1:25000
Drawn	TGDS, Fowler	Date 1986 Drawing Nº M87-2434
Report 512		



EL 23/83

948029

Cyprus Minerals Australia Company
87-2638

Project	HEEMSKIRK	Nº	A-84-111
Project Partner	POSEIDON		
Kettering EL 23/83			
STREAM SEDIMENT GEOCHEMISTRY			
GOLD			
Map Ref. ANG	K-55-8	Latitude	43° 10' S
Longitude	147° 00' E		
Surveyed	Potock, Jones	Date	1986
Scale	1:25000		
Drawn	TGDS, Fowler	Date	1986
Drawing Nº	M87-2435		

Notes

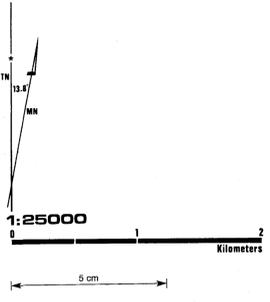
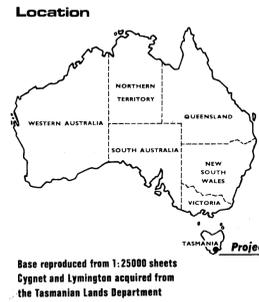
Only values considered anomalous are shown (≥0.02 g/t)
 All other results included - Appendix 1, Report 512
 Values in g/t

Stream sediment sample

Rockchip sample

Float sample

P - panned concentrate; Z - stream sediment;
 S - soil (from creek bed)



029

948030

APPENDICES

030

948031

APPENDIX 1

ANALYTICAL RESULT SHEETS

ANALABS

Phone (09) 458 7999

A division of Mac Donald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

ANALYTICAL REPORT No. 7.5 08 3588

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

Cyprus Minerals
PO Box 493
North Sydney
NSW 2060

ORDER No.	PROJECT
E16970	KETTERING
DATE RECEIVED	RESULTS REQUIRED
11.3.86	ASAP

NO. OF SAMPLES	NO. OF COPIES	TOTAL NO. OF SAMPLES
	3	102

NO.	DESCRIPTION	NO. OF SAMPLES	NO. OF COPIES	ANALYSIS	PREPARATION	REMARKS
1	161393-493 Odd Nos Only	1	2	Cu Pb Zn Ag As Au		101 114 310
2	161394-494 Even Nos Only	1	2	Cu Pb Zn Ag As Au		101 114 310

As Above
Attn: B Roxburgh

Philip Jones
Cyprus Minerals
"Ocean View"
Saddle Rd.,
Kettering

REMARKS

KETTERING
Despatch No.
2332

ANALYST'S OFFICE

032

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

DATA
BASE
NO

GOLD NUMBERS		7.5 08 3588		19.3.86		E 16970		1 OF 4	
TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	As	Au	
1	161393	21510	5	5	60	x	1	x	RETTED 06
2	161394	21511	10	10	75	x	1	x	
3	161397	12	5	x	50	0.5	x	x	
4	161399	13	x	x	25	x	x	x	
5	161401	14	10	x	25	x	x	x	
6	161403	15	10	x	45	x	x	x	
7	161405	16	10	x	90	x	x	x	
8	161407	17	20	x	40	x	6	x	
9	161409	18	5	x	15	x	1	x	
10	161411	19	5	x	45	x	x	x	
11	161413	21520	10	x	45	x	x	x	
12	161415	21	5	x	30	x	x	x	
13	161417	22	5	x	35	x	x	x	
14	161419	23	5	5	55	x	x	x	
15	161421	24	10	5	110	x	x	x	
16	161423	25	25	x	60	x	x	x	
17	161425	26	15	5	70	x	1	x	
18	161427	27	15	x	45	x	x	x	
19	161429	28	5	x	50	x	x	x	
20	161431	21529	20	5	40	x	1	x	
21	161433		10	5	50	x	x	x	
22	161435	2531	15	x	35	x	3	x	
23	161437	32	25	10	75	x	4	x	
24	161439	33	15	10	95	x	14	x	
25	161441	34	25	15	35	x	x	x	

Results in ppm unless otherwise specified
 * element present but concentration too low to measure
 x element concentration is below detection limit
 - element not determined

AUTHORISED OFFICER

[Signature]

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

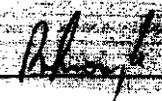
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1	161443		5	x	35	x	x	x	KETTER US	
2	161445	21536	5	x	45	x	3	x		
3	161447	37	x	x	40	x	x	x		
4	161449	38	x	x	70	x	x	x		
5	161451	39	15	5	135	x	x	x		
6	161453	21540	15	x	59	x	x	x		
7	161455	1	x	x	50	x	5	x		
8	161457	2	10	10	115	x	3	x		
9	161459	3	5	15	40	x	x	x		
10	161461	4	5	x	80	x	x	x		
11	161463	5	x	x	60	x	17	x		
12	161465	6	x	15	70	x	3	x		
13	161467	7	5	x	55	x	x	x		
14	161469	8	x	x	90	x	x	x		
15	161471	9	x	x	50	0.5	1	x		
16	161473	21550	x	5	60	x	1	x		
17	161475	1	5	x	60	x	x	x x		
18	161477	2	10	15	20	x	5	x y		
19	161479	3	35	5	50	x	4	x		
20	161481	4	10	20	30	x	11	x		
21	161483	5	10	15	65	x	x	x		
22	161485	6	5	5	35	x	2	x		
23	161487	7	5	10	65	x	x	x		
24	161489	8	5	10	30	x	x	x		
25	161491	21559	10	5	40	x	2	x		

Results in ppm unless otherwise specified
 0 = element present but concentration too low to measure
 x = element concentration is below detection limit
 - = element not determined

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SAMPLE PREFIX

REPORT NUMBER

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PAGE

ODD NUMBERS

7.5 08 3588

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E 16970

3 OF 4

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	As	Au	
1	161493	21560	5	x	40	x	x	x	REF E 06
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3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
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14									
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20									
21									
22									
23									
24									
25									

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

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CLIENT ORDER No.

PAGE

ODD NUMBERS

7.5 08 3588

19.3.86

E 16970

4 OF 4

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Pg	As	Flu		
1	STD 3036		160	595	260	2.5	500			76
2	RPT 161393		5	x	65	x	2			
3	RPT 161431		15	x	40	x	x			
4	STD 3036		160	570	230	2.0	490			
5	RPT 161473		5	x	60	x	x			
6										
7										
8										
9										
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11										
12										
13										
14										
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16										
17										
18										
19										
20										
21										
22										
23	DETECTION		5	5	5	0.5	1	0.005		
24	DIGESTION									
25	METHOD		101	101	101	101	114	313		

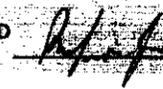
Results in ppm unless otherwise specified

T = element present but concentration too low to measure

X = element concentration is below detection limit

- = element not determined

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ANALABS

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ANALYTICAL DATA

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REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

EVEN NUMBERS

7.5 08 3588B

19.3.86

E 16970

5 OF 8

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	As	Au		
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2	161396		10	10	45	x	2	x		
3	161398		10	20	65	x	7	0.21		
4	161400		5	x	20	x	9	x		
5	161402		15	x	15	x	x	x		
6	161404		10	x	30	x	x	x		
7	161406		20	10	75	x	9	x		
8	161408		20	x	30	x	x	x		
9	161410		10	x	20	0.5	x	x		
10	161412		5	5	55	x	x	x		
11	161414		5	5	30	x	7	x		
12	161416		5	5	30	x	x	x		
13	161418		x	x	30	x	x	x		
14	161420		x	5	30	x	10	x		
15	161422		5	5	70	x	x	x		
16	161424		45	15	110	x	1	x		
17	161426		30	5	95	x	x	x		
18	161428		25	10	85	x	2	x		
19	161430		10	10	45	x	4	x		
20	161432		20	10	35	x	6	x		
21	161434	21530	15	10	25	x	5	x		
22	161436		25	5	20	x	x	x		
23	161438		20	1300	30	x	3	x		
24	161440		5	5	30	x	4	x		
25	161442		30	10	25	x	1	x		

Results in ppm unless otherwise specified
 I = element present, but concentration too low to measure
 X = element concentration is below detection limit
 - = element not determined

AUTHORIZED OFFICE

037

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

EVEN NUMBERS	7.5 08 3588B	19.3.86	E 16970	6 OF 8
--------------	--------------	---------	---------	--------

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au		
1	161444	15	5	35	x	x	x		
2	161446	10	5	55	x	x	x		
3	161448	5	25	60	x	6	x		
4	161450	10	5	120	x	1	x		
5	161452	5	x	90	x	1	x		
6	161454	20	x	40	x	x	x		
7	161456	5	x	70	x	3	x		
8	161458	15	10	90	x	x	x		
9	161460	30	5	35	x	1	x		
10	161462	5	x	20	x	5	x		
11	161464	10	5	70	x	13	x		
12	161466	5	10	65	x	x	x		
13	161468	25	5	55	x	10	x		
14	161470	5	x	125	x	16	x		
15	161472	5	x	35	x	16	x		
16	161474	15	10	60	x	x	x		
17	161476	5	x	65	x	15	0.03		
18	161478	45	170	120	x	13	0.03		
19	161480	35	40	70	x	25	x		
20	161482	10	15	40	x	6	x		
21	161484	5	55	35	x	5	x		
22	161486	5	5	40	x	21	x		
23	161488	5	x	30	x	x	x		
24	161490	10	10	120	x	2	x		
25	161492	25	20	35	0.5	21	x		

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]*

038

ANALABS

A division of MacDonell Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

EVEN NUMBERS

7.5 08 3588B

19.3.86

E 16970

7 OF 8

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	As	Au		
1	161494		5	x	35	x	x	x		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

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

039

ANALABS

A division of MacDonell Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

EVEN NUMBERS

7.5 08 3588B

19.3.86

E 16970

8 OF 8

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	As	Au		
1	STD 3036		160	605	225	2.0	560			
2	RPT 161394		5	10	40	x	6			
3	RPT 161432		20	15	35	x	9			
4	STD 3036		155	580	225	2.0	580			
5	RPT 161474		15	5	60	x	x			
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION		5	5	5	0.5	1	0.005		
24	DIGESTION									
25	METHOD		101	101	101	101	114	313		

Results in open unless otherwise specified
 T = element present but concentration too low to measure
 X = element concentration below detection limit
 - = element not determined

AUTHORISED OFFICER

[Signature]

948040

ANALYTICAL REPORT No. 7.5.08.03867

THIS REPORT MUST BE READ IN CONNECTION WITH THE ACCOMPANYING ANALYTICAL DATA

B. Roxburgh
 Cyprus Minerals
 P.O. Box 493
 North Sydney
 N.S.W. 2060

E 18760

Detch No2344

12/09/86

ASAP

3

30/09/86

1

51

169328/78	SD	Prep: 006,009,016,013,018						Cu, Pb, Zn, Ag, /101, As/114		
169328/78	PU							Au/329		

B. Roxburgh
 Cyprus Minerals
 P.O. Box 493
 North Sydney
 N.S.W. 2060

P. Jones
 Cyprus Minerals
 "Ocean View"
 Saddle Rd.,
 Kettering 7155

REMARKS
KETTERING

041

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

DATA BASE
No

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		7.5.08.03867				30/09/86		E 18760		1 OF 3	
TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au				
1	169328	20	35	135	<0.5	3	<0.01			21561	
2	169329	20	15	125	<0.5	6	<0.01			21561	
3	169330	40	50	35	<0.5	2	0.02				
4	169331	15	10	45	<0.5	2	<0.01			62	
5	169332	15	<5	35	<0.5	2	<0.01			63	
6	169333	10	<5	50	<0.5	3	<0.01				
7	169334	15	25	35	<0.5	1	<0.01			64	
8	169335	10	5	45	<0.5	2	<0.01				
9	169336	30	5	65	<0.5	2	<0.01				
10	169337	25	10	55	<0.5	1	<0.01			65	
11	169338	15	<5	15	<0.5	1	<0.01				
12	169339	10	5	20	<0.5	1	<0.01			66	
13	169340	10	10	25	<0.5	2	<0.01				
14	169341	10	10	15	<0.5	1	<0.01			67	
15	169342	30	20	65	<0.5	2	<0.01				
16	169343	20	10	50	<0.5	<1	<0.01			68	
17	169344	30	<5	70	<0.5	4	<0.01				
18	169345	25	<5	50	<0.5	2	<0.01			69	
19	169346	35	<5	70	<0.5	1	<0.01				
20	169347	30	<5	65	<0.5	1	<0.01			21570	
21	169348	40	<5	40	<0.5	2	<0.01				
22	169349	35	<5	40	<0.5	2	<0.01			71	
23	169350	10	10	10	<0.5	6	<0.01				
24	169351	10	10	70	<0.5	1	0.02			72	
25	169352	20	<5	40	<0.5	2	<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

948042

042

ANALABS

A division of MacDonnell Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

7.5.08.03867

30/09/86

F 18760

2 OF 3

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au		
1	169353	10	5	25	<0.5	1	<0.01	21573	
2	169354	10	95	15	<0.5	1	<0.01		
3	169355	5	<5	25	<0.5	2	<0.01	74	
4	169356	40	<5	40	<0.5	1	<0.01		
5	169357	40	<5	45	<0.5	1	<0.01	75	
6	169358	5	<5	10	<0.5	4	<0.01		
7	169359	5	10	35	<0.5	15	<0.01	76	
8	169360	15	<5	30	<0.5	1	<0.01		
9	169361	20	5	35	<0.5	2	<0.01	77	
10	169362	30	<5	65	<0.5	1	<0.01		
11	169363	35	<5	50	<0.5	1	<0.01	78	
12	169364	35	<5	35	<0.5	1	<0.01		
13	169365	45	<5	35	<0.5	1	<0.01		
14	169366	30	<5	40	<0.5	1	<0.01		
15	169367	30	<5	45	<0.5	1	<0.01		
16	169368	15	<5	45	<0.5	1	<0.01		
17	169369	15	<5	65	<0.5	1	<0.01	79	
18	169370	30	<5	95	<0.5	1	0.01		
19	169371	35	10	95	<0.5	2	<0.01	21580	
20	169372	15	10	60	<0.5	1	<0.01		
21	169373	15	10	80	<0.5	1	<0.01	81	
22	169374	20	<5	65	<0.5	3	<0.01		
23	169375	20	5	70	<0.5	4	<0.01	82	
24	169376	15	5	120	<0.5	10	<0.01		
25	169377	40	<5	50	<0.5	1	<0.01	21584	

Results in ppm unless otherwise specified
 T = element present but concentration too low to measure
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 — = element not determined

AUTHORISED OFFICER



948043

043

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

7.5.08.03867

30/09/86

E 18760

3 OF 3

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au		
1	169378	35	<5	50	<0.5	1	<0.01		
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23	DETECTION	5	5	5	0.5	1	0.01		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	101	101	101	101	114	329		

Results in ppm unless otherwise specified
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 - = element not determined

AUTHORISED OFFICE

948044

ANALYTICAL REPORT No. 7.5.08.03892

B. Roxburgh
 Cyprus Minerals
 P.O. Box 493
 North Sydney
 N.S.W. 2060

E18761 DE.No. 2345

29/09/86 ASAP

3 02/10/86 1

49

169379/427
 169379/427

SO Prep: 006,017,013,018
 PU

Cu,Pb,Zn,Ag/101,As/114
 Au/329

B. Roxburgh
 Cyprus Minerals
 P.O. Box 493
 North Sydney
 N.S.W. 2060

P. Jones
 Cyprus Minerals
 "Ocean View"
 Saddle Rd.,
 Kettering 7155

REMARKS

KETERING

RECEIVED

- 8 OCT 1986

045

ANALABS

A division of MacDonnell Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		7.5.08.03892				02/10/86		E18761		1 OF 3	
TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au				
1	169379	10	30	185	<0.5	7	<0.01				
2	169380	10	20	150	<0.5	9	<0.01				
3	169381	25	10	100	<0.5	7	<0.01				
4	169382	30	5	100	<0.5	2	<0.01				
5	169383	5	25	235	0.5	6	<0.01				
6	169384	10	15	175	<0.5	7	<0.01				
	169385	10	15	160	<0.5	7	<0.01			21585	
8	169386	10	<5	65	<0.5	4	<0.01				
9	169387	15	5	135	<0.5	1	<0.01			86	
10	169388	25	5	120	0.5	1	<0.01				
11	169389	10	10	55	<0.5	4	<0.01			87	
12	169390	25	5	45	<0.5	3	<0.01				
13	169391	20	5	35	<0.5	3	<0.01			88	
14	169392	25	5	60	0.5	2	<0.01				
15	169393	15	5	60	<0.5	5	<0.01			89	
16	169394	20	<5	45	<0.5	1	<0.01				
17	169395	15	<5	45	0.5	2	<0.01			21590	
18	169396	30	<5	50	<0.5	3	<0.01				
19	169397	25	5	45	<0.5	3	<0.01			91	
20	169398	20	<5	45	0.5	2	<0.01				
21	169399	15	5	45	<0.5	1	<0.01			92	
22	169400	10	5	30	<0.5	<1	<0.01				
23	169401	10	5	60	<0.5	5	<0.01			93	
24	169402	20	<5	45	<0.5	4	<0.01				
25	169403	30	10	50	<0.5	5	<0.01			94	

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

948046

046

ANALABS

A division of MacDonell MacIntyre & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

7.5.08.03892

02/10/86

E18761

2 OF 3

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au		
1	169404	20	<5	45	<0.5	4	<0.01		91
2	169405	30	<5	55	<0.5	7	<0.01		21505
3	169406	30	5	50	<0.5	5	<0.01		
4	169407	20	5	45	<0.5	3	<0.01		96
5	169408	10	<5	25	<0.5	2	<0.01		
6	169409	5	<5	45	<0.5	2	<0.01		97
	169410	25	10	80	<0.5	5	<0.01		
8	169411	20	15	85	<0.5	5	<0.01		98
9	169412	10	5	50	<0.5	4	<0.01		
10	169413	5	5	60	<0.5	1	<0.01		NOT ON MAP
11	169414	25	5	60	<0.5	4	<0.01		
12	169415	25	10	75	<0.5	3	<0.01		21600
13	169416	20	5	65	<0.5	5	<0.01		
14	169417	20	5	85	<0.5	4	<0.01		21601
15	169418	15	<5	35	<0.5	6	<0.01		
16	169419	5	10	90	<0.5	2	<0.01		02
17	169420	40	<5	80	<0.5	3	<0.01		
18	169421	40	<5	70	<0.5	2	<0.01		03
19	169422	30	30	60	<0.5	2	<0.01		
20	169423	35	<5	60	0.5	1	<0.01		64
21	169424	15	<5	20	<0.5	3	<0.01		
22	169425	<5	<5	35	<0.5	3	<0.01		05
23	169426	30	<5	35	<0.5	6	<0.01		
24	169427	20	<5	40	<0.5	3	<0.01		06
25									

Results in ppm unless otherwise specified
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 AUTHORIZED OFFICER


948047

147

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

7.5.08.03892

02/10/86

E18761

3 OF 3

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22	DETECTION	5	5	5	0.5	1	0.01			
23	UNITS	PPM	PPM	PPM	PPM	PPM	PPM			
24	METHOD	101	101	101	101	114	329			
25										

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

948048

Phone (09) 438 7997

52 Murray Road, North Sydney, N.S.W. 1585

ANALYTICAL REPORT No. 7.5.08.03904

THIS REPORT MUST BE READ IN CONNECTION WITH THE ACCOMPANYING ANALYTICAL DATA

RECEIVED

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

20 OCT 1986

E 18762

DES No. 2346

08/10/86

ASAP

4 13/10/86 1

97

Various	PC	Prep: 006,013,016						Cu,Pb,Zn,Ag/101,As/114		
Various	PU							Au/329		

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

P. Jones
Cyprus Minerals
"Ocean View"
Saddle Rd.,
Kettering 7155

REMARKS
KETTERING

049

ANALABS

A division of MacDonold Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		7.5.08.03904				14/10/86		E 18762		1 OF 4	
TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au				
1	169428	15	150	15	<0.5	2	0.01				
2	169429	<5	<5	15	<0.5	1	0.02		21507		
3	169430	25	25	85	<0.5	4	0.02				
4	169431	15	<5	25	<0.5	3	<0.01		08		
5	169432	10	<5	5	<0.5	<1	0.01				
6	169433	5	<5	5	<0.5	1	0.01		09		
7	169434	5	<5	5	<0.5	<1	0.02		21610		
8	169435	5	<5	15	<0.5	2	0.03		11		
9	169436	35	<5	60	<0.5	3	0.02				
10	169437	25	<5	25	<0.5	5	0.02		12		
11	169438	40	<5	50	<0.5	2	0.03				
12	169439	45	<5	45	<0.5	<1	0.04		13		
13	169440	20	10	10	<0.5	2	0.02				
14	169441	10	<5	5	<0.5	1	0.02		14		
15	169442	20	<5	45	<0.5	<1	0.02		15		
16	169443	10	<5	40	<0.5	4	0.02		16		
17	169444	40	45	150	0.5	15	0.04		17		
18	169445	60	20	75	<0.5	4	0.05		18		
19	169446	30	15	55	<0.5	4	0.02				
20	169447	15	<5	45	<0.5	2	0.02		19		
21	169448	20	<5	55	<0.5	4	0.02				
22	169449	10	<5	60	<0.5	3	0.01		21619		
23	169450	20	<5	35	<0.5	3	0.02				
24	169451	30	<5	65	<0.5	2	0.03		21621		
25	169452	30	<5	55	<0.5	1	0.03				

Results in ppm unless otherwise specified

Y = element present: list concentration too low to measure

X = element concentration is below detection limit

- = element not determined

AUTHORISED OFFICER

948050

050

ANALABS

A Division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		7.5.08.03904				14/10/86		E 18762		2 OF 4	
TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au				
1	169453	35	<5	55	<0.5	4	0.03			21622	
2	169454	30	<5	50	<0.5	2	0.01				
3	169455	25	<5	40	<0.5	2	0.04			23	
4	169456	25	<5	35	<0.5	2	0.02				
5	169457	25	<5	25	<0.5	2	0.02			24	
6	169458	30	<5	25	<0.5	3	0.02				
7	169459	10	<5	10	<0.5	2	0.03			25	
8	169460	25	<5	30	<0.5	3	0.02				
9	169461	50	<5	70	<0.5	5	0.03			26	
10	169462	35	<5	65	<0.5	5	0.02				
11	169463	50	<5	60	<0.5	3	0.03			27	
12	169464	30	<5	55	<0.5	4	0.01				
13	169465	30	<5	45	<0.5	7	0.02			28	
14	169466	45	<5	60	<0.5	6	0.03				
15	169467	25	<5	30	<0.5	3	0.04			29	
16	169468	25	5	40	0.5	1	0.02				
17	169469	30	10	40	0.5	1	0.02			30	
18	169470	30	15	30	<0.5	<1	0.03				
19	169471	30	5	35	0.5	2	0.02			31	
20	169472	25	10	30	<0.5	1	0.02				
21	169473	30	<5	35	<0.5	2	0.02			32	
22	169474	25	<5	30	<0.5	3	0.02				
23	169475	5	15	25	<0.5	6	0.02			33	
24	169476	25	10	35	<0.5	5	0.02				
25	169477	5	<5	20	<0.5	4	0.02			34	

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



948051

052

ANALABS

A division of Mac-Donald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

7.5.08.03904

14/10/86

E 18762

3 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au		
1	169478	10	<5	25	<0.5	5	0.02		
2	169479	<5	20	200	<0.5	10	0.02	21635	
3	169480	5	5	135	<0.5	7	0.02		
4	169481	<5	<5	15	<0.5	5	<0.01	36	
5	169482	5	<5	30	<0.5	4	0.02		
6	169483	5	<5	15	<0.5	5	0.02	37	
7	169484	15	10	25	<0.5	3	0.01		
8	169485	10	<5	15	<0.5	2	0.02	38	
9	169486	25	5	25	0.5	4	0.02		
10	169487	10	<5	25	<0.5	3	0.02	39	
11	169488	20	<5	45	<0.5	2	0.02		
12	169489	5	<5	15	<0.5	3	0.02	40	
13	169490	20	<5	25	<0.5	3	0.01		
14	169491	5	5	15	<0.5	1	0.01	41	
15	169492	20	<5	20	<0.5	2	0.02		
16	169493	5	10	35	<0.5	5	0.02	42	
17	169494	35	25	45	<0.5	6	0.02		
18	169495	5	<5	15	0.5	2	0.01	43	
19	169496	15	5	25	<0.5	2	0.02		
20	169497	5	<5	45	<0.5	4	<0.01	44	
21	169498	10	5	30	<0.5	3	0.01		
22	169499	<5	5	90	<0.5	5	0.01	45	
23	169500	5	<5	35	<0.5	3	0.01		
24	169501	15	<5	40	<0.5	4	0.02		
25	169502	25	5	50	<0.5	2	0.01	21646	

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

948052

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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

7.5.08.03904

14/10/86

E 18762

4 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au		
1	169503	5	20	60	<0.5	12	0.01		2647
2	169504	5	10	30	<0.5	6	<0.01		
3	169509	5	5	30	<0.5	4	0.01		21648
4	169510	20	10	60	<0.5	3	0.01		
5	169511	5	<5	20	<0.5	2	0.02		49
6	169512	15	<5	30	0.5	4	0.16		
7	169513	15	5	30	0.5	3	0.02		50
8	169514	25	<5	40	0.5	4	0.01		
9	169515	<5	15	20	<0.5	11	0.01		51
10	169516	<5	10	20	<0.5	6	0.02		52
11	169517	<5	<5	15	<0.5	8	0.01		53
12	169518	10	<5	<5	<0.5	4	0.02		
13	169519	<5	<5	<5	<0.5	4	<0.01		54
14	169520	15	<5	50	<0.5	6	0.02		
15	169521	5	10	80	<0.5	7	0.04		55
16	169522	20	<5	40	<0.5	3	0.01		
17	169523	10	5	45	0.5	3	0.01		56
18	169524	5	<5	10	<0.5	5	0.01		57
19	169525	<5	<5	10	<0.5	5	<0.01		58
20	169526	5	<5	5	<0.5	6	0.01		
21	169527	5	15	20	0.5	7	0.01		21559
22	169528	10	10	15	<0.5	8	0.01		
23	DETECTION	5	5	5	0.5	1	0.01		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM		
25	METHOD	101	101	101	101	114	329		

Results in ppm unless otherwise specified
 Y = element present, but concentration too low to measure
 X = element concentration is below detection limit
 - = element not determined

ANALYSIS
 DATE

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