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No. 1339

SML 385

MOUNT SERLE

PROGRESS REPORTS TO LICENCE EXPIRY FOR THE PERIOD 5/3/1970 TO 4/3/1971

Submitted by
Southern Cross Exploration NL
1971

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Government of South Australia
Primary Industries and Resources SA

ENVELOPE 1339

TENEMENT: SML 385, Serle

TENEMENT HOLDER: Southern Cross Exploration NL

CONTENTS

			SADME NO.	
REPORTS:	Chapman, R.J., 1970. Quarterly report SML 385, March to June 1970.		1339 R 1	
			Pg. 3	
	Chapman, R.J., 1970. Quarterly report SML 385, June to September 1970.		1339 R 2	
			Pg. 4	
	Chapman, R.J., 1970. Quarterly report SML 385, September to December 1970. (McPhar Geophysics Pty Ltd).		1339 R 3	
			Pg. 5	
	Donovan, P.R., 1970. Stream sediment reconnaissance survey over part of SML 385, Serle area, South Australia. (6 November 1970).		1339 R 4	
			Pgs 6-11	
PLANS		Scale		
Encl. 1	Stream sediment survey. Sample locations.	60ch to 1"	1339-1	A1
Encl. 2	Stream sediment survey. Copper results ppm.	60ch to 1"	1339-2	A1
Encl. 3	Stream sediment survey. Lead results ppm.	60ch to 1"	1339-3	A1
Encl. 4	Stream sediment survey. Zinc results ppm.	60ch to 1"	1339-4	A1
REPORT:	Ramdohr, R., 1971. Quarterly report SML 385, December 1970 to March 1971.		1339 R 5	
			Pg. 12	

END OF CONTENTS

Southern Cross Exploration N.L.

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Correspondence to: Box 4246 GPO Sydney NSW Australia 2001 Cables Southern Cross Telephone 281518

Adelaide Office: Feeney House, 95 Hutt St. Adelaide. Telephone 235208

The Director of Mines,
Box 38 Rundle Street, P.O.,
Adelaide. 5001

Dear Sir,

Quarterly Report SML 385

This is the quarterly report for the period March to June, 1970

One percussion drill hole (110') has been drilled in the Stones Claim area. It aimed at possible extension of the known haematite-malachite mineralization below the creek bed. This drilling programme, however, had to be terminated prior to reaching the required depth, due to some other commitments of the Mines Department drill rig. It is planned to resume drilling soon. 22 AAS analyses are being carried out by AMDEL.

Further work has been arranged and as the programme develops a higher level of expenditure will be needed.

The summary of Expenditure set out hereunder covers only the amounts actually paid during the period.

Summary of Expenditure

<u>Geological work</u>	Geologist Dr. Ramdohr - part salary and expenses for work on site	256.35
	Inspection of area by Directors, Geologist and Assistant	110.72
<u>Rental</u>	S.A. Dept. of Mines rental on area	50.00
		<u>\$417.07</u>

P. SOUTHERN CROSS EXPLORATION N.L.

R. Chapman
Agent in South Australia

NOTED

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Southern Cross Exploration N.L.

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INCORPORATED IN NEW SOUTH WALES

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Adelaide Office: Feeney House, 95 Hutt Street, Adelaide, S.A. 5000. Phone 23 5899.

12th November, 1970

The Director of Mines,
Box 38 Rundle Street P.O.,
ADELAIDE S A 5000

Dear Sir,

Quarterly Report, SML 385.

[Handwritten signature]
Director of Mines

The period June to September 1970 was mainly spent in research and no field exploration work was carried out until September when McPhar Geophysics Pty. Ltd., of Mary Street, Unley, were instructed to carry out a stream sampling programme of the area. The total cost of this programme was estimated at \$3,212.00 and an evaluation of the results will decide the next phase of the exploration programme.

Results were received only this week and McPhar Geophysics have been requested to forward a copy of their maps and assays to the Mines Department.

Extract of the geologist's report, prepared by Dr. R.P. Ramdohr, senior geologist of Southern Cross Exploration N.L.

"A stream sampling programme is currently under way covering approximately 50 sq.m. The area comprises the western part of the lease. Sampling density is 15 samples per sq.m. The programme is being carried out by McPhar Geophysics, Adelaide. Maps and assays shall be forwarded when available."

"DR. R.P. RAMDOHR."

Expenditure - paid:

Assays - AMDEL	\$59.00
Geologist - Dr. Ramdohr	250.00
Travelling Expenses, Dr. Ramdohr	110.00

- incurred:

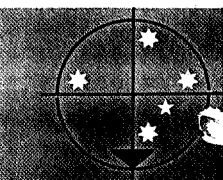
McPhar Geophysics P/L	<u>3212.00</u>	<u>\$3631.</u>
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Dr. Ramdohr is in the area at present and is studying the McPhar report and accompanying data, so that a positive programme can be planned now. It is unlikely that much can be done in the way of field work prior to Christmas, but this gives us the opportunity of planning and arranging for the new year when additional geological help will be available with the acquisition by the Company of more technical staff.

Yours faithfully,
SOUTHERN CROSS EXPLORATION N.L.

[Handwritten signature]
R.J. CHAPMAN

428/67



Southern Cross Exploration N.L.

000005

INCORPORATED IN NEW SOUTH WALES

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Adelaide Office: Feeney House, 95 Hutt Street, Adelaide, S.A. 5000. Phone 23 5899.

12th February, 1971.

The Director of Mines,
Box 38 Rundle Street, P.O.,
ADELAIDE S A 5000

Dear Sir,

Quarterly Report SML 385

The period September - December saw the completion of the stream sampling programme in the Western part of SML 385 by McPhar Geophysics and the filing of their report.

Dr. Ramdohr, the senior geologist responsible for the area has already lodged a geological report in addition to the report on the stream sampling programme from McPhar Geophysics.

The stream sampling programme on the balance of the area by our own team is being finalised now and will be included in the next quarterly report.

STATEMENT OF EXPENDITURE TO 18TH DECEMBER 1970

Assays	2131
Camp Food	15
Petrol & Oil	48
Travelling Expenses	20
Geologist	350
Core splitting	20
Rent	50
Travelling etc	400
	<hr/>
	\$3034
	<hr/>



Yours faithfully,
SOUTHERN CROSS EXPLORATION NL

R.J. Chapman
R.J. CHAPMAN
Agent in S Australia

NOTED
[Signature]
Director of Mines

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385
STREAM SEDIMENT RECONNAISSANCE SURVEY
OVER PART OF S.M.L. 385, SERLE AREA,
SOUTH AUSTRALIA

FOR
SOUTHERN CROSS EXPLORATION N.L.

BY
P.R. DONOVAN Ph.D.



McPHAR GEOPHYSICS PTY. LTD.

TELEPHONE 72 2133

50-52 MARY STREET, UNLEY, SOUTH AUSTRALIA
POSTAL ADDRESS: P.O. Box 42, UNLEY, SOUTH AUSTRALIA 5061
JR

CABLE
"PHARGE" ADELAIDE
TELEX
"PHARGE" AA82623

MEMORANDUM TO: SOUTHERN CROSS EXPLORATION N.L.

MEMORANDUM FROM: DR. P.R. DONOVAN,
McPHAR GEOPHYSICS PTY. LTD.

SUBJECT: STREAM SEDIMENT RECONNAISSANCE SURVEY,
OVER PART OF S.M.L. 385, SERLE AREA,
SOUTH AUSTRALIA.

DATE: 6TH NOVEMBER, 1970.

INTRODUCTION

An area of approximately 48 square miles of S.M.L. 385 was selected for a stream sediment reconnaissance for Cu, Pb and Zn by Dr. R. Ramdohr of Southern Cross Exploration N.L. The location of the area is shown on map G.C. 3086A. It lies completely within the Serle one-mile geological sheet.

It should be noted that small parts of the selected area on the northern, western and southern sides fall outside the boundaries of S.M.L. 385.

In all 819 samples were collected. This gave a density of approximately 17 samples per square mile.

The samples were collected over a period of 14 days from 21st September to 4th October 1970.

A small E-W strip on the northern edge of the area had already been covered by stream sediment sampling by Mt. Rose Mines Pty. Ltd. in 1967.

ANALYSIS

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All samples were sieved to minus 80-mesh and analysed for Cu, Pb and Zn by AAS following a hot 25% HNO_3 leach on 0.25g. sample.

Ten samples were analysed as above on pulverized minus 40-mesh material as there was insufficient 80-mesh material available for analysis. The results are given in Batches CH 0517 (15/10/70), CH 0548 (20/10/70) and CH 0772 (4/11/70).

All anomalous values have been checked by reanalysis.

RESULTS

The sample locations and metal values are presented in DWG's G.C. 3086A - 3089A.

Copper

Values ranged from 5 - 110 ppm. A threshold of 35 ppm Cu was selected. In all there were 18 anomalous samples of which 10 were possibly anomalous (35 - 65 ppm), 6 were probably anomalous (20 - 100 ppm), and 1 was definitely anomalous (105 ppm and over).

The main group of anomalies are along strike in both directions from Stones Cu Claim and are probably related to faulting. They extend for over one mile.

There are a number of possible one-sample anomalies within the Marinoan, north of the E-W fault system. These include 248 (35 ppm), 252 (35 ppm), 553 (35 ppm) and 734 (35 ppm).

Possible one-sample anomalies 177 (35 ppm) and 234 (35 ppm) also occur within this formation further south.

It should be noted that there is a copper occurrence shown on the Serle Sheet approximately one mile north of Stones Claim that was not detected by the stream sediment survey.

It should also be noted that anomalies 76, 78, 79, 80 occur outside the boundaries of S.M.L. 385 in S.M.L. 366 (Boolooroo Mining Co. Pty. Ltd.) and anomaly 234 in S.M.L. 386 (V. Vidic, S.M. Kristoff, K.A. Walters and E. Shelly).

There were no copper anomalies in the strip already sampled by Mt. Rose Mines Pty. Ltd.

Lead

Values ranged from < 20 to 95 ppm. A threshold of 80 ppm was selected.

There were three anomalous samples, all of which were possibly anomalous (i.e, within the range 80 - 155 ppm).

Sample 325 (85 ppm) and 333 (95 ppm) are in close proximity, near a NE-SW fault within the Sturtian. It is interesting to note that they are in the same geologic position as the Ag-Pb showing near Oodnapanakan Hut, which was not detected during this survey. Sample 325 is also definitely anomalous in Zn.

The other one-sample anomaly, 759, occurs near the Sturtian tillite horizon.

Zinc

Values ranged from 10 - 320 ppm. A value of 100 ppm was taken as threshold. In all there were 6 anomalous samples, of which 4 were possibly anomalous (100 - 195 ppm), 1 was probably anomalous (200 - 295 ppm) and 1 was definitely anomalous (300 ppm and over).

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The best grouping of anomalies is 792 (240 ppm), 793 (100 ppm), 799 (130 ppm), and 800 (110 ppm) which are apparently related to the Sturtian dolomite, northeast of White Well. This anomaly was also found by Mt. Rose Mines but apparently not followed up. Sources appear to lie above 792 and 799.

Sample 325 (320 ppm) was also anomalous in Pb and has been mentioned previously.

Sample 571 (100 ppm), a possible one-sample anomaly occurs near a major E-W fault between the Sturtian and Marinoan.

There are no known Zn occurrences within the area sampled.

RECOMMENDATIONS

- (1) The zone of anomalous copper values near Stones Cu Claim should be followed up by detailed sediment sampling and geological mapping. If conditions are suitable, a soil grid may be warranted. This zone could probably be extended to the west, if agreement is reached with Boolooroo Mining Co. Pty. Ltd. Later, geophysical work may be useful in delineating the mineralised zone.
- (2) The following one-sample Cu anomalies should be followed-up by sediment sampling at 200' intervals to the heads of the creeks: 177, 248, 252, 553 and 734. Sample 234 should not be followed up as it is outside the S.M.L.
- (3) The copper occurrence one mile north of Stones Cu Claim should be visited by a geologist-geochemist and assessed. The reason for non-detection should be established.

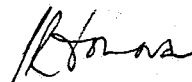
- (4) The following three one-sample Pb anomalies should be followed up by sediment sampling at 200' intervals to the heads of the creeks: 325, 333 and 759.
- (5) The lead-silver occurrence near Oodnapanakan Hut should be visited by a geologist-geochemist and assessed. The reason for non-detection should be established.
- (6) The zinc anomaly northeast of White Well should be detailed by closely spaced sediment sampling above the four anomalous samples as an initial step. Soil grids could be useful here if conditions are suitable as a follow-up stage to the above.
- (7) Sample 571 should be followed up by sediment sampling at 200' intervals to the head of the creek.
- (8) On most of the above anomalies size fractioning and analysis of the sediments may give useful information on possible improvements of technique for the remaining eastern part of the S.M.L. which has yet to be sampled.

CONCLUSIONS

The current programme has outlined an unclosed copper anomaly with a strike length of over one mile near Stones Cu Claim. In addition there are strong indications that there is another Pb-Zn-Ag occurrence within the S.M.L., approximately 2 miles east of Oodnapanakan Hut.

In addition there are several isolated Cu, Pb and Zn anomalies that require follow-up and may lead to further mineralised occurrences.

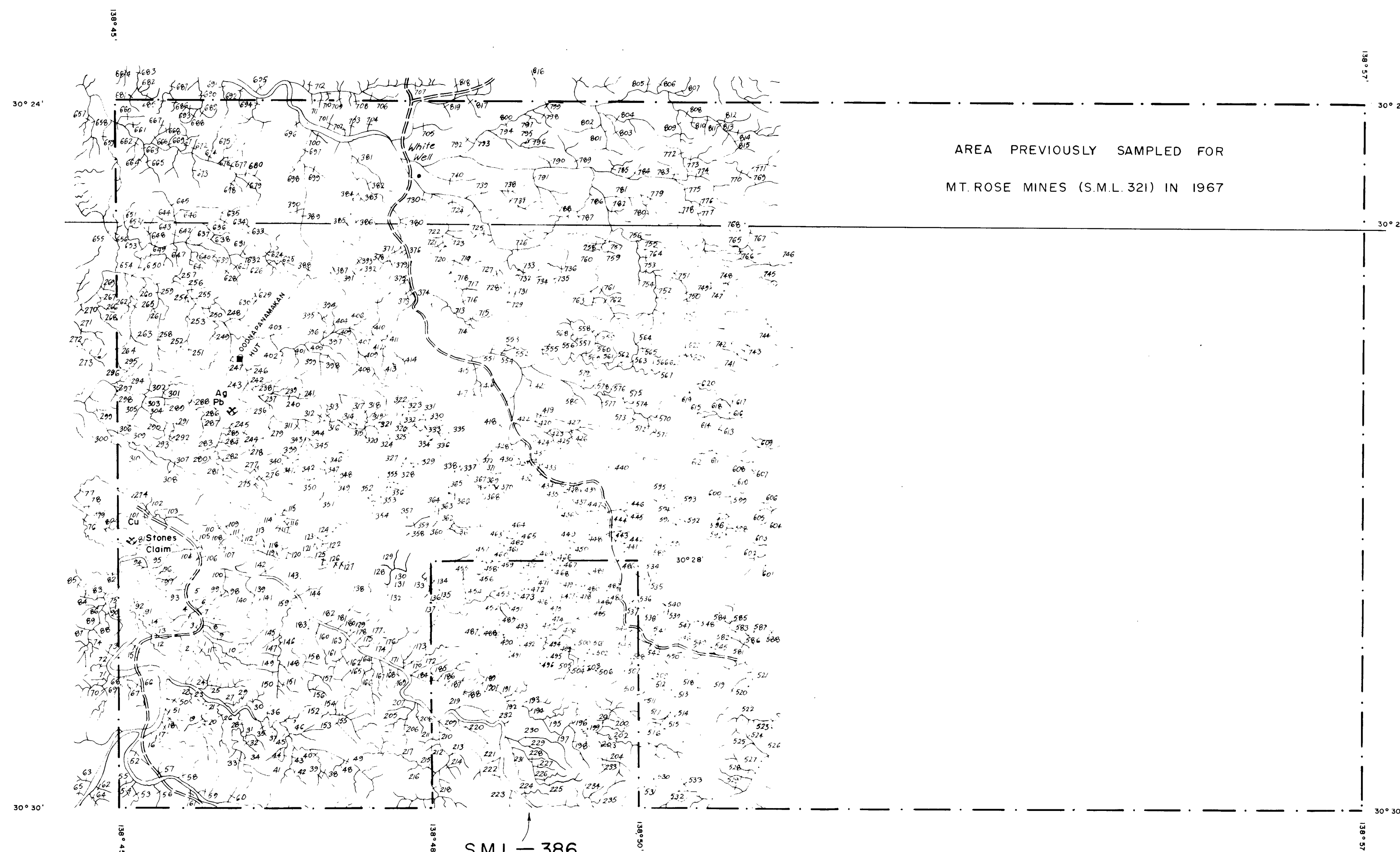
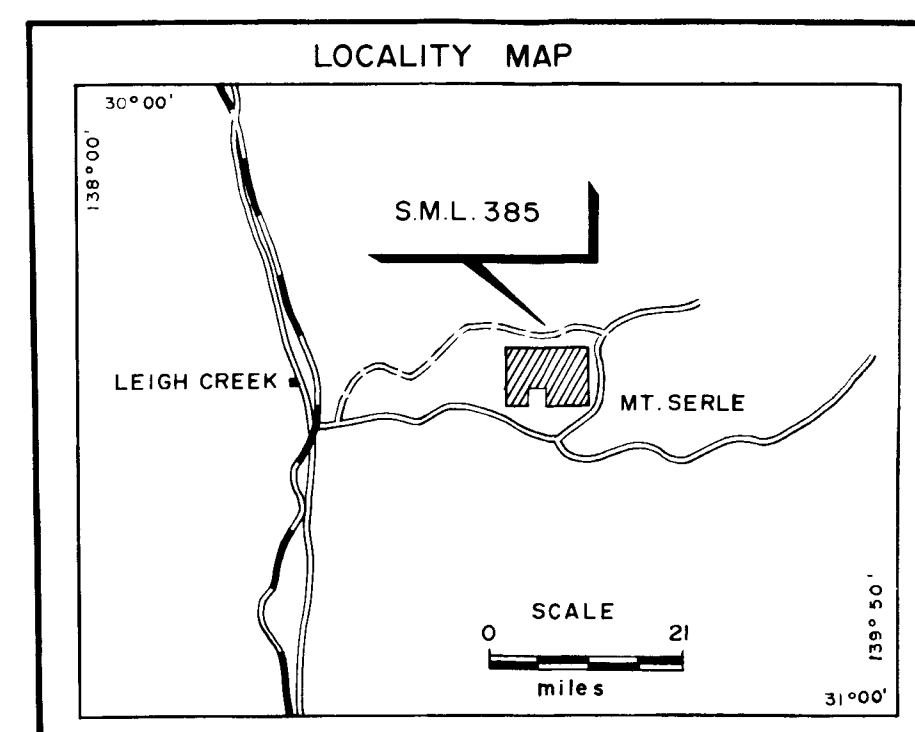
SIGNED
McPHAR GEOPHYSICS PTY. LTD.



P.R. DONOVAN Ph.D.

McPHAR GEOPHYSICS PTY. LTD.

S.M.L- 366



SOUTHERN CROSS EXPLORATION N.L.

S.M.L. 385 — SERLE AREA S.A.

STREAM SEDIMENT RECONNAISSANCE SURVEY

SAMPLE LOCATION MAP.

SCALE : 60 CHAINS TO 1 INCH



DRAWN: C.C.C.
DATE: 22-10-70
APPROVED: P.R.S.

DATE: 5-11-70

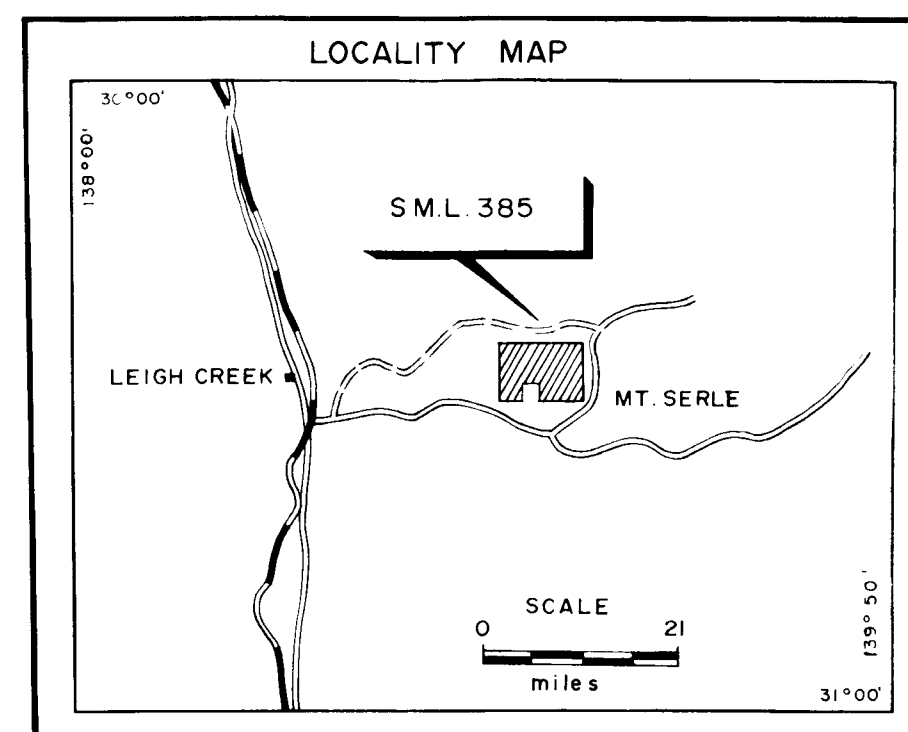
1339-1

DWG: G.C. 3086 A

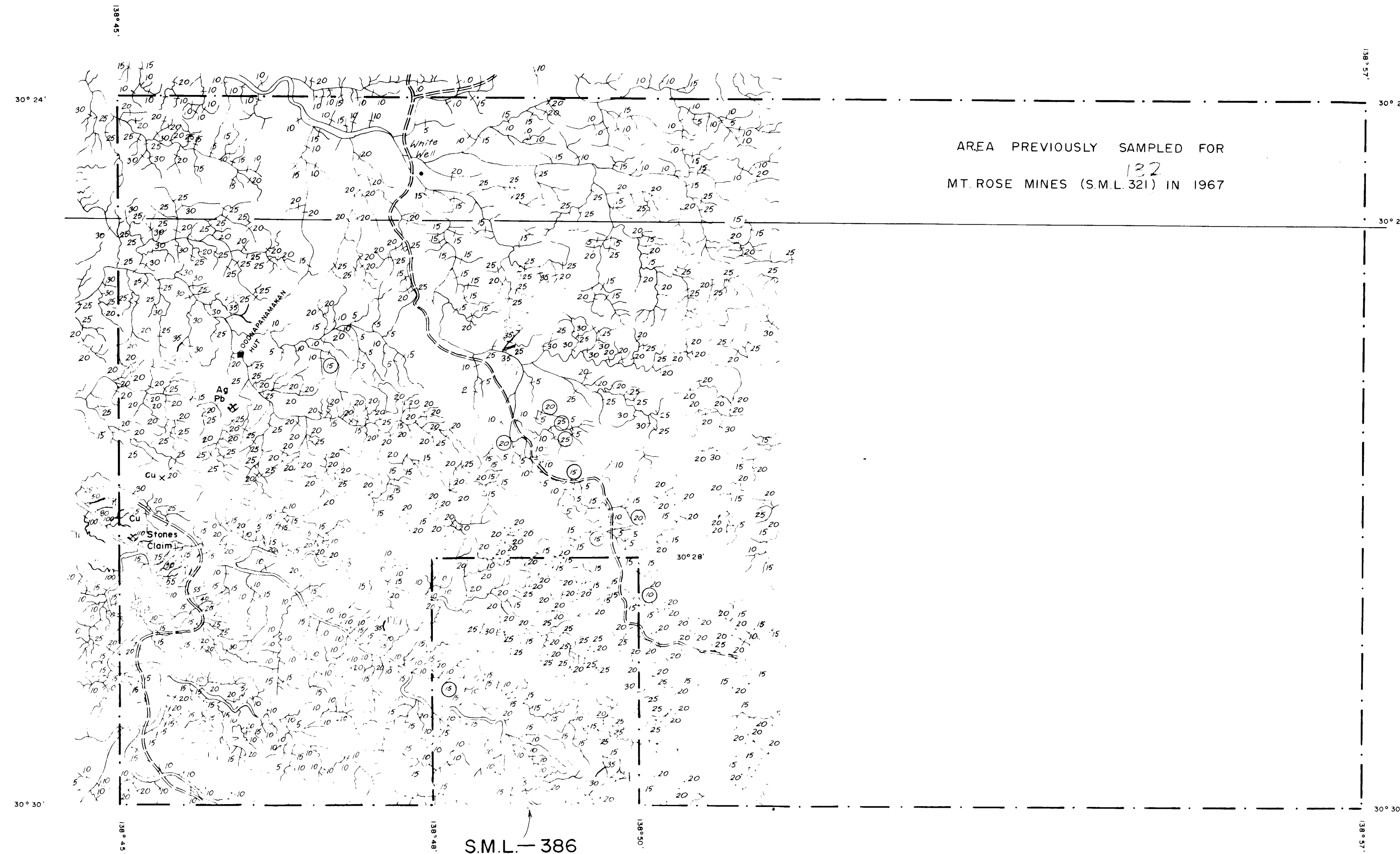
McPHAR GEOPHYSICS PTY. LTD.

S.M.L.- 366

AREA PREVIOUSLY SAMPLED FOR
MT. ROSE MINES (S.M.L 321) IN 1967



Cu by AAS following hot 25% HNO₃ leach
for 1 hour on 0.25 gm. sample of minus 80 mesh.
⊗ = Minus 40 mesh, pulverised



SOUTHERN CROSS EXPLORATION N.L.

S.M.L. 385 — SERLE AREA S.A.

STREAM SEDIMENT RECONNAISSANCE SURVEY

COPPER RESULTS p.p.m.

SCALE : 60 CHAINS TO 1 INCH



DRAWN: C.C.C.
DATE: 22.10.70
APPROVED: JKS
DATE: 5-11-70

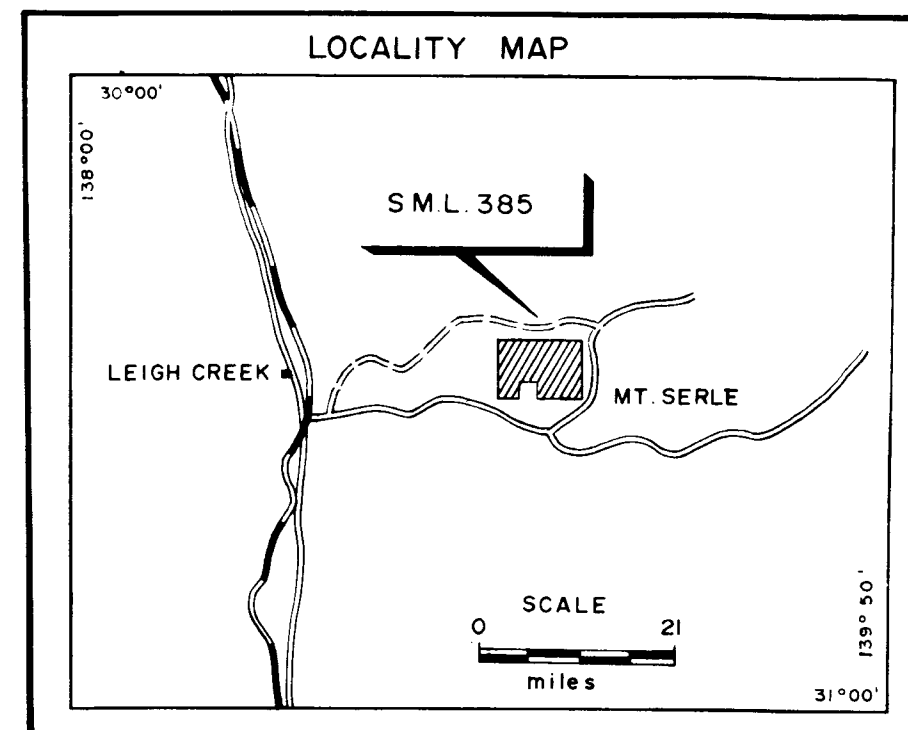
1339-2

DWG G.C. 3087A

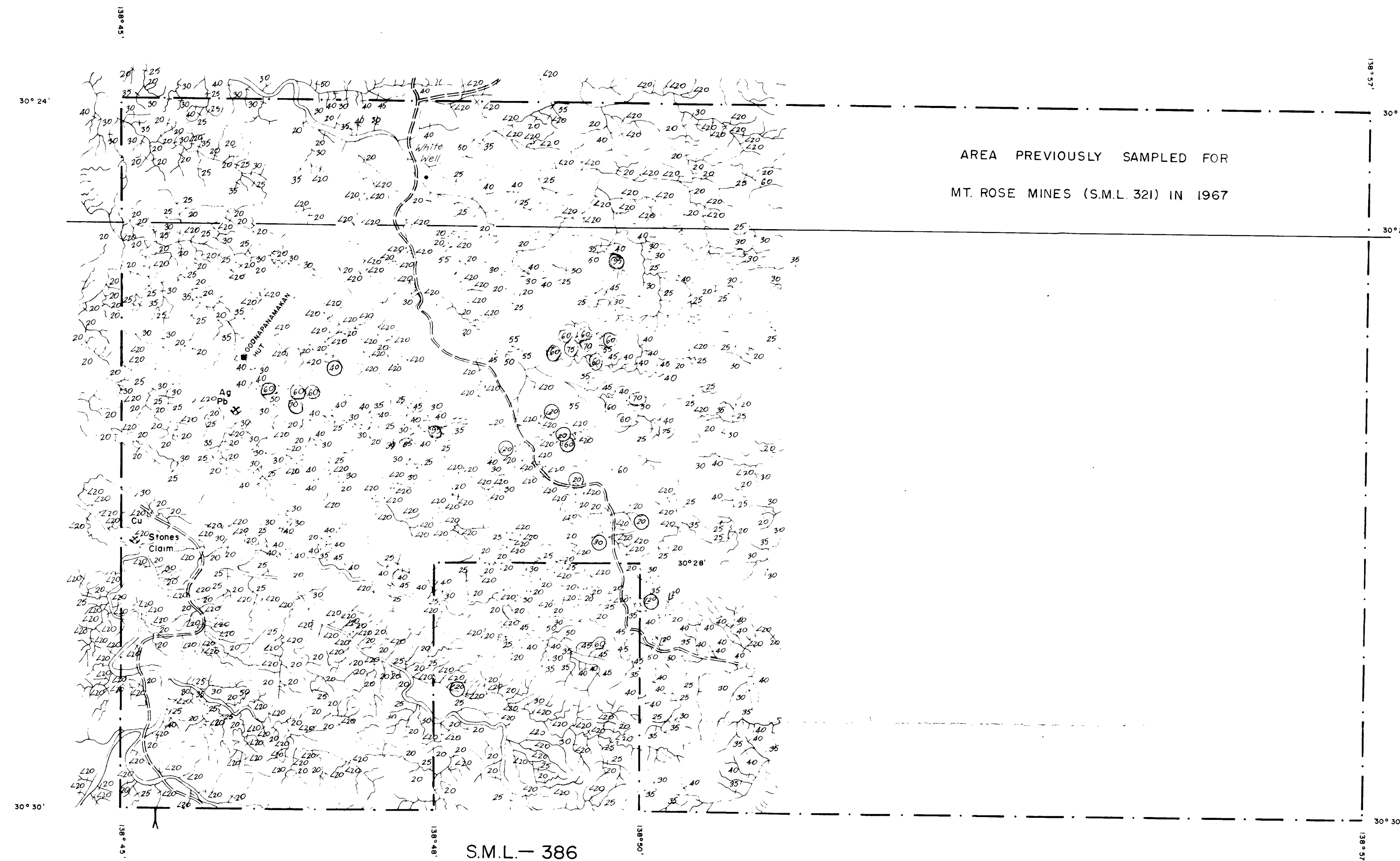
McPHAR GEOPHYSICS PTY. LTD.

S.M.L- 366

AREA PREVIOUSLY SAMPLED FOR
MT. ROSE MINES (S.M.L 321) IN 1967



Pb by AAS following hot 25% HNO₃ leach
for 1 hour on 0.25gm. sample of minus 80 mesh.
⊙ = Minus 40 mesh, pulverised



SOUTHERN CROSS EXPLORATION N.L.

S.M.L. 385 — SERLE AREA S.A.

STREAM SEDIMENT RECONNAISSANCE SURVEY

LEAD RESULTS p.p.m.

SCALE : 60 CHAINS TO 1 INCH



DRAWN: C.C.C.
DATE: 22.10.70
APPROVED: P.K.

DATE: 5-11-70

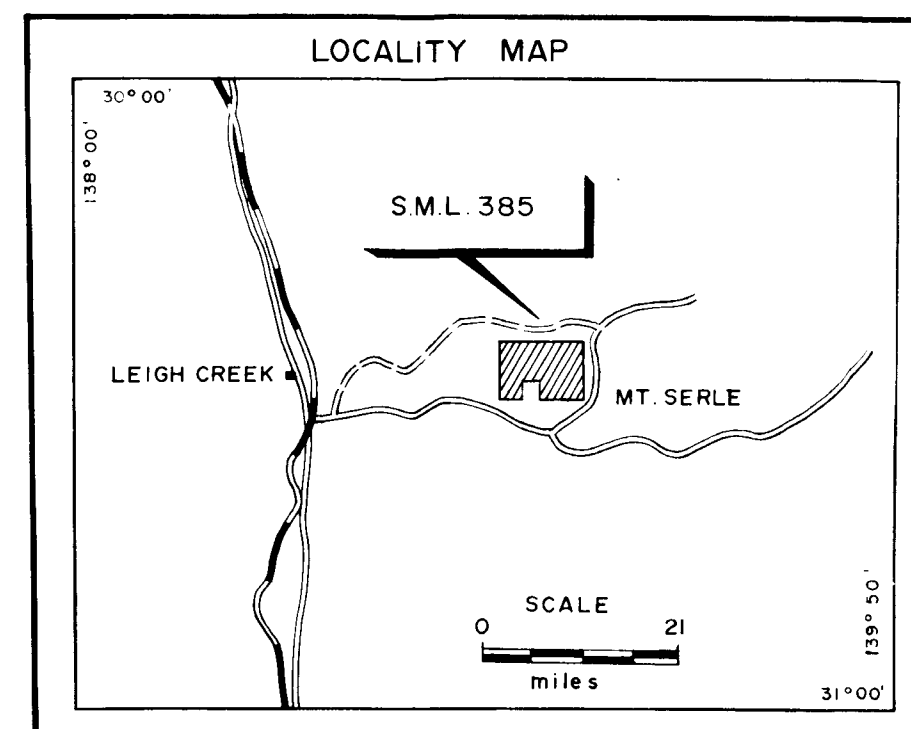
1339-3

DWG. G.C. 3088A

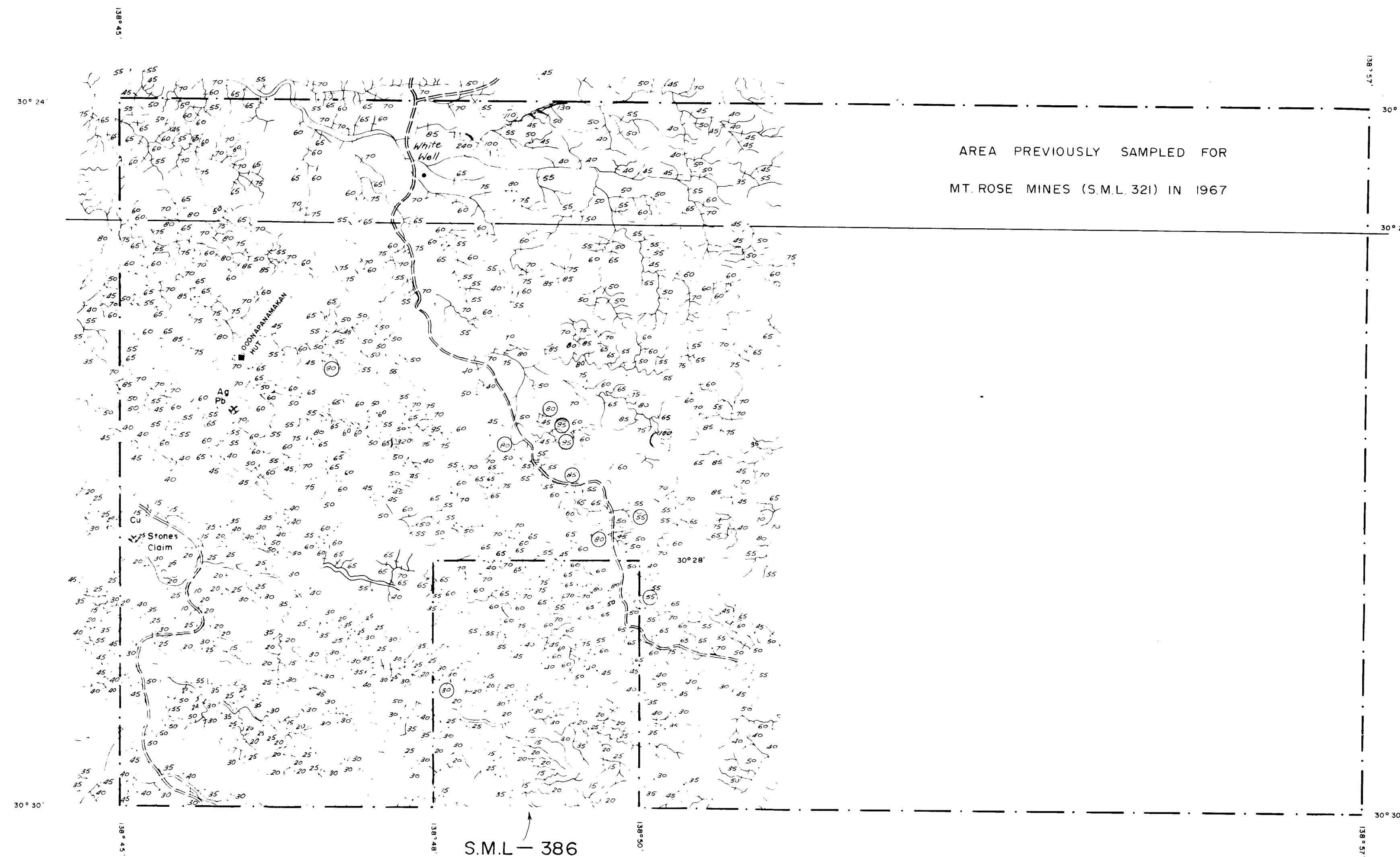
McPHAR GEOPHYSICS PTY. LTD.

S.M.L- 366

AREA PREVIOUSLY SAMPLED FOR
MT. ROSE MINES (S.M.L. 321) IN 1967



Zn by AAS following hot 25% HNO₃ leach
for 1 hour on 0.25 gm. sample of minus 80 mesh.
(20) = Minus 40 mesh, pulverised



SOUTHERN CROSS EXPLORATION N.L.

S.M.L. 385 — SERLE AREA S.A.

STREAM SEDIMENT RECONNAISSANCE SURVEY

ZINC RESULTS p.p.m.

SCALE : 60 CHAINS TO 1 INCH



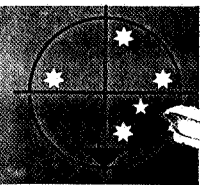
DRAWN: C.C.C.
DATE: 22-10-70
APPROVED: PRX

DATE: 5-11-70

1339-4

DWG: G.C. 3089A

28/69



Southern Cross Exploration N.L.

INCORPORATED IN NEW SOUTH WALES

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Registered Office 9th Floor 82 Elizabeth Street Sydney

Correspondence to: ~~Box 4246 GPO Sydney NSW Australia 2001 Cables Southexplor Telephone 281518~~

219 East Terrace, Adelaide. S.A. 5000. Telephone: 232322.

March 24, 1971.

Director of Mines,
Department of Mines,
Box 38, Rundle Street P.O.
ADELAIDE.

S.A. 5000.

NOTED

[Handwritten signature]

Dear Sir,

Re: Quarterly Report; SML 385.

In the western part of the SML, approx 50 sq. m. had been previously sampled and evaluated by McPhar Geophysics. A field inspection of the revealed, rather weak anomalies around Stones Claim for copper and near White Well for zinc, did not suggest further work in the area.

The completion of the stream sampling programme in the eastern part of the SML was discouraging, (see attached maps)

Copper: Only 2 of the 188 samples taken passed the background of 30 ppm. These 2 samples assayed each 35 ppm. They do not warrant any follow-up work.

Zinc: None of the 188 zinc assays made from samples taken from the eastern half of the SML exceeded the back-ground of 70 ppm. .

Yours faithfully,

[Handwritten signature]

(DR. R. RAMDOHR.)

