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SML 338

BALCANOONA

PROGRESS REPORTS TO LICENCE EXPIRY/SURRENDER FOR THE PERIOD 16/10/1969 TO 15/10/1971

Submitted by
Poseidon NL
1970

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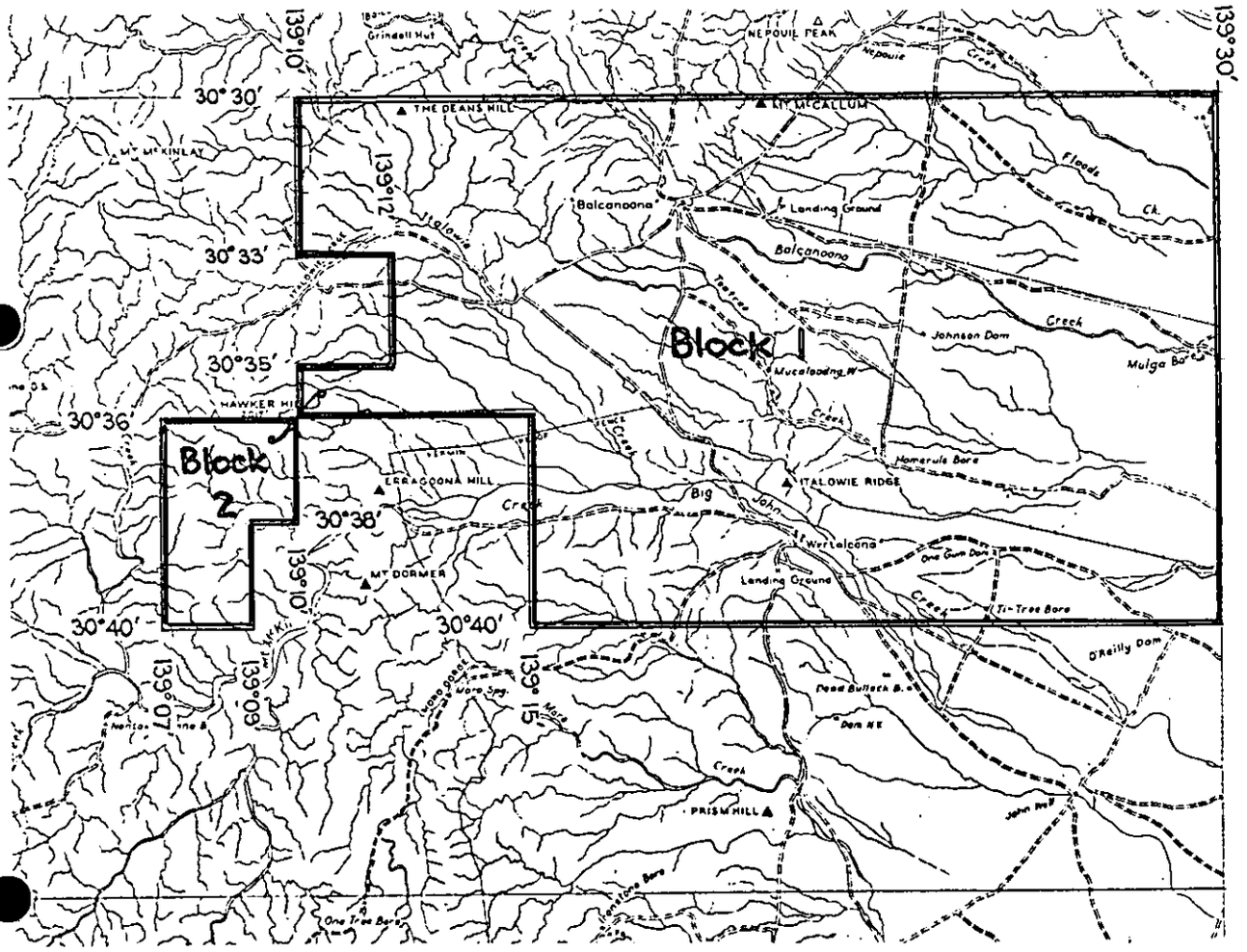
Government of South Australia
Primary Industries and Resources SA



SCALE 1:250000

POSEIDON N.L.

DOCKET D.M. 847/69 AREA 215 SQ MILES

1:250000 PLANS . COPLEY

LOCALITY

S.M.L. No. 338 EXPIRY DATE 15-10-71

CONTENTS ENVELOPE 1253

TENEMENT: S.M.L. 338

TENEMENT HOLDER: Poseidon N.L.

McPHAR GEOPHYSICS PTY. LTD.

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TELEX M82 • 623

JR

MEMORANDUM TO: POSEIDON N.L.

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

SUBJECT: STREAM SEDIMENT RECONNAISSANCE SURVEY, BALCANOONA AREA, S.M.L. 338, SOUTH AUSTRALIA.

DATE: 20TH FEBRUARY, 1970.

INTRODUCTION

This S.M.L. of approximately 215 square miles was covered by a stream sediment reconnaissance except for the areas underlain by Quaternary sediments. This left a total of only 37 square miles for survey.

A total of 497 samples were collected giving a sample density of approximately 13.4 per square mile.

ANALYSIS

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

The results are given in Batches G 1725 (22/12/69) G 1741 (24/12/69) G 1894 (6/2/70) G 1915 (16/2/70) and G 1931 (17/2/70).

RESULTS

The sample locations and metal values are presented in DWG's G.C. 3022 A - 3025 A.

P.R. DONOVAN, Ph.D.
CHIEF GEOPHYSICIST

/.....2

Copper

Values ranged from 5 - 45 ppm.

A threshold of 35 ppm was selected and all samples of this value and above were checked by reanalysis.

In all there were 6 anomalous values all of which would be termed possibly anomalous.

Samples 918343 (40 ppm), 918411 (35 ppm), 918413 (45 ppm) and 918404 (45 ppm) form a group and suggest a source in the Bolla Bollana formation just north of the Paralana fault which has many copper mineralizations associated with it further north outside S.M.L. 338.

Sample 918257 (35 ppm) is derived from the Balcanoona formation as in 918247 (35 ppm).

Zinc

Values ranged from 15 - 80 ppm.

None of these are considered anomalous, the usual threshold in this type of country being 100 ppm.

Lead

Values ranged from 20 to 40 ppm.

These are considered to be background.

RECOMMENDATIONS

All the 6 copper anomalies require closely spaced sediment sampling at 100 foot intervals upstream combined with visual prospecting for malachite/azurite staining.

Signed
McPhar GEOPHYSICS PTY. LTD.

P.R. DONOVAN Ph.D.
CHIEF GEOCHEMIST

c.c. Poseidon (2)
File

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MEMORANDUM TO: POSEIDON N.L.

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

SUBJECT: STREAM SEDIMENT FOLLOW-UP SURVEY
BALCANOONA AREA, S.M.L. 338,
SOUTH AUSTRALIA.

DATE: 14TH JULY, 1970.

INTRODUCTION

The six possibly anomalous Cu values were followed-up by detailed sediment sampling as recommended in the writer's memorandum of February 20th, 1970.

In all, 72 samples were collected. These were sieved to minus 80-mesh and analysed for Co, Cu and Zn by AAS following a hot HCL leach and a HCL/HNO_3 leach in the latter stages on a 0.25 g. sample.

These samples should have been analysed for Cu, Pb and Zn following a hot 25% HNO_3 leach but it is not considered necessary to reanalyse them. If anything the copper values may be slightly higher than they would have been.

RESULTS

The sample locations are shown on Dwg. G.C. 2058A and the copper values on Dwg. G.C. 2059A. The copper occurrences located by the crews are also shown on Dwg. G.C. 2058A. These locations are approximate.

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Anomaly 343 (Samples 342/1 - 342/9)

This anomaly showed an increase in copper to the head of the creek where a source should be sought. This appears to be in the fault. No visible Cu was located by the crew.

ANOMALY 247 (Samples 247/1 - 247/30)

A continuous series of samples was collected at 100 foot intervals up this creek. All the values were 30 ppm Cu or above (up to 70 ppm) and secondary Cu was located by the crew as shown on the map. This is within the Balcanoona formation.

ANOMALY 257 (Samples 257/1 - 257/13)

Copper mineralisation was located between 257/1 and 257/8, and there may be an old diggings here. The copper values in the other branch (257/9 - 257/13) are possibly anomalous.

ANOMALIES 411 and 413 (Samples 1A-D, 2A-D, 3A-D, 4A-D and 5A-D)

The crew report widespread secondary around creeks 2 and 3 and all 5 creeks were anomalous. However the creeks have not been sampled right up to their heads yet.

The sources are within the Bolla Bollana formation.

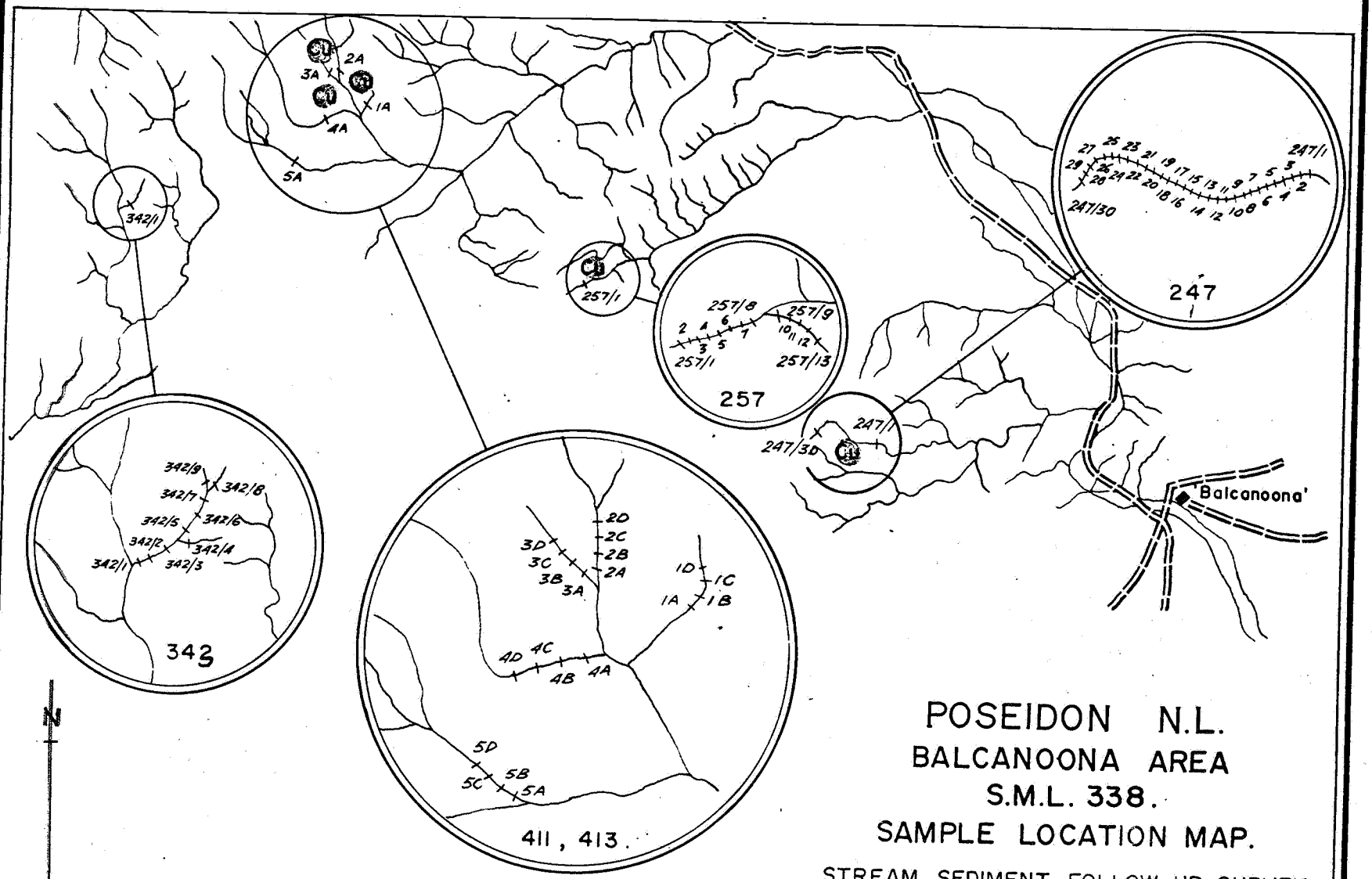
RECOMMENDATIONS

Following this encouraging follow-up, which resulted in several virgin occurrences, a geologist should visit the areas of secondary copper mineralisation for sketch mapping and sampling. It is proposed that Mr. Fidler of McPhar proceed with this work in the next week or so.

SIGNED
McPHAR GEOPHYSICS PTY. LTD.

P.R. DONOVAN Ph.D.
CHIEF GEOCHEMIST

Mc PHAR GEOPHYSICS PTY. LTD.



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BALCANOONA AREA

S.M.L. 338.

SAMPLE LOCATION MAP.

STREAM SEDIMENT FOLLOW-UP SURVEY

SCALE : 60 chains = 1 inch.

DWG: G.C.2058 A.

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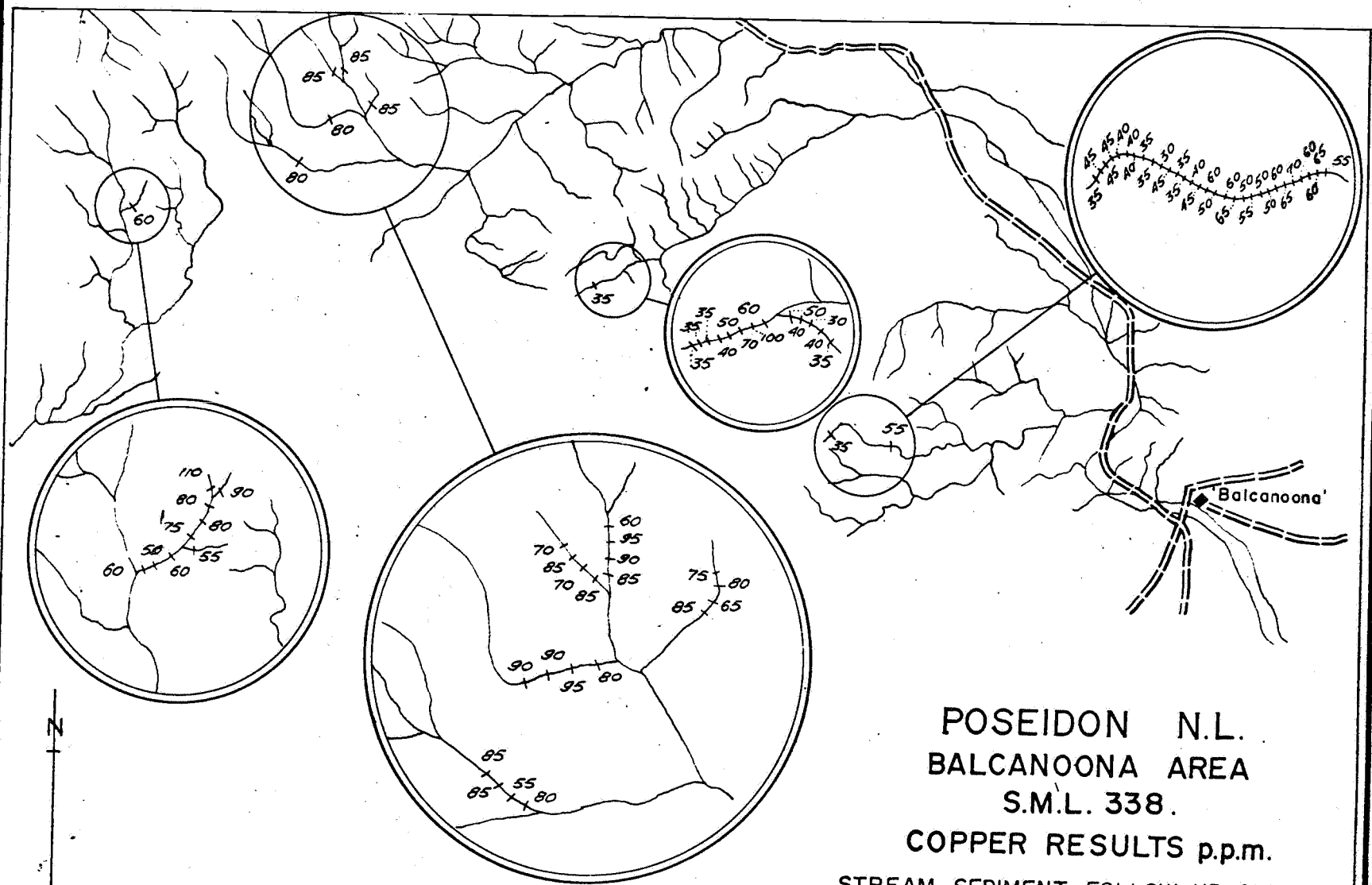

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BALCANOONA AREA
S.M.L. 338.
COPPER RESULTS p.p.m.

STREAM SEDIMENT FOLLOW-UP SURVEY

SCALE : 60 chains = 1 inch.

DWG: G.C. 2059 A

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MEMORANDUM TO: POSEIDON N.L.

MEMORANDUM FROM: R.W. FIDLER,
McPHAR GEOPHYSICS PTY. LTD.

SUBJECT: STREAM SEDIMENT RECONNAISSANCE FOLLOW-UP, S.M.L. 338, BALCANOONA AREA, SOUTH AUSTRALIA.

DATE: 15TH SEPTEMBER, 1970.

INTRODUCTION

The portion of the S.M.L. not underlain by Quaternary alluvium was covered by a stream sediment reconnaissance survey (37 sq. miles). The recommendations made in the report on this work by Dr. P.R. Donovan (February 20th, 1970) have been carried out and the results are set out below.

SURVEY

COPPER

The drainage areas contributing to samples 918404, 918411, 918413 and 918343 were carefully inspected but no trace of copper mineralisation could be seen although the general anomaly was confirmed by resampling. A large amount of manganese staining was evident and it is felt that this and possibly any copper mineralisation is associated with the faulting.

No traces of copper mineralisation were found at sites 918247 and 918257 and supplementary samples failed to reach the threshold established in the previous survey.

LEAD

No anomalies indicated.

ZINC

No anomalies indicated.

RECOMMENDATIONS

No further stream sediment work is required at sites 918247 and 918257. A series of soil samples may shed light on the source of the high copper values at sites 918404 and 918413 particularly, but some difficulty may be experienced in obtaining suitable material due to the extreme nature of the topography.

R.W. FIDLER
GEOLOGIST

c.c. Dr. P.R. Donovan
Files

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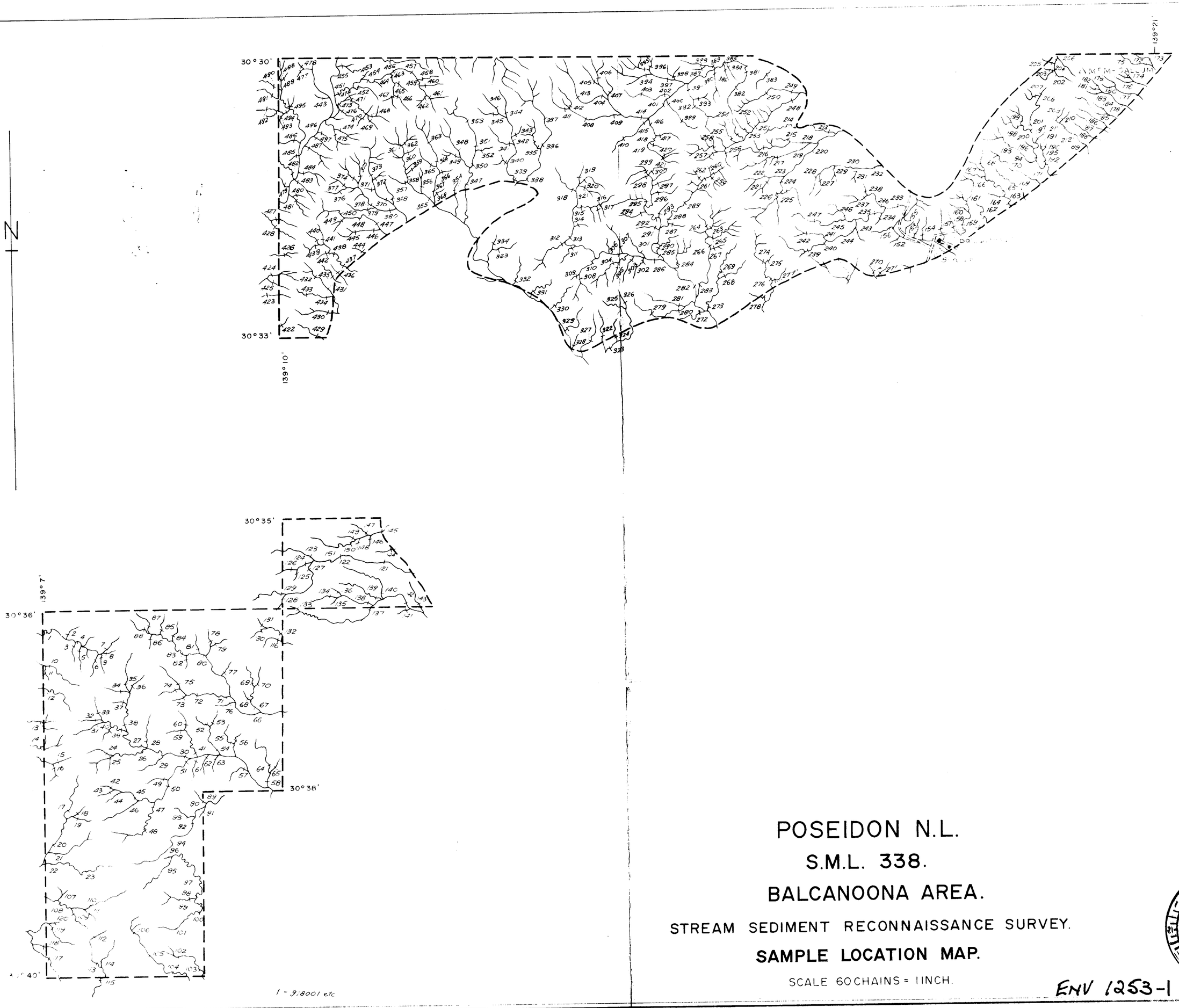

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S.M.L. 338.

BALCANOONA AREA.

STREAM SEDIMENT RECONNAISSANCE SURVEY.

SAMPLE LOCATION MAP.

SCALE 60 CHAINS = 1 INCH.

ENV 1253-1

DWG: G.C. 3022A

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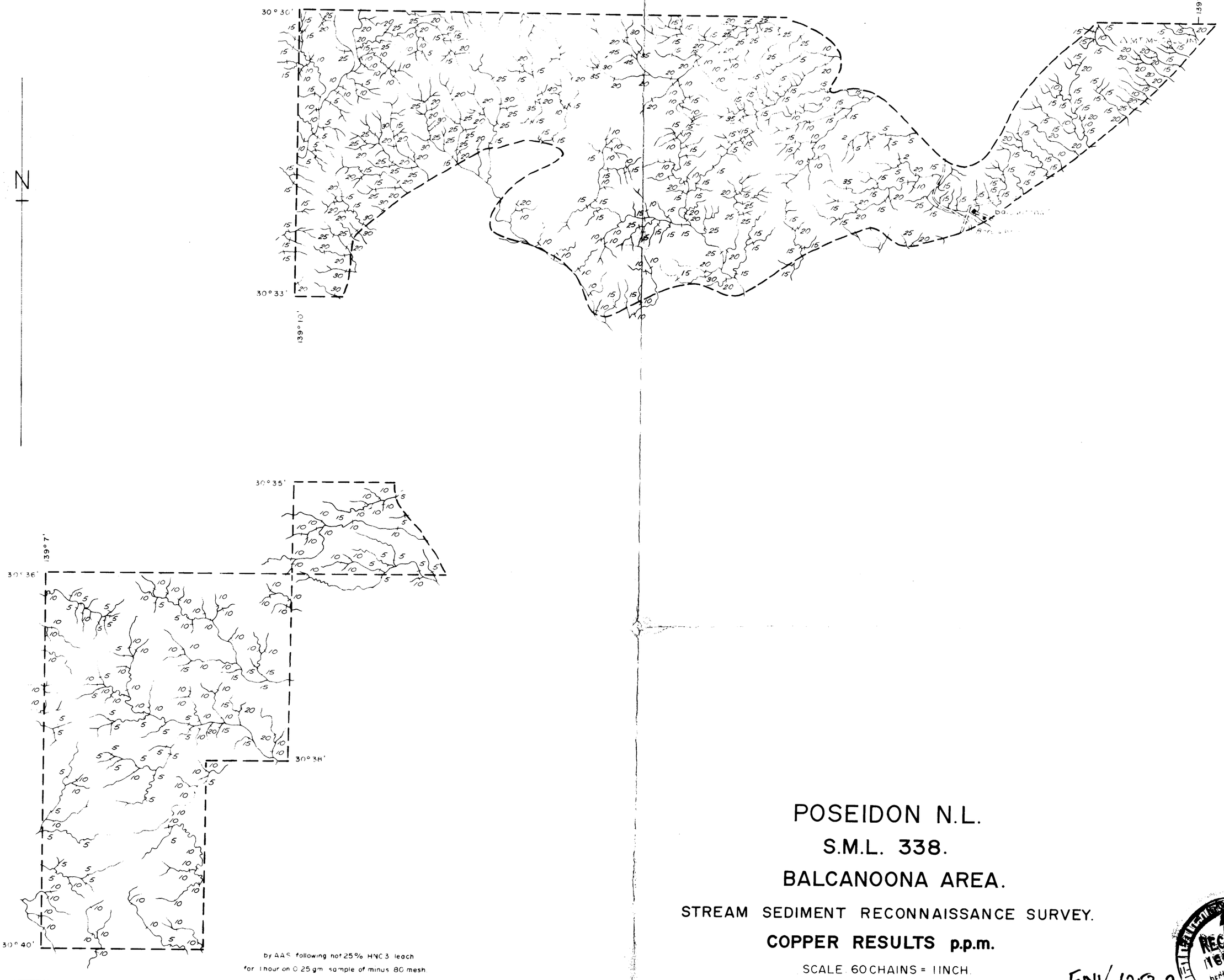

by AAS following hot 25% HNO3 leach
for 1 hour on 0.25 gm sample of minus 80 mesh.

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S.M.L. 338.

BALCANOONA AREA.

STREAM SEDIMENT RECONNAISSANCE SURVEY.

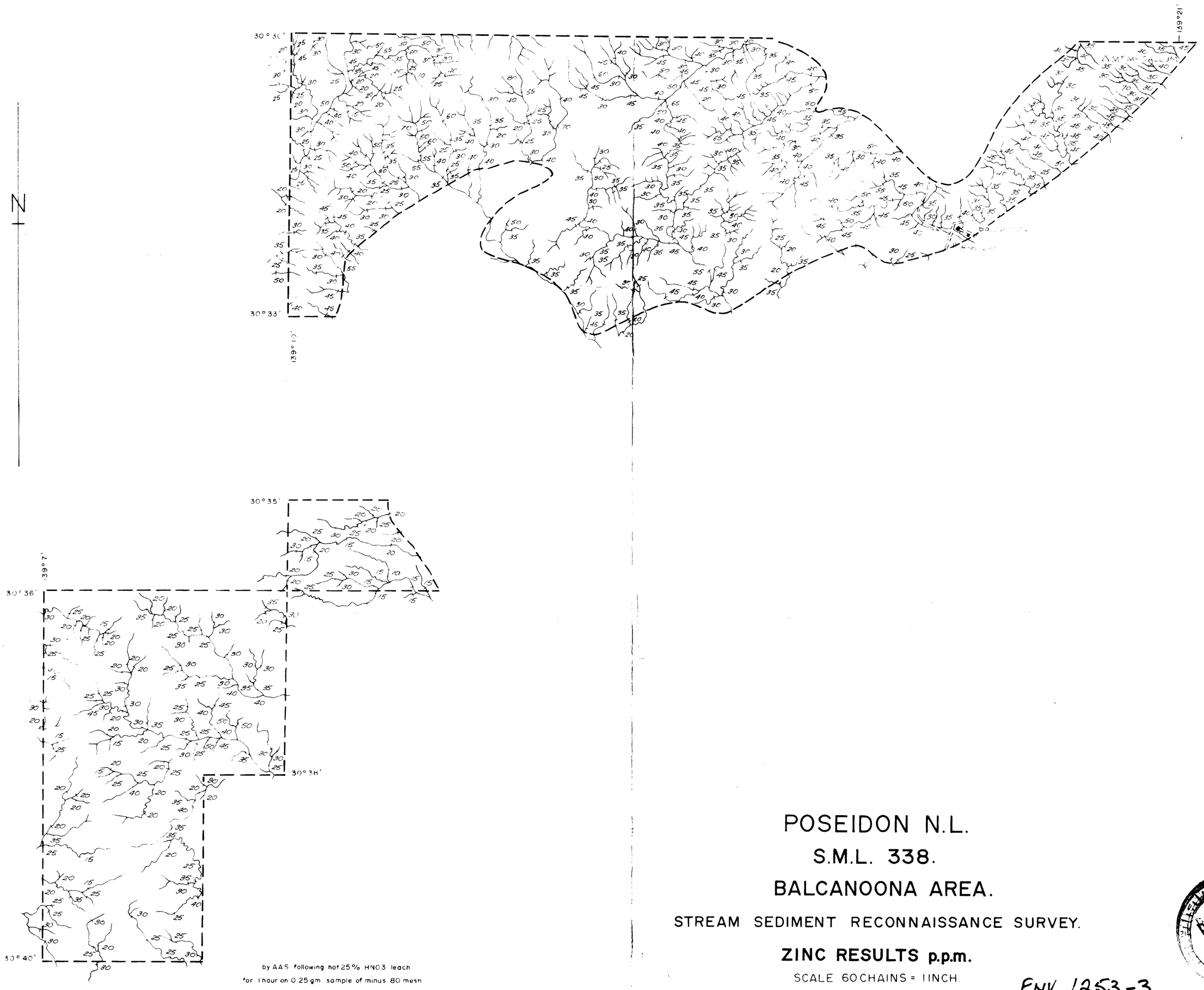
COPPER RESULTS p.p.m.

SCALE 60 CHAINS = 1 INCH.

ENV 1253-2

DWG. G.C. 3023A.

McPHAR GEOPHYSICS PTY. LTD.



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S.M.L. 338.

BALCANOONA AREA.

STREAM SEDIMENT RECONNAISSANCE SURVEY.

ZINC RESULTS p.p.m.

SCALE 60 CHAINS = 1 INCH.

ENV 1253-3

DWG. G.C.3025A.

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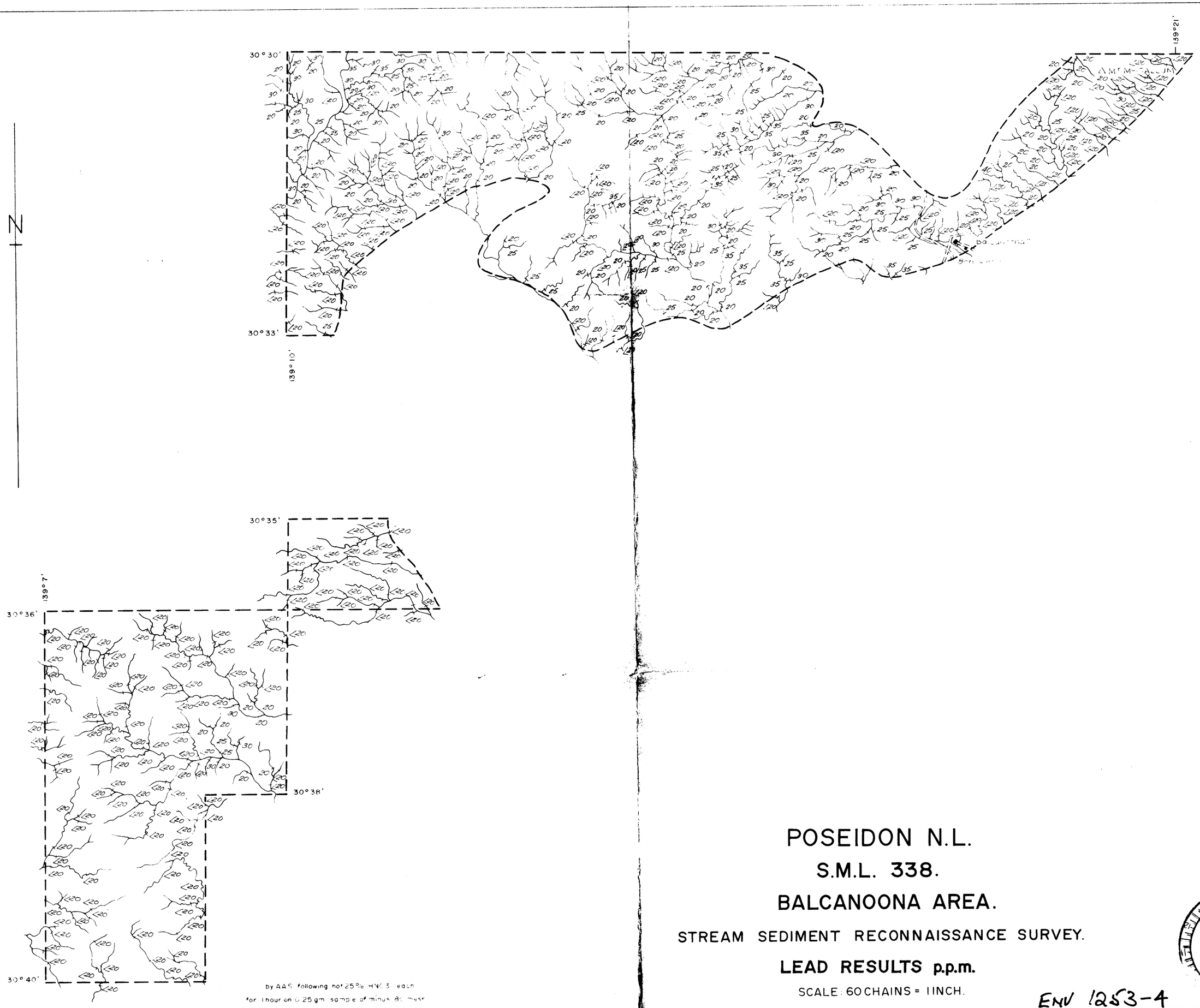

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S.M.L. 338.

BALCANOONA AREA.

STREAM SEDIMENT RECONNAISSANCE SURVEY.

LEAD RESULTS p.p.m.

SCALE: 60 CHAINS = 1 INCH.

ENV 1253-4

DWG. G.C. 3024 A