DOLMAGE CAMPBELL & ASSOCIATES LTD.
CONSULTING GEOLOGICAL & MINING ENGINEERS
1000 GUINNESS TOWER
VANCOUVER 1, B.C.

Geochemical Report on the SAM MINERAL CLAIMS Nos. 1-12 inclusive

Claim Sheet No. 105 I-12

SUMMIT LAKE AREA
Watson Lake Mining Division
Yukon Territory

62° 35' N. Lat., 129° 45' W. Long.

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of $ 2411.60

H. S. Craig
Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 83 (f) Yukon Quartz Mining Act

Commissioner of Yukon Territory

Owner of Claims:
Mr. L. Hart

Supervision and Report by:
R. S. Adamson, P.Eng.

Work completed between Sept. 1 and Sept. 11, 1973.

October 19, 1973.

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INTRODUCTION

A geochemical soil survey was carried out on the SAM claim block by Dolmage Campbell & Associates Ltd. during the period Sept. 1 to Sept. 11, 1973. Two men were intermittently employed sampling the property during the period: F. Diamond'C and L. MacDonald. The project was undertaken under the field direction of Mr. J.B. Kirkland and the supervision of the writer.

The property, comprising 12 contiguous mineral claims, is situated within a few miles of the boundary between the Yukon and Northwest Territories, approximately 200 miles north of Watson Lake, Y.T. Present access to the property consists of flying directly by helicopter, usually from nearby Summit Lake, which is suitable for float aircraft. The nearest road lies 50 miles southeast near the Canada Tungsten mine.

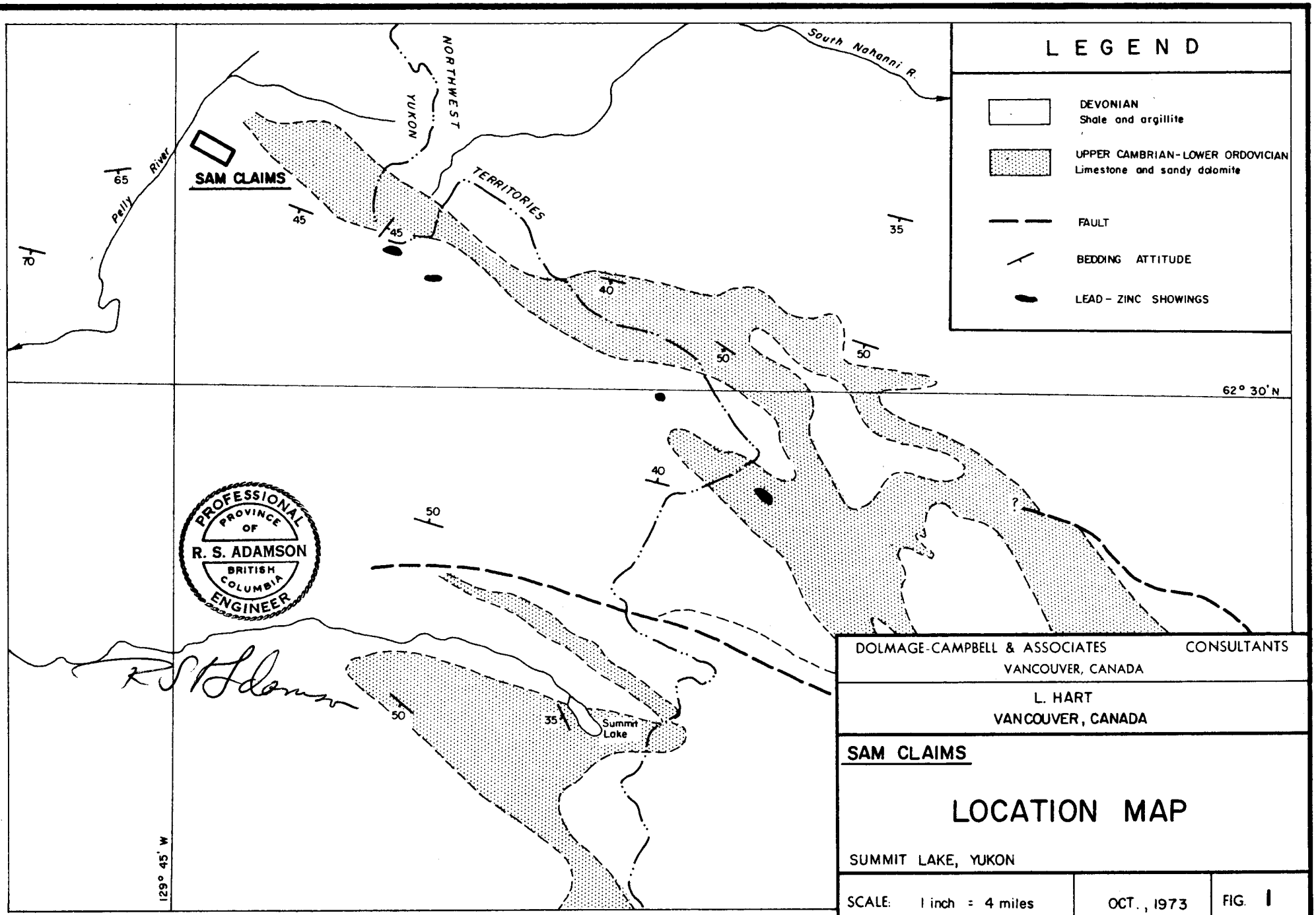
The topography on the property essentially consists of a broad, flat-topped hill that rises sharply from the Pelly River. A broad swampy flat land comprising the Pelly River valley occupies the northwestern one-fifth of the property. Elevations range from 4000 feet at river level to over 5000 feet on the southeastern end of the property.

The history of the property is a short one in that no previous work appears to have been done on the property prior to staking in early 1973. The property was staked on the basis of the discovery of stratiform-type zinc-lead deposits by Canex-Placer Ltd. a few miles to the southeast.

GEOLOGICAL SETTING

The geological setting of the Summit Lake zinc-lead district comprises essentially two rock formations; an argillaceous unit ranging in age possibly from the Upper Ordovician to the Mississippian (but predominately Devonian), and an older carbonaceous unit which is probably Cambrian in age.

The most extensive rock type in the area, the argillaceous unit, is black-grey shale that is extensively regionally metamorphosed to argillite with well developed foliation. The argillite is noticeably harder than the unmetamorphosed



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L. HART
VANCOUVER, CANADA

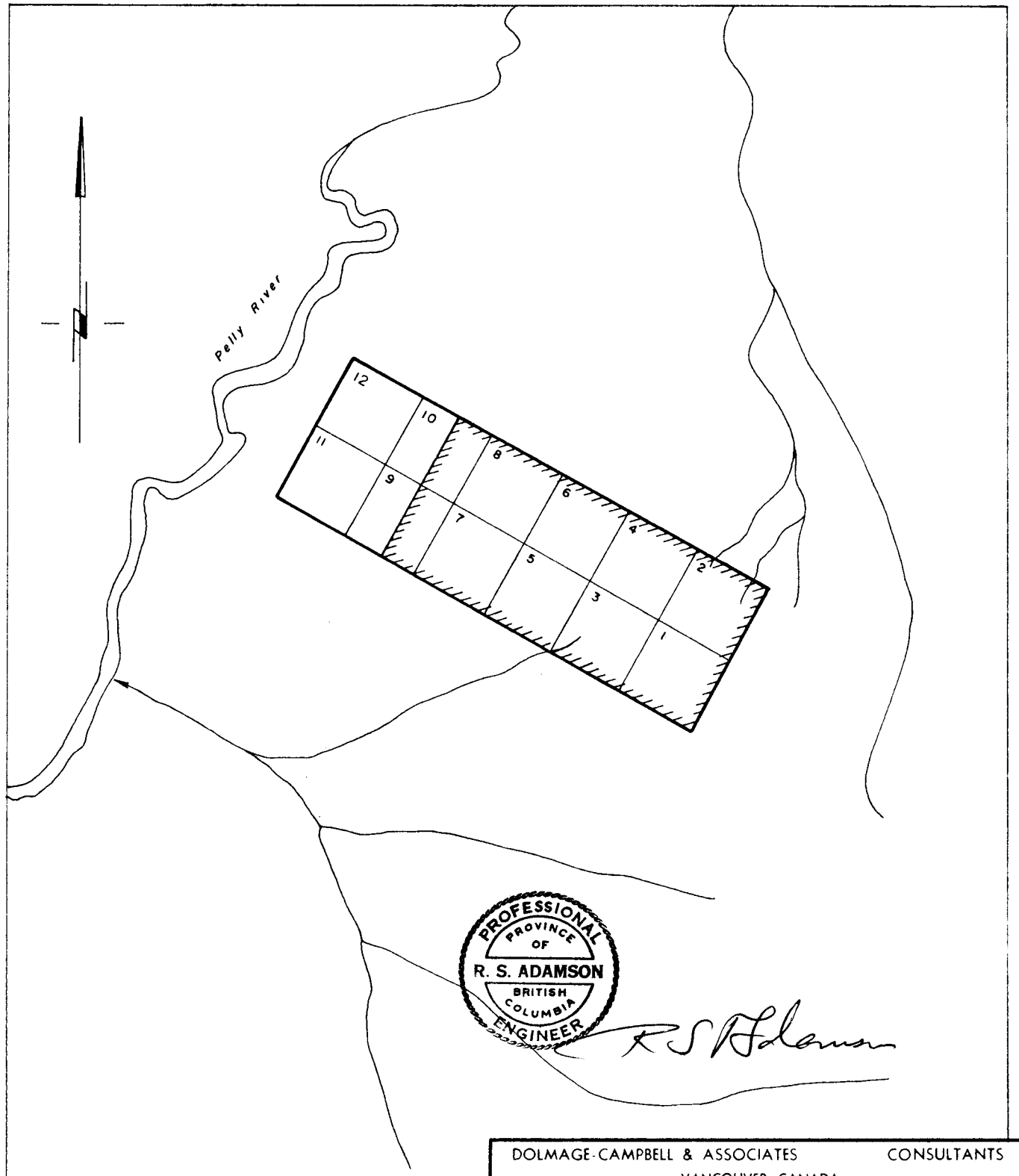
SAM CLAIMS

LOCATION MAP

SUMMIT LAKE, YUKON

SCALE: 1 inch = 4 miles | OCT., 1973 | FIG. 1

DWG. G73-144 A



Surveyed Area

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VANCOUVER, CANADA

SAM CLAIMS

CLAIM MAP

SCALE: 1 inch = 1/2 mile | OCT., 1973 | FIG. 2

DWG G73-145 A

shale and is locally pyritic; otherwise, the two rock types are not readily distinguished in the field by casual observation. Most of the rock exposed in the area of the Summit Lake base metal occurrences is argillaceous and some is pyritic enough to have produced gossans. Local intense (isoclinal) folding of the shale-argillite sequence is common and, combined with the absence of distinct marker beds, makes precise stratigraphic positional determinations difficult in this sequence. Also, due to this difficulty of determining the proper sequence in the shale-argillite rocks it is likely that some of the rock units included in it may be as old as Ordovician and thus represent an orderly sequence from the underlying Cambrian rocks.

Of direct potentially-economic significance is a distinctive graptolitic shale formation that occurs near the base of the argillaceous sequence. It is this formation Upper Ordovician in age, which hosts the presently known deposits on the nearby Canex-Placer claims. The distribution of this key formation throughout the district is, at best, relatively unknown, due primarily to its highly-erodable characteristics.

The Cambrian carbonaceous rocks, limestone and minor dolomite, that underlie the shale-argillite sequence are exposed as windows in the lower flanks of the ridges in northwest-trending bands. This relatively simple relationship is complicated by steep folding, by possible thrust faulting parallel to the northwest-trending contacts, and by topography because of the gentle southwest dip of the argillite-carbonate contact.

The geology of the SAM property is best revealed by extensive rock exposures that crop out intermittently over the hill on the southeastern four-fifths of the property. The overburden covered valley of the Pelly River masks the geology on the remaining one fifth of the property.

Outcrops consist of grits, sandstone, conglomerates, and slaty shales which comprise a formation within the Upper Ordovician to Mississippian predominately argillaceous unit discussed above. The sedimentary rocks have been broadly folded along east-west axes, essentially in synclinal fashion.

The critical graptolic shale formation should occur stratigraphically-lower than the above sedimentary rocks, hence may be capped on the property by the above arenaceous rocks at higher elevations or may be masked by unconsolidated sediments in the valleys.

GEOCHEMISTRY

The soil survey was carried out over flagged lines, initially spaced at 800 foot intervals, perpendicular to a northwest-striking baseline which was established by flagging along the central location line of the property. Fill-in lines at intervening 400 foot intervals were established on the northeastern side of the baseline, (Figure 3). Sample stations were marked at 200 foot intervals using topofill chain and compass for control. Where bedrock was encountered no samples were taken; this accounts for the gaps in the sampling pattern.

SAMPLING AND ASSAYING TECHNIQUES:

Soil samples were taken by first digging a hole with a mattock; a small handful of soil was then taken and packaged in a standard high wet-strength brown kraft paper sample bag. Wherever possible, samples were taken from the "B" soil horizon. If the "B" horizon could not be reached the samples were taken from the "A" horizon and noted as such. The samples were sent to Chemex Labs Ltd. in North Vancouver for analysis.

At the assay laboratory the samples were dried at 110° F and then sieved to -80 mesh consistency through a nylon and stainless steel sieve. One-half gram of the dry pulp was weighed into a calibrated test tube and 3 mls. of perchloric acid and 1 ml. of nitric acid was added. The samples were digested initially at low heat and then at a temperature of 203° C. Digestion time was two to three hours. The digested samples were cooled, made up to 25 ml. volume with distilled water and the solutions thoroughly mixed. Analysis for lead and zinc were then done by Atomic Absorption procedures.

The results of the lead and zinc soil assays were interpreted visually.

INTERPRETATION OF RESULTS:

With reference to the zinc soil geochemistry map, (Figure 3), zinc values were contoured at 400 and 800 ppm. This outlined a local area of moderate interest at the edge of the Pelly River valley on SAM claim No. 10.

On the lead soil geochemistry map, (Figure 4), assays were contoured at 30 and 45 ppm. Two areas, in excess of 45 ppm lead, were outlined forming a north-east-striking trend that crosses the heart of the property.

The relationship of the lead and zinc values remains at variance and is probably economically insignificant.

CONCLUSIONS

With regard to the lead anomaly, extensive rock outcrops in the general area within and surrounding the anomalous belt strongly indicate that insufficient lead occurs in the underlying rocks to be of economic interest.

The small zinc anomaly, in excess of 800 ppm, as it overlies rock stratigraphically lower in the geological succession could be economically significant. Regional geological mapping suggests the possibility of the key argillite-dolomite contact dipping beneath the SAM property.

RECOMMENDATIONS:

It is recommended that the zinc anomaly be prospected in detail, supported by hand trenching to bedrock to determine whether the favourable host rock, (graptolitic shale) occurs in the immediate vicinity and whether the underlying rock is zinc bearing.

Respectfully submitted,
DOLMAGE CAMPBELL & ASSOCIATES LTD.

R. S. Adamson, P. Eng.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of

L. HART - SAM MINERAL CLAIMS
NOS. 1-12 INCLUSIVE

I, R.S. ADAMSON

of #1000 - 1055 W. Hastings St., Vancouver 1, B.C.

in the Province of British Columbia, do solemnly declare that

Expenditures for work performed on the SAM claims between Sept. 1 and Sept. 11, 1973 are as follows:

WAGES - 6 man/days @ $39.25 = $235.50 5 man/days @ $32.20 = $161.00	$ 396.50
MAINTENANCE - Food and Lodging - 11 man/days @ $15.00 per man/day	$ 165.00
TRANSPORTATION - HELICOPTER 4 hrs. 55 mins. @ $160/hr.	$ 788.00
ASSAYING - 188 samples @ $1.70	$ 319.60
TYPING, SECRETARIAL, DRAUGHTING	$ 150.00
SUPERVISION AND REPORT	$ 592.50
TOTAL:-	$2411.60

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Vancouver, in the Province of British Columbia, this 14 day of November, 1973, A.D.

R S Adamson

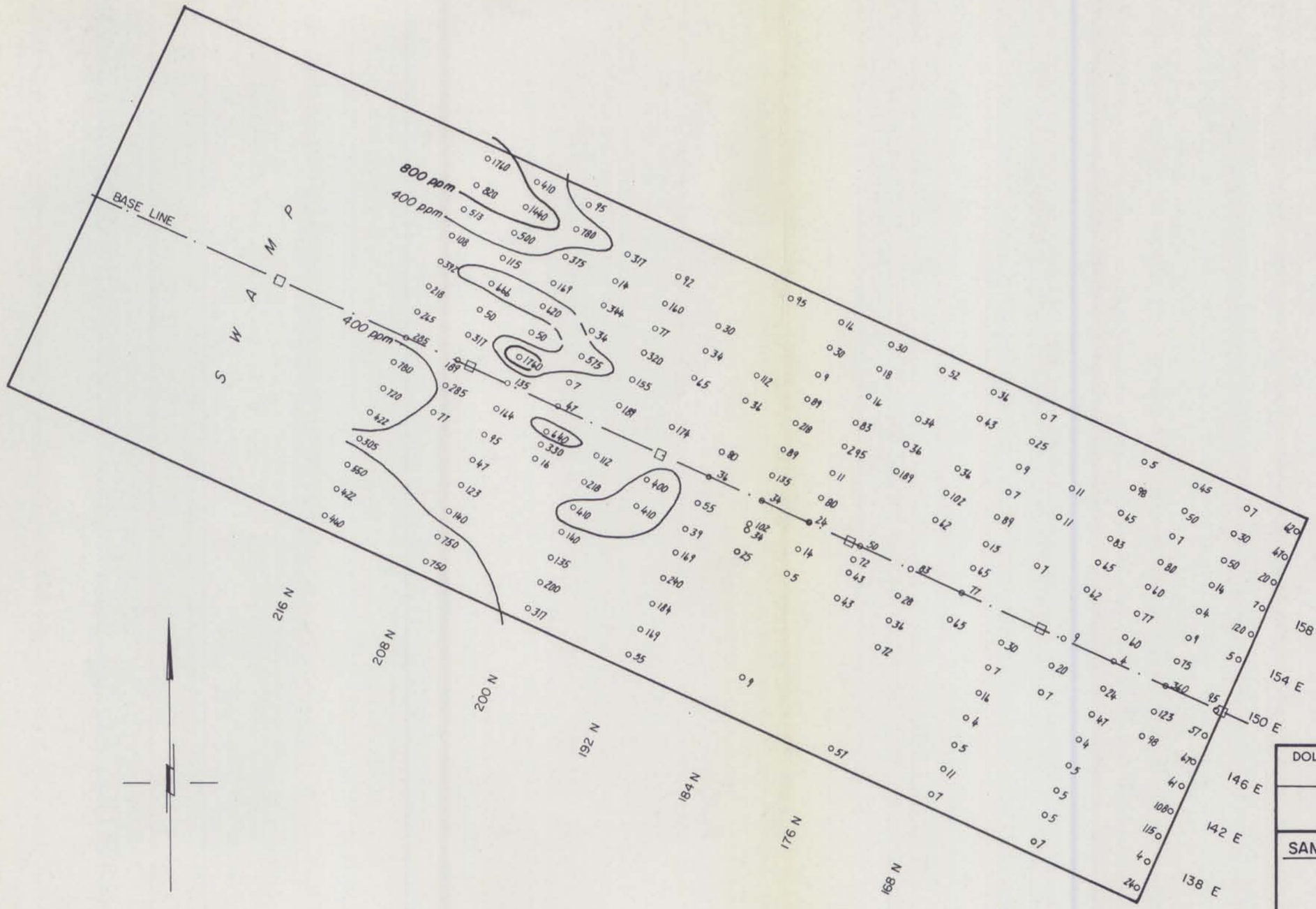
A Commissioner for taking Affidavits for ~~British Columbia~~ or
A Notary Public in and for the Province of British Columbia.

APPENDIX No. 2

DETAILED ACCOUNT OF EXPENDITURES

WAGES:

F. DIAMOND'C, Box 4509, Whitehorse, Y.T. 6 days @ $39.25	$235.50
L. McDonald, General Delivery, Norman Wells, N.W.T. 5 days @ $32.20	$161.00
TOTAL:-	$396.50



LEGEND

0 75 / 0 340 — Soil Sample ppm Zn

□ — Claim Post

——— Property Boundary

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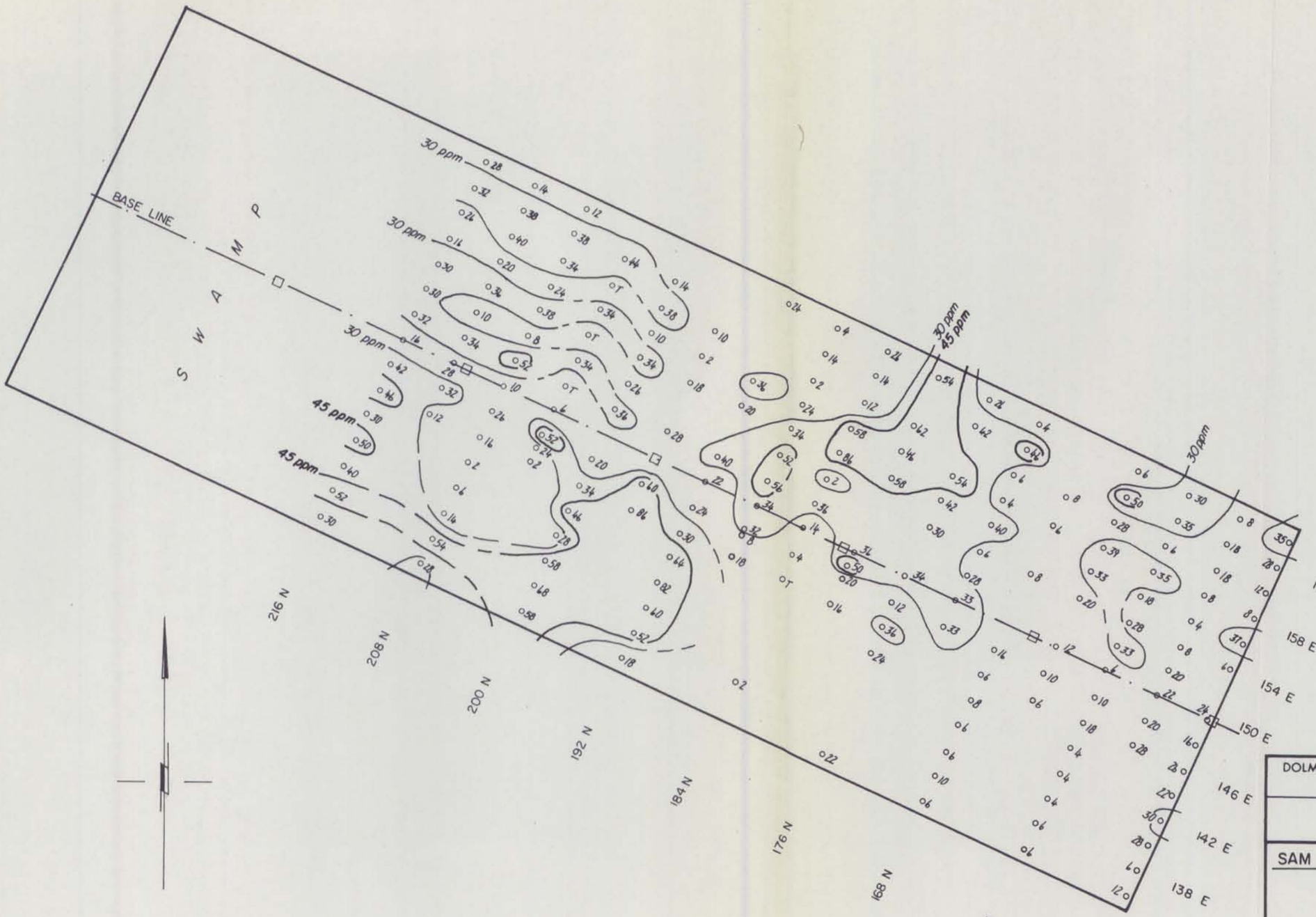
SOIL GEOCHEMISTRY ZINC

SCALE: 1" = 800'	OCT., 1973	FIG. 3

DWG.G73-1468



LEGEND

- o 28 / o 6 — Soil Sample ppm Pb
- □ — Claim Post
- ——— Property Boundary

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — R. S. ADAMSON

R S Adamson

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SOIL GEOCHEMISTRY LEAD

SCALE: 1" = 800'	OCT., 1973	FIG. 4

DWG. G73-1478

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