GEOLOGICAL & GEOCHEMICAL REPORT

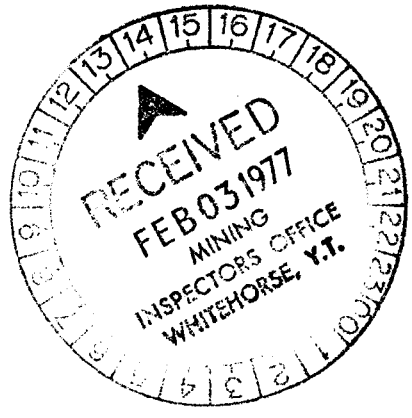
on the

IRENE 1-24 MINERAL CLAIMS

WATSON LAKE MINING DISTRICT

61°41'N 130°15'W

N.T.S. 105-G -16



for

MOUNTAINEER MINES LTD.

by

Charles K. Ikona, P.Eng.

R. Darney, Geologist

December, 1976

090164

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

$ 2400.00

2400

M D Sinclair

a/ Resident Geologist or
~~Resident Mining Engineer~~

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B.R. BAXTER
Supervising Mining Recorder

a/ Commissioner of Yukon Territory

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INTRODUCTION

In September of 1976 a geochemical soil sampling and prospecting program was conducted on the Irene mineral claims to delineate reported Cu - Zn geochemical anomalies and evaluate the local geology. All work was done under the direct supervision of the author.

The following report will discuss the results of the program and recommend further development work for the 1977 field season.

HISTORY

The Irene Group was staked by A. Harman in August, 1972. The initial reconnaissance geochemical sampling conducted by A. Harman outlined several zones of anomalous Copper and Zinc within the claims area. The claims were optioned to Vestor Explorations Ltd. of Edmonton, Alberta, in the Spring of 1973 and an evaluation program was conducted during the period July 5-13, 1973. At that time, a company report recommended that skarn type mineralization be further tested with a program of detailed geochemical sampling.

The claims group has been kept in good standing since 1973 with no additional work being performed.

In August, 1976, the claims were sold to Mountaineer Mines Ltd. who completed a preliminary evaluation in September, 1976.

LIST OF CLAIMS

Name	Grant Number	Expiry Date
IRENE 1-24 incl.	Y83995 - Y84018 incl.	February 26, 1977

The claim information has been provided by Mountaineer Mines Ltd.

LOCATION AND ACCESS

The Irene 1-24 mineral claims are located in the south-east Yukon, 2 miles south of McEvoy Lake and 11 miles north of the Campbell Highway on N.T.S. 105-G-16. The community of Ross River is 95 air miles to the south-east. Approximate coordinates of the property are 61°41'N latitude and 130°15'W longitude.

Access to the property is by helicopter or float equipped plane to McEvoy Lake. For supply movements, a helicopter pad and highway access is available at Finlayson Lake, 11 miles south of the property.

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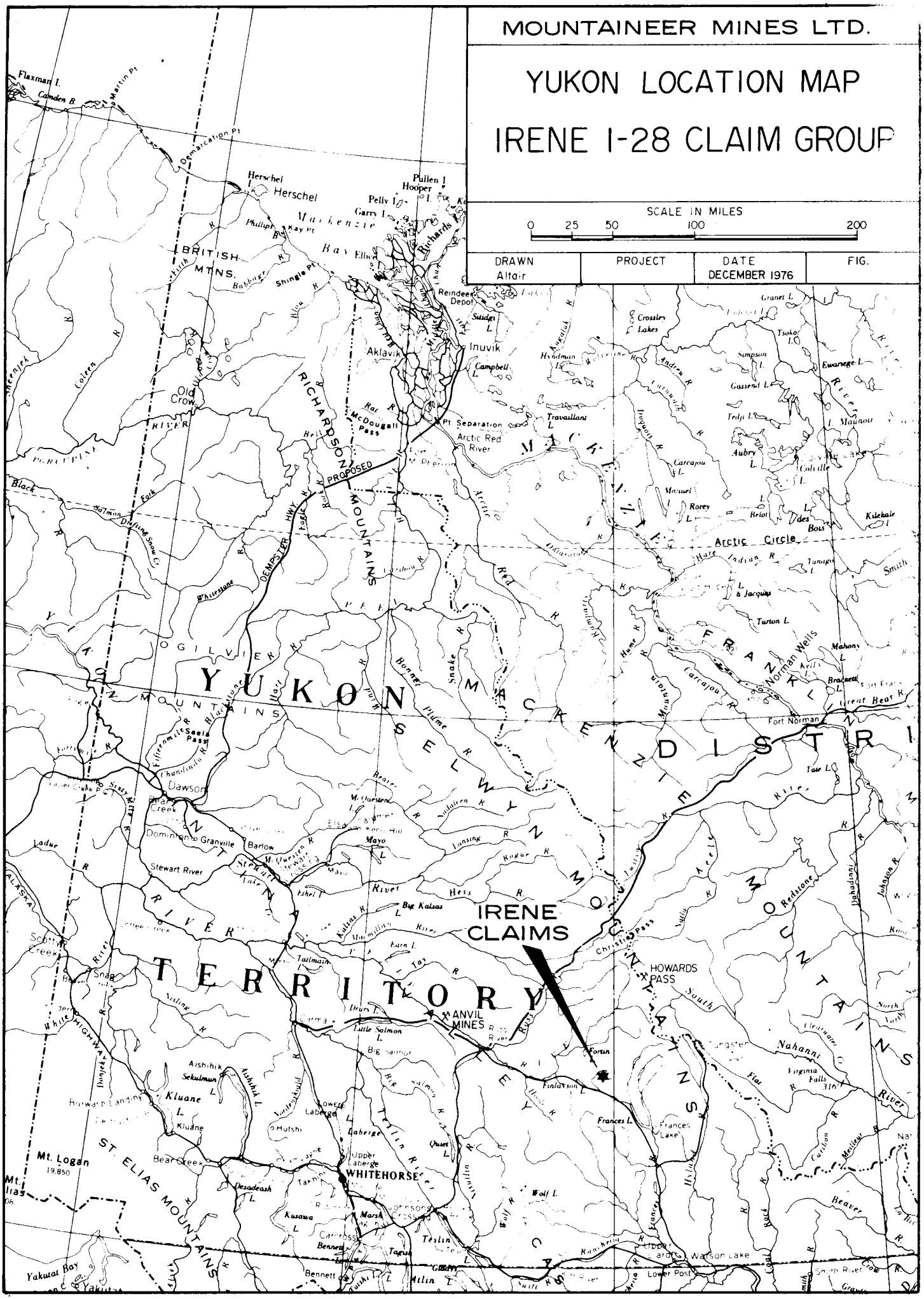
YUKON LOCATION MAP

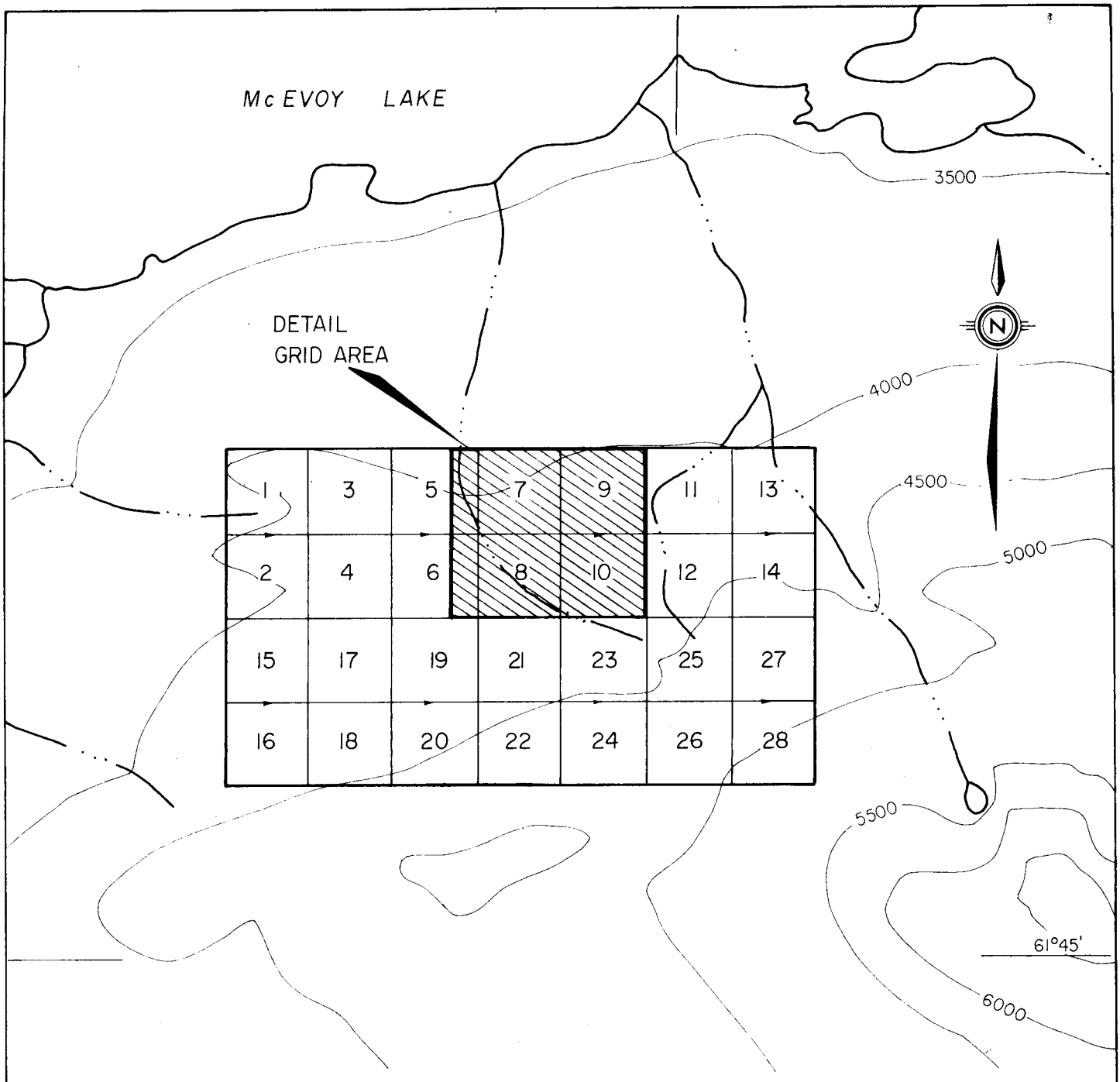
IRENE 1-28 CLAIM GROUP

SCALE IN MILES

0 25 50 100 200

DRAWN	PROJECT	DATE	FIG.
Altair		DECEMBER 1976	





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IRENE 1-28 MINERAL CLAIM GROUP
N.T.S. 105-G-16
61°45'N. & 130°15'W.

130°15'

SCALE: 1" = 1/2 MILE

DECEMBER 1976

TOPOGRAPHY AND VEGETATION

The claim group lies on the north facing slope of the McEvoy Lake valley between the elevations of 4,400 feet and 5,500 feet. The property is disected by three north trending creek canyons.

Timberline is at the 4,500 foot elevation where dwarf Birch, stunted Spruce and Poplar groves give way to scattered scrub Balsam, lichen and grasses, typical of an arctic-alpine environment.

Outcrop is sparse within the claims area, probably less than 15% and is restricted mainly to creek cuts and higher elevations.

GEOLOGY

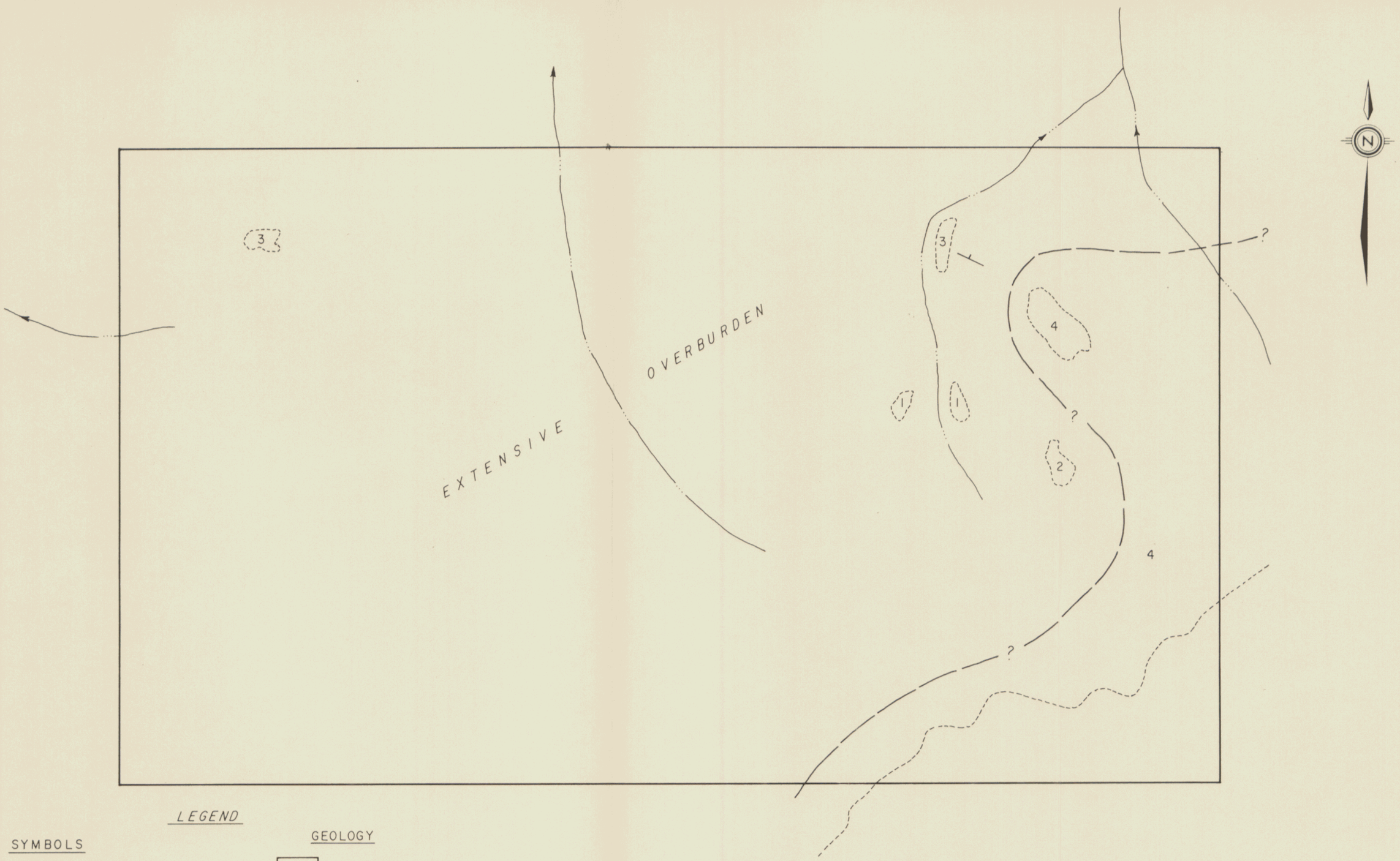
The Irene group lies in an area underlain by a thick succession of clastic and carbonate sediments deposited along the southern margins of the Selwyn sedimentary Basin. Its position in the basin may more acurately be described as near the Lower Ordovician hinge line where calcareous shales of the Road River Formation give way to deeper water chert-shale assembledges of the basin core. Locally, the geology is complex due to moderate-intense folding coupled with high angle faulting and subsequent igneous intrusion.

The Irene group is underlain by a sequence of middle-upper Cambrian phyllites, argillites, dolomites, quartzites and minor greenstone which have been intruded by the McEvoy granodiorite stock. The sediments lie on the north east limb of a broad northwest-southeast trending anticline which appears to be slightly domed over the northwest nose of the McEvoy stock. Along the southern portions of the claims an irregular band of hornfels has developed where the sediments are in contact with the granodiorite intrusion.

Recent mapping in the south-east protion of the claims north of the intrusive contact revealled a thick section of buff weathering limestones, grey-black limestones and black shales trending north-west and dipping 35^{o} NE. The uppermost buff weathering limestone (white on fresh surfaces) contained traces of sphalerite and secondary zinc minerals. However, outcrop away from the creek cut is sparse and the unit could not be traced along strike.

GEOCHEMISTRY

During the reconnaissance sampling program, 63 soil samples were collected from flagged stations on a 400 x 500' grid pattern. The grid covered a rectangular area 3,500 feet x 2,800 feet in the north central portion of the claims area. See location map for grid location.



LEGEND

SYMBOLS

- Outcrop Limits
- Geological Contact
- Bedding Attitude

GEOLOGY

4	Granodiorite
3	Buff Weathering Limestone
2	Interbedded Black Shales & Dark Grey Limestone
1	Black Thinly Bedded Shales

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IRENE MINERAL CLAIMS

PRELIMINARY GEOLOGY MAP

SCALE: 1" = 1000'

DECEMBER 1976

All samples were collected from B-horizon material and placed in Kraft envelopes and dried prior to shipment to Chemex Labs. Ltd. in North Vancouver. The samples were then analysed for Pb and Zn by standard Atomic Absorption proceedures.

RESULTS

No statistical analysis of the results was undertaken since the grid was confined to a small area and the number of samples were not great enough to provide conclusive information. However, a simple treatment of the results show the zinc values to range from 4 - 2400 ppm with 80 ppm as an approximate background. Fig. 4 shows areas of anomalous zinc values contoured above 100 ppm. Peak values in the anomalous areas range from 4 to 10 times the estimated background level.

The lead values range from 2 - 237 ppm with background at approximately 12 ppm. Fig. 5 shows all of the lead values with values above 20 ppm.

On both Fig. 4 and Fig. 5, the values for the remainder of the claim block as reported by Say Lee Kuo, July 13, 1973, are plotted.

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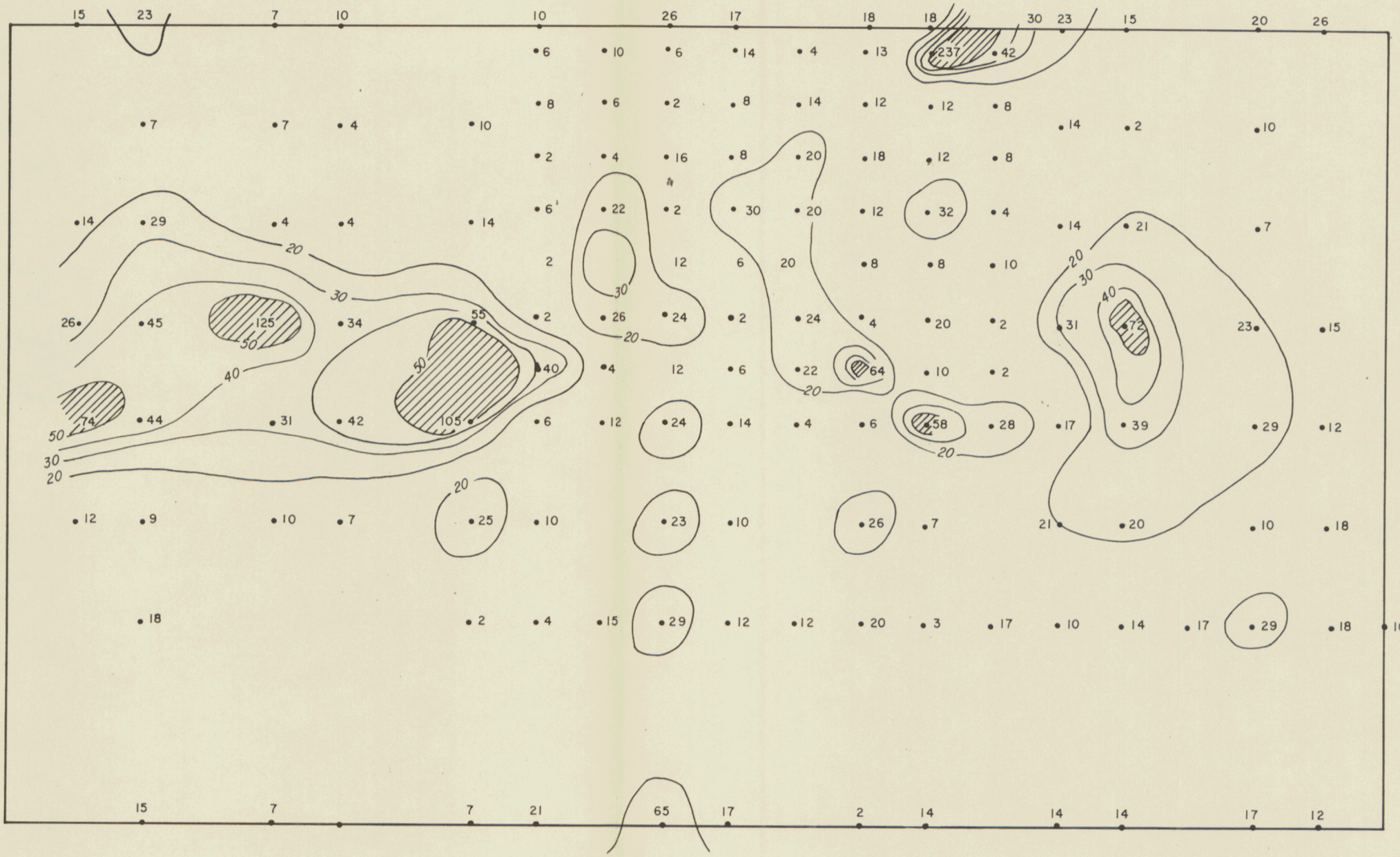
IRENE MINERAL CLAIMS GEOCHEMICAL SOIL SAMPLING Zn VALUES — CONTOUR MAP	
SCALE: 1" = 1000'	DECEMBER 1976



> 50 p.p.m. Pb

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IRENE MINERAL CLAIMS.

GEOCHEMICAL SOIL SAMPLING
Pb VALUES—CONTOUR MAP

SCALE: 1" = 1000'

DECEMBER 1976

DISCUSSION

The geochemical contour maps (Fig. 4 and Fig. 5) show an approximate east west trending coincidental Pb-Zn anomalous zone in the central portion of the claim group. A major portion of the zinc anomaly lying in the west central claims area is approximately 2,000 x 4,000 feet in size with peak values of 1,415 ppm Zn and 2,400 ppm Zn. Other scattered highs in the eastern portion of the claim block have peak values of 2,040, 500 and 526 ppm Zn.

The strongest portion of the lead anomaly which is coincidental with the west central zinc anomaly is approximately 1,500 x 3,500 feet in size peaking at 74, 125 and 105 ppm Pb. Most other high values appear as erratics scattered in the central portion of the claims.

One additional anomalous zone along the northern boundary of the claim group remains open to the north. This shows coincident Pb-Zn values of up to 2,040 ppm Zn and 237 ppm Pb.

Preliminary geologic mapping was restricted to the eastern portion of the grid where outcrops exist. Zinc mineralization in limited quantities was noted in a thickly bedded buff weathering limestone. Although this mineralization was sub-economic, the intensity of the

geochemical anomaly in the overburden covered areas to the west suggest that this area is the more attractive exploration target.

CONCLUSIONS AND RECOMMENDATIONS

A compilation of geochemical soil sampling results from the 1973 program by Vestor Explorations and the restricted grid survey by Mountaineer Mines in 1976 demonstrates the presence of a large geochemical anomaly within the western portion of the Irene claims. Lack of outcrop in this section of the group prevents any conclusive exploration of this anomaly at present and therefor additional exploration is warranted. This program should take the form of additional geochemical work combined with ground geophysics.

Geochemical sampling should be completed on a 200 x 400' spacing over the anomaly on the western portion of the grid. In addition the grid should be expanded on a reconnaissance spacing to close off the anomalies which trend off the western and northern boundaries of the group. If results from this extended reconnaissance work are encouraging, additional ground should be acquired in these areas.

After delineation of the geochemical anomalies, an electro-magnetic survey should be conducted over these areas

employing the geochemical grid for control.

A recommended budget for this program is as follows:

Mobilization & demobilization	$ 3,000
Establish detailed grid	2,500
Geochemical sampling (21 man days)	1,000
Geochemical analysis	
Detailed 500 samples @ $5/sample	2,500
Reconnaissance 200 samples @ $5/sample	1,000
Supervision & geological mapping	2,500
Fuel & supplies (100 man days @ $20/day)	2,000
E-M - 8 line miles @ $150/mile	1,200
Equipment rental & camp costs	1,500
Expediting & freight	500
Engineering & reports	1,000
Contingency at 10%	1,870
	$ 20,570

Conditional on results of above, diamond drilling may be required.

Allow 1000 @ 40.00/ft.	$ 40,000
TOTAL RECOMMENDED BUDGET:	$60,570

Respectfully submitted,

D. Darney, Geologist

C. K. Ikona, P.Eng.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA IKONA

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CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 38801

INVOICE NO. 18544

RECEIVED Oct. 4/76

ANALYSED Oct. 8/76

TO: Harman Management
907 - 675 W. Hastings,
Vancouver, B. C.

ATTN: Chuck Ikona

SAMPLE NO. :		PPM Lead	PPM Zinc
OW	ON	28	155
	4	2	13
	8	2	13
	12	10	75
	16	4	11
	20	8	45
	24	8	50
OW	28N	42	275
5W	ON	58	13
	4	10	65
	8	20	218
	12	8	41
	16	32	80
	20	12	330
	24	12	148
5W	28N	237	2040
10W	ON	6	16
	4	64	194
	8	4	4
	12	8	32
	16	12	80
	20	18	92
	24	12	67
10W	28N	12	67
15W	ON	4	9
	4	22	105
	8	24	102
	12	20	105
	16	20	206
	20	20	184
	24	14	25
15W	28N	4	11
20W	ON	14	317
	4	6	60
	8	2	5
	12	6	24
	16	30	135
	20	8	28
	24	8	60
20W	28N	14	86
Std.		96	200

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Leaute

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 38802

INVOICE NO. 18544

RECEIVED Oct. 4/76

ANALYSED Oct. 8/76

TO: Harman Management
907 - 675 W. Hastings,
Vancouver, B. C.

ATTN: Chuck Ikona

SAMPLE NO. :		PPM Lead	PPM Zinc
25W	0N	24	378
	4	12	127
	8	24	295
	12	12	135
	16	2	22
	20	16	105
	24	2	7
25W	28N	6	70
30W	0N	12	211
	4	4	127
	8	26	225
	12	36	375
	16	22	330
	20	4	189
	24	6	67
30W	28N	10	152
35W	0N	6	34
	4	40	2400
	8	2	11
	12	2	5
	16	6	11
	20	2	5
	24	8	30
35W	28N	6	75