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**ARCHER, CATHRO**  
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CONSULTING GEOLOGICAL ENGINEERS

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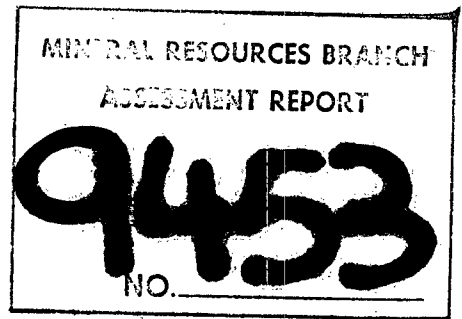
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Whitehorse, Yukon  
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GEOCHEMICAL REPORT  
on the  
PIG 1 and ET 2 CLAIM GROUP

LIARD MINING DIVISION

NTS 94K/4W and 94L/1E

Latitude: 58°08'N  
Longitude: 125°59'W



by  
R.C. Carne  
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
for  
GETTY CANADIAN METALS, LIMITED (Owner)  
and  
GATAGA JOINT VENTURE (Operator)

Submitted July 11, 1981

## TABLE OF CONTENTS

	<u>PAGE</u>
List of Claims -----	1
Introduction -----	2
Location and Access -----	3
Regional Geology -----	3
Geochemical Survey -----	4
Conclusions and Recommendations -----	6

## ILLUSTRATIONS

<u>Figure</u>	<u>Description</u>	<u>Location</u>
1	Location Map	Follows page 3
2	Stratigraphic Column	Follows page 3
3	Claim Map (1:20,000 scale)	In Pocket A
4	Copper Geochemistry	In Pocket B
5	Lead Geochemistry	In Pocket C
6	Zinc Geochemistry	In Pocket D
7	Silver Geochemistry	In Pocket E

## APPENDICES

Appendix I	Statement of Qualifications
Appendix II	Summary of Costs

LIST OF CLAIMS

<u>Claim</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Record Date</u>	<u>Expiry Date</u>
Pig 1	373	16	June 14, 1977	June 14, 1981
Et 2	376	20	June 14, 1977	June 14, 1981

GEOCHEMICAL REPORT  
on the  
PIG 1 AND ET 2 CLAIM GROUP

Introduction

The Pig 1 and Et 2 claims were staked in 1977 by Gataga Joint Venture in the name of Welcome North Mines Ltd. to cover a possible strike extension of stratiform lead-zinc mineralization on the D and P claims located on Driftpile Creek, some 10 km to the southeast. Gataga Joint Venture (GJV), formed in 1977 to explore for lead-zinc in northeast British Columbia, is a syndicate composed of Aquitaine Company of Canada Ltd., Chevron Canada Limited, Getty Canadian Metals, Limited, Welcome North Mines Ltd. and Castlemaine Exploration Ltd. The Pig 1 and Et 2 claims are part of a larger group whose ownership was transferred from Welcome North Mines Ltd. to Getty Canadian Metals, Limited in April 1981. The exploration program was managed by Archer, Cathro & Associates Limited and was directed in the field for the fifth successive season by R.C. Carne.

About 500 soil and silt samples were taken at roughly 50 m x 100 m intervals on the Et 2 mineral claim. The Pig 1 claim was not sampled at the time of this report. Topographic control for the geochemical survey was established with the aid of a contoured 1:5,000 scale orthophoto map produced from aerial photography flown by GJV in 1979. The 1981 work was carried out in the period June 8 to June 13.

### Location and Access

The Pig 1 and Et 2 claim group is located 10 km northwest of Driftpile Creek on NTS map sheets 94K/4W and 94L/1E (Figure 1). The centre of the group is located at latitude 58°08'N and longitude 125°59'W.

Access is by float-equipped, fixed-wing aircraft from Watson Lake, Yukon Territory, about 310 km to the northwest, to Mayfield Lake located about 10 km east of the property. The nearest large town, 210 km to east, is Fort Nelson which does not have a float plane base. Fuel and camp supplies used for the 1981 program were trucked 300 km from Watson Lake to Muncho Lake (km 747 on the Alaska Highway) and ferried 100 km during mid-April, 1980 by ski-equipped, single Otter aircraft to a winter airstrip located at the headwaters of Driftpile Creek. Field work was conducted with a helicopter supported program based at a permanent camp located on Driftpile Creek, about 10 km to the southeast.

### Regional Geology

The Gataga Lakes area lies within Kechika Trough, a southeasterly extension of the much larger Selwyn Basin. Sedimentary rocks range in age from Cambrian to lower Mississippian. Prior to Upper Devonian, easterly derived clastic sedimentary assemblages reflect normal sedimentation while the westerly derivation of upper Devonian to Mississippian sedimentary rocks resulted from block faulting and uplift along the continental margin. Regional stratigraphic relationships are summarized on Figure 2.

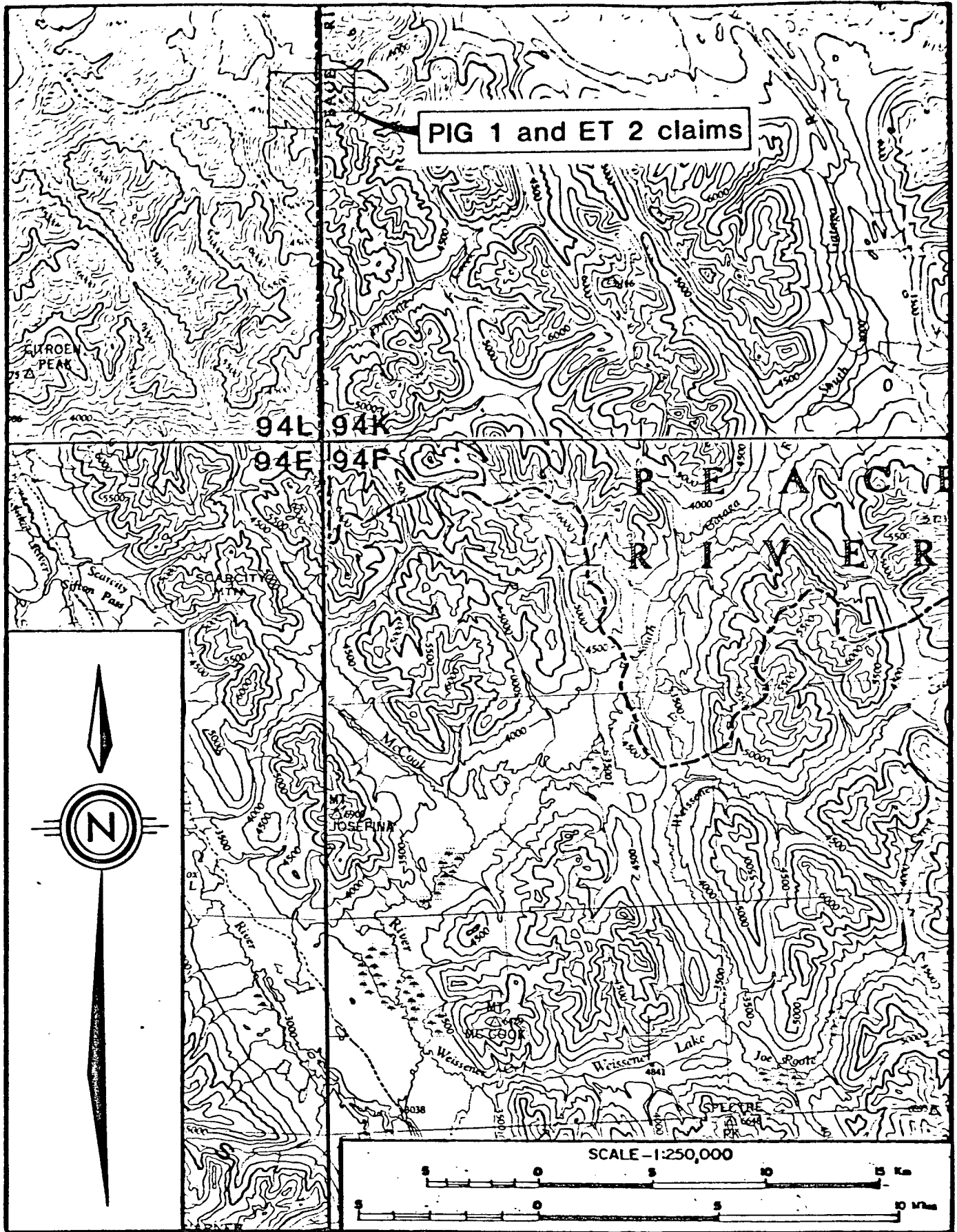


Figure 1: Location of Pig 1 and Et 2 claims

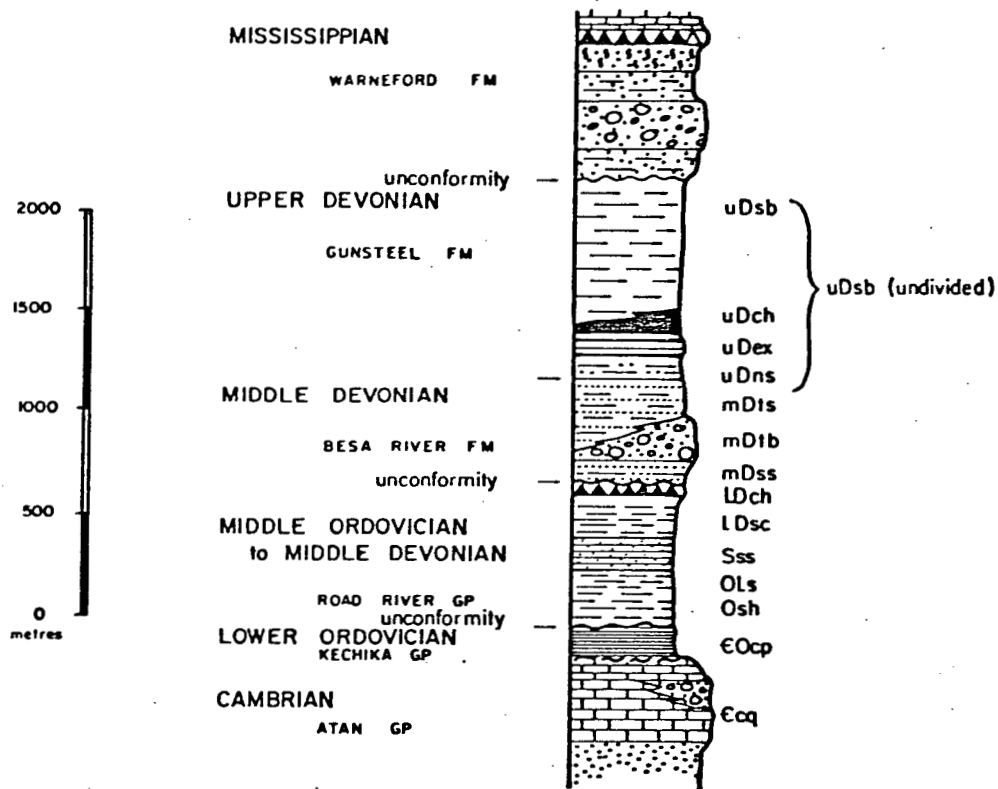


FIGURE 2

ARCHER, CATHRO & ASSOCIATES LTD

**STRATIGRAPHY**  
**GATAGA LAKES AREA**  
**GATAGA JOINT VENTURE**

Structured geology of the area is dominated by northwesterly-trending, easterly-directed thrust faults. Pelitic sedimentary rocks within thrust sheets are complexly deformed into upright to slightly overturned isoclinal folds cut by numerous near-vertical shear zones. A penetrative axial plane foliation is commonly well developed. Structural geology is complicated by deformation initiated prior to deposition of middle Devonian clastic rocks above a pronounced unconformity.

Upper Devonian siliceous and pyritic black shales are host to numerous stratiform barite and barite-lead-zinc deposits in the area, notably those at Driftpile Creek, some 10 km along strike to the southeast and at the Cpyrus Anvil-Hudson Bay Oil and Gas Cirque claims, located about 130 km southeast of the area.

#### Geochemical Survey

During the period June 8 to June 13, 1981 approximately 500 soil and silt samples were collected from the Et 2 mineral claim and adjacent areas. Bulk of the sampling was carried out along the westerly side of an elongate northwest trending ridge to cover an area of numerous rusty gossans spotted from the air. Soil samples were taken every 50 m along traverse lines spaced at 100 m intervals and running perpendicular to the regional structural grain. Samples, taken from the "B" soil horizon where possible, were located with the aid of a Hip Chain measuring device from base lines established with a nylon chain on a contoured 1:5,000 scale orthophoto map. Sample locations were marked with their prenumbered kraft bag designation on orange survey flagging. All samples were shipped airfreight to Chemex



Labs Ltd., North Vancouver, B.C. where they were dried, screened to a minus 80 mesh fraction and analyzed routinely for copper, lead, zinc and silver content using a nitric-perchloric acid extraction and atomic absorption spectrometry. Samples which contained a high barium content required redigestion due to barium interference with lead analysis. A portion of the minus 80 mesh fraction from each sample is stored at the lab.

Background levels for the four metals have previously been statistically established on results of grid soil geochemical surveys carried out by GJV over known mineralization at Driftpile Creek. Results are tabulated below:

	<u>Threshold Value (ppm)</u>	<u>Moderately Anomalous (ppm)</u>	<u>Strongly Anomalous (ppm)</u>
Cu	75	150	300
Pb	175	700	3000
Zn	700	3000	10000
Ag	0.6	2.5	5.0

Copper anomalies are rare in the area, only minor copper values have been recorded from known mineralization. Lead geochemistry has proven to be the most valuable tool for both regional and detailed exploration for shale hosted massive sulphide deposits. Lead distribution in both soil and silt is not as erratic as that for zinc which has a high mobility in locally acid ground waters. Exotic zinc soil geochemical anomalies resulting from dispersion in acid springs can range up to several percent. Silver distribution is very erratic in soils which overlie the Upper Devonian Gunsteel Formation.

Copper, lead, zinc and silver geochemistry of the Et 2, Pig 1 claims and surrounding area is shown on Figures 4,5,6 and 7, respectively. Copper values are generally below background levels with scattered moderately anomalous to very anomalous values. Lead soil response is generally within background variation for the area with exception of two, elongate low to moderate strength anomalies. Zinc values are irregular, strongly anomalous values as high as the upper detection limit for the analytical method used (10,000 ppm Zn) occur near the southwest corner of the area sampled. Silver values are erratic with most of the values higher than 0.6 ppm background level. Values as high as 9.3 ppm occur on the grid. Two coincident Cu, Pb, Zn and Ag anomalies are present in the area sampled. The first, located in the central part of the grid, has a length of approximately 400 m. Copper and silver values are strongly anomalous (as high as 730 ppm and 9.3 ppm respectively) while lead and zinc response are moderately anomalous (700 ppm and 1050 ppm respectively). A slightly weaker Cu, Pb and Zn anomaly with a 400 m strike length occurs at the eastern edge of the grid. Lead values range up to 300 ppm, copper to 100 ppm and zinc to 3000 ppm. Silver response is within background variation.

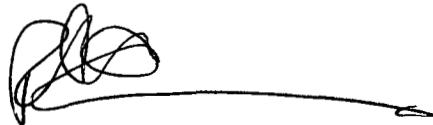
#### Conclusions and Recommendations

Soil sampling at 50 m by 100 m grid spacing was carried out over the Pig 1 and Et 2 mineral claims during the period June 8 to June 13, 1981. The samples were analyzed for copper, lead, zinc and silver. Two elongate zones of anomalous metal values are outlined. One, located in the central part of the area sampled, is characterized by strong Cu and Ag response with moderate Pb and Zn response. The other, situated along the east margin of the grid, contains moderate Pb, Zn and Cu values with low Ag values.

The claims should receive geologic mapping at 1:5,000 scale to determine the source of anomalies. Careful prospecting should be carried out concurrently. Soil sampling at 50 m by 100 m grid spacing should also be conducted to the southwest of the area sampled to determine if possible mineralization extends beyond that point.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

R. C. Carne

/jm

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Robert C. Carne, geologist, with business and residential addresses in Vancouver, British Columbia, hereby certify that:

1) I graduated from the University of British Columbia in 1974 with a B.Sc. and in 1979 with an M.Sc. majoring in Geological Sciences.

2) I am a member of the Geological Association of Canada.

3) From 1974 to the present I have been actively engaged as a geologist in mineral exploration in British Columbia and Yukon Territory.

4) I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



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Robert C. Carne

SUMMARY OF COSTS

on work performed on the

FIG 1 AND ET 2 CLAIMS

between June 8 and June 23, 1981

Salaries and Wages

R.C. Carne (Geologist)	June 8,9 & 11;	3 days @ \$230/day	\$ 690.00
D. Billard (Sr. Ass't)	June 9,10,& 11;	3 days @ \$110/day	330.00
B. Riehl (Ass't)	June 8,9,10 & 11;	4 days @ \$ 86/day	344.00
L. Ramsay (Ass't)	June 10 & 11;	2 days @ \$101/day	202.00
D. Oatman (Ass't)	June 9,10 & 11;	3 days @ \$ 86/day	258.00
M. Jovanovic (Ass't)	June 9,10 & 11;	3 days @ \$ 86/day	<u>258.00</u>
			\$2,082.00

Assays and Geochemical Analyses

Analyses of 469 soil samples for Cu, Pb, Zn & Ag 1,876.00

Camp Maintenance (includes fixed-wing aircraft costs)

18 mandays at \$50/day 900.00

Helicopter (includes fuel costs on site)

Northern Mountain Helicopters Ltd.  
Bell Jet Ranger 206 B @ \$450/hr x 4.3 hours 1,935.00

Report Preparation and Administration

679.30

TOTAL EXPENDITURES \$7,472.30





BOUNDARY OF GJV CLAIMS



**LEGEND**

X 22	248 ppm Cu
X 24	106 ppm Cu
X 25	104 ppm Cu
X 26	104 ppm Cu
X 27	104 ppm Cu
X 28	104 ppm Cu
X 29	104 ppm Cu
X 30	104 ppm Cu
X 31	104 ppm Cu
X 32	104 ppm Cu
X 33	104 ppm Cu
X 34	104 ppm Cu
X 35	104 ppm Cu
X 36	104 ppm Cu
X 37	104 ppm Cu
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X 196	104 ppm Cu
X 197	104 ppm Cu
X 198	104 ppm Cu
X 199	104 ppm Cu
X 200	104 ppm Cu

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**9453**  
NO.

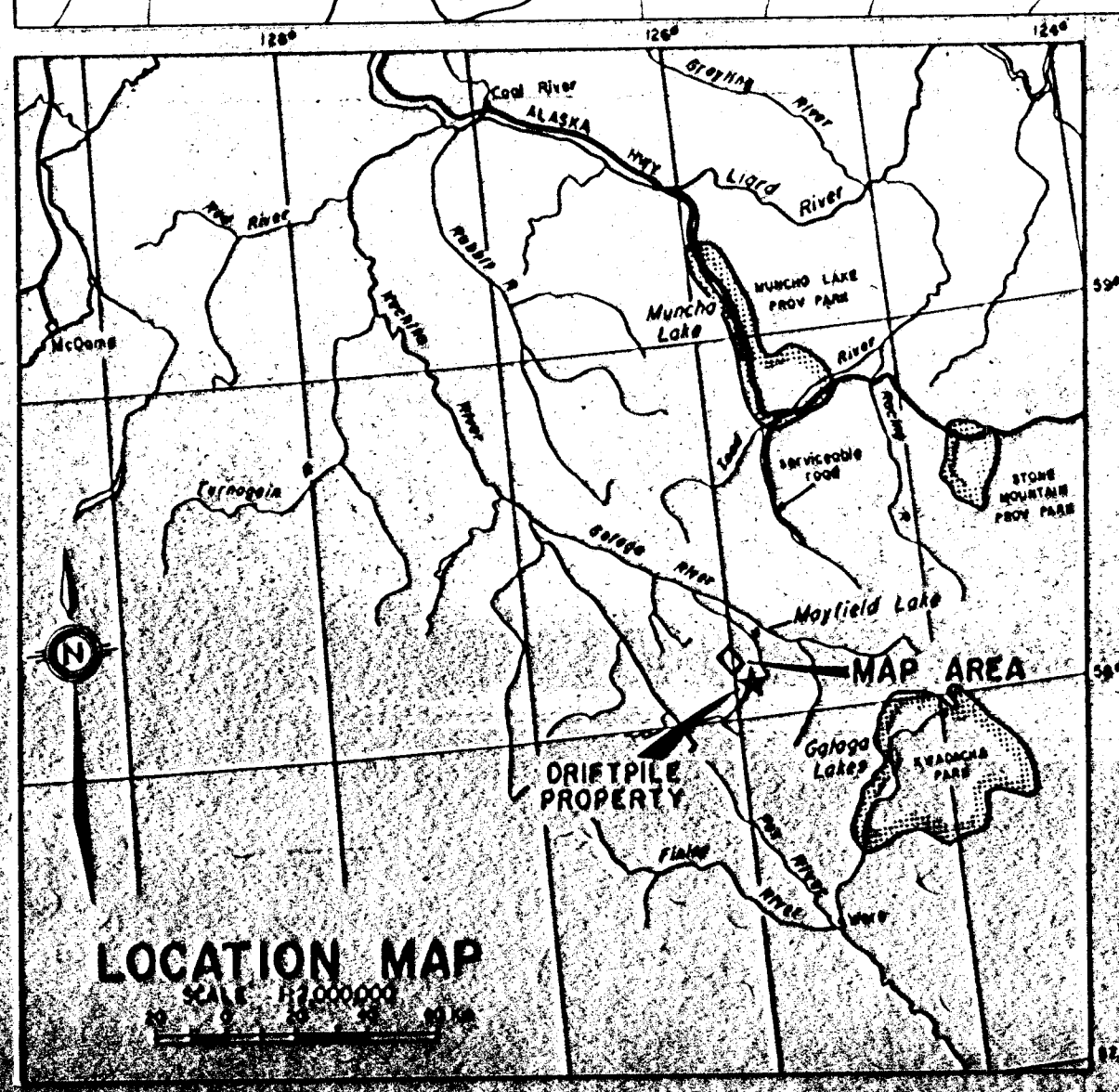
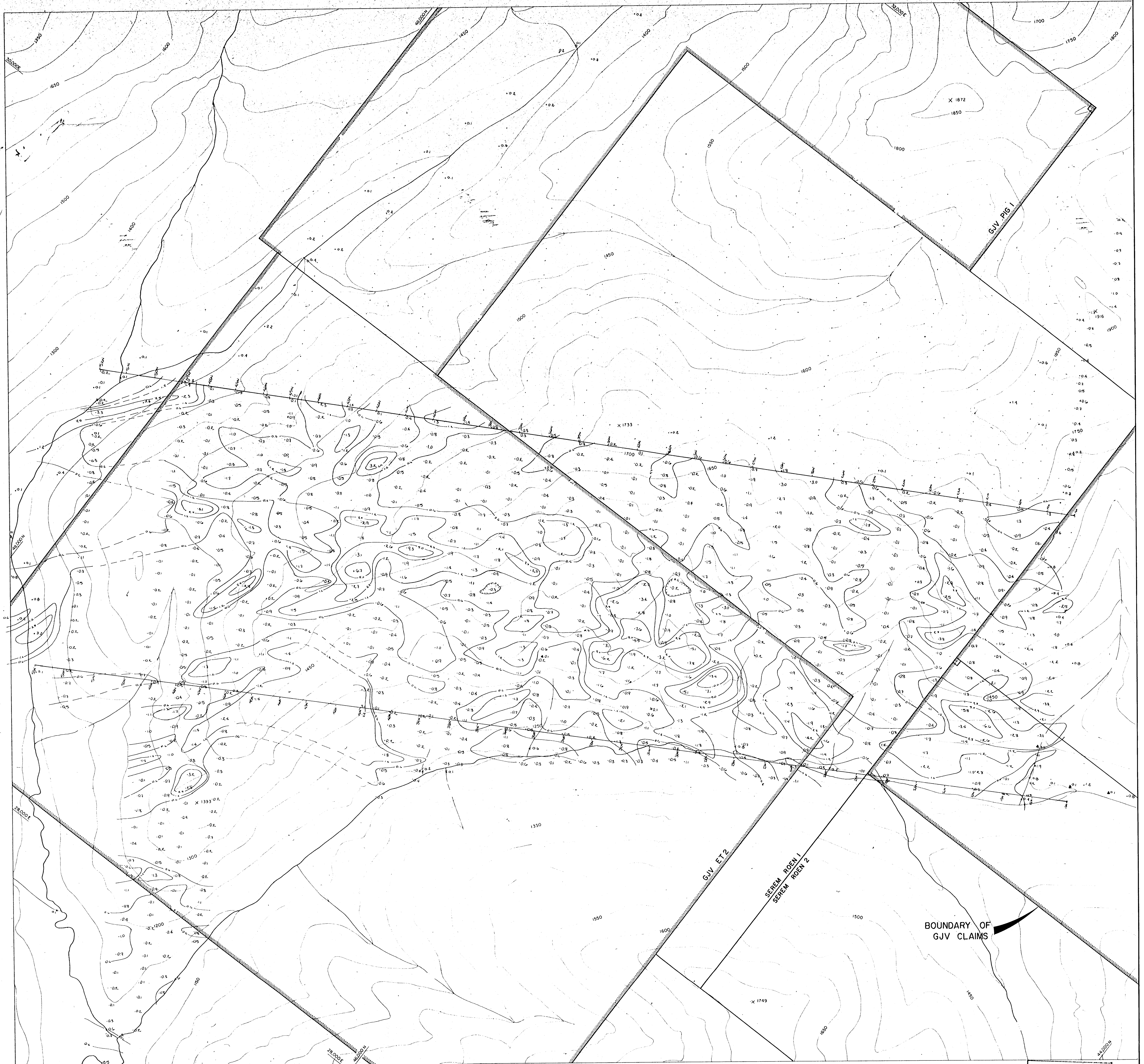
FIGURE 3  
ARCHER, GATHRO & ASSOCIATES (1983) LTD  
**COPPER GEOCHEMISTRY**  
FIG 1 AND E1 CLAIMS  
GATAGA JOINT VENTURE

SCALE - 1:50,000









**LEGEND**

X #.6 soil sample (ppm Ag)  
 #.6 soil sample (ppm Ag)  
 #.6 rock sample (ppm Ag)  
 #.6 water sample (ppm Ag)

claim boundary

**CONTOUR INTERVALS**

0.4 ppm Ag  
 0.8 - 1.6 ppm Ag  
 1.6 - 3.2 ppm Ag  
 3.2 - 6.4 ppm Ag  
 6.4 - 12.8 ppm Ag  
 12.8 - 25.6 ppm Ag

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**9453**  
 NO.

FIGURE 1  
 ARCHER, CATHRO & ASSOCIATES' (1981) LTD  
**SILVER GEOCHEMISTRY**  
 FIG 1 AND ET 2 CLAIMS  
 GATAGA JOINT VENTURE

SCALE - 1:50,000

0 50 100 150 200 250 300 350 400 METERS

0 50 100 150 200 250 300 350 400 FEET

1981