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ARCHER, CATHRO
& ASSOCIATES (1981) LIMITED
CONSULTING GEOLOGICAL ENGINEERS

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GEOCHEMICAL REPORT

on the

SAINT 1, SAINT 3 and FLACO CLAIM GROUP

LIARD MINING DIVISION

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

Latitude 58°08'N

Longitude 125°58'W

by

R.C. Carne

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

for

GETTY CANADIAN METALS, LIMITED (Owner)

and

GATAGA JOINT VENTURE (Operator)

Submitted July 27, 1982

1016-510 WEST HASTINGS STREET, VANCOUVER, B.C. V6B 1L8

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LIST OF CLAIMS

Claim	Record Number	Number of Units	Record Date	Mining Division
Saint 1	283	20	April 28, 1977	Liard
Saint 3	284	12	April 28, 1977	Liard
Flaco	1318	4	June 24, 1980	Liard

GEOCHEMICAL REPORT

on the

SAINT 1, SAINT 3 and FLACO CLAIM GROUP

Introduction

The Saint 1, Saint 3 and Flaco claim group was staked by Gataga Joint Venture in the name of Welcome North Mines Ltd. to cover a northwest-trending belt of upper Devonian black shales which host lead-zinc mineralization in the nearby Driftpile Creek area on the P, D and Goof claims. The Saint 1 and Saint 3 claims were staked in 1977 while the Flaco claims were staked in 1980. Gataga Joint Venture (GJV) was formed in 1977 to explore for lead-zinc in northeast British Columbia, and is a syndicate composed of Kidd Creek Mines Ltd., Chevron Canada Limited, Getty Canadian Metals, Limited, Welcome North Mines Ltd. and Castlemaine Exploration Ltd. The program was managed by Archer, Cathro & Associates (1981) Limited and was directed in the field for the fifth successive season by R.C. Carne.

Geological mapping at 1:5000 scale in the area was carried out in 1980 as part of an ongoing program to provide a basis for prospecting and geochemical evaluation of the underlying rocks. Results of that work are detailed in a report submitted for assessment credit in March, 1981 and are only summarized here.

About 600 soil and silt samples were taken at roughly 50 m by 100 m intervals across the central part of the claim as part of a much larger sampling program. Topographic control for the geological and geochemical surveys was established with the aid of a contoured 1:5000 scale orthophoto map produced from aerial photography flown by GJV in 1979. The 1981 work was carried out in the period June 24, 1981 to August 31, 1981.

Location and Access

The Saint 1, Saint 3 and Flaco claims are located 25 km northwest of Gataga Lakes on NTS map sheets 94K/4W and 94L/1E. The centre of the group is located at latitude 58°08'N and longitude 125°58'W. Access is by float-equipped, fixed-wing aircraft from Watson Lake, Yukon Territory, about 289 km to the northwest, to Mayfield Lake, located about 15 km northeast of the property. Access to the claims from the lake is by helicopter. The nearest large town, 210 km to the 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, 1981 by ski-equipped, single Otter aircraft to a winter airstrip located 20 km east of the property. Field work was conducted with a helicopter-supported program based from a permanent field camp located on Driftpile Creek, about 10 km to the southeast (Figure 1).

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 patterns 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.

Structural 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.

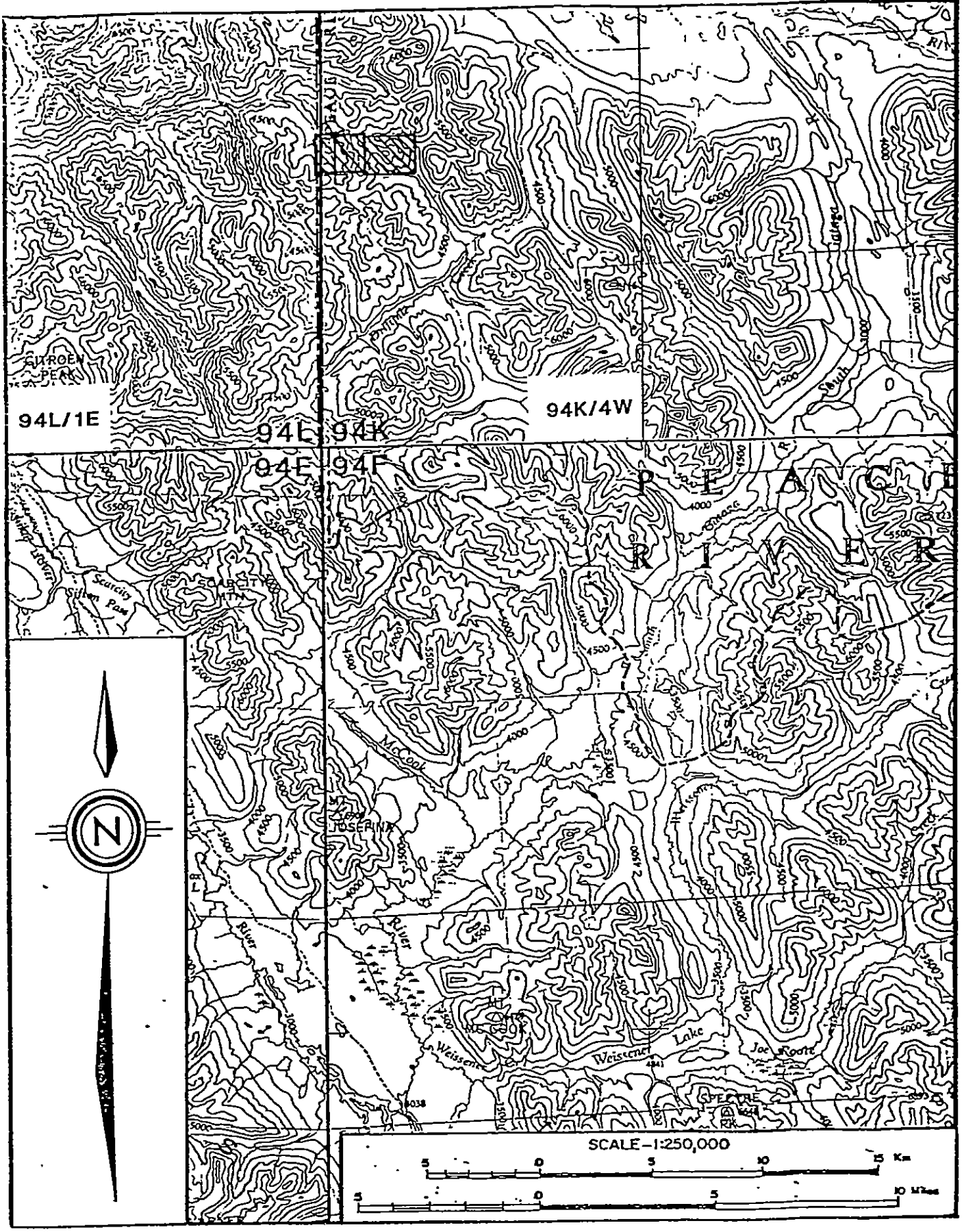


Figure 1: Location of Saint 1, Saint 3 and Flaco claim group.

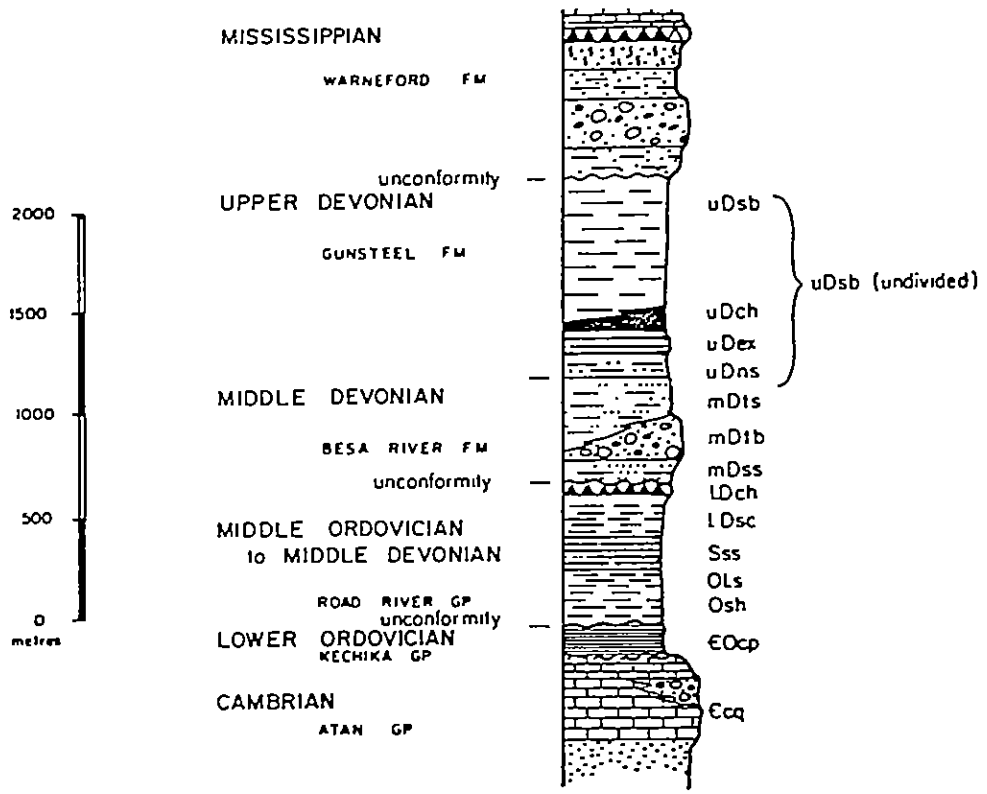


FIGURE 2

ARCHER, CATHRO & ASSOCIATES LTD

STRATIGRAPHY

GATAGA LAKES AREA

GATAGA JOINT VENTURE

Geochemical Survey

During the period June 24 to August 31 , 1981 approximately 600 soil and silt samples were collected from the Saint 1, Saint 3 and Flaco claim groups. Additional samples collected from adjacent areas during the survey are also reported on here. 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 1:5000 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:

	Threshold Value (ppm)	Moderately Anomalous (ppm)	Strongly Anomalous (ppm)
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 Saint 1, Saint 3 and Flaco claims and surrounding area is shown as Figures 4, 5, 6 and 7 respectively. Location of the 1981 survey with respect to claim boundaries is shown on Figure 3 at 1:20,000 scale. Location of internal claim boundaries within the larger contiguous GJV claim holdings is shown at 1:5000 scale on Figure 7 only.

Copper values are generally below the 75 ppm threshold value. Erratic anomalous values to 465 ppm occur along the westerly half of the area sampled.

A relatively well-defined, northwest-trending zone of lead soil anomalies occurs on the westerly side of the grid, extending off the property to the southeast and northwest. Lead soil contents range up to 6200 ppm in the anomalous zone.

Zinc soil values define a northwesterly-trending anomalous zone which occurs immediately southwest and downslope of the zone of high lead response. Values range up to the greater than 10,000 ppm zinc range for the atomic absorption analytical method. Scattered single sample anomalies occur across the remainder of the area sampled.

Silver soil assays are erratic with values ranging from the 0.1 ppm detection limit to 16.6 ppm. A concentration of erratic values coincides with the area of best lead geochemical response.

Anomalous concentrations of lead in soils on the claim group define a northwesterly-trending belt which roughly coincides with anomalous copper, zinc and silver response. Although this area was not included in the geological mapping program carried out in 1980, the trend of the anomalies parallels the strike direction of baritic

upper Devonian shales extrapolated to the property from the Driftpile Creek area, 10 km to the southeast.

Conclusions and Recommendations

Soil sampling at 50 m by 100 m grid spacing was carried out over parts of the Saint 1, Saint 3 and Flaco claims during the period

The samples were analyzed for copper, lead, zinc and silver to determine if stratiform zinc-lead-silver mineralization was present in underlying upper Devonian black shales. Results of the geochemical survey are generally encouraging. A northeasterly-trending zone of moderately to strongly anomalous lead soil response coincides with erratic but strong silver, copper and zinc values along the westerly part of the claim group. Orientation of the anomalous zone is similar to structural grain of upper Devonian and older shales mapped earlier elsewhere on the property. Baritic shales outlined by the 1980 mapping program, however, are associated with generally low values of base metals and silver in overlying soils.

Orientation and continuity of the coincident lead, zinc, silver and copper anomaly on the western part of the Saint 1, Saint 3 and Flaco claim groups should be explored with detailed prospecting and geological mapping. The work should concentrate on establishing the stratigraphic and structural setting of the underlying sedimentary rocks with a view to drawing correlations between the property and potentially economic, shale-hosted, stratiform barite-lead-zinc mineralization at Driftpile Creek.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED,

R.C. Carne, B.Sc., M.Sc.

/mjm

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Robert C. Carne, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia and residential address in Burnaby, 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 and on June 1, 1981 became a partner of Archer, Cathro & Associates (1981) Limited.
4. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.

Robert C. Carne, B.Sc., M.Sc.

APPENDIX II

SUMMARY OF COSTS

SAINT 1, SAINT 3 and FLACO CLAIM GROUP

LIARD MINING DIVISION

between June 24 and August 31, 1981

Salaries and Wages		
R.C. Carne (geologist) - 10 days at $230/day	$2,300.00	
D. Billard (sampler) - 8 days at $115/day	920.00	
L. Ramsay (sampler) - 8 days at $106/day	848.00	
B. Riehl (sampler) - 8 days at $98/day	784.00	$ 4,852.00
Field Costs (includes fixed-wing and helicopter support of base camp)		
31 mandays at $50/day		1,550.00
Helicopter		
9.8 hours at $450/hr (including fuel)		4,410.00
Geochemical Analysis		
600 samples at $4.00/sample		2,400.00
Report Preparation, Office Costs and Administration		1,315.70
Total		$14,527.70

GJV PIG 1

GJV SAINT 1

GJV SAINT 2

GJV SAINT 3

GJV FLACO

GJV SAINT 4

BL 20E

BL 10E

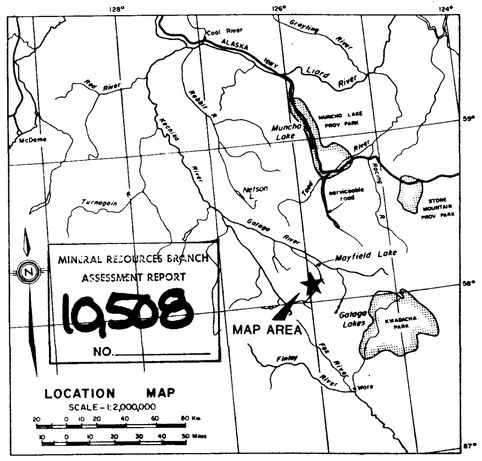
BL 00E

BL 10W

Mineralized Quartz Vein

BOUNDARY OF GJV CLAIMS

COMPILED FROM AERIAL PHOTOGRAPHY
TAKEN AUGUST 15, 1979 AT A SCALE OF 1:24,000



LEGEND

- x 130 — silt sample (ppm Zn)
- • 130 — soil sample (ppm Zn)
- ■ 130 — rock sample (ppm Zn)
- ▲ 130 — gossan sample (ppm Zn)
- claim boundary

Figure 6

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

ZINC GEOCHEMISTRY

SAINT 1, SAINT 3 and FLACO CLAIMS

PROFESSIONAL ENGINEER
R.J. CATHRO
BRITISH COLUMBIA

SCALE – 1:5,000

100 50 0 50 100 200 300 400 Metres

100 50 0 50 100 200 300 400 Yards

To accompany report dated July 27/82

GJV PIG 1

BL 20E

BL 10E

BL 00E

BL 10W

GJV SAINT 1

GJV SAINT 2

GJV SAINT 3

GJV SAINT 4

GJV FLACO

Mineralized Quartz Vein

BOUNDARY OF GJV CLAIMS

AMPLIFIED FROM AERIAL PHOTOGRAPHY
TOKEN, AUGUST 16, 1979 AT A SCALE OF 1:24,000

LEGEND

- x 34 — silt sample (ppm Cu)
- • 34 — soil sample (ppm Cu)
- ■ 34 — rock sample (ppm Cu)
- ▲ 34 — gossan sample (ppm Cu)
- claim boundary

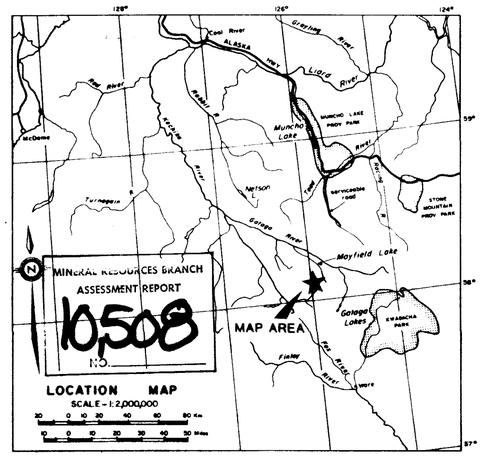


Figure 4

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

COPPER GEOCHEMISTRY

SAINT 1, SAINT 3 and FLACO CLAIMS

SCALE - 1:5,000

To accompany report dated July 27/82

GJV PIG 1

GJV SAINT 1

GJV SAINT 3

GJV SAINT 2

GJV SAINT 4

GJV FLACO

BL 20E

BL 10E

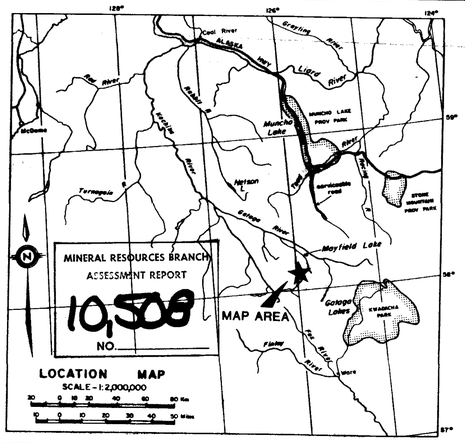
BL 00E

BL 10W

Mineralized Quartz Vein

BOUNDARY OF GJV CLAIMS

COMPILED FROM AERIAL PHOTOGRAPHY
TAKEN AUGUST 15, 1979 AT A SCALE OF 1:24,000



LEGEND

- X 0.6 silt sample (ppm Ag)
- • 0.6 soil sample (ppm Ag)
- ■ 0.6 rock sample (ppm Ag)
- ▲ 0.6 gossan sample (ppm Ag)
- claim boundary

Figure 7

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

SILVER GEOCHEMISTRY AND CLAIM LOCATIONS

SAINT 1, SAINT 3 and FLACO CLAIMS

SCALE – 1:5,000

100 50 0 50 100 200 300 400 Metres

100 50 0 50 100 200 300 400 Yards

To accompany report dated July 27/82

GJV PIG 1

GJV SAINT 1
GJV SAINT 3

GJV SAINT 1
GJV SAINT 2

GJV SAINT 3
GJV FLACO

GJV SAINT 4

BL 20E

BL 10E

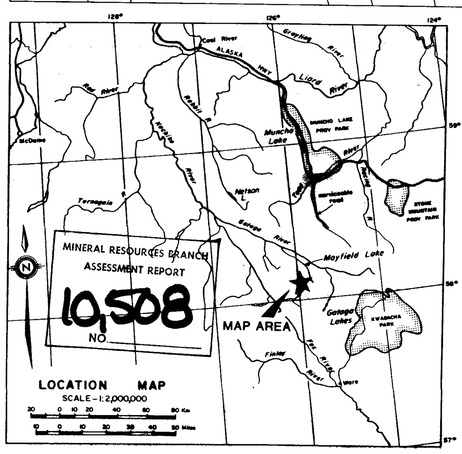
BL 00E

BL 10W

Mineralized Quartz Vein

BOUNDARY OF GJV CLAIMS

COMPILED FROM AERIAL PHOTOGRAPHY
TAKEN AUGUST 15, 1979 AT A SCALE OF 1:24,000



LEGEND

- × 24 — silt sample (ppm Pb)
- • 24 — soil sample (ppm Pb)
- ■ 24 — rock sample (ppm Pb)
- ▲ 24 — gossan sample (ppm Pb)
- claim boundary

Figure 5

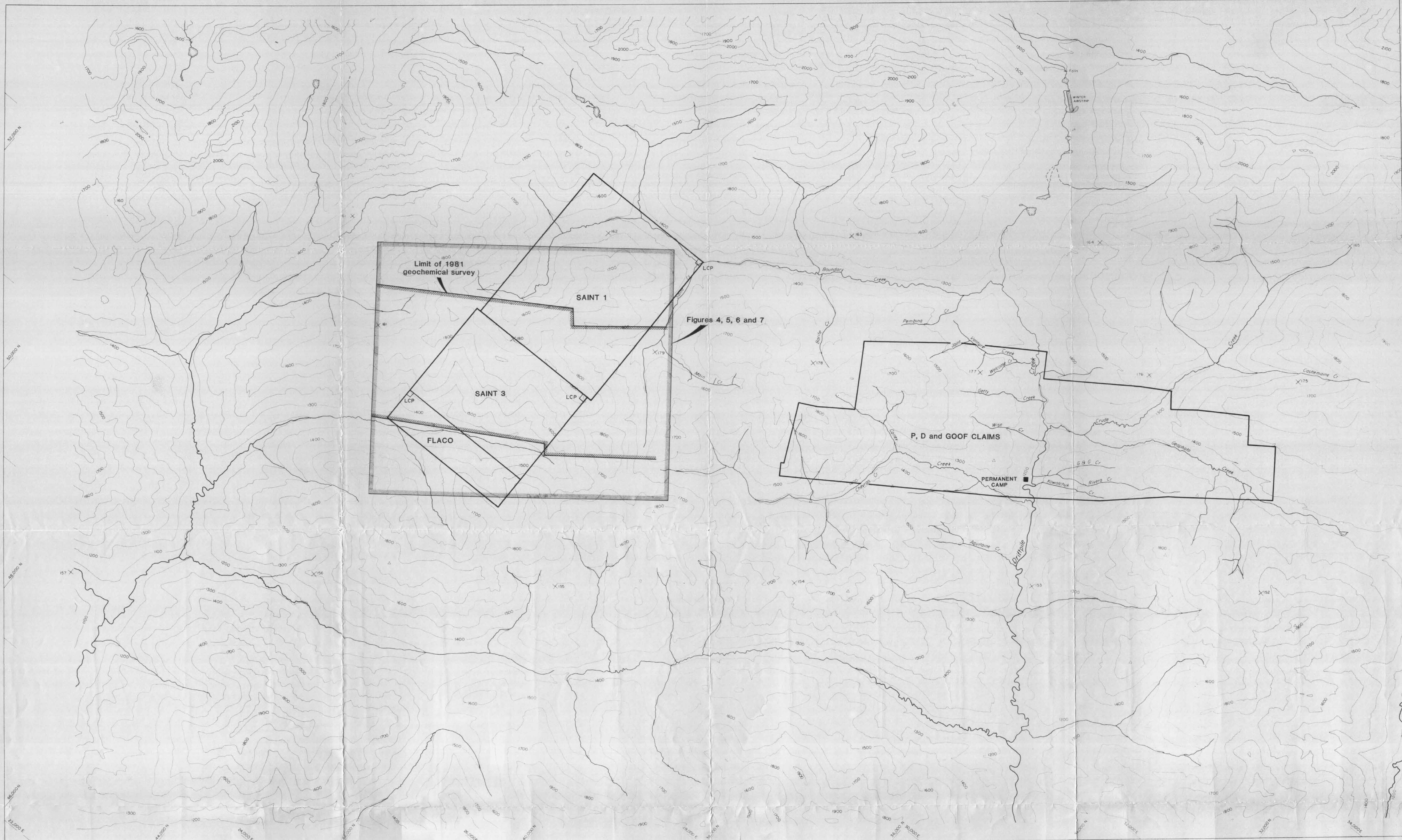
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

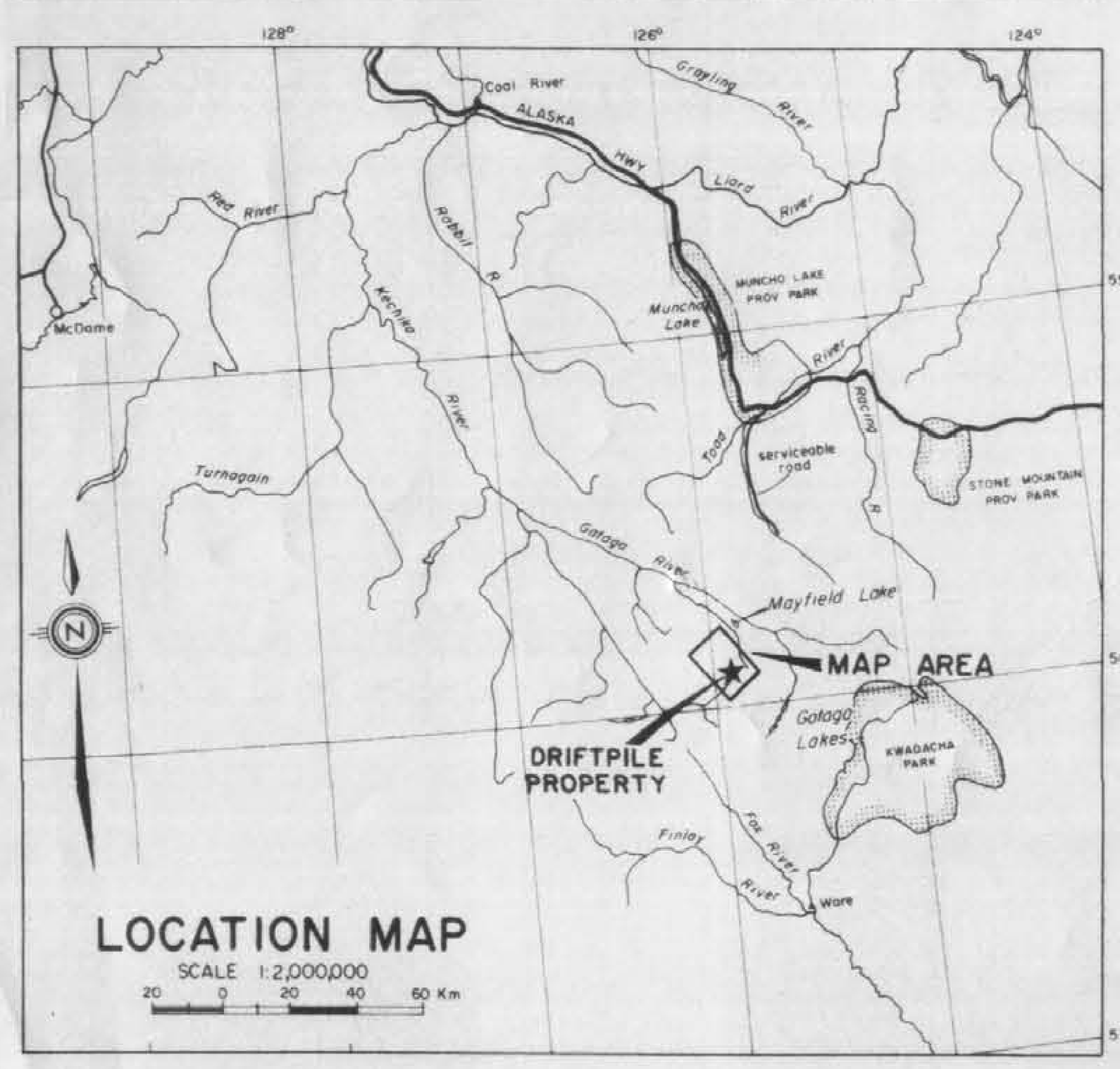
LEAD GEOCHEMISTRY

SAINT 1, SAINT 3 and FLACO CLAIMS

SCALE - 1:5,000

To accompany report dated July 27/82





MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 10,508

Figure 3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

LOCATION MAP

SAINT 1, SAINT 3 and FLACO CLAIMS

SCALE - 1:20,000

To accompany report dated July 27/82