

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE AKI GROUP

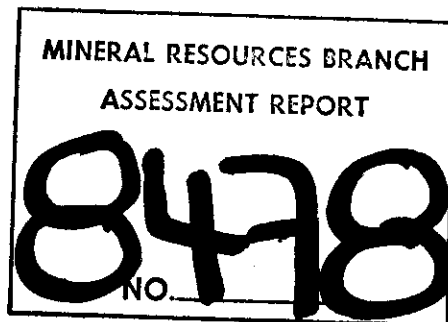
AKIE RIVER AREA

OMINECA MINING DIVISION

N.T.S. 94F/2E-1W

LATITUDE: 57°13'

LONGITUDE: 124°30'



By: G.R. Coutellier
Aquitaine Company of Canada
October 1980

Field work done during the period: August 5th - 17th, 1980

AKI GROUP

LIST OF CLAIMS (Figure No. 1)

<u>Claim No.</u>	<u>Record No.</u>	<u>Number of Units</u>	<u>Recording Date</u>
AKI - 1	827	20	26-10-1977
AKI - 3	829	8	26-10-1977
AKI - 4	830	8	26-10-1977
GUY - 1	3144	16	02-09-1980

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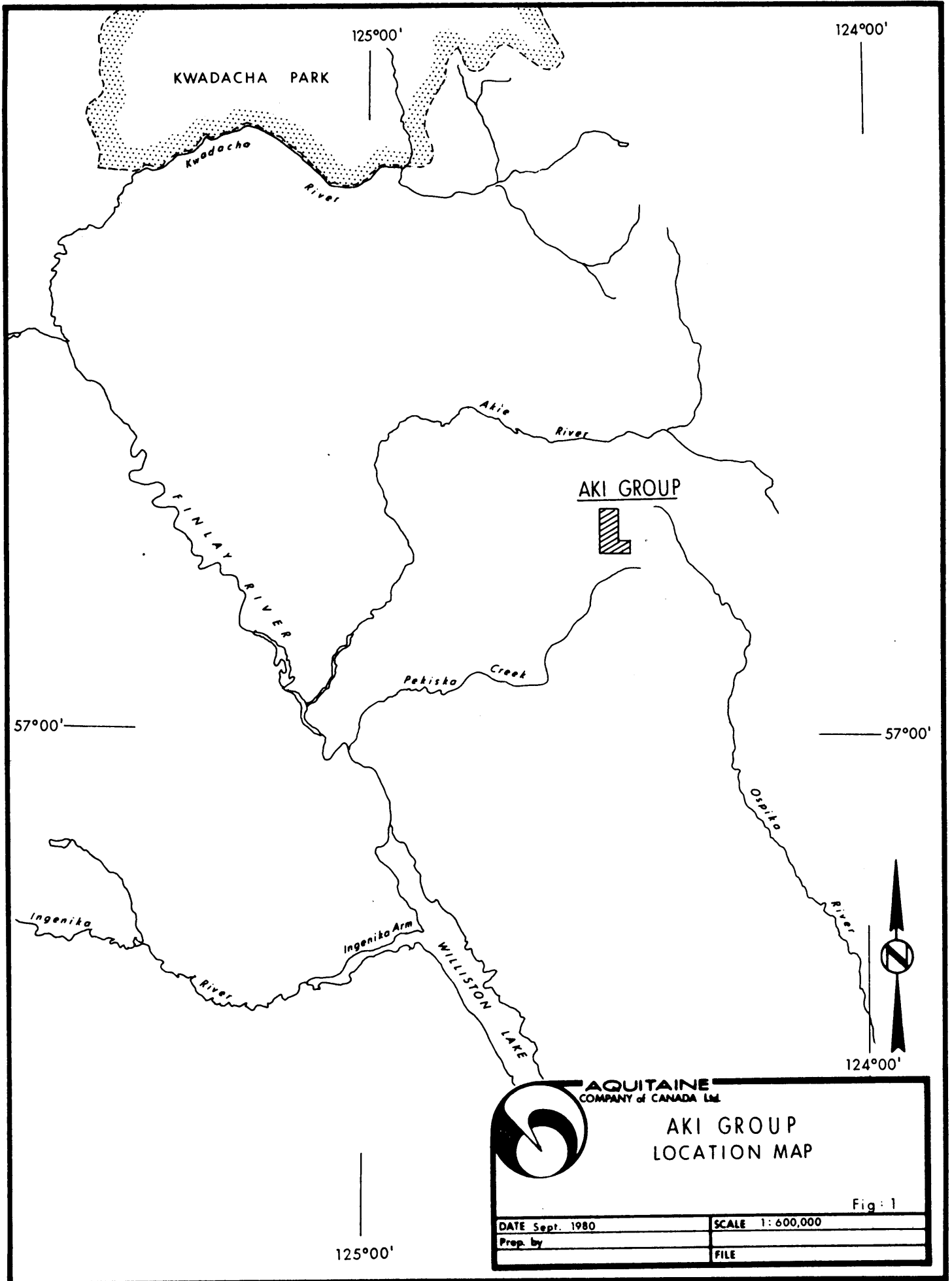
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INTRODUCTION

The AKI Claims (1 to 4) were staked in 1977 by Aquitaine Company of Canada Ltd., to cover gossans in black shales thought to be correlative to rocks which host stratiform lead-zinc mineralization at Driftpile Creek, approximately 115 km to the northwest. In 1980, AKI 2 was dropped and GUY 1 staked. Geological mapping and geochemical sampling were carried out during the period August 5th - 17th, 1980 by an Aquitaine team of 4 men.

Geological mapping led to the conclusion that the gossans are related to the black shales of the Gunsteel formation (Devonian). Geochemical response indicates that gossans contain up to 2% zinc but no lead and almost no silver.

LOCATION AND ACCESS

The AKI and GUY Claims lie north of Williston Lake in northern British Columbia, between Akie and Pesika Rivers, respectively to the north and to the south, and Ospika River to the east, approximately 250 km west/northwest from Fort Saint John and 210 km south/southwest from Fort Nelson. The claims are located at latitude 57°13' and longitude 124°30' on the boundary of Claim Sheet ~~93~~⁹⁴F/1W and 94F/2E (figure number 2).

Access is via float-equipped fixed-wing aircraft from Mackenzie to Sikanni Chief Lake and by helicopter from Sikanni Chief Lake to the claims. During the second week a helicopter was used at full time from Ingenika Base which is about 50 km west-southwest of the claims.

REGIONAL GEOLOGY

Recent geological mapping by the Geological Survey of Canada (Open Files 483 and 606) and by Ministry of Energy, Mines and Petroleum of B.C. (D.G. MacIntyre: Geological compilation and Mineral Occurrence

124°30'

57°15'

GNOME 9

GUY 1

AKI 1

GNOME 12

AKI 3

AKI 4

GIN 2

GIN 1

GIN 1

PESIKA 26

PESIKA 1

GIN 3

GIN 4

GIN 4

PESIKA 4

PESIKA 2

PESIKA 5

PESIKA 3

GIN 5

GIN 5

PESIKA 6

PESIKA 7



AQUITAINE
COMPANY OF CANADA LTD

AKI GROUP
NTS 94 F/2E-1W

Fig: 2

DATE Sept. 1980

SCALE 1:50,000

Prep. by

FILE

124°30'

Map, Driftpile Creek - Akie River) indicate a 200 km long band of Paleozoic terrain, oriented northwest/southeast, between $128^{\circ}30'$, $58^{\circ}15'$ and $124^{\circ}15'$, $57^{\circ}00'$. The geological succession is as follows:

- Upper Cambrian/Lower Ordovician (Kechika Group)

Light grey-weathering, talcy, nodular phyllitic mudstone;
argillaceous wavy banded limestone.

- Middle Ordovician/Silurian

Black graptolitic shale, laminated calcareous siltstone and
silty shale (Road River formation).

Orange and green volcanic flows.

- Silurian

Brown to orange weathering, laminated and dolomitic siltstone.

- Lower/Middle Devonian

Silty shale, siltstone, sandstone; minor siliceous argillite,
limestone.

Thick bedded fossiliferous limestone; limestone turbidites
and debris flows with interbedded chert, quartz siltstone,
calcareous siltstone, graptolitic shale and black fetid
limestone.

- Middle/Upper Devonian "Black Clastic" Group:

Sandstone, siltstone, conglomerate, chert and shale. Black
carbonaceous shale, silty shale, siliceous argillite locally
with nodular and massive barite and laminated pyrite inter-
beds; minor chert, limestone, siltstone (Gunsteel formation).

The main structural features consist of a succession of synclines and anticlines generally overturned and separated by thrust faults dipping to the southwest.

Along this Paleozoic trend, a good number of mineral showings are known (Figure 3). All of them occur within the Gunsteel formation. Until now economic ore has been only proven on the CIRQUE.

PROPERTY GEOLOGY

41. Upper Cambrian/Lower Ordovician

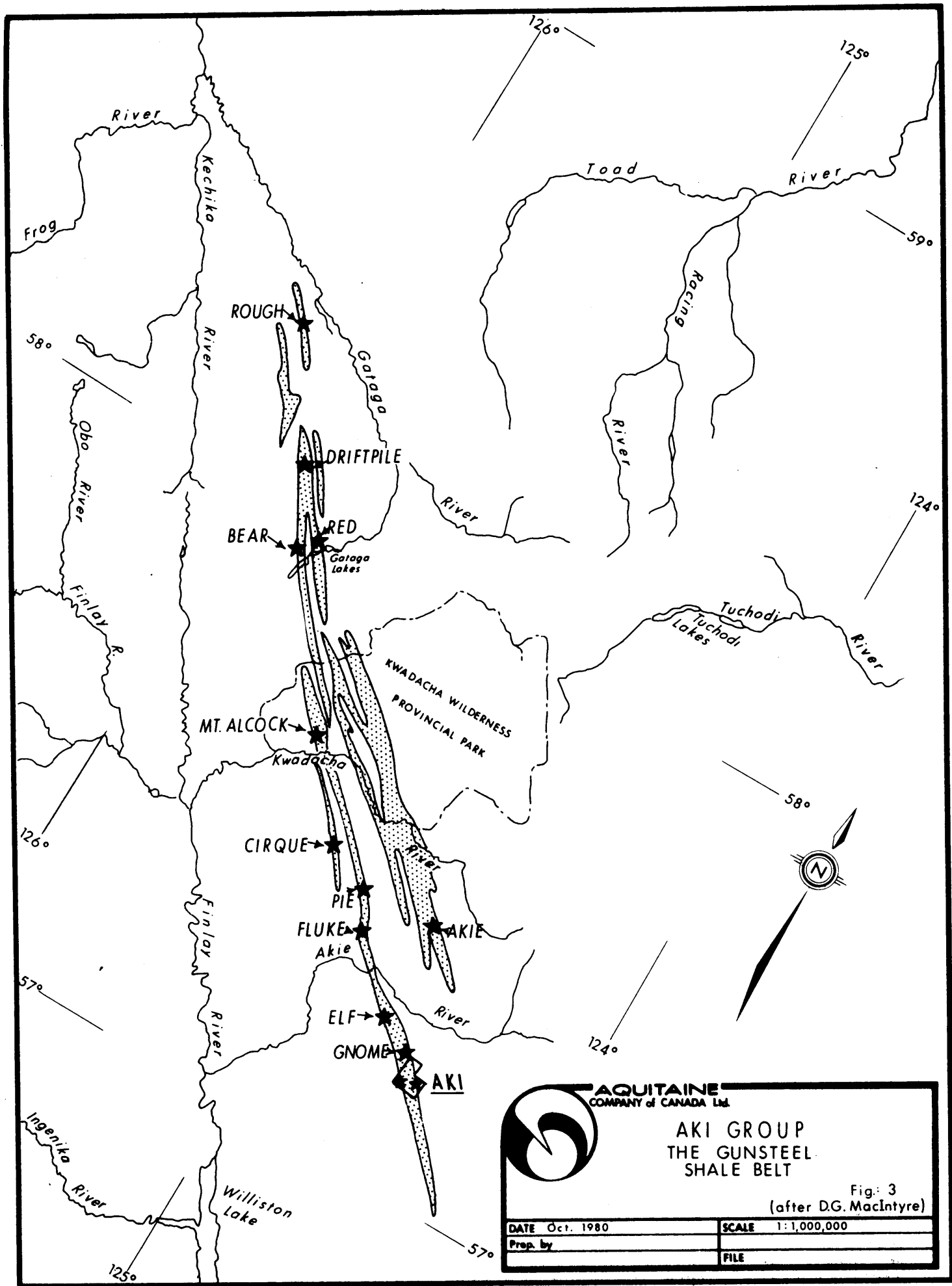
The Kechika Group forms the northeast limit of the AKI and GUY Claims. It is represented by a very thick horizon of light grey weathering, wavy banded nodular calcareous mudstone or phyllite containing talc. The general strike is northwest/southeast and the dipping almost vertical in that area.

42. Middle Ordovician/Silurian

The Kechika Group is unconformably overlain by a succession of siltstone, shale, limestone and local volcanic rocks, attributed to the Road River formation. This succession is about 400 m thick and generally starts with a beige sandstone horizon followed by alternating black graptolitic shales, grey limestone, orange dolomitic sandstone and black siltstone. These different facies are varying in thickness from place to place and some of them have a lenticular shape. In the northern part of the property, some volcanic breccias and flows attributed to the Lower Ordovician have been mapped.

43. Silurian

Within the studied area, the Silurian rocks represent two parallel bands oriented northwest/southeast. The main facies is an orange to ochre-weathering dolomitic siltstone with



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**AKI GROUP
THE GUNSTEEL
SHALE BELT**

Fig. 3
(after D.G. MacIntyre)

DATE Oct. 1980	SCALE 1:1,000,000
Prep. by	FILE

local minor limestone and interbedded shale. The thickness varies from 100 to several hundred metres.

44. Lower/Middle Devonian

The lower part of the Devonian is represented by a thin horizon (less than 100 metres) of black fossiliferous limestone which is generally massive. Only a few beds are fossil-rich. Some black shale and siltstones are interbedded. This lower section of the Devonian succession is only present in the southern part of the prospect.

The upper part consists of a monotonous and very thick horizon of grey-black shale (Gunsteel formation). This unit attains an apparent thickness of at least 500 m. Some rare siltstone and siliceous argillite are interbedded.

45. Structure

The studied area has suffered from one or more periods of intense northeast/southwest compression. The main features are an anticlinal structure affecting the Silurian sandstone and several thrust faults affecting the whole geological succession.

MINERALIZATION

Several ferruginous and locally limy gossans were located. Three of these are up to three hundred metres long (Map No. 1). Smaller gossans have been located in the vicinity of the main ones and all of the gossans appear to be related to the Gunsteel formation which locally contains some pyrite, either disseminated or nodular. Barite and economic sulfide (spalерite, galena) were not identified.

GEOCHEMISTRY

The geochemical survey includes rock stream sediment and soil sampling. Samples were assayed for lead, zinc, silver and barium (the latter for selected samples only) (Map No. 2). A total of 992 samples were collected. Rock samples are generally taken along profiles and the spacing varies from 50 to 100 metres. Stream sediment samples were collected with a spacing of 50 to 100 metres for the soil grids, the spacing is 40 metres between the samples on the lines and 100 to 200 metres between the lines. The depth of sampling for soils does not exceed one foot. The samples taken as stream sediments are generally fine detrital particles coming from the outcrop.

61. Zinc (Map 3)

The local background for rocks is very low, less than one hundred ppm Zn. A few anomalous values of about 1000 ppm are associated with oxidized pyritic shales. Higher values up to 2% Zn are obtained when gossans are sampled.

Stream sediment background varies from 100 to 200 ppm when the slope is important and goes up to 500 ppm when the slope becomes gentle and allows zinc concentration. A few samples taken downstream from gossan zones are anomalous (up to 9700 on gossan A).

Soil samples generally taken along grids returned anomalous values in zinc (from 1000 ppm to 2% Zn) in association with the gossan zones, but in that case the sample is more a rock than a soil sample. On gossan A, the Zn anomaly extends to the southeast from the gossan itself for about 250 metres.

62. Lead (Map 4)

Lead values are very low. The background is less than 20

ppm for all the three types of samples. There is a weak anomaly above gossan B, but there is not direct correlation with zinc. Within the grid of gossan D, one rock sample returned 480 ppm Pb corresponding to black shale containing pyritic nodules. In the gossan zones there appears to be a lead deficiency associated with anomalous zinc values.

63. Silver (Map 5)

A few weakly anomalous values were obtained but they do not correlate with zinc, lead, or with the gossan zones.

64. Barium

Some rare traces of barium were noted in gossaneous material, but no baritic horizon has been located to date.

CONCLUSIONS

The field work carried out on the AKI Group during August 1980 led to the conclusion that the gossan zones occur in the black shales of the Gunsteel formation. These zones contain up to 2% zinc but are low in lead and silver content. No barite horizon has been mapped.

GC/hs

COST STATEMENTExpenditures for Assessment Credit

Wages	\$7,735
Helicopter	4,550
Helicopter Fuel	500
Mob/Demobilization	3,925
Radio	700
Photomosaic and Maps	1,590
Groceries	1,500
Equipment	625
Disposed Equipment	50
Shipping	741
Assays	5,434
Report Preparations	300
	<hr/>
	\$27,650

124°30'

57°14'

57°14'

57°13'

57°13'

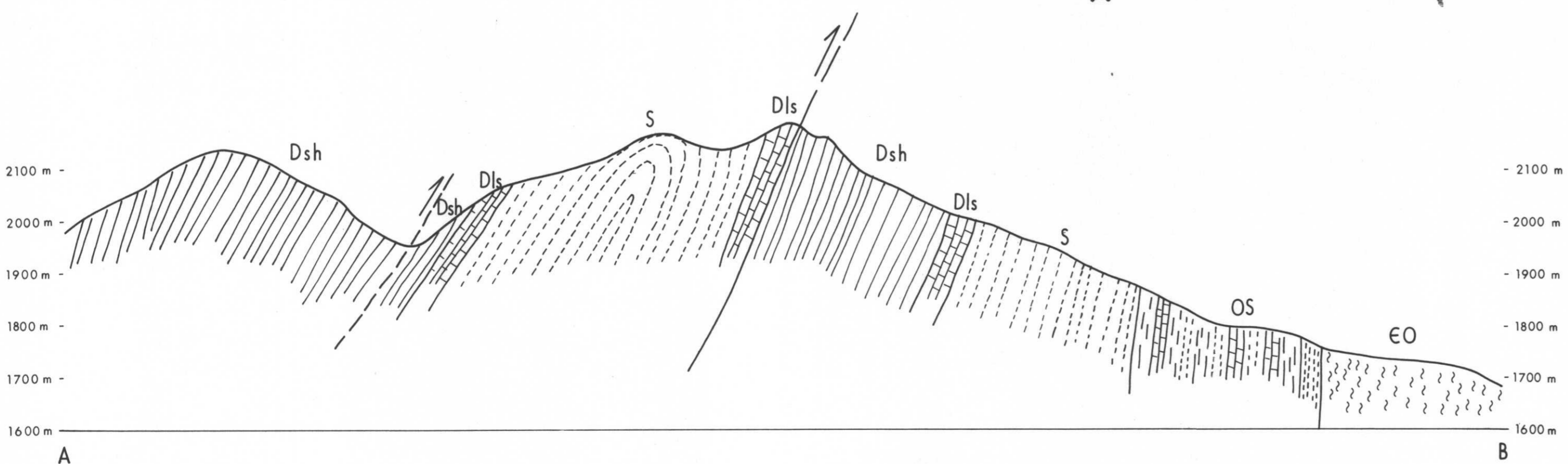
57°12'

57°12'

124°30'



GEOLOGICAL CROSS-SECTION



- Dsh - DEVONIAN - SHALE (Gunsteel Formation)
- Dls - DEVONIAN - LIMESTONE
- S - SILURIAN SANDSTONE
- OS - ORDOVICIAN / SILURIAN - LIMESTONE, SHALE SANDSTONE (Road River Formation)
- EO - CAMBRO-ORDOVICIAN - PHYLLITE

- F FOSSILS LOCATION
- G GOSSANS
- B BEDDING
- C CLEAVAGE
- A ANTICLINE AXIS
- T THRUST FAULT
- CL CLAIM OUTLINE

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8478
NO.

MAP N°1

AQUITAINE COMPANY OF CANADA LTD.

**AKI PROPERTY
BRITISH COLUMBIA
NTS PORTIONS OF
94F/1W & 94F/2E
GEOLOGY**

Prepared by: G.Coutellier Scale 1:10000
Date: Sept. 1980

57°14'

57°14'

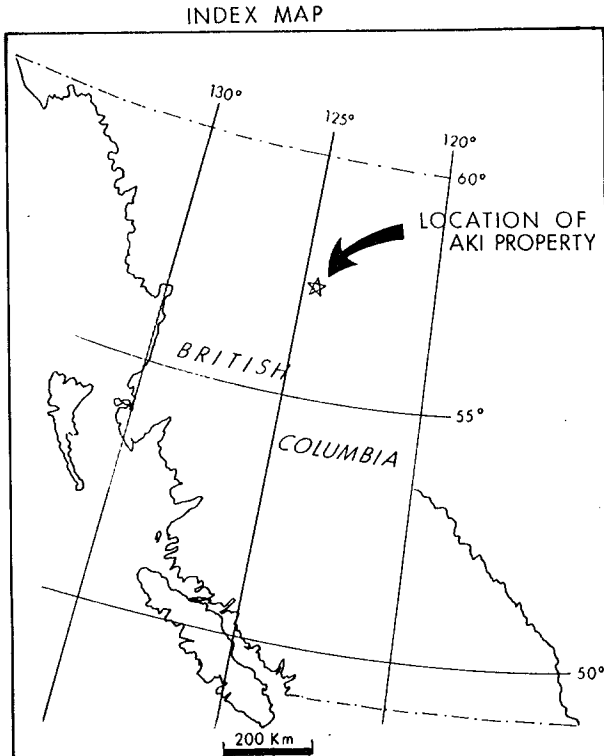
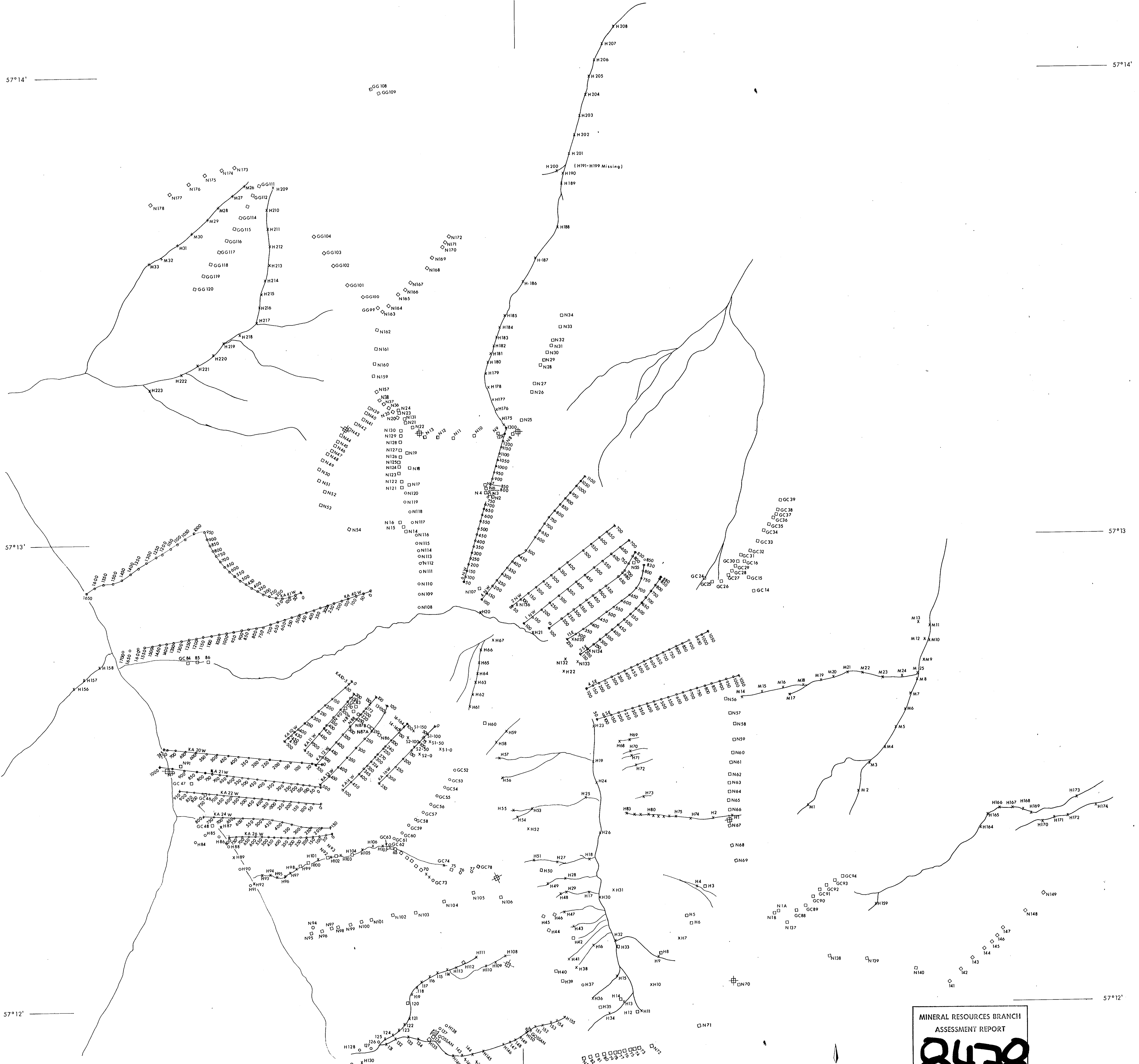
124°30'

57°13'

57°13'

57°12'

57°12'



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8478
NO.

MAP No 2

AQUITAINE COMPANY OF CANADA LTD.

AKI PROPERTY
BRITISH COLUMBIA
NTS PORTIONS OF
94F/1W & 94F/2E
SAMPLE LOCATION MAP

- LEGEND**
- ROCK SAMPLES
 - STREAM SEDIMENTS
 - SOIL SAMPLES
 - ⊕ CLAIMPOST

Prepared by: G. Coutellier Scale: 1:10,000
Date: Sept. 1980

57°14'

57°14'

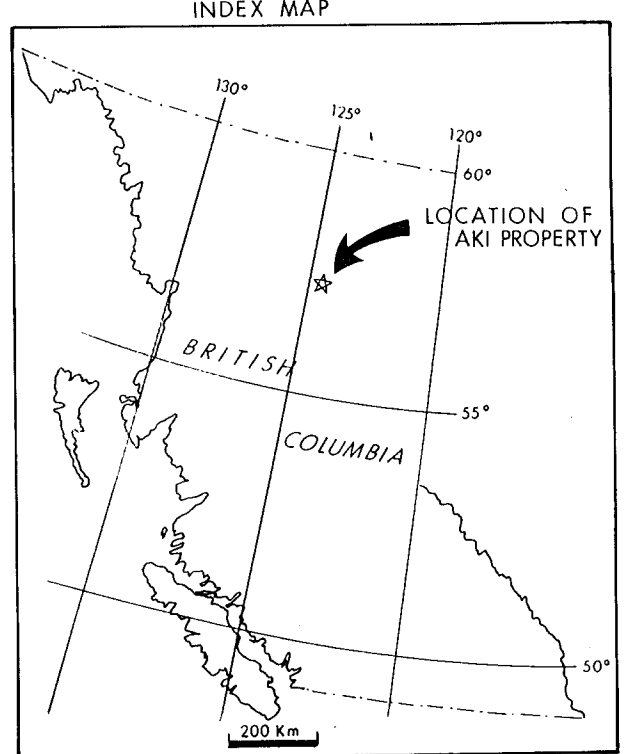
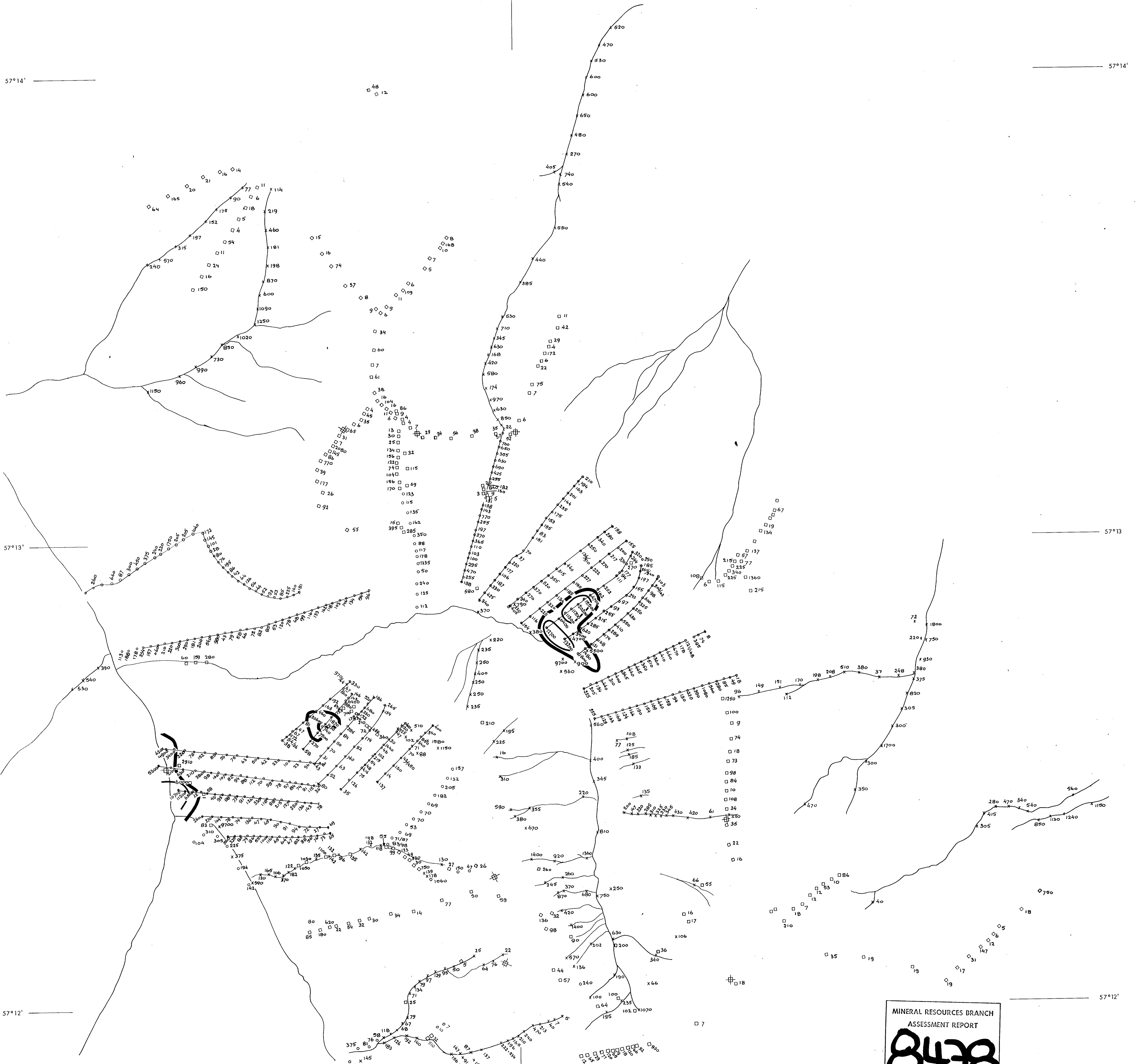
124°30'

57°13'

57°13'

57°12'

57°12'



MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
8478
 NO.

MAP N° 3

 AQUITAINE COMPANY OF CANADA LTD.

AKI PROPERTY
 BRITISH COLUMBIA
 NTS PORTIONS OF
 94F/1W & 94F/2E
 ZINC

— 1000 ppm Zn.
 — 1% Zn.

Prepared by: G. Coutellier
 Scale: 1:20,000
 Date: Sept. 1980

57°14'

57°14'

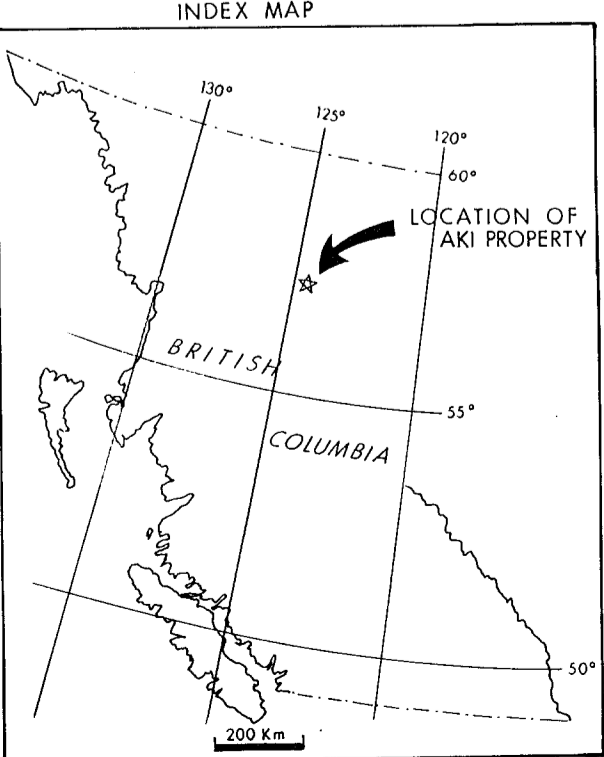
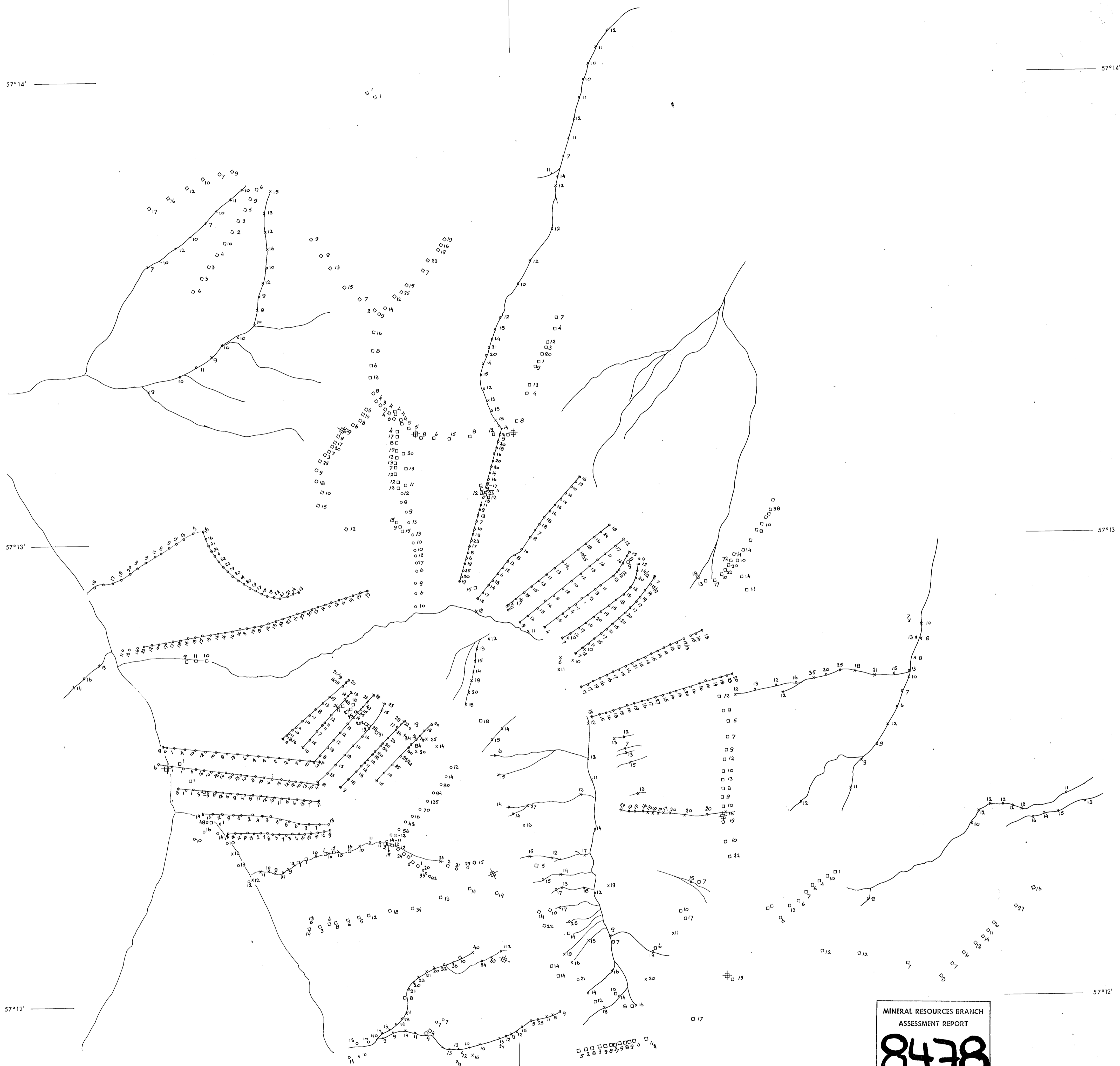
124°30'

57°13'

57°13'

57°12'

57°12'



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
8478
NO.

MAP N°4

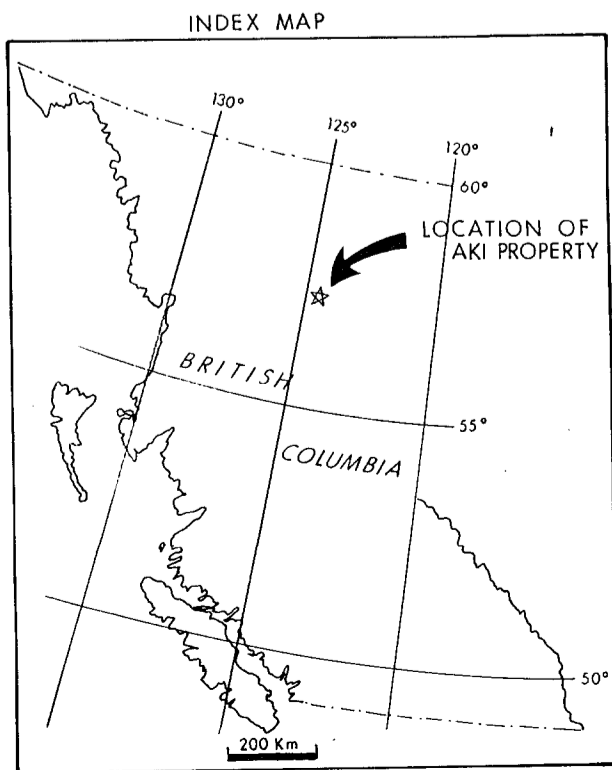
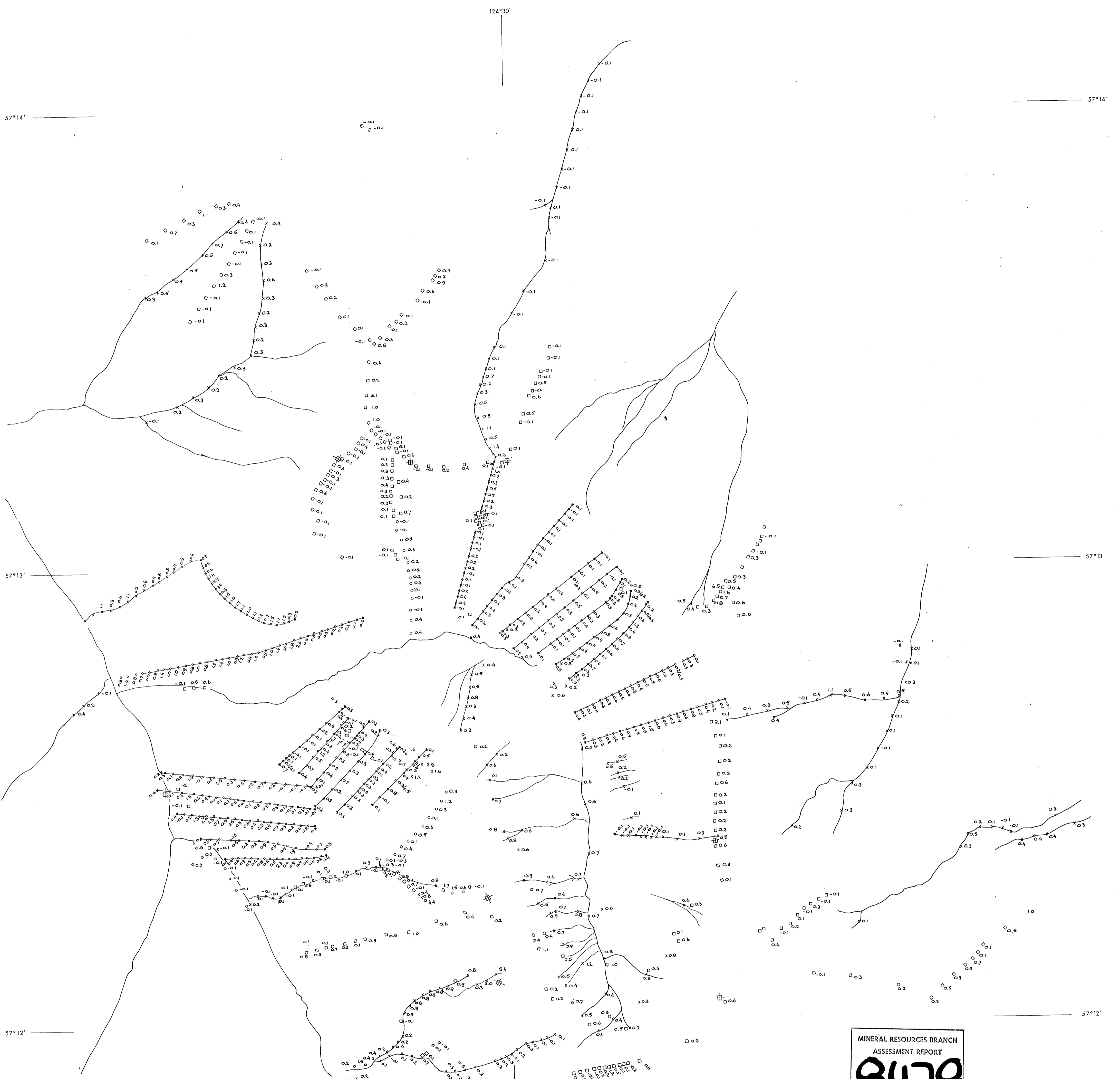


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AKI PROPERTY
BRITISH COLUMBIA
NTS PORTIONS OF
94F/1W & 94F/2E
LEAD

Prepared by: G. Coutellier
Date: Sept. 1980

Scale: 1:10,000



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

8478
NO.

MAP No. 5

AQUITAINE COMPANY OF CANADA LTD.

AKI PROPERTY
BRITISH COLUMBIA
NTS PORTIONS OF
94F/1W & 94F/2E
SILVER

Prepared by: G. Coutellier
Date: Sept. 1980

Scale: 1:10,000