COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS: 94F/7E

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

AIKIE - SIKA GROUP

AKIE RIVER AREA

LATITUDE: 57°25'N

LONGITUDE: 124°37'W

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9911
Part 1 of 2

1 DECEMBER 1981

M.R. MURRELL

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Ba Geochemistry - Map 1 (South) 1:5,000	Plate As-4	- in pocket
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Zinc Geochemistry - Map 2 (North) 1:5,000	Plate As-8	- in pocket
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ASSESSMENT REPORT

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ON THE

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AKIE RIVER AREA

I. INTRODUCTION

The Aikie-Sika group, totalling 177 units, was staked by Cominco in 1979 to cover several zinc and barium anomalies on tributaries of the Akie River, in an area of Devonian "Gunsteel" Formation. This formation hosts the significant Cirque, Mt. Alcock, Driftpile Creek, Elf and Fluke deposits containing Pb, Zn, Ag and Ba. In 1980, Cominco carried out wide spaced geochemical sampling, geological mapping, and prospecting which led to the 1981 project. No geophysics has yet covered the property.

During 1981, Cominco collected 1231 soil and silt samples using topographic and grid control, and continued the mapping at a scale of 1:10,000 over areas accessible by foot.

II. LOCATION AND ACCESS

The Aikie-Sika Group is located 10 kilometers north of the Akie River and 40 kilometers northwest of Sikanni Chief Lake, on the Fort Ware map sheet NTS 94F. The center of the claim group is located at latitude $57^{o}25'$N and longitude $124^{o}37'$W.

Field work on the Aikie-Sika Group was supported by a Bell 206B Jet Ranger helicopter based at Sikanni Chief Lake, 40 kilometers to the southeast. Logistical support was provided by float equipped aircraft from MacKenzie, 233 kilometers to the south.

III. REGIONAL GEOLOGY

A northwest trending belt of Devonian "Black Clastics" has been outlined by regional mapping programs conducted by the Geological Survey of Canada.

The belt is located within the Rocky Mountain thrust and fold belt of the Columbian Orogen and is centered approximately 40 kilometers east of the Rocky Mountain Trench. The Devonian "Black Clastics" are continuous from the Ospika River, northwesterly to Braid Creek, a distance of

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200 kilometers. This belt is part of the northwest trending Kechika Trough which may represent a southern extension of the Selwyn Basin.

The Devonian "Black Clastic" succession is divisible into a lower proximal to distal turbidite assemblage formally named the Besa River Formation, which is the basinal equivalent of the Devonian Dunedin Formation, platformal carbonates to the east, and an upper division of silver-blue-grey weathering siliceous argillite, chert and carbonaceous-pyritic-black shale informally named as the Gunsteel Formation, consisting of sub units Dsh and Dsa.

The Gunsteel Formation hosts four known barite-lead-zinc occurrences, namely: Driftpile Creek, Mount Alcock, Cirque and Elf. These occurrences are comparable to the Tom and Jason barite-lead-zinc prospects of the Selwyn Basin at MacMillan Pass, in the Yukon.

Recent work has suggested the Cirque-Elf-Fluke mineralization is controlled by deposition in small sub-basins within the Kechika Trough. There are likely a few of these NW-SE trending sub-basins present. The Cirque deposit is postulated to occupy a central sub-basin, whereas the Aikie-Sika group covers the most-easterly one.

IV. GEOLOGY

A. Stratigraphy

The regional stratigraphic breakdown is based on the system adopted by D. MacIntyre of the B.C.D.M. Mapping has suggested that the Aikie-Sika claims cover the southern part of a gently north-plunging synclinorium, with older rock units exposed in the alpine areas on either side of the claim group. Several faults and other folds exist over the southwest portion of the claims, but these were not examined in 1981. Most of the bush covered central area is underlain by the "Gunsteel" Formation. In this year's mapping, the Dsa and Dsh units have been subdivided into several sub-categories of rock type. No stratigraphic sequence is thus far inferred by these rock types, rather they appear to be interbedded to a great degree. They may be correlatable over short distances, but no attempt should be made to force a regional correlation, for lateral facies changes are probably present. The "barite horizons" are zones within the Devonian Gunsteel or within the Ordovician Silurian Road River Formation that have pin-point to spotted to almost massive grey barite occurring within black carbonaceous shale, and sometimes near black aphanitic siliceous argillite or chert that often contains pyrite as small nodules. A more complete stratigraphic breakdown is given on the legend of the geology map.

B. Structure

The north-westerly plunging synclinorium that makes up the Aikie-Sika claims is bound on the southwest by thrust faulting and folding and on the northeast by open large-scale folding. The synclinorium has many tight isoclinal to chevron folds that are occasionally displayed in the sidewalls of E-W flowing creeks. More often the folds are "lost" in the tight compression of the black shales so that they are not discernable in a thin bedded outcrop. The axial planes are westerly dipping at 50-

. . ./3

60^{o}, parallel to most bedding.

Gravity-slumping of many near-vertical beds is common on hillsides and can be quite misleading when sorting out the structure of small areas.

Small faults that cut pyritic rich horizons are likely responsible for the many bright red gossans present in the north part of the claim group.

C. Mineralization

The initial search for Pb,Zn,Ag in this area consists of locating baritic horizons, for if stratiform Pb, Zn is present, it is invariably within these horizons.

Barite was found to be present in two distinct stratigraphic sequences, - the Gunsteel Formation, and the Road River Formation. Only the former was investigated in 1981. Barite occurs variably from minute pin-points to blebs reaching 0.5 cm in diameter in variable percentages. Occasionally it is almost massive looking, but most often it is in minor (1-5%) amounts only. In the field it is often first identified on weathered surfaces as small raised "pips" on the bedding surface. In cross section, the barite grains are disseminated to clustered ovoids that are dark grey to black. Often, chert nodules have formed that look very similar to the barite nodules, and can be intermixed with them. Their hardness and low assays distinguish them.

Lead and zinc, often associated with the barite, was not seen in baritic exposures on the Aikie-Sika group. Only one instance of massive barite was seen on the Aikie-Sika property but this was in the Road River Formation.

A 30 cm wide massive pyrite band was located on the Aikie 3 claim in a creek cut just north of the camp. Several samples were cut, but none returned more than trace amounts of Pb, Zn or Cu.

V. GEOCHEMISTRY

During the period July 27 to August 13, approximately 1231 soil and silt samples were collected on the Aikie-Sika claims. In addition, approximately 33 rock samples were taken for geochemical analyses or assay. Grid sample locations were controlled by working on compass lines off a cut base line. Linear control was by hip-chain. Sample locations are marked in the field by grid location and sample numbers on orange flagging. Soil sampling was done along lines spaced at 200 meters, at intervals of 25 meters. Grid samples are plotted at a scale of 1:5,000. Silt samples were taken whenever streams were crossed. The usual field techniques were utilized - ie. samples dug from the "B" horizon (if possible) with mattocks, placed in kraft envelopes and shipped to Cominco's Vancouver lab. There, they were processed and then analysed by atomic absorption. The sample pulps are stored at the Cominco lab.

Contour maps displaying the results are at a 1:5,000 scale. All have been contoured using the following breakdown:

. . ./4

	Ba(ppm)	Zn(ppm)	Pb(ppm)	Cu(ppm)	Ag(ppm)
Highly Anomalous	>7500	>1000	>100	>100	>16
Very Anomalous	5000-7500	800-1000	50-100	70-100	8-16
Anomalous	3000-5000	500-800	30-50	45-70	4-8
High Background	2000-3000	400-800	20-30	30-45	2-4

A comparison of the various geochemical maps with the geological map shows some correlation. Although no distinctly significant anomalous areas exist, there is often broad, loose correlation between elements, especially at the lower, barely anomalous to high background values. The most striking semi-correlation is in the northern portion of the claim group, where a baritic horizon had been traced for several hundred meters. Rock samples taken in this area did not return significant Pb, Zn values.

VI. CONCLUSIONS

1. Mapping on the Aikie-Sika claim group concentrated on the "Gunsteel" Formation found mainly on the northwestern part of the valley floor and sidehills.

2. Barite occurs as pin-points to blebby bands locally within the Gunsteel Formation, and as a narrow massive unit within the Road River Formation. No significant associated Pb, Zn has yet been found.

3. A bedded pyrite band was located, but found to have no associated Zn or Pb.

4. Geochemical sampling during 1982 has outlined several low-value geochemical anomalies, but none appear to warrant more detail follow-up work at this time.

5. Although the results to date are not encouraging, more work could be carried out to determine the true economic significance of the barite zones and their associated geochemical anomalies.

Report by: M.R. Murrell, Project Geologist

MRM/skg

Distribution
Mining Recorder (2)
Western District (1)
MRM (1)

Endorsed by: A.B. Mawer, Senior Geologist

Approved for Release by: G. Harden, Manager Exploration, Western District

for

APPENDIX "A"

STATEMENT OF QUALIFICATIONS

I, MICHAEL RAY MURRELL, hereby declare that I was graduated from the University of Alberta with an Honours B.Sc. in geology during May 1966. During my undergraduate summers I was employed on geological programs by B.A. Oil (now Gulf Oil), and by a small mining company. Upon graduation I joined Cominco Ltd. and have been engaged in many aspects of mining exploration since that time.

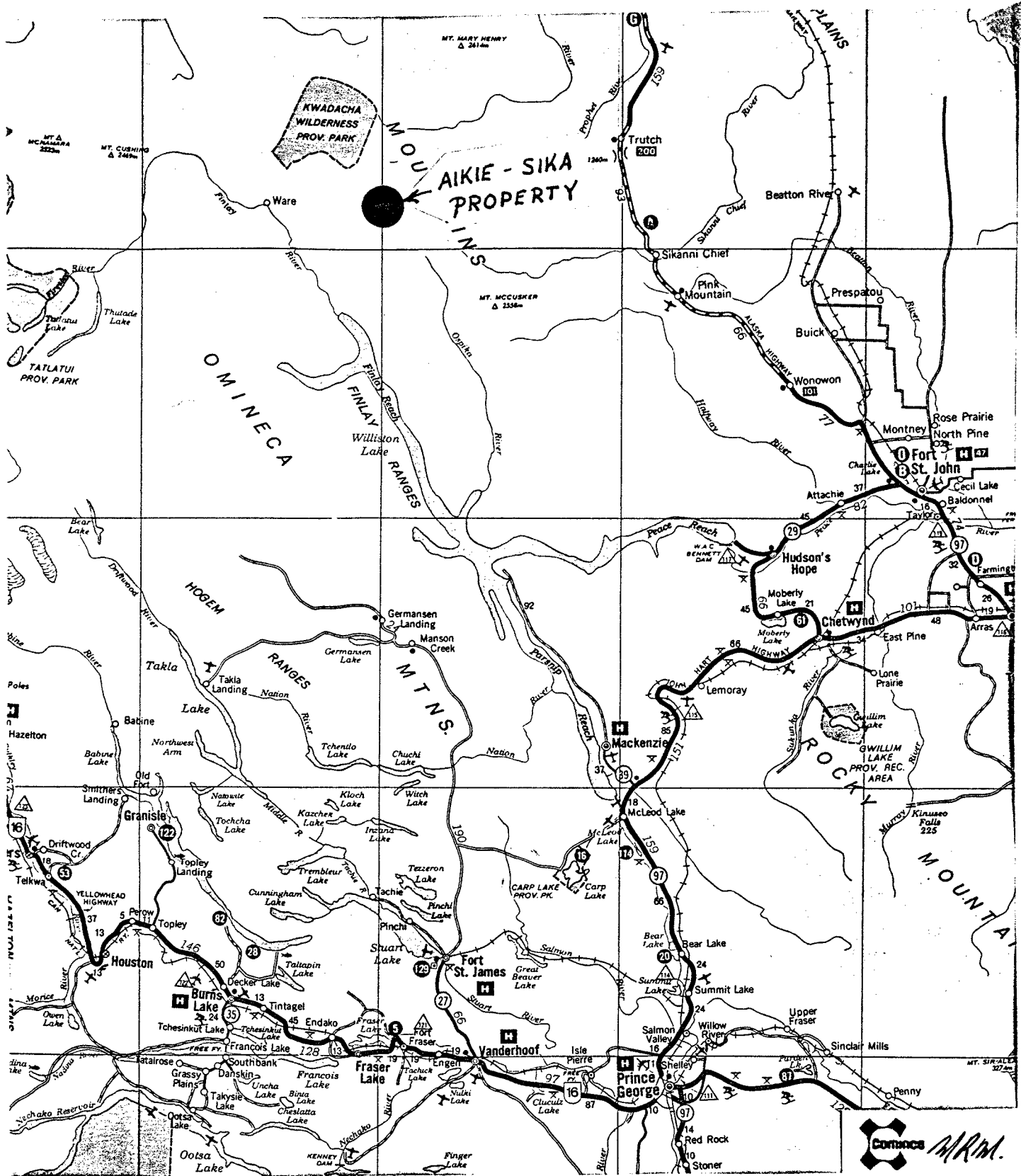
Dated this 10th day of December, 1981

at Vancouver, British Columbia

Signed: Mik Murrell

M.R. Murrell
Project Geologist

MRM/skg



Drawn by: MRM.		Traced by:	
Revised by	Date	Revised by	Date

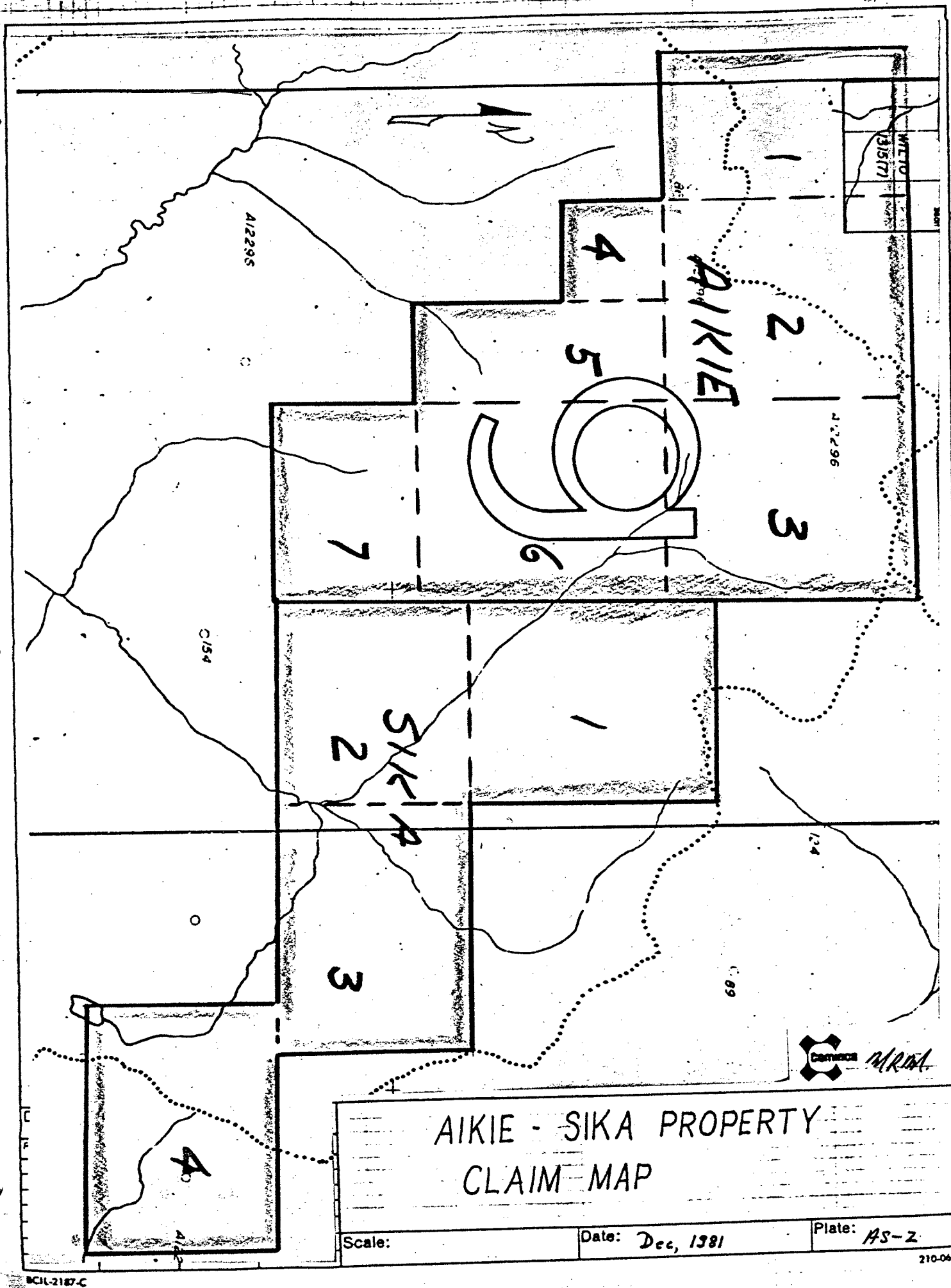
AIKIE - SIKA PROPERTY

LOCATION MAP

Scale: 1cm = 24 Km | Date: Dec, 1981 | Plate: AS - 1

NCI - 112A - CL

210-0610



AIKIE - SIKA PROPERTY
CLAIM MAP

Scale:	Date: Dec, 1981	Plate: AS-2

210-0610

BCIL-2187-C

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MRM

COMINCO LTD.

STATEMENT OF EXPENDITURES

AIKIE-SIKA GROUP

OMINECA M.D., B.C.

JANUARY 1, 1981 TO OCTOBER 31, 1981

COMMUNICATIONS:		$ 218
TRANSPORTATION:		
Fixed Wing	$ 1,120	
Helicopter	4,966	
Freight	55	
Expense Accounts	403	6,544
GEOLOGY:		
Salaries - Permanent staff	6,357	
- Temporary staff	4,971	
- Bonus - Permanent	329	
- Bonus - Temporary	1,081	
Supplies	404	
Equipment	2,178	
Expense Accounts	424	15,744
LINECUTTING:		
Contracted work		5,600
GEOCHEMISTRY:		
Salaries - Temporary staff	1,576	
- Bonus - Temporary	139	
Supplies	155	
Assay & Analysis	9,454	11,324
ORGANIZATION AND FIELD SUPERVISION:		
Salaries - Permanent staff		299
CAMP COSTS:		
Supplies	1,377	
Equipment	890	
Expense Accounts	514	2,781
DRAFTING AND REPRODUCTION:		
Salaries - Permanent staff	140	
Supplies	351	491
SUPERVISION:		2,625
ADMINISTRATION SERVICES:		4,563
		$ 50,189

Cominco Ltd.
Vancouver Office
December 1, 1981

R. L. Woods
Supervisor,
Exploration Accounting