

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL SURVEY

IVER GROUP

ATLIN MINING DIVISION

Tatsamenie Lake Area, B. C.

N.T.S. 104K/Tulsequah Sheet

58°17'N  
132°03'W

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**11,816**

OWNER: CHEVRON CANADA LIMITED

OPERATOR: CHEVRON CANADA RESOURCES LIMITED

AUTHORS: Mike Thicke  
Godfrey Walton

October 1983

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### LOCATION AND ACCESS

The GIVER and TAKER claims are located at 58°17'N and 132°03'W, 170 km southeast of Atlin, B.C. Access to the claims was provided by a helicopter from a base camp at Bearskin Lake, B.C. The claims rise above treeline and are incised by a few steep, narrow valleys. The physiography consists of mature mountainous terrain.

### CLAIMS

The GIVER and TAKER mineral claims compose the IVER Group. The claims were staked in June of 1983 on previously unstaked ground. The claims lie adjacent to and possibly overlap Skyline Exploration Limited's FAE 6, 8, 10 and 19 claims. Chevron Canada Limited owns the IVER Group while Chevron Canada Resources Limited acts as operator.

<u>Claim</u>	<u>Record No.</u>	<u>Record Date</u>	<u>No. of Units</u>
GIVER	1967	July 4, 1983	20
TAKER	1968	July 4, 1983	20

### REGIONAL GEOLOGY

The IVER Group is underlain by pre-Upper Triassic greenstone and phyllite and Lower and Middle Jurassic Takwahoni Formation sediments (Souther, 1971). East of the claims lie Late Tertiary to Pleistocene Level Mountain Group basalt. South of the IVER Group is a narrow northeast trending sliver of Permian limestone and extensive exposures of Lower or Middle Triassic(?) foliated diorite. West of the claims lie more greenstone, phyllite and limestone. North of the group a Late Cretaceous to Early Tertiary quartz monzonite plug and Post Middle Jurassic diorite plug intrude pre-Upper Triassic phyllites and greenstones.

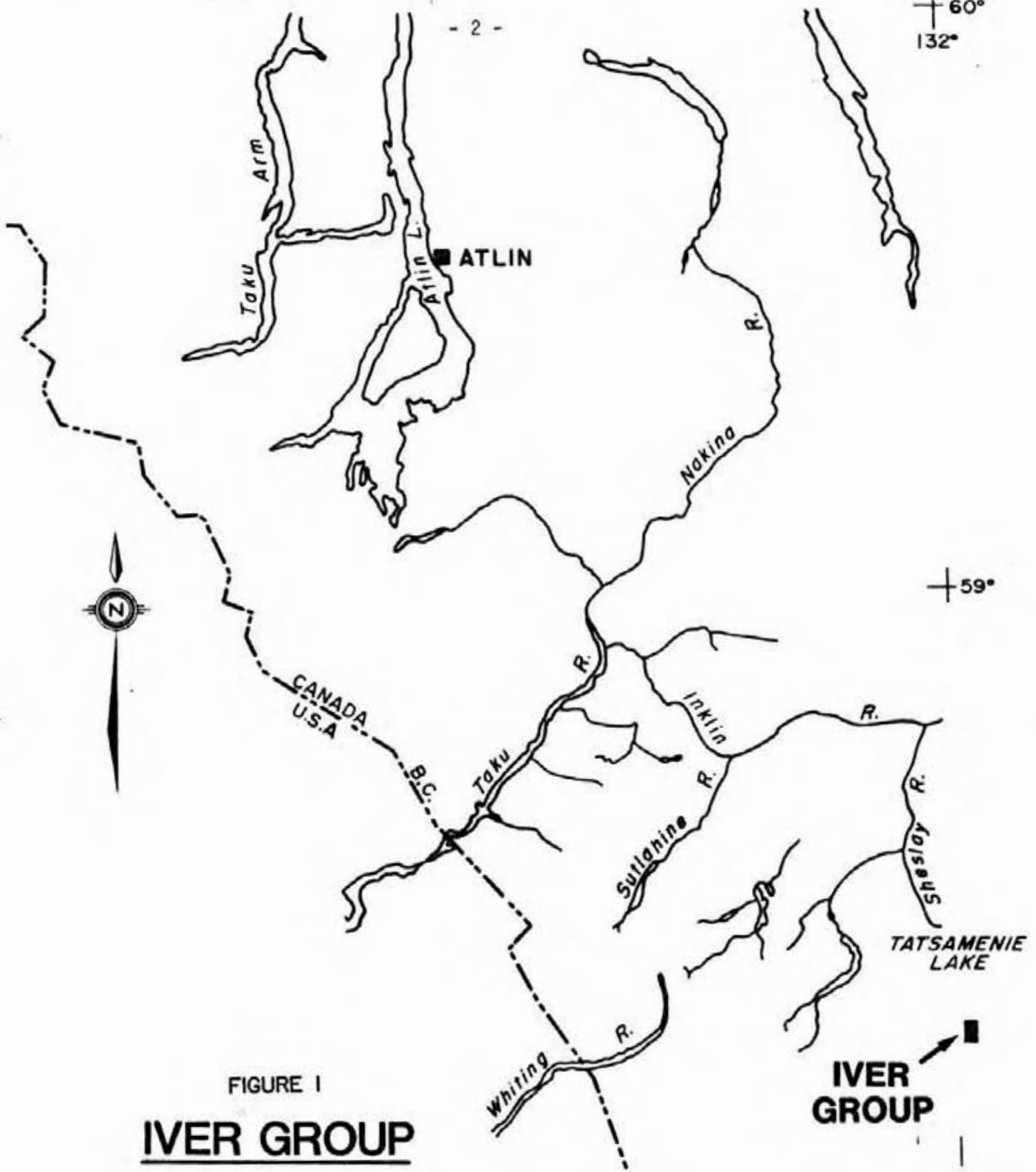


FIGURE 1  
**IVER GROUP**  
**LOCATION MAP**

**IVER GROUP**

0 30  
 Km

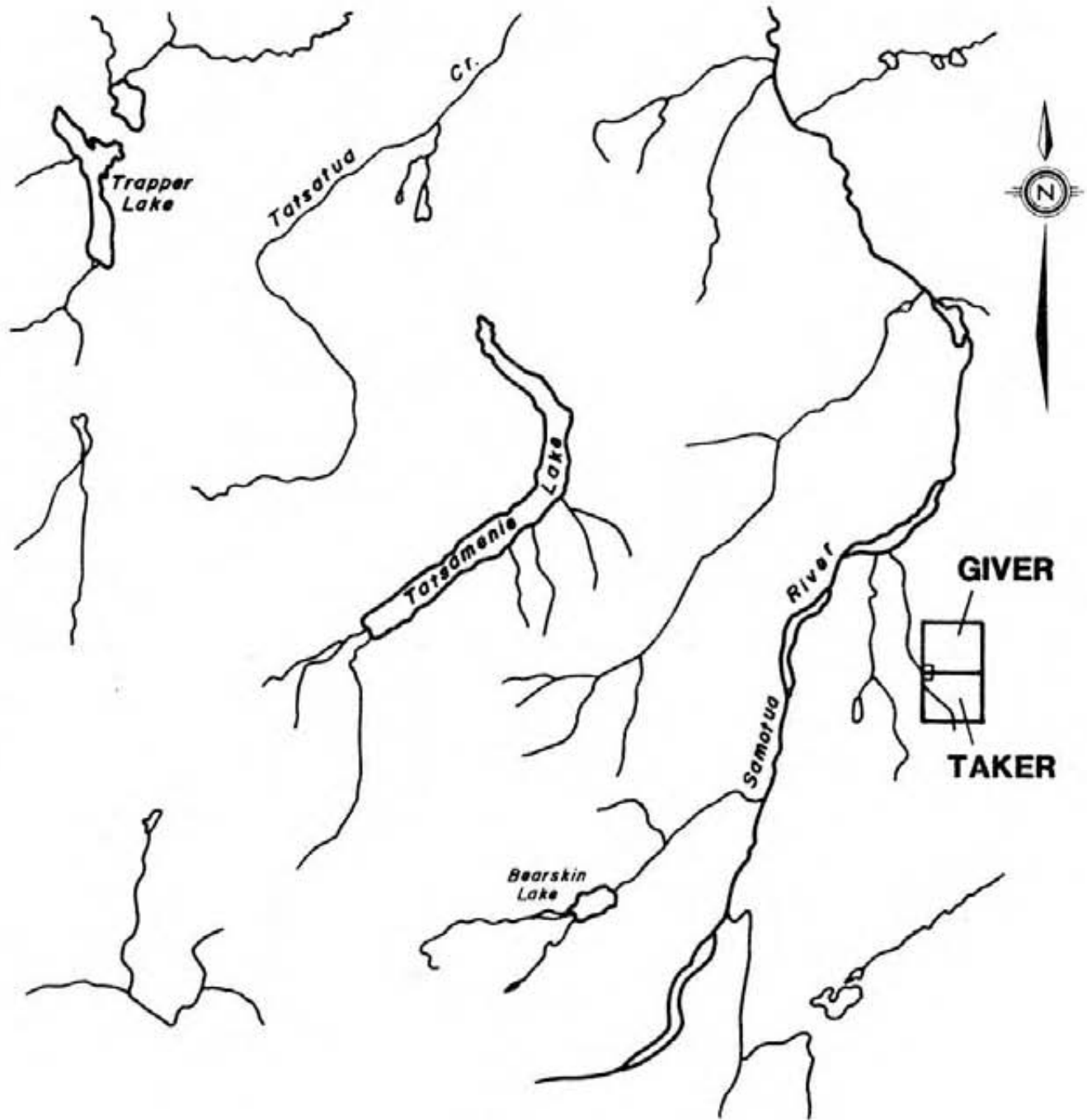


FIGURE 2

## IVER GROUP CLAIM MAP

0 10 Km

M 504

GEOLOGICAL SURVEY OF CLAIMS (Figure 3)

Permian - Pre-Upper Triassic: Units A to 3

Permo - Triassic rocks consist of intercalated tuffs, phyllites, siltstones and limestone. Permian limestone usually lies in close proximity to phyllitic rocks. The limestone has a sucrosic texture, is fresh and light grey in colour. Pre-Upper Triassic phyllites are both chloritic and siliceous, usually a medium to dark green colour. Phyllitic siltstones appear closely related to siliceous and chloritic phyllites. The siltstones are a dark greyish-green colour and fresh. Extensive quartz-carbonate alteration in the central part of the IVER Group is due to narrow, irregular quartz carbonate veins intruding phyllites. Pre-Upper Triassic tuffs also appear closely associated with phyllitic rocks. The tuffs may be slightly chloritic and feldspar phenocrysts display minor clay alteration; however, tuffs are generally fresh. A laminated chert horizon crops out on the north central portion of the GIVER claim. The chert is dark grey to black, fine grained and locally contains up to 0.5% pyrite. Black carbonaceous(?) material is often present on fractures within the chert unit. Irregularly occurring quartz shows parallel laminations within the chert.

Lower and Middle Jurassic: Unit 4

Takwahoni Formation sandstone and minor siltstone and silty shale are exposed in the southeast of TAKER claim. The predominant unit within the Takwahoni Formation is a dark, grey, pebbly polymictic sandstone. Clasts are rounded. The sandstone is massive and fresh.

Post Middle Jurassic: Unit 5

A granodiorite dyke intrudes phyllites at the west end of a ridge in the northwest of TAKER claim. The granodiorite is fine grained, fresh and massive.

Cretaceous and Tertiary: Unit 6

A light grey quartz feldspar porphyry dyke is exposed in the north central region of the GIVER claim. Chalcedony veins up to 3 mm wide cut the porphyry at various orientations. Feldspar phenocrysts are intensely clay altered. Small 1 mm wide quartz eyes remain. Trace pyrite mineralization remains though mostly limonitic blebs and jarosite staining is left.

Tertiary and Quaternary: Unit 7

Black basalt flows of the Level Mountain Group are exposed on east central GIVER claim. Light greenish-grey ash beds blanket slopes to the north and east of the claim.

GEOCHEMICAL SURVEY OF CLAIMS

Sixteen rock and 192 soil and silt samples were collected from the IVER Group (Figure 4). The majority of soils were collected while walking up streams, though soil was gathered away from stream influence. Soil samples were collected in 50 m intervals from B-horizon soil when possible. Otherwise C-horizon or talus fines were sampled. Soil was fairly well developed. Rock samples were placed in kraft heavy duty plastic bags. All geochemical samples were boxed and shipped to Chemex Labs Limited of North Vancouver, B. C.



Soil samples were further dried and sieved, with the -80 mesh fraction retained for analysis. Rock samples were crushed, dried and pulverized to -100 mesh. For Au determination, a fire assay - atomic absorption technique is used with the fire assay bead being dissolved in HCl and HNO<sub>3</sub> then analyzed by conventional atomic absorption techniques. For Ag, a mixture of HClO<sub>4</sub> and HNO<sub>3</sub> is used to digest the sample, which is followed by atomic absorption spectrophotometry. For arsenic a 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with KI and mixed. A portion of the reduced solution is converted to arsine with NaBH<sub>4</sub> and the arsenic content determined using flameless atomic absorption. For Sb a 2.0 gm sample is digested with conc. HCl in hot water bath. The iron is reduced to Fe<sup>+2</sup> state and the Sb complexed with I<sup>-</sup>. The complex is extracted with TOPO-MIBK and analyzed via A.A.

#### GEOCHEMICAL RESULTS

Rock geochemical values are plotted on Figure 3 while soil and silt geochemical values are plotted on Figures 5 through 8.

Rock samples contained no anomalous values in gold, silver or arsenic; however, a sample of quartz feldspar porphyry contained 28.0 ppm antimony. Soil sampling indicates the presence of Au mineralization in two locations on the IVER claims. In the south central area of the GIVER claim three soils indicate an anomalous zone of Au; 230 ppb, 2200 ppb and 275 ppb. In central TAKER claim two soil anomalies of 135 ppb and 275 ppb Au are present. Erratic anomalous gold mineralization in soil, up to 250 ppb in soil, is present within the claims. Anomalous values of antimony, silver and arsenic

(>10.0 ppm, >1.0 ppm, >200 ppm respectively) in soil are restricted mainly within the central region of the TAKER claim.

#### CONCLUSIONS AND RECOMMENDATIONS

Ten man days were spent geochemically sampling and mapping the GIVER and TAKER claims. A variety of rock types ranging from Permian to Quaternary age crop out within the claim boundaries. Sixteen rock and 192 soil and silt samples were collected in an effort to determine potential zones of gold mineralization. Geochemical results indicate two areas, central TAKER claim and south central GIVER claim, with potential Au mineralization. It is recommended that detailed geochemical sampling, prospecting and mapping be performed within and between these anomalous areas and to the north of the anomalous zone on the GIVER claim.

REFERENCE

Souther, J.G. (1971). Geology and mineral deposits of Tulsequah map-area, British Columbia. Geological Survey of Canada Memoir 362, 84 p.

1983 EXPLORATION PROGRAM

IVER GROUP

COST STATEMENT

Period: August 28 to August 29, 1983

Labour:

	<u>Position</u>	<u>Field Days</u>	<u>Office Days</u>
M. Thicke	Geologist	2	2
D. Brown	Geologist	1	
F. Wohlgemuth	Sampler	1	
R. Brown	Sampler	1	
R. Daniel	Sampler	2	
W. Hewgill	Sampler	1	
G. Wober	Sampler	1	
A. Woods	Sampler	1	
	Total	10	2
10 field man days @\$100. per day			\$1,000.00
2 office man days @\$150 per day			300.00
<u>Camp:</u>			
10 days @\$60.00 per day			600.00
<u>Geochemistry</u>			
Rock: 16 @\$17.65 each			282.40
Soil/silt: 192 @\$16.15 each			3,100.80
<u>Helicopter:</u>			
2 hrs. @\$500/hr. including fuel			1,000.00
<u>Drafting:</u>			
2 days @\$100. per day			<u>200.00</u>
	TOTAL		<u>\$6,483.20</u>

STATEMENT OF QUALIFICATIONS

I, Mike Thicke, graduated from the University of British Columbia in May, 1980 with a B.Sc. degree in geology. Six seasons have been spent working in exploration geology in B.C., including four since graduation. I am presently employed as a geologist by Chevron Canada Resources Limited of Vancouver, B. C.

A handwritten signature in cursive script that reads "Mike Thicke". The signature is written in dark ink and is positioned above the printed name.

Mike Thicke

STATEMENT OF QUALIFICATIONS

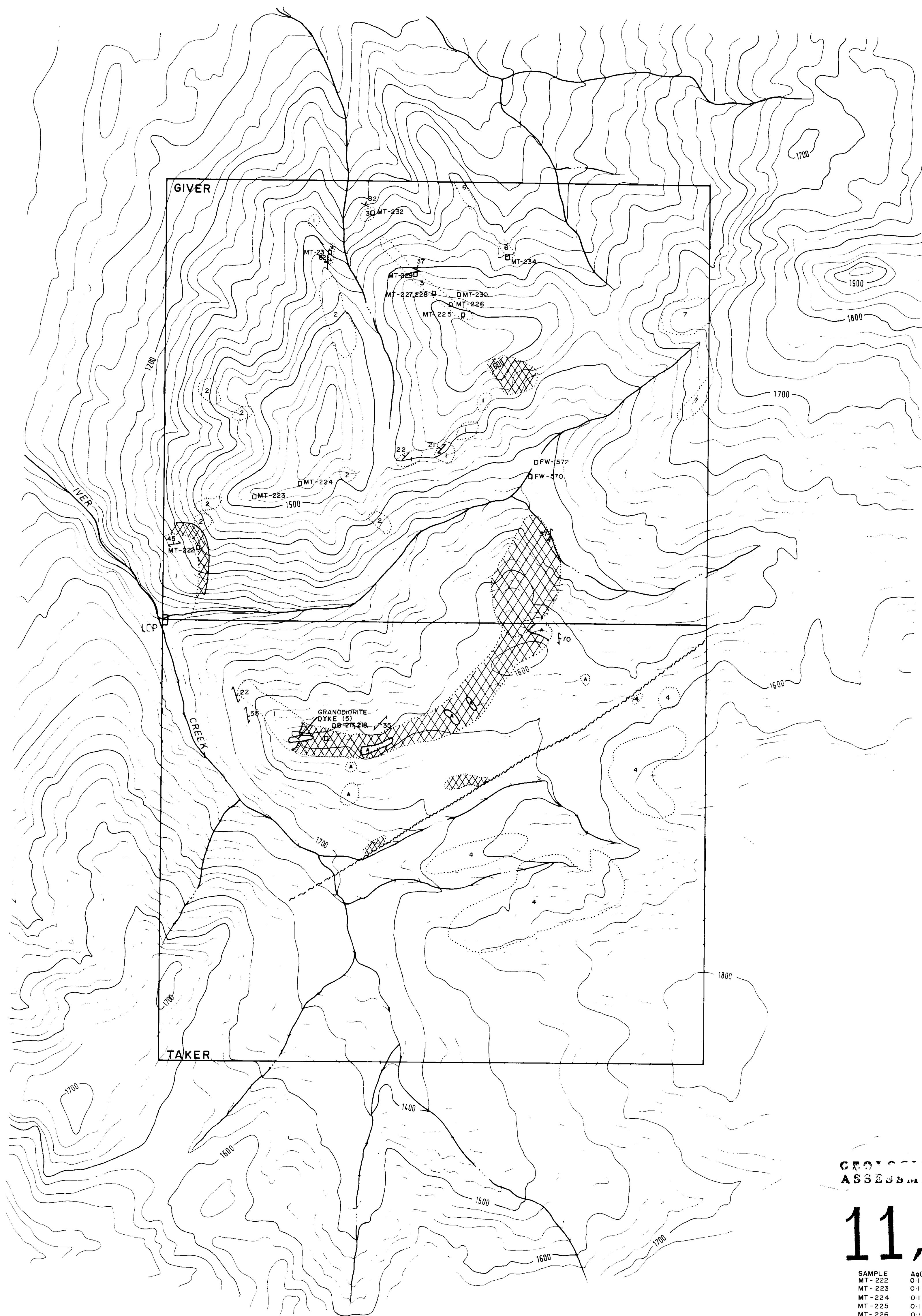
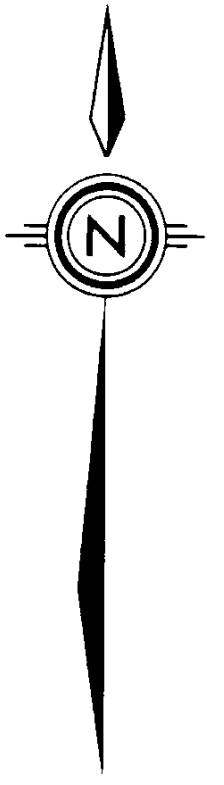
I, Godfrey Walton, have worked as a geologist in British Columbia, Yukon, Northwest Territories, Alberta and Ontario since 1973. A B.Sc. (Hons. Geology) was received in 1974 from the University of Alberta and followed by a M.Sc. degree in geology from Queen's University in 1978. I am currently employed as a geologist with Chevron Canada Resources Limited of Vancouver, B. C.

I am a member of the Canadian Institute of Mining and Metallurgy, Exploration Geochemists and Mineralogical Association of Canada.

The work on the GIVER and TAKER claims was carried out by me under my supervision.

*Godfrey Walton*

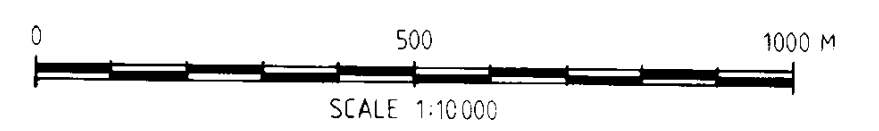
GODFREY WALTON



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SAMPLE	Ag(ppm)	As(ppm)	Sb(ppm)	Au(ppb)
MT-222	0.1	20	0.2	5
MT-223	0.1	6	0.1	20
MT-224	0.1	19	0.1	5
MT-225	0.1	45	0.8	5
MT-226	0.1	100	4.2	5
MT-227	0.1	105	7.0	5
MT-228	0.1	11	1.4	5
MT-229	0.6	29	2.0	15
MT-230	0.1	60	6.0	5
MT-231	0.6	70	4.8	55
MT-232	0.1	110	2.8	5
MT-234	1.0	210	28.0	5
DB-217	0.1	3	3.6	<5
218	0.1	6	0.8	10
FW-570	0.1	10	1.4	<5
572	0.1	9	0.2	5



TERTIARY & QUATERNARY  
7 BASALT  
CRETACEOUS & TERTIARY  
6 QUARTZ-FELDSPAR PORPHYRY  
POST MIDDLE JURASSIC ?  
5 GRANODIORITE

LOWER & MIDDLE JURASSIC  
4 SANDSTONE, SILTSTONE & SILTY SHALE  
PRE-UPPER TRIASSIC  
3 BANDED CHERT  
2 VOLCANIC TUFF

1 CHLORITIC PHYLLITE, SILICEOUS PHYLLITIC SILTSTONE  
PERMIAN  
A LIMESTONE

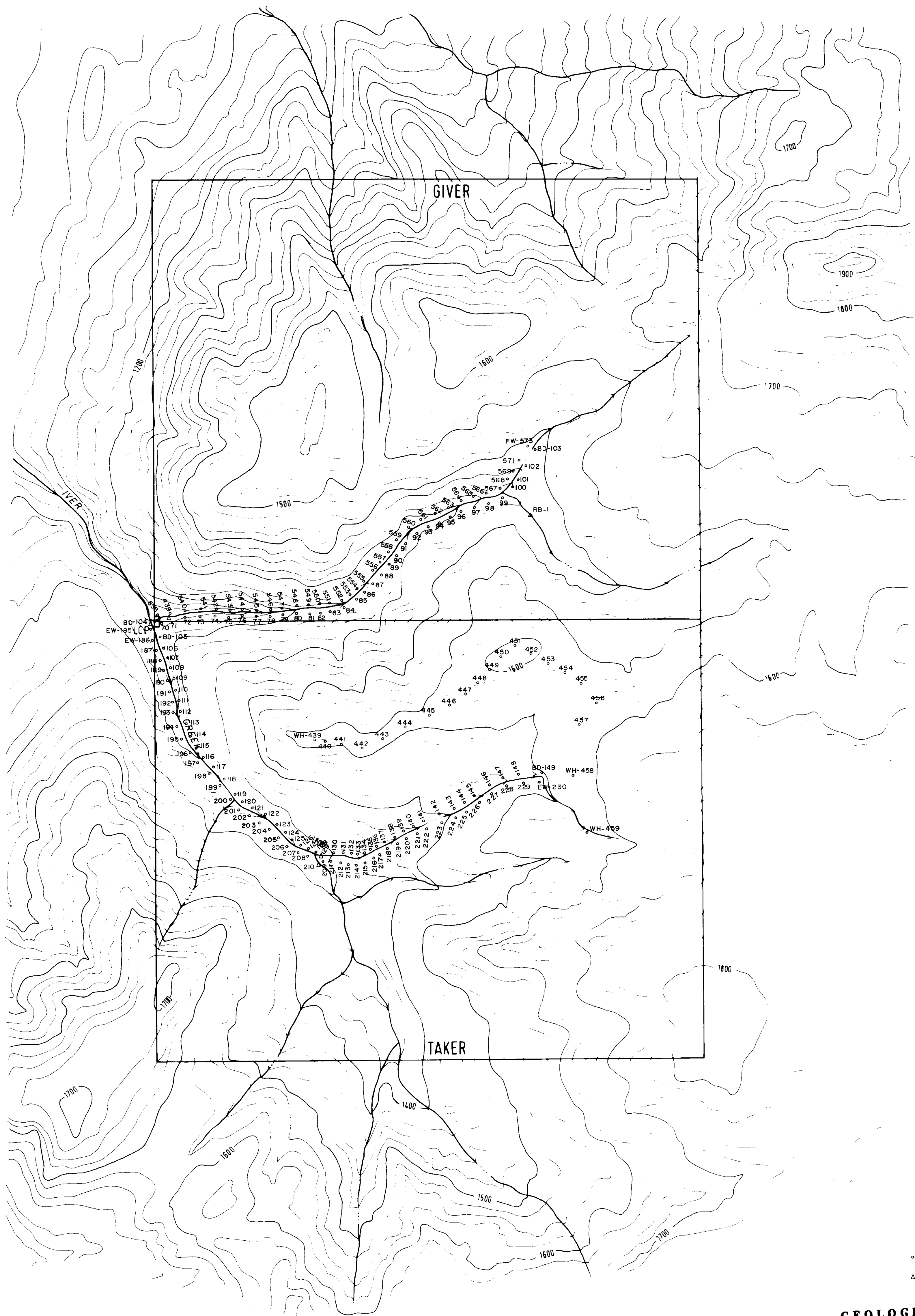
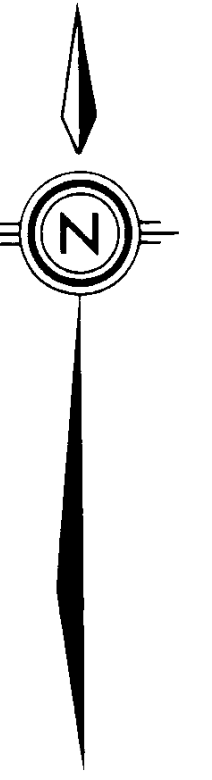
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--- CONTACT: DEFINED, ASSUMED.  
--- LINEAR  
/30 FOLIATION WITH DIP  
/30 BEDDING WITH DIP  
--- OUTCROP BOUNDARY  
XXXXX QUARTZ CARBONATE ALTERATION  
A A BRECCIA

**Chevron Canada Resources Limited**  
Minerals Staff

**GIVER AND TAKER CLAIM GROUP  
GEOLOGY**

FIGURE No. 3	PROJECT No. M 504
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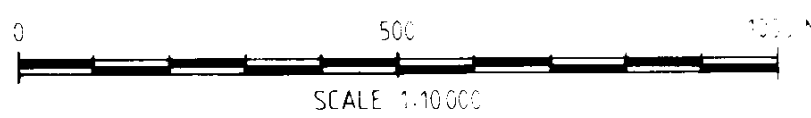





○ SOIL SAMPLE  
△ SILT SAMPLE

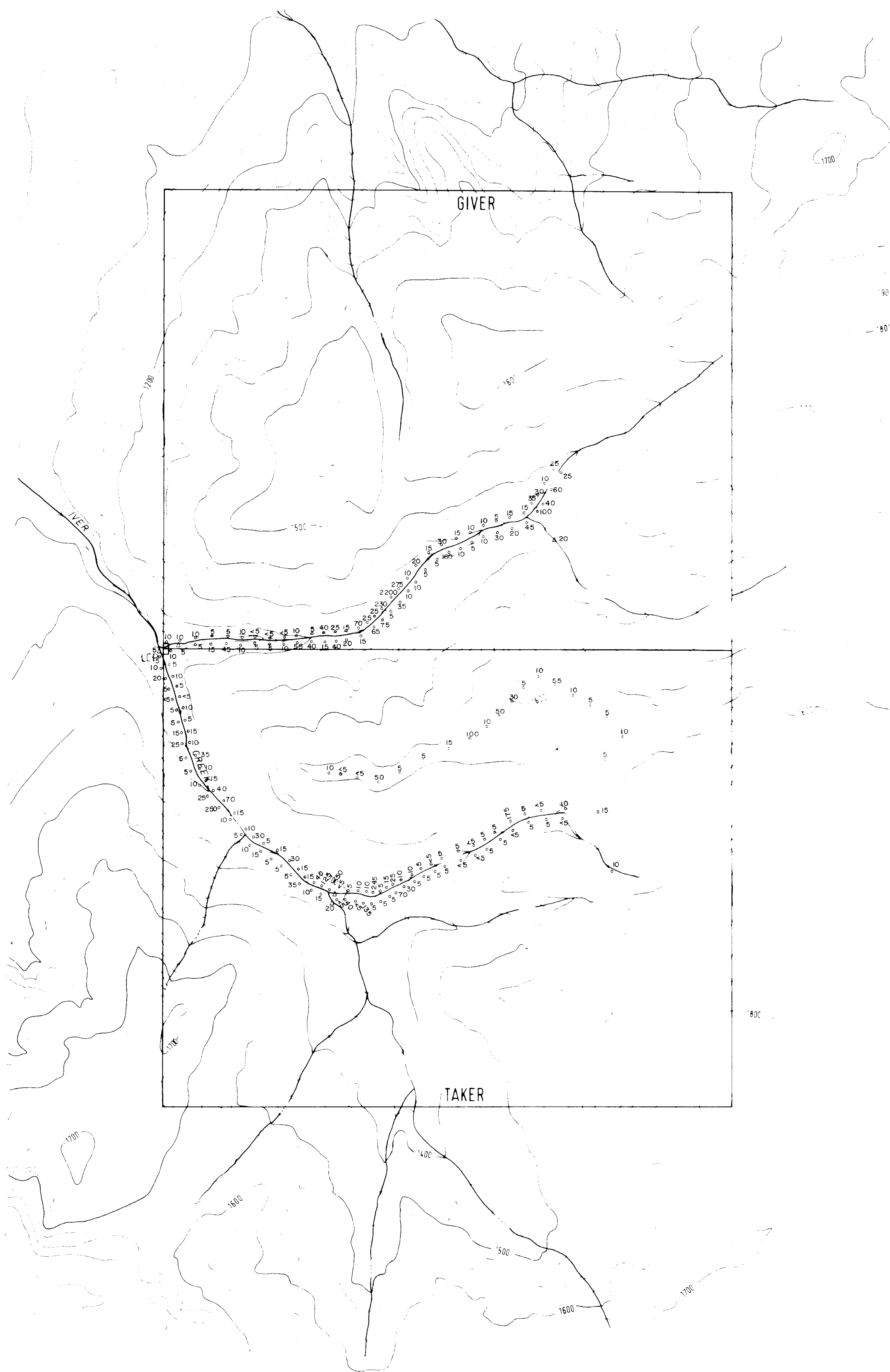
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<b>GIVER AND TAKER CLAIM GROUP</b> SOIL & SILT SAMPLE LOCATIONS			
FIGURE No 4	PROJECT No M 504		
DATE NOV 1983	REVISION	4.1 1985	
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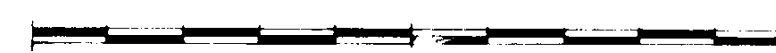




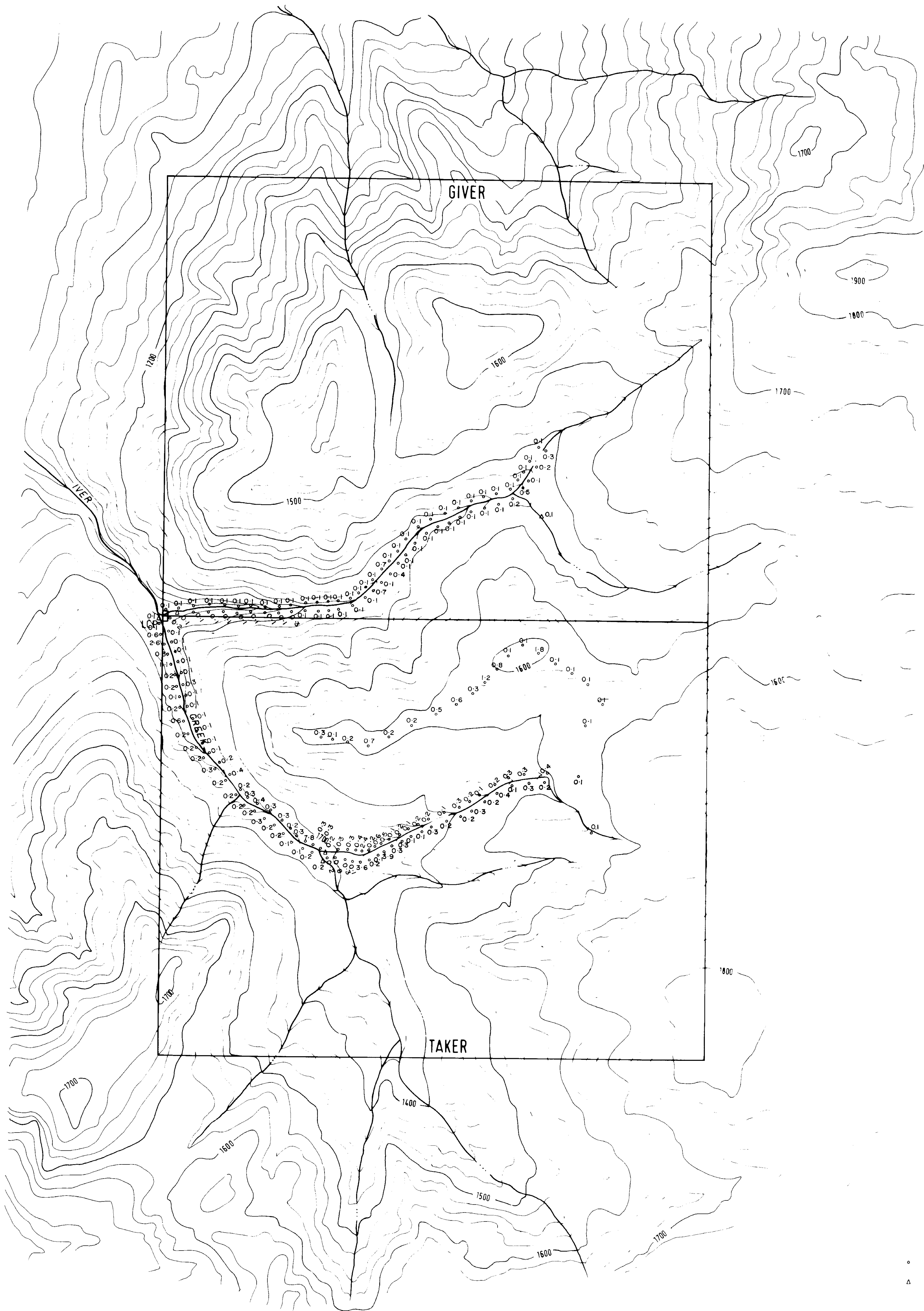
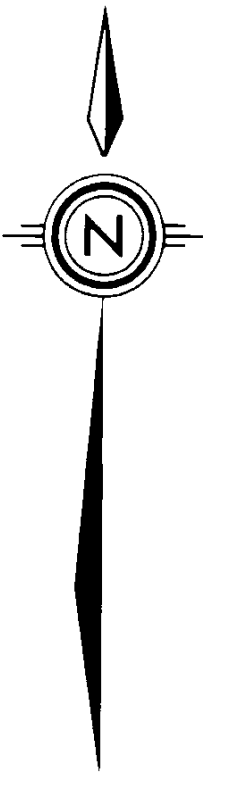
○ SOIL SAMPLE  
△ SILT SAMPLE

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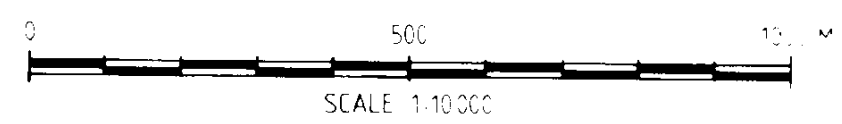
Chevron Canada Resources Limited Minerals Staff	
GIVER AND TAKER CLAIM GROUP	
SOIL & SILT GEOCHEMISTRY	
Au - ppb	
Sample No.	5
Date	
Analyst	
Checked	




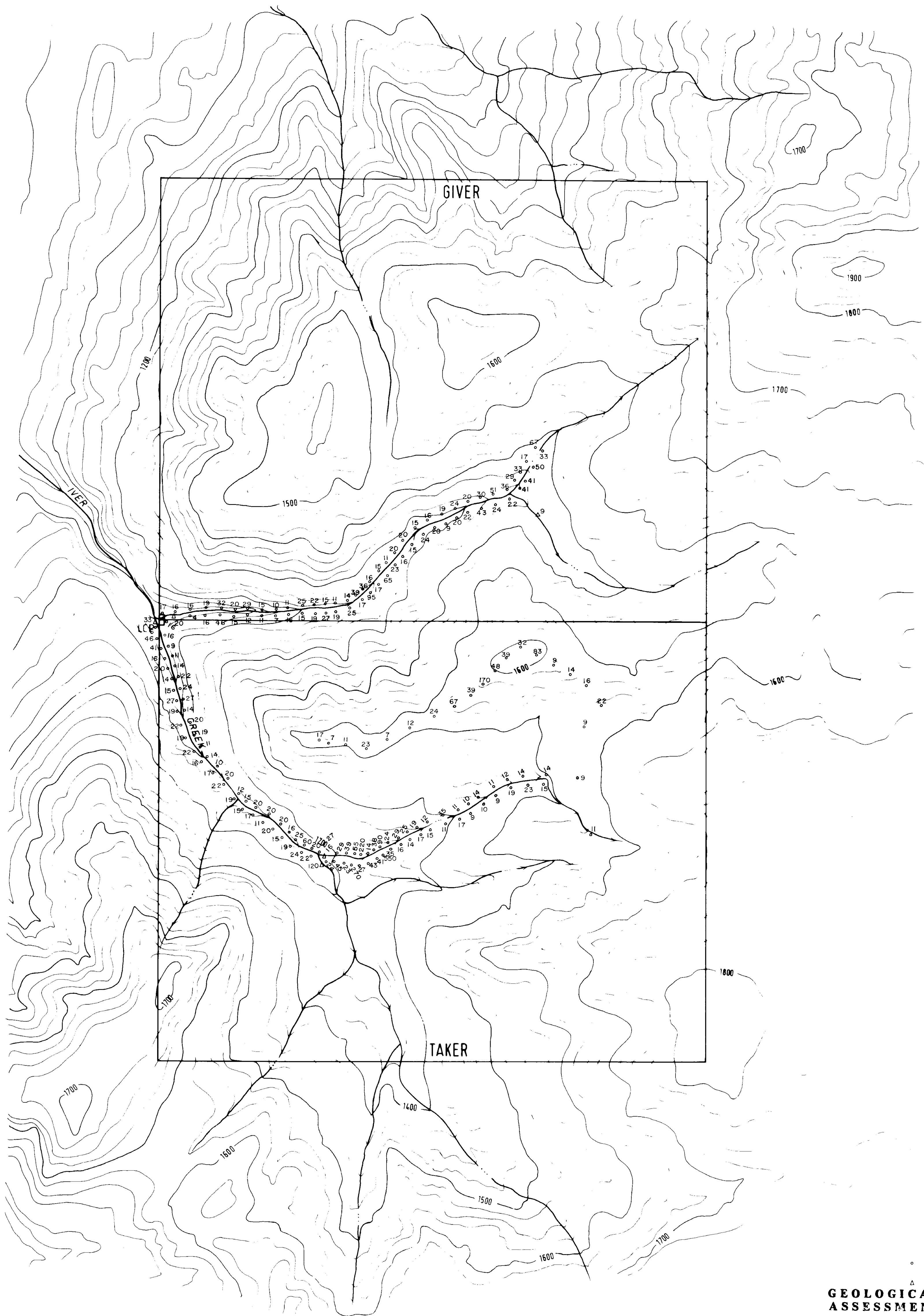
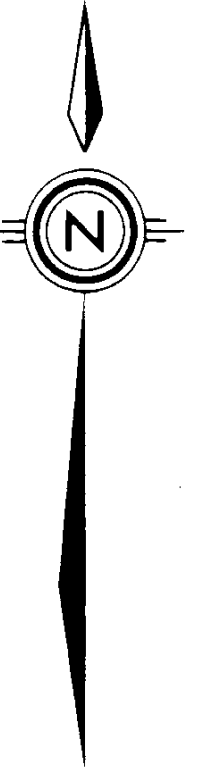
○ SOIL SAMPLE  
△ SILT SAMPLE

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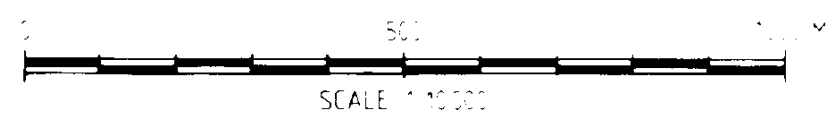



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<b>SOIL &amp; SILT GEOCHEMISTRY</b>	
<b>Ag - ppm</b>	
FIGURE No. 6	PROJECT No. M 504
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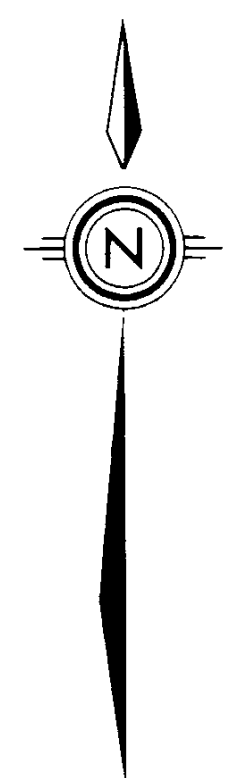
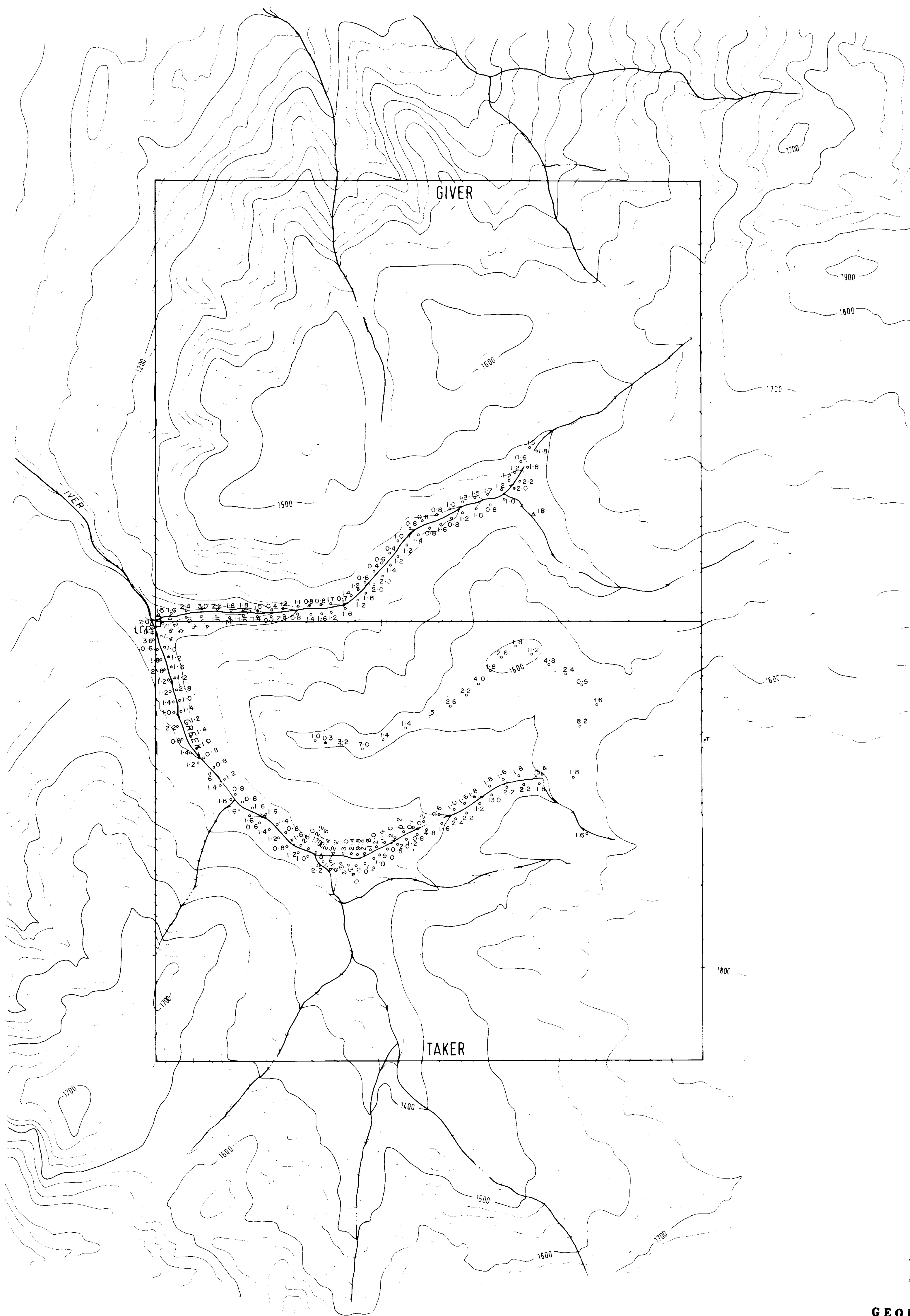


○ SOIL SAMPLE  
△ SILT SAMPLE  
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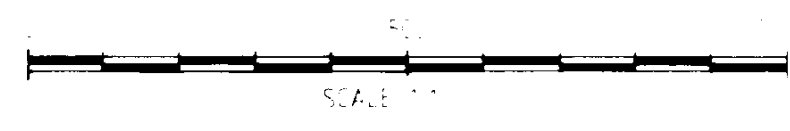
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<b>GIVER AND TAKER CLAIM GROUP</b> SOIL & SILT GEOCHEMISTRY As - ppm		
FIGURE No. 7	PROJECT No. M 504	
DATE No. 1983	REVISION	DATE
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○ SOIL SAMPLE  
 △ SILT SAMPLE

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<b>GIVER AND TAKER CLAIM GROUP</b> <b>SOIL &amp; SILT GEOCHEMISTRY</b> Sb - ppm	
FIGURE NO. 8	PROJECT NO. M 504
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