83-#913 - 11820

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL SURVEY

TAN GROUP

Atlin Mining Division

Tatsamenie Lake Area, B. C.

N.T.S. 104K/Tulsequah Sheet

58°10'N

132°18'W

OWNER: CHEVRON CANADA LIMITED

OPERATOR: CHEVRON CANADA RESOURCES LIMITED

AUTHORS: Mike Gray
Godfrey Walton

December 1983

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LOCATION AND ACCESS (Fig. 1)

The TAN group is situated 175 km south-southwest of Atlin, B.C. Its coordinates are 58°10'N, 132°18'W. The property is sparsely vegetated except the area close to the Samotua River. A Hughes 500D helicopter provided access to the claim group, flying from a base camp at Bearskin Lake roughly 3 km north of the TAN group.

CLAIMS

The TAN group was staked during June, 1983 as follows:

CLAIM	RECORD NUMBER	RECORD DATE	NUMBER OF UNITS
TAN 3	1939	July 4, 1983	20
TAN 4	1940	July 4, 1983	10
TAN 5	1941	July 4, 1983	12
TAN 6	1942	July 4, 1983	20
SUN 1	1950	July 4, 1983	20

The TAN group surrounds the borders of ORO 1 and ORO 5-10 claims which were staked prior to the TAN group.

REGIONAL GEOLOGY

The rocks in the area are Stikine Terrane, (Monger, 1975), Pre-Upper Triassic interlayered sediments and volcanics (Souther, 1971). High grade metamorphic basement rocks are possibly exposed southwest of Bearskin Lake.

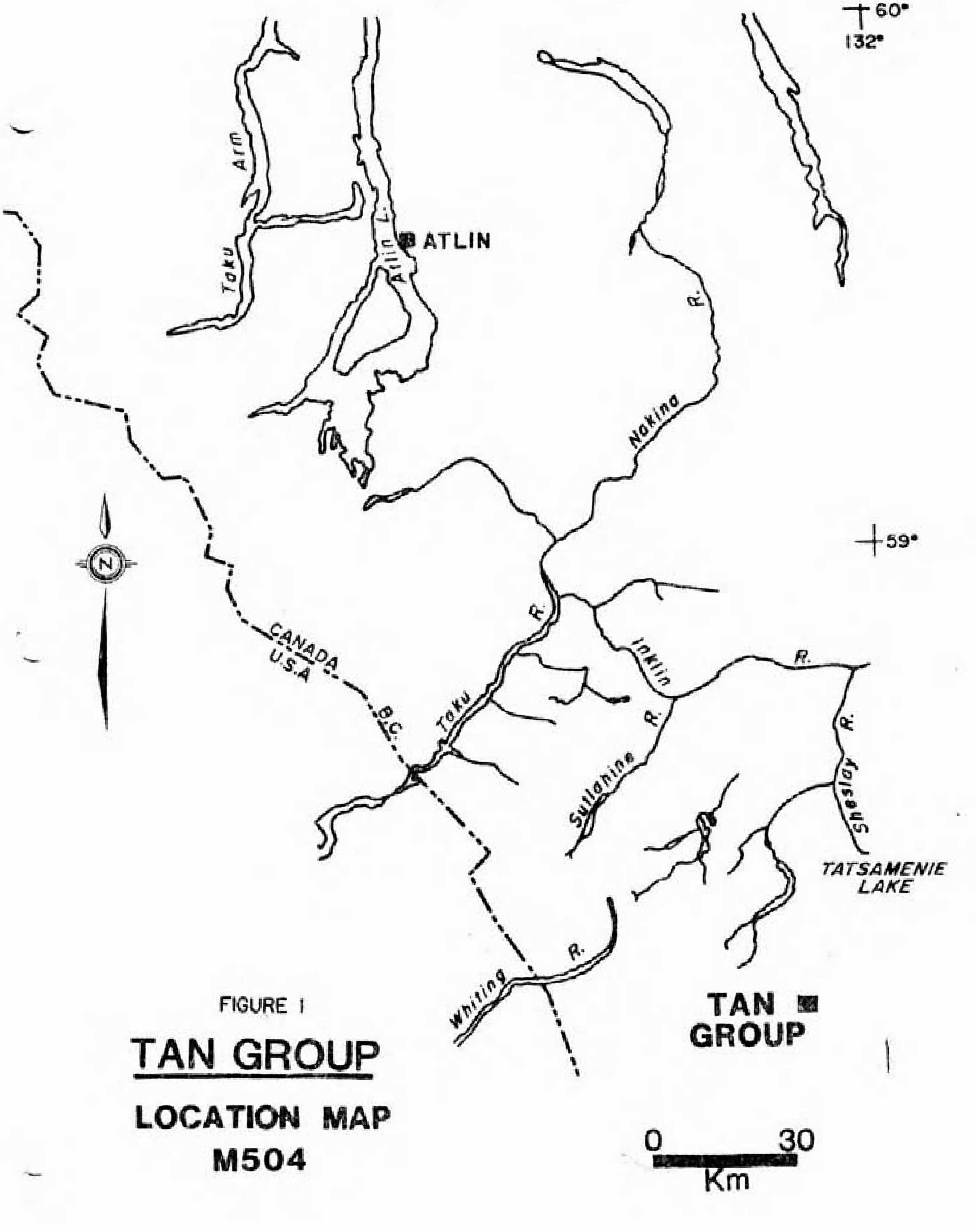

FIGURE 1

TAN GROUP

LOCATION MAP
M504

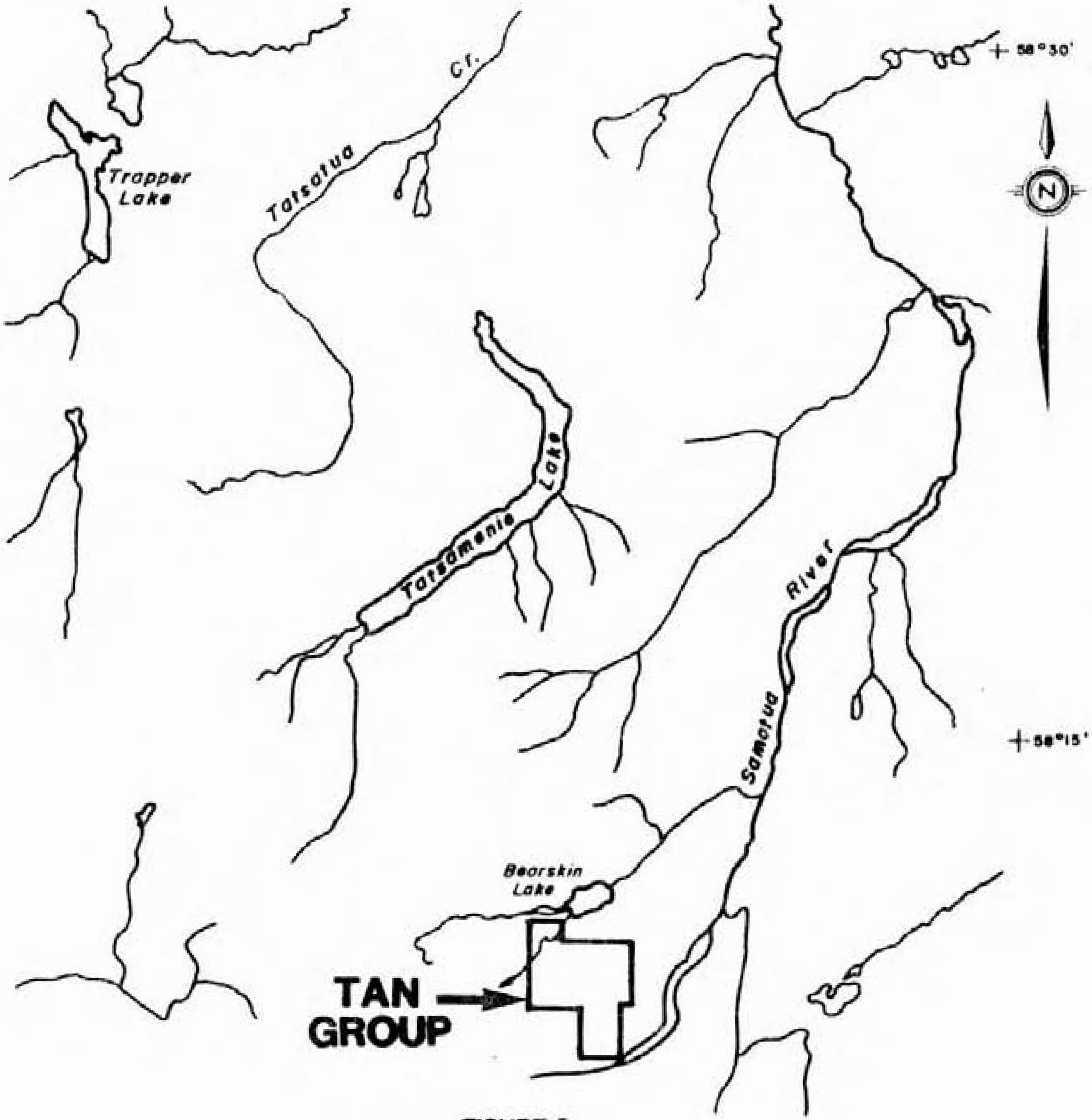

FIGURE 2

TAN GROUP

LOCATION MAP

0 10 Km

M 504

132°15' 58°00'

GEOLOGICAL SURVEY OF THE CLAIMS (Fig. 3)

Outcrop exposure is good throughout most of the TAN group. The TAN group is underlain by Stikine Terrane rocks which includes greenstone, augite porphyry, various tuffs, meta flows(?), phyllites, limy sediments and argillaceous shale. A reasonable section of the Stikine can be seen exposed in the cliffs in the northeast of TAN 3 and also the north-central part of TAN 4.

Jurassic(?), gabbro hornblende diorite intrusions cut the Stikine Terrane. These are relatively fresh plugs. South of Lonesome Lake the G.S.C. has mapped a high grade metamorphic basement. The rocks appeared to be gabbroic or a diabase rather than an amphibolite. Small zones of serpentinite are exposed at various locations on the claims.

Age Uncertain
Gabbro(?)/Diabase - Unit 1

The G.S.C. has mapped this unit as basement metamorphic rocks, but the rocks seen on the TAN group in that area appear to be mafic intrusives. Further work is necessary to carefully define the contacts and define the relationship between the basement metamorphic complex and the surrounding Stikine rocks.

Permian(?)
Serpentinite - Unit 2

Only small slivers of serpentinite outcrop on the TAN group, often caught up between two lithological units indicating possible deep seated faults(?). The serpentinite weathers dark green to dark gray, and its fresh surface is medium to dark gray.

Pre-Upper Triassic
Stikine Terrane - Units 3 to 7

The Stikine Terrane rocks on the TAN group are a volcanic sequence with some interlayered sediments. In the west half of the claims, Stikine rocks strike north-south and dip steeply to the west, whereas, in the eastern half they strike roughly east-west and dip moderately to the north.

Argillaceous black shale occurs as thin beds 1 m to 4 m thick. The shale is very recessive and forms saddles on the ridges.

The foliated augite porphyry is found in the west part of the claims. The porphyry is a sheeny dark green and has a porphroblastic texture. Certain layers have vesicular basalt fragments of varying size, but all appear to have a similar gross orientation. The augite porphyry has all been chloritized and is locally serpentinized (see Fig. 3).

The limy sediments are in the northeast corner of the claims. The beds are .5 to 2.5 m thick, weather medium gray to dirty brown, and exhibit compositional layering. The sediments are composed of 5% crinoid stems, 35% sand to pebble size rock fragments, and 60% gray carbonate matrix.

On the upper contact of the limy beds, fragments and blocks of a metavolcanic flow are in the sediments.

The meta-flows(?) are thin, .5 m to 2 m, layers of dark gray to slightly purple basalt(?). They are located in the northeast area of the TAN group and are between younger tuffs and older greenstone.

Various tuffs are intercalated with the greenstone. Most are light green lithic lapilli tuffs. The others are crystal tuffs (mainly augite and olivine) and green-gray ash tuffs.

A large thickness of the volcanic sequence of the TAN group is medium green, non-descript greenstone. Layering is seen where chlortization intensity varies from layer to layer.

The dacite(?) feldspar porphyry is in the central part of SUN 1. The porphyry weathers dark green to gray, and is medium gray feldspar on its fresh surface. The white-light gray feldspars are .5 to 2 cm long and comprise 30% of the rock.

Jurassice
Hornblende Diorite - Unit 8

Two relatively fresh medium grained hornblende diorite plugs intrude the volcanic sequence on the TAN group. They generally weather dark gray, and have a dark gray to black fresh surface. The composition varies somewhat from an intermediate to mafic intrusion but is generally dioritic. The diorite contacts observed with the Stikine rocks show no signs of contact metamorphism.

MINERALIZATION AND ALTERATION

The Stikine Terrane is quartz-iron carbonate altered by veins in small areas, but is otherwise unaltered beyond moderate chloritization. The northern diorite plug on TAN 4 has a number of carbonate veins 5 cm to 35 cm wide with pyrite(1%) and chalcopyrite (2%). This causes the diorite to weather a reddish-orange.

GEOCHEMICAL SURVEY OF CLAIMS (Figs 2 - 4)

The majority of the rock and soil samples are from the area covered by TAN 3. Of the four soil lines, three run roughly east-west, and one runs north-south. Sample spacing is 50 m to 100 m apart. Much of the soil is poorly developed or talus fines.

Soil samples were placed in kraft wet strength soil bags, air dried and shipped to Chemex Labs, North Vancouver, B. C. The samples were further dried and then sieved, with the -80 mesh portion being retained for analysis. Rock samples were crushed and then pulverized in a ring grinder 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_3 then analyzed by conventional atomic absorption techniques. For Ag, a mixture of $HClO_4$ and HNO_3 is used to digest the sample which is followed by atomic absorption spectrophotometry. The As analyses are done by standard colorometric techniques following an $HClO_4$ plus HNO_3 digestion. Antimony analyses are done by digesting the sample in HCl, then adding potassium iodide, extracting with TOPO - MIBK and then analyzing by atomic absorption spectrophotometry.

The majority of the rocks were collected from quartz-iron carbonate altered zones. Gold mineralization is virtually absent in the rocks aside from one weak anomaly in some sheared greenstone (300 ppm) which is accompanied by high arsenic and moderate antimony values (1200 ppm, 30.0). The one silver anomaly (19.5 ppm) is from a chalcophyrite-calcite vein on the north end of TAN 4.

The soil samples failed to show any concentrations of gold, silver, or antimony. The single arsenic anomally agrees well with the rock taken in the same area. The background values are 5-10 ppb gold, .1-.4 ppm silver, 10-20 ppm arsenic and 0.1-2.0 ppm antimony for the soil samples.

CONCLUSIONS

Although no gold mineralization was located on the TAN group, there is still a large area of the claims yet to be examined and sampled. In the area covered, the Stikine Terrane rocks have not been favourably altered, or mineralized. Possibly, the Stikine rocks adjacent to the serpentinite and diorite might hold better potential for gold mineralization.

RECOMMENDATION

Further geological mapping, TAN 5 and 6 soil sampling and follow-up of the arsenic anomalies are recommended for the 1984 field season.

REFERENCES

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

Monger, J.W.H. (1975). Upper Paleozoic Rocks of the Atlin Terrane, Northwestern British Columbia and South-Central Yukon, Geological Survey of Canada, Paper 74-47.

1983 EXPLORATION PROGRAM

TAN GROUP

COST STATEMENT

PERIOD: August 9 to September 10, 1983.

1. LABOUR

		Field Days	Office Days
G. Walton	Geolgoist	0.5	-
M. Gray	Assistant	8.5	2.0
F. Wohlgemuth	Sampler	3.5	-
G. Wober	"	1.0	-
R. Daniel	"	0.5	-
W. Hewgill	"	1.0	-
S. Monger	"	1.0	-
D. Shaw	"	0.5	-
	Total Man Days	16.5	2.0

Average cost per field man day = $100.00	$1,650.00
Average cost per office man day = $150.00	300.00

2. ANALYSIS

Rock: 10 samples @$17.65 each $ 176.50	
Soil: 116 samples @$16.15 each $1,873.40	$2,049.90

3. CAMP COSTS

16.5 days at $60.00 per man day	990.00

4. HELICOPTER

4.66 hrs. @$500.00 per hr.	2,330.00

5. DRAFTING

1.5 days @$100.00 per hr.	150.00
TOTAL	$7,469.90

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 TAN Group was carried out under my supervision.

Godfrey Walton

GODFREY WALTON

STATEMENT OF QUALIFICATIONS

I, Michael Gray, have completed 3rd year geology at the University of British Columbia. I have worked as geologist's field assistant in B. C. for the past three summers and am employed on a temporary basis with Chevron Canada Resources Limited, Vancouver, B. C.

Michael J. Gray

MICHAEL GRAY

Chevron Canada Resources Limited
Minerals Staff

TAN CLAIM GROUP
GEOCHEMISTRY
Ag (ppm) & Au (ppb)

FIGURE No 4		PROJECT No M 504	
DATE OCT. 1983	REVISIONS		SCALE 1:10000
NTS No 104 K			FILE No
COMPILED BY			


BEARSKIN LAKE
TAN 6
TAN 4
TAN 3
TAN 5
SUN 1
ORO 1
ORO 5-10
LONESOME LAKE
POND
SAMOTUA RIVER
LCP
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,820
1983 SOIL SAMPLE LOCATION
As Sb
17, 0.1
0 100 200 300 400 500 600 700 800 900 1000 M
SCALE 1:10000
Chevron Canada Resources Limited
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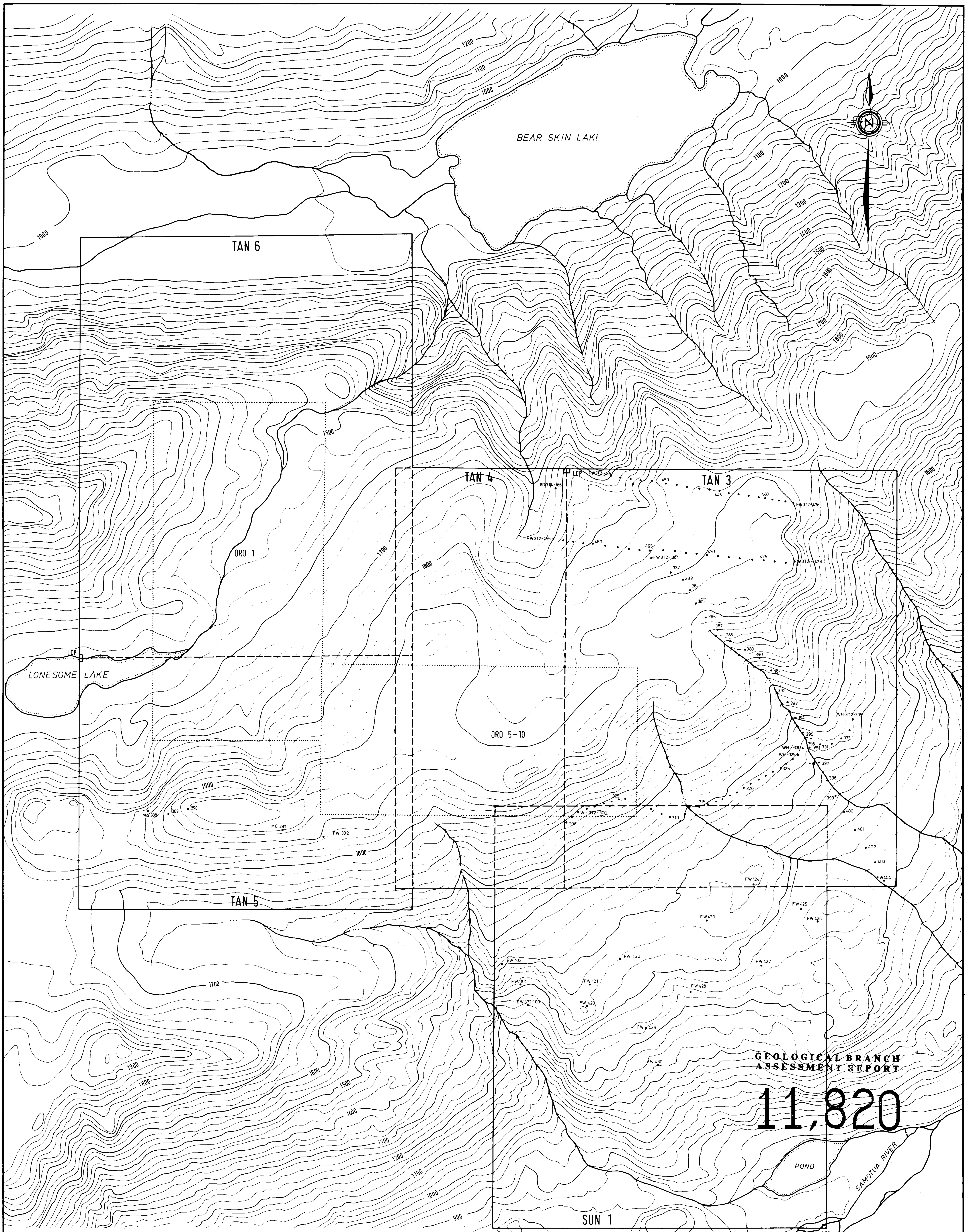
TAN CLAIM GROUP
GEOCHEMISTRY
As (ppm) & Sb (ppm)
FIGURE No 5
PROJECT No M 504
DATE OCT. 1983
REVISIONS
SCALE 1:10000
NTS No 104 K
FILE No
COMPILED BY



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Minerals Staff

TAN CLAIM GROUP
SAMPLE
STATION LOCATION MAP

FIGURE No 6		PROJECT No M 504	
DATE OCT. 1983	REVISIONS		SCALE 1:10000
NTS No 104 K			FILE No
COMPILED BY			