SUNCOR INC.

GEOCHEMICAL REPORT

WORK PERFORMED SEPTEMBER, 1984

GERMANSEN LAKE AREA, B.C.

STALL CLAIM

RECORD NUMBER 6372

OMINECA MINING DIVISION

NTS 93 N/10W

T. DONNELLY, B.Sc.

CONTENTS

LOCATION AND ACCESS

The Stall 1 claim is located in the Omineca M.D., on the south shore of Germansen Lake, 235 km NNW of Prince George, B.C. (Fig. RD84-261B). The legal corner post is located on a ridge-top 2.5 km south of the mouth of Olsen Cr. and 5.7 km from the peak of Mt. Germansen on a bearing of 18° (Fig. RD84-257).

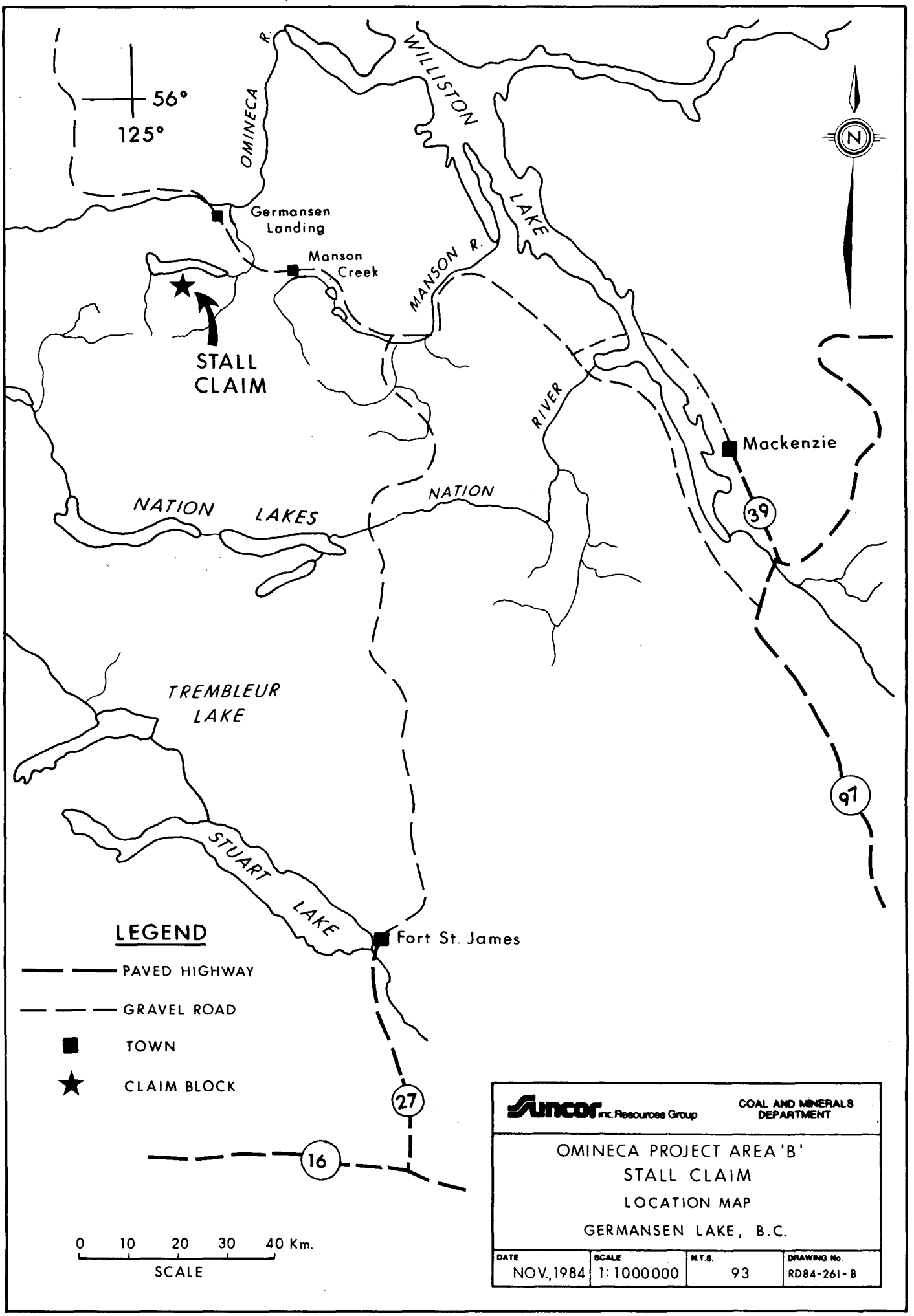
Good quality gravel roads provide access from Ft. St. James or MacKenzie, B.C. via Manson Creek. The road runs along the northern shore of Germansen Lake. A good campground and an old airstrip are located at the west end of the lake, and would provide a good base camp. Northern Mountain Helicopters have bases in both MacKenzie and Ft. St. James. Access to the property is only possible by helicopter.

PROPERTY DEFINITION & HISTORY

The Stall 1 claim is wholly owned by Suncor Inc. This claim was staked on June 24, 1984 during a regional reconnaisance program:

CLAIM	NO. UNITS	RECORD NO.	RECORDING DATE
Stall 1	16	6372	July 13, 1984

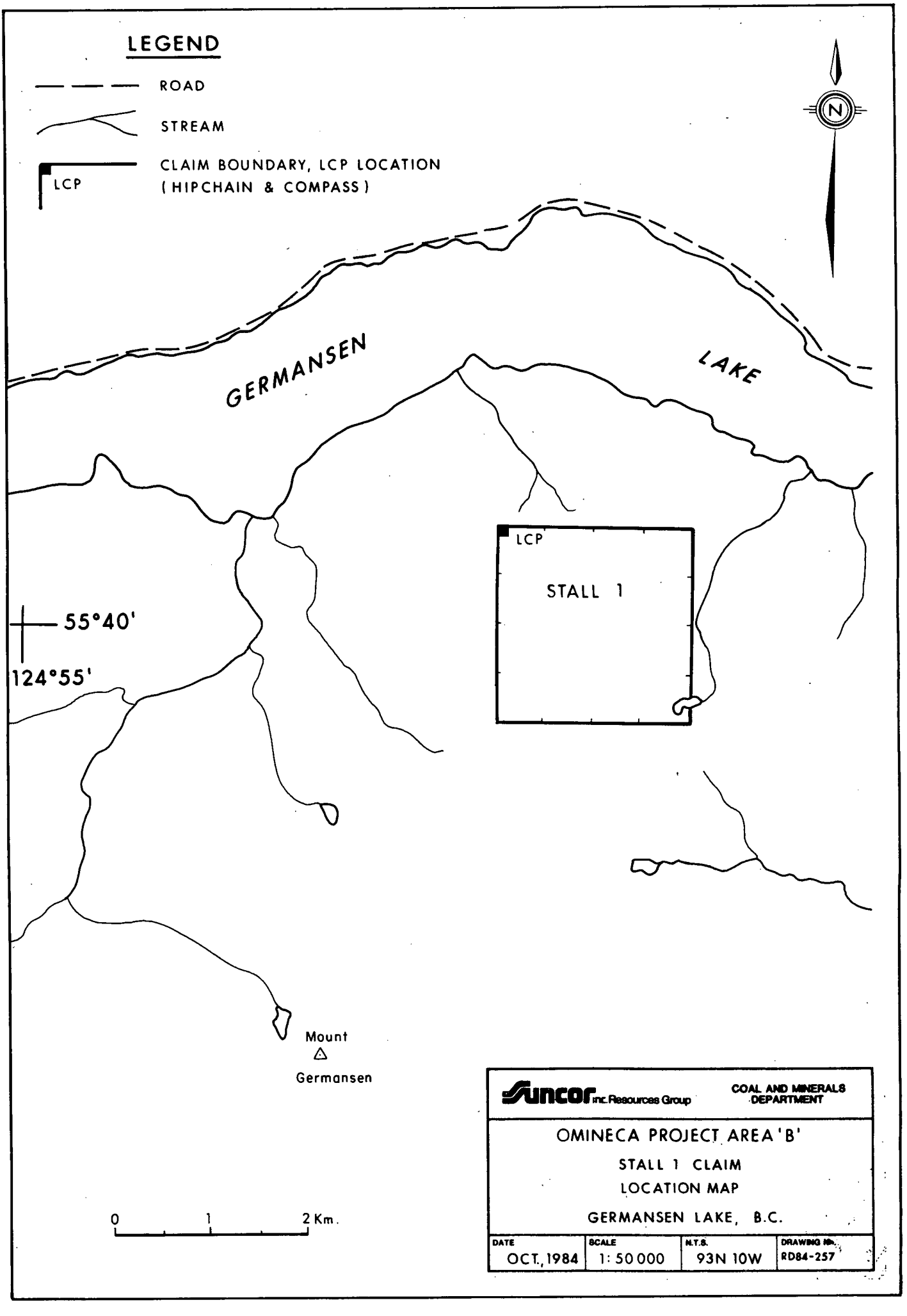
It is a gold-copper prospect located on an intrusive - Takla Group contact with a mineralized zone 100m-200m wide consisting of disseminated pyrite and chalcopyrite in altered greywacke.



Suncor Inc. Resources Group — COAL AND MINERALS DEPARTMENT

OMINECA PROJECT AREA 'B'
STALL CLAIM
LOCATION MAP
GERMANSEN LAKE, B.C.

DATE	SCALE	N.T.S.	DRAWING No.
NOV., 1984	1:1000000	93	RD84-261-B



Suncor Inc. Resources Group — COAL AND MINERALS DEPARTMENT

OMINECA PROJECT AREA 'B'

STALL 1 CLAIM

LOCATION MAP

GERMANSEN LAKE, B.C.

DATE	SCALE	N.T.S.	DRAWING No.
OCT., 1984	1: 50 000	93N 10W	RD84-257

PHYSIOGRAPHY

The claim straddles a north-south striking ridge located just south of Germansen Lake. The elevation of the ridge-top is about 1800m. Treeline varies with slope steepness and orientation between 1600-1700m. Vegetation consists of grasses and juniper above treeline and mainly spruce in the valleys. The slopes of the ridge are generally steep and about 10% of the ground covered by the claim is outcrop.

WORK DONE IN 1984

Work on the property in 1984 was done in early September and consisted of a two man crew taking chip samples of mineralized zones in outcrop. Six man-days were expended, including travel, on this project and 4.2 hours of helicopter charter were required. Ten (10) chip samples were taken.

GEOLOGY

Regional Geology

The claim is located in the southern end of the Omineca Mountains in rocks of the Takla Group. These rocks are believed to be Triassic in age (Table 1). The mineralized zone occurs where these Takla rocks are intruded by the Germansen batholith, which is part of the Omineca intrusives of Upper Jurassic or Cretaceous age. The Manson Fault Zone is located approximately 16 km to the east and the Pinchi Fault Zone and the Hogem Batholith are 30-40 km to the west.

TABLE 1
TABLE OF FORMATIONS

TERTIARY (?)	
	Trachytic and andesitic flows, dykes and sills
JURASSIC OR LATER	
	Syenite
UPPER JURASSIC OR LOWER CRETACEOUS OMINECA INTRUSIONS	
	Granodiorite, quartz diorite, diorite, and granite
TRIASSIC AND JURASSIC UPPER TRIASSIC AND LATER TAKLA GROUP	
	Andesitic and basaltic flows, tuffs, breccias and agglomerates; minor argillite and conglomerate
CARBONIFEROUS AND LATER PENNSYLVANIAN AND PERMIAN CACHE CREEK GROUP	
	Greenstone (andesitic flows and tuffs); minor argillite, chert, limestone, and serpentine. In part older than 1 and 2.
	Argillite, slate; minor greenstone, chert and limestone. In part older than 1
	Massive limestone; minor argillite, slate chert, and greenstone
	Altered diorite
	WOLVERINE COMPLEX Micaceous, chloritic, and garnetiferous schists; quartzite, limestone; minor granitic gneiss and pegmatite
	Granitoid gneiss, quartzite, pegmatite; minor schists

PROPERTY GEOLOGY

Although detailed mapping of the property was not undertaken in 1984, certain aspects of the geology of the property were noted by the author.

The southern one-third of the property is underlain by the Germansen batholith. It consists of medium grained granodiorite which in some areas is porphyritic, with feldspar phenocrysts up to 2cm long by 1cm wide. These intrusives become progressively more fine-grained approaching the contact with the sediments. The contact is extremely irregular, with narrow sills and veins of fine-grained intrusives extending into the sediments and xenoliths of sediments wholly contained in the intrusive. The sediments consist of greywackes and argillite and have been hornfelsed for approximately 50m from the contact. Mineralization, consisting of pyrite and chalcopyrite, is concentrated in a series of narrow shears 10-20m apart which lie roughly parallel to the intrusive contact, although minor mineralization is also disseminated throughout the rock between shears.

GEOCHEMISTRY

Rocks

Chip samples were taken ranging from 1m-5m long across rusty, mineralized zones in the sedimentary rocks adjacent to the intrusive contact. These samples were analyzed for Au, Ag and Cu. Sample locations are shown on Fig. RD84-275B, Au and Ag results are shown on Fig. RD84-275C, and Cu results are shown on Fig. RD84-275D.

CONCLUSIONS

Limited lithogeochemical sampling on the Stall Claim above tree line has returned low analytical values. The contact between the Takla Volcanics and granodionite is scarsely mineralized with pyrite creating only small patches of gossan.

NO further work is recommended.

Respectfully submitted

T. Donnelly, B.Sc.

Author's Qualifications

I, Timothy Donnelly of the City of Edmonton, Alberta, do hereby certify that;

1. I hold an Honours Bachelor of Science Degree from the University of Alberta, 1982.

2. I have practiced my profession since graduation.

3. I personally supervised the field crew carrying out work detailed in the attached report.

4. I am employed by Suncor Inc. as a Temporary Geologist.

_____

Timothy Donnelly

APEX ANALYTICAL LABORATORIES, CALGARY

SAMPLE PREPARATION

ROCKS AND DIAMOND DRILL CORE:

These samples are crushed by a primary jaw crusher then through a secondary cone crusher to a particle size of 1/4 inch. The sample is now riffled and a 200 gram portion is kept and pulverized in a temer mill to -200 mesh fraction. The remainder of the sample is kept as a reject. The pulverized sample is rolled to make sure it is well mixed and is then weighed and analyzed.

SOILS

Soil samples are dried and then screened through a 80 mesh stainless steel screen. The -80 mesh sample fraction is then weighed and analyzed. If a soil sample contains an excess of pebbles or is too small, then the entire sample must be pulverized to -200 mesh. This is the only way in which enough material may be found for analysis.

GEOCHEMICAL ANALYSIS - AQUA REGIA DIGESTION

1) Place 18 x 150 mm test tubes in aluminum digestion blocks.

2) Weigh 0.5 g of sample into test tubes.

3) Intersperse samples with blanks, checks and certified reference materials.

4) If samples are highly organic, dry ash in aluminum blocks on hot plates with hot plates set at 6-7 for 2-3 hours. Cool.

5) Add 2 ml conc. HNO_3 and heat 40-45 minutes with hot plates set a 5. Cool.

6) Transfer to wire racks but leave aluminum blocks on hot plates.

7) Add 3 ml conc. HCl. Let sit 15-25 minutes.

8) Add 2 ml H_2O to the blanks.

9) Place test tubes back in aluminum blocks, one row at a time watching for any samples that might have too violent a reaction.

   If samples start to overflow, cool test tubes in a beaker of cold water and then place back in aluminum blocks.

10) Digest samples for 2 hours.

11) Add 1.0 ml of ammonium acetate solution to each tube and leave on a hot plate a further 15 minutes.

12) Remove samples from aluminum blocks, transfer to wire racks and let cool.

13) Dilute to 10 ml with 1 N HNO_3: vortex and allow to stand for 3 hours.

14) Read on A.A. against similarly prepared standards.

NOTE: Arsenic analysis by semi quantitative method, is run from the above solutions using a varian AA-5 spec. and recorder (if necessary to graph results.

FIRE ASSAYING

The following is a brief outline of the mechanics of fire assaying for gold and silver.

The ore is mixed with litharge (PBO) and various fluxed and a reducing agent or oxidizing agent is added, (flour or niter) to form a lead button which weighs between 25 and 35 grams. The whole mix is melted in a fire clay crucible at around 1000°c for 30-40 minutes. The lead collects all the gold, silver and precious metals. The molten assay is taken from the furnace and poured into cone shaped iron molds and due to the differences in the specific gravity of the lead and the slag, the lead collects in the bottom of the mold. When cooled the lead button is separated from the slag and hammered into a cube for ease of handling. The button is then placed in a pre-heated cupel in a furnace with the temperature set at around 900°c. A current of air passes over the top of the cupel containing the lead. The lead is converted back to litharge and is absorbed by the cupel.

Gold and silver are not affected and so remain in the cupel as a small bead. After cupellation is complete (about 60 minutes), the cupel is removed from the furnace. The small bead is then cleaned, flattened with a hammer and transferred to a parting cup. This flattened bead consists of a mixture of gold and silver.

The bead is weighed on a gold balance or micro balance. The bead is parted by placing it in hot, dilute nitric acid which dissolves all the silver but leaves the gold intact. The gold is washed free of silver nitrate by decantations with water and dilute ammonium hydroxide and then annealed at red heat and weighed as pure gold. The difference between the two weighings is the weight of silver.

The bead is weighed in milligrams and the results expressed in ounces per ton in the original sample.

METHOD FOR THE DETERMINATON OF GOLD BY FIRE ASSAY

PRECONCENTRATON AND ATOMIC ABSORPTION ANALYSES

1. A 1 assay ton (29.166g) sample is weighed into a 30 g crucible, 1 mg of Ag is added as a collected agent.

2. Enough flux reducing or oxidizing reagent is added to produce a lead button.

3. The sample is transferred into an assay furnace and heated to 2000°F for 40-45 minutes.

4. The fusion is poured into a iron mould.

5. The slag is separated from the lead button in which Au and Ag has been alloyed.

6. The lead button is again transferred to a cupel in the assay furnace.

7. By heating slightly below melting point of Ag, Lead is eliminated either by vaporizing or absorbing into the cupel in about 40 minutes.

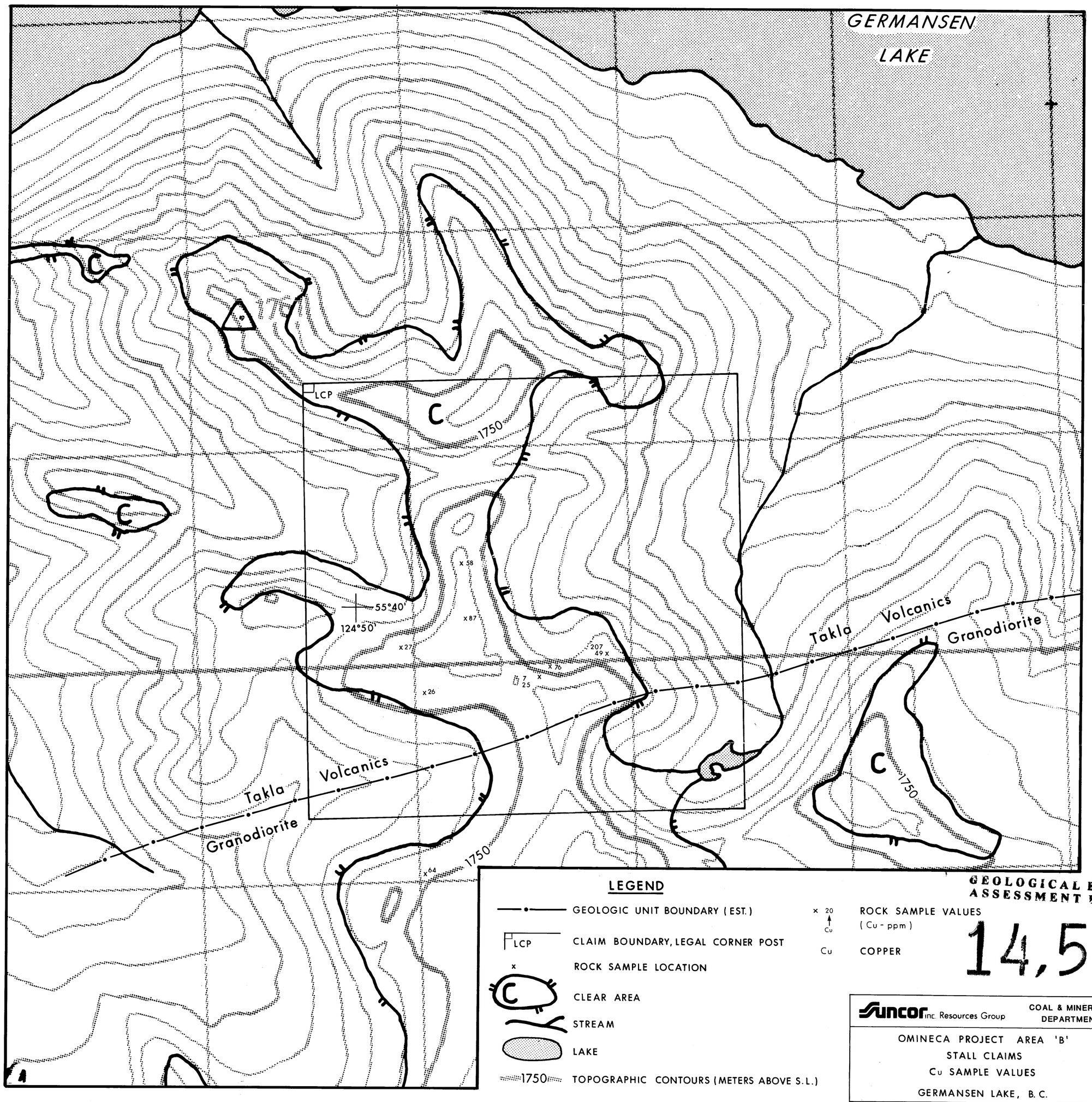
8. A bead which contains all the Au in the 1 assay ton sample is recovered on the cupel.

9. The bead is transferred to a 16 x 150 mm test tube, 1 ml of concentrated HNO_3, and 4 ml of 1:1 HCl are added to the tube.

10. The tube is heated on the hot plate for approximately 1 hour, or until all the residue is dissolved in the tubes.

11. The volume is adjusted to 10 ml with 1:1 HCl and the samples are mixed.

12. Samples are read on a Varian AA5 Atomic absorption spectrophotometer.



LEGEND

- GEOLOGIC UNIT BOUNDARY (EST.)
- LCP — CLAIM BOUNDARY, LEGAL CORNER POST
- x — ROCK SAMPLE LOCATION
- C — CLEAR AREA
- STREAM
- LAKE
- 1750 — TOPOGRAPHIC CONTOURS (METERS ABOVE S.L.)
- × 20 (Cu) — ROCK SAMPLE VALUES (Cu - ppm)
- Cu — COPPER

0 100 200 300 400 500m
SCALE

Suncor inc. Resources Group — COAL & MINERALS DEPARTMENT

OMINECA PROJECT AREA 'B'
STALL CLAIMS
Cu SAMPLE VALUES
GERMANSEN LAKE, B. C.

DATE	SCALE	N.T.S.	FIGURE
OCT., 1984	1:10 000	93 N 10	RD84-275-D

18

GERMANSEN LAKE

LCP

C

1750

x<5, <0.1

55°40'

124°50'

x<5, 0.2

x<5, 1.0

<5, 0.3
<5, 0.4

x<5, 0.4

<5, 0.3
<5, 0.5

x<5, 0.5

Takla Volcanics

Granodiorite

9, 0.6

LEGEND

- GEOLOGIC UNIT BOUNDARY (EST.)
- LCP — CLAIM BOUNDARY, LEGAL CORNER POST
- x — ROCK SAMPLE LOCATION
- C — CLEAR AREA
- STREAM
- LAKE
- 1750 — TOPOGRAPHIC CONTOURS (METERS ABOVE S.L.)

x 10, 0.1 (Au, Ag) — ROCK SAMPLE VALUES (Au - ppb, Ag - ppm)

Au, Ag — GOLD, SILVER

0 100 200 300 400 500m
SCALE

Suncor Inc Resources Group — COAL & MINERALS DEPARTMENT

OMINECA PROJECT AREA 'B'
STALL CLAIMS
Au, Ag SAMPLE VALUES
GERMANSEN LAKE, B. C.

DATE	SCALE	N.T.S.	FIGURE
OCT., 1984	1:10 000	93N10	RD84-275-C

RD84-275-B

IRON MAIDEN®

U. S. A. DESIGN PATENT 4139248-1979
CANADIAN IND. DESIGN REG. NO. 42524
CANADIAN PATENT 1065729-1979

(RD) 1977

IRON MAIDEN® SYSTEMS CALGARY, ALBERTA, CANADA

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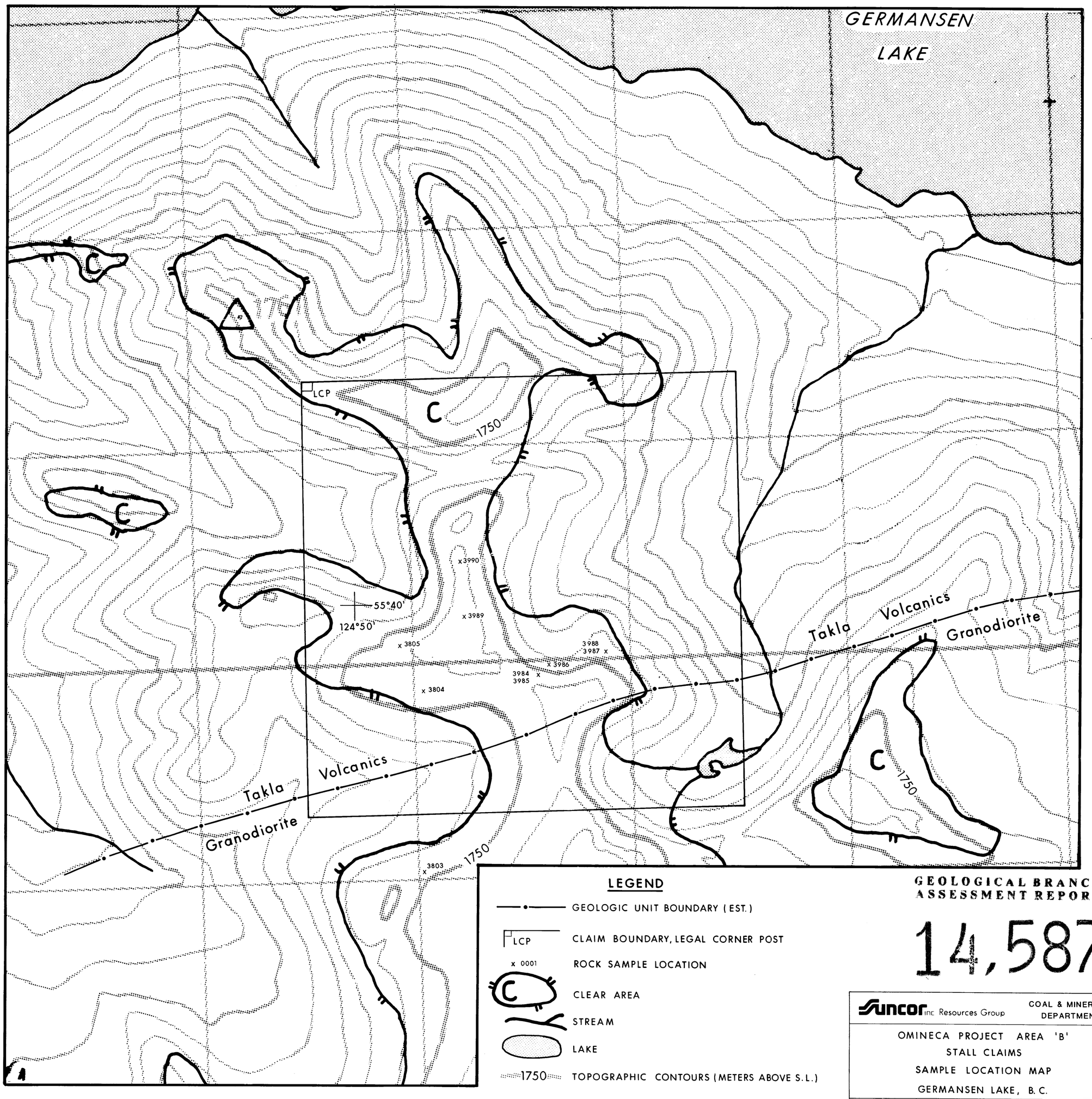

LEGEND

- GEOLOGIC UNIT BOUNDARY (EST.)
- LCP — CLAIM BOUNDARY, LEGAL CORNER POST
- x 0001 — ROCK SAMPLE LOCATION
- C — CLEAR AREA
- STREAM
- LAKE
- 1750 — TOPOGRAPHIC CONTOURS (METERS ABOVE S.L.)

0 100 200 300 400 500m
SCALE

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,587

Suncor Inc Resources Group — COAL & MINERALS DEPARTMENT

OMINECA PROJECT AREA 'B'
STALL CLAIMS
SAMPLE LOCATION MAP
GERMANSEN LAKE, B. C.

DATE	SCALE	N.T.S.	FIGURE
OCT., 1984	1:10 000	93N10	RD84-275-B

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