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**GEOCHEMICAL
ASSESSMENT REPORT
STIRRUP CLAIM (1453)
CLINTON MINING DIVISION
NTS 920/1E
51°06' 122°12'
STIRRUP CREEK AREA B.C.**

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,293

OWNER/OPERATOR: E. Horne, FMC #277927
OPERATOR: Cazador Explorations Limited, FMC #298155
REPORT BY: E. Horne
DATE: September 25, 1987

FILMED

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1.0 EXECUTIVE SUMMARY:

This assessment report on the Twenty (20) Unit Stirrup Claim, Record Number 1453, Clinton Mining Division, is submitted to the British Columbia Ministry of Energy, Mines and Petroleum Resources in partial compliance with the Minerals Act (regulations) pertaining to application for assessment work credit. The work, consisting of a geochemical survey, was performed over a ten (10) day period from the 24th day of June to the 13th day of July, 1987.

The encouraging geological and geochemical results obtained on the project to date have resulted in the recommendation for further work in the form of geophysics and additional geological mapping as well as soil and rock sampling to enhance the geochemical database and identify targets for trenching and drilling.

The project area appears to hold the potential for a large epithermal system that could host a bulk tonnage low grade gold deposit.

2.0 INTRODUCTION:

2.1 Terms of Reference

The author commissioned Mr. Sven Englund of Clinton, B.C. to perform soil geochemical sampling, prospect for mineral showings and improve access on the claim. Mr. Englund performed ten days work on the claim between the 24th of June and 13th of July 1987, with assistance from Messrs. E. Goodland and H. Ellis.

2.2 Location and Access

The Stirrup Claim is located at latitude 51d 05m 55s North and longitude 122d 11m 32s East, NTS 920/1E, Clinton B.C. Mining Division. The Claim is located approximately midway between the headwaters of Stirrup Creek and Watson Bar Creek. The Claim is between 1370 to 1900 metres elevation above sea level approximately 45 air kilometres due west of Clinton, British Columbia.

Access to the property is west of Clinton, to the Big Bar Ferry (73 km.) across the Fraser River and then, along the Lillooet Big Bar road (9.6 km.) to the turnoff to Stirrup Creek along a narrow heavily rutted road to the junction of the Upper and Lower Stirrup Creek roads (4.4 km.). The Lower road descends towards Watson Creek and can readily access the central claim area (approximately 5 km.). The LCP is located 100 metres south of the most southerly portion of the Stirrup Creek road. Two log cabins in the area have on occasion been used with the permission of the owners.

Miles 5

Scale 1:250,000 Echelle

20 Miles

Kilometres 5

0

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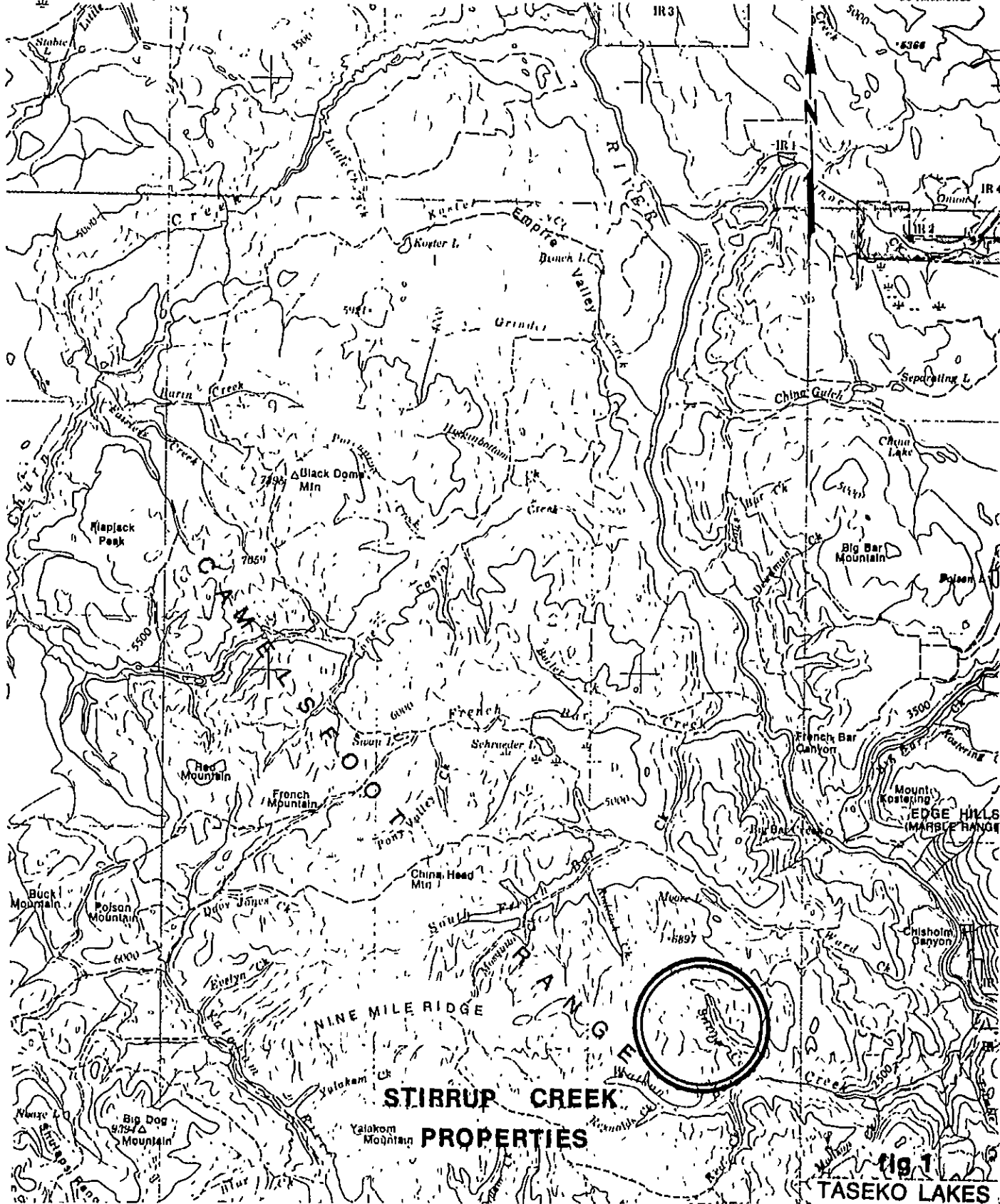
10

15

20

25

30 Kilometres



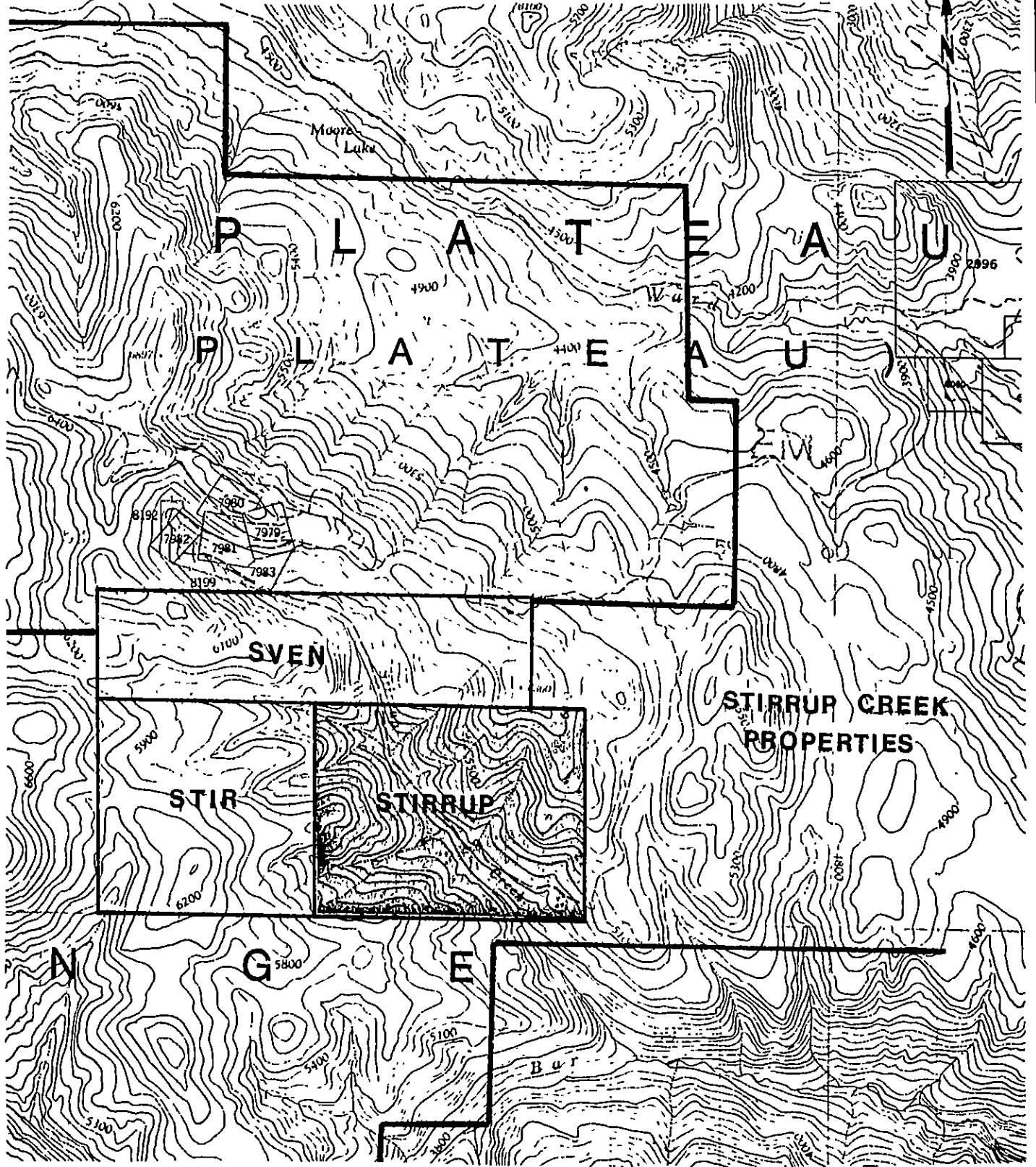
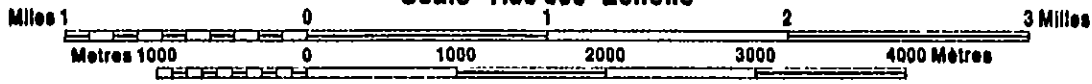
GENERAL LOCATION
STIRRUP CLAIM

NTS 920/1E
CLINTON M.D

SCALE 1:250000

FIGURE 1

Scale 1:50 000 Échelle

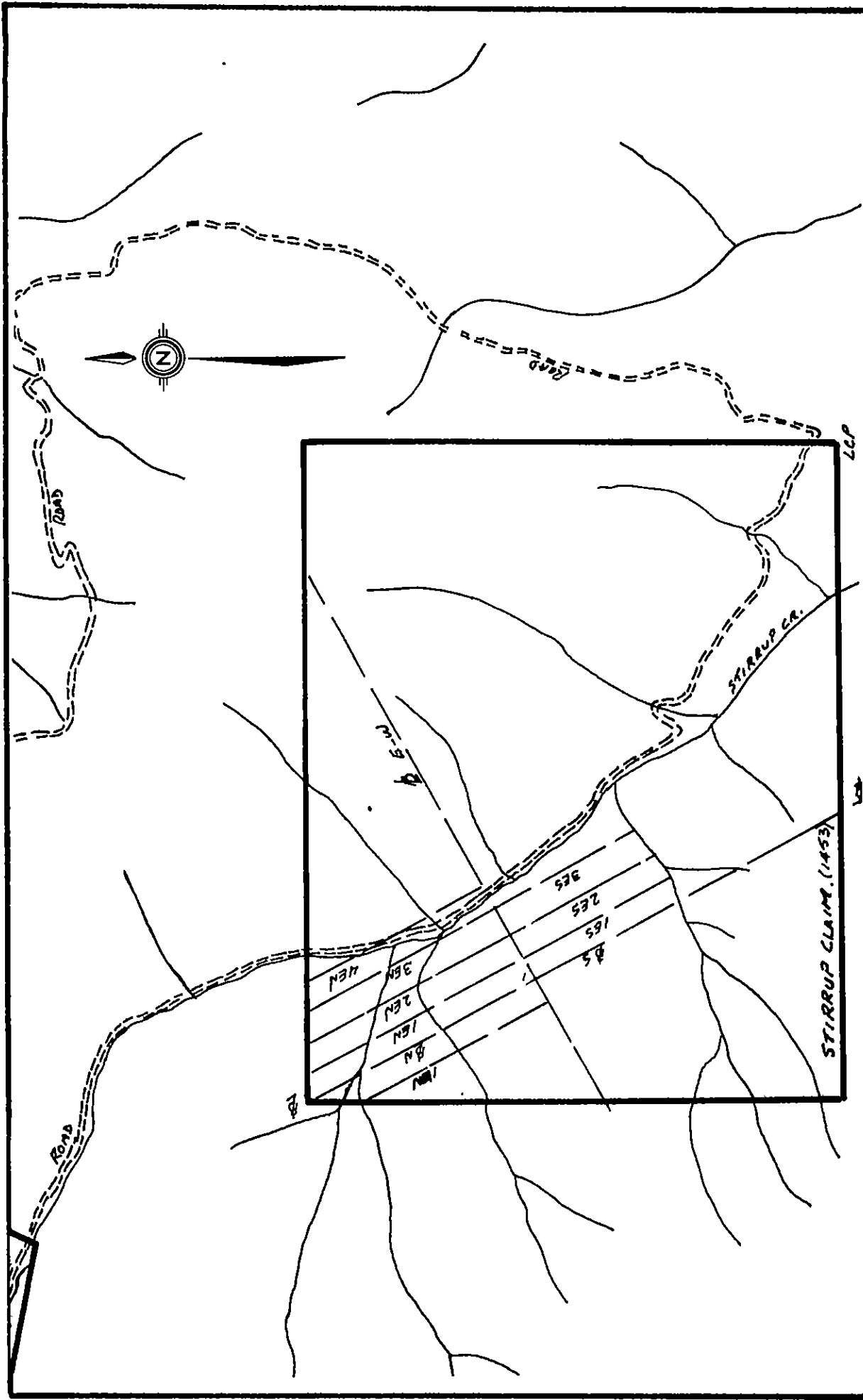


CLAIM LOCATION MAP
STIRRUP CLAIM

NTS 920/1E
CLINTON M.D

SCALE 1:50000

FIGURE 2



NTS 920/1E
CLINTON M.D

GRID LOCATION
STIRRUP CLAIM

SCALE 1:20000

FIGURE 3

2.3 Physiography and Climate

The topography is moderate with the exception of the south boundary of the claim which crosses the Stirrup Creek canyon. The area is heavily wooded except for an area of rangeland in the northeast portion of the claim. The property contains approximately 20% outcrop exposure, with the majority of the outcrop in the walls of the creek valley. The climate is generally dry and moderate, typical of the west bank of the Fraser river at this latitude. Climatologically the area is conducive to year round mining and access.

2.4 History and Ownership

The claim was staked by geologists E. Horne (the author of this report) and R. Dean on July 14, 1983. Assessment work was done on the claims as follows:

<u>Date</u>	<u>Receipt Numbers</u>	<u>Expires</u>
July 3, 1984	47430-47469	1986
July 14, 1986	59668-59687	1987
July 14, 1987	66757-66796*	1988

*related to present report.

Other work on the property was done by C.A.R. Lammie, P.Eng. during the summer of 1986. A geological report by Mr. Lammie, dated October 26, 1986, is included in Appendix A.

The property is presently under option to Cazador Explorations Limited, P.O. Box 602, Aldergrove, British Columbia, VOX 1A0. A Bill of Sale dated the 17th of August, 1987 transfers full title in the Claim to Cazador as stipulated in the Option Agreement.

2.5 Previous Work Summary

Previous assessment work on the property has consisted of prospecting and rock, silt and soil geochemical surveys and geological reconnaissance mapping.

Sampling to date has returned gold values up to 330ppb, silver to 56ppm, mercury to 680ppm and arsenic to 80ppm - over very broad areas of the claim.

Other work in the vicinity of the property has been conducted by various interests, principally Dr. Harry Warren and Rio Tinto Exploration Ltd. on the upper reaches of Stirrup Creek. Gold in soils and cyanogenic plants (*phacelia sericea*) are highly anomalous in this area. Previous attempts to locate the source(s) of this anomalous gold and of the placer gold (approximately 4000 ounces mined in 25 years from 1914) have not been successful.

One piece of float (0.6 oz/ton gold) was located by Rio Tinto in 1965 on Dr. Warren's claims. Anomalous gold and arsenic are reported in the soils of Upper Stirrup Creek (Warren 1982). Approximately 20% of this gold is reported to occur as crystals.

2.6 Summary of 1987 Work Program

The 1987 work program consisted of establishing a grid and collecting 24 rock and 263 soil samples for geochemical analysis. The survey area and results are shown on figure 3, map 1 and map 2. The grid consists of slope corrected, flagged line, with minor blazing in the areas of forest cover. A total of 8.5 km. of line was established using compass and belt chain.

Approximately two mandays of work was also spent establishing drainage and repairing washouts along the access road.

3.0 GEOLOGICAL DATA:

3.1 General Geology

The area is underlain by sediments of the Jackass Mountain Group which are intruded by dikes and stocks of quartz felspar porphyry and diorite with some fracturing and pyritic mineralization. Further geological data is provided in the report by Charles A.R. Lammle, P.Eng. dated October 26th 1986 which is enclosed in Appendix A of this report. Mr. Lammle's report is based upon a visit to the Stirrup claim as well as all surrounding claims, and a review of historical information on the Stirrup Creek area.

3.2 Structural Geology

Very little is known about the structural geology on the Stirrup claim. Earlier work by the author indicated a possible major fault along the Stirrup Creek valley, however further more detailed structural mapping is required - and is planned.

3.3 Economic Geology

No economic mineralization has yet been encountered on the property. Further work on the property is based on the following encouraging "signs": (1) Coarse placer gold in the placer workings that occur on the property, (2) Rock geochemical grab sampling over approximately 5 pieces of float during 1983 that returned values of 137ppb gold and 56ppm silver and (3) 1987 soil geochemical sampling has defined gold anomalies, with more than 10% of the values ranging from 5ppb to 265 ppb, against a detection limit background of 5ppb.

4.0 GEOCHEMICAL DATA:

4.1 Soil Geochemical Data

The Soil Samples taken during the 1987 field program were collected by digging approximately 20 cm. below the surface, through a light grey leached zone (or possibly a volcanic ash). The samples possibly reflect a weathered "C" horizon paleosol. All field sample locations are marked in the field with coded flagging.

The analysis on all samples were conducted by Loring Laboratories Ltd. of Calgary, Alberta. The samples were treated by firing, digesting, organic extraction and AA, with a detection limit of 5ppb. Assay results are contained in Appendix B.

There were 263 soil samples collected. Sample locations and associated assay values are plotted on Map 2 which is contained in the back folder of this report. There were also 24 rock samples collected and assayed - these results are also indicated on Map 2.

4.2 Interpretation of Soil Geochemical Data

The total number of soil samples with 5ppb or greater is 30 samples (11.4% of the 263 population), of these 5 samples (1.9%) have greater than 110ppb gold content.

There is a concentration of anomalous samples in the vicinity of the northwest corner of the claim. This anomalous area, referred to as the Sven anomaly, is shown on Map 2. The other anomalous values appear to lay in two narrow bands, at the central and southern part of the survey area, striking approximately 20 degrees east of north. In recent discussions with John Chapman of Cazador Explorations Limited it is evident that the Sven anomaly coincides with a large gold soil anomaly identified by Cazador in 1987 on their Stir and Sven claims. Also compass deviations were reported by the field crew in the vicinity of the 4N5W post on the Stirrup claim - this will warrant a follow-up with magnetometer and VLF-EM surveys.

Following is an analysis of gold distribution in the 263 soil samples from the Stirrup claim:

<u>Gold ppb</u>	<u>number of samples</u>	<u>percentage</u>
<5	233	88.6
5 - 10	12	4.5
11 - 50	11	4.2
51 - 100	2	0.8
>101	5	1.9
	<u>263</u>	<u>100.0</u>

5.0 CONCLUSIONS AND RECOMMENDATIONS:

5.1 CONCLUSIONS

The 1987 detailed soil geochemical survey on the Stirrup claim has yielded some good gold targets that warrant additional mineral exploration.

5.2 RECOMMENDATIONS

Further soil and rock sampling should be conducted on extended grids. Areas that have yielded anomalous values in the 1987 survey should be further sampled on fill-in grids of closer spacing than the 1987 survey. Intensive mapping and prospecting (some hand trenching with pick and shovel in shallow overburden areas) should be conducted over the current anomalies. The area holds enough promise that magnetometer and VLF-EM geophysical surveys should be conducted on existing lines.


6.0 QUALIFICATIONS AND CERTIFICATION

6.1 Statement of Qualifications

I, Emmet J. Horne of The City of Calgary in The Province of Alberta certify the following:

- I am a geologist residing at 608, 920 - 9th Ave. S.W., Calgary, Alberta
- I am a graduate geologist of the University of Saskatchewan (Saskatoon) 1967 and one post graduate year in 1970. I have practiced my profession continually since then.
- I am a member of the Canadian Institute of Mining and Metallurgy and have an application for membership with The Association of Professional Engineers, Geologists and Geophysicists of Alberta as a professional geologist.
- Previous employers and positions are:
 - Saskatchewan Department of Mineral Resources
 - Ontario Department of Mines (Senior Geologist)
 - Noranda Mines Geco Division (Staff Geologist)
 - Scurry Rainbow Oil Ltd. (Senior Geologist)
 - Scurry Rainbow Bolivia Ltda. (Project Geologist, Supervisor)
 - Iron Ore Company of Canada Ltd. (Senior Geologist, Supervisor)
 - Syncrude Canada Ltd. (Senior Geologist, Supervisor)
 - Alsands Energy Ltd. (Senior Geologist, Supervisor)
 - Aurun Mines Ltd. (Senior Geologist)

Since 1983 I have been employed as a contract geologist. I have worked in Canada, South America and in the U.S.A.


E. Horne

6.2 Professional Certification

I, Emmett J. Horne, Geologist, residing at 608, 920 - 9th Avenue S.W. in The City of Calgary, in the Province of Alberta, T2P 2T0, hereby certify that:

- I received a Bachelor's Degree in Geology from the University of Saskatchewan (Saskatoon) in 1967.
- I have been practising my profession continuously since 1967.
- I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- The work described in this report was carried out under the direction of E. Horne.
- That I am familiar with the property and to the best of my knowledge the acquisition of the data and expenditure claimed for the performance of work as presented is correct.

20th Sept 1987
Date


E. J. Horne, P.Geol., B.Sc.

7.0 REFERENCES

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APPENDIX A
GEOLOGICAL REPORT
by
C. A. R. LAMMLE P. Eng.

GEOLOGICAL REPORT

on

STIRRUP CREEK PROPERTIES

92 0 1 CLINTON MINING DIVISION B.C.
51° 06'N, 122° 13'W

for

AURUN MINES LTD

by

Charles A.R. Lammle, PEng

26 October 1986

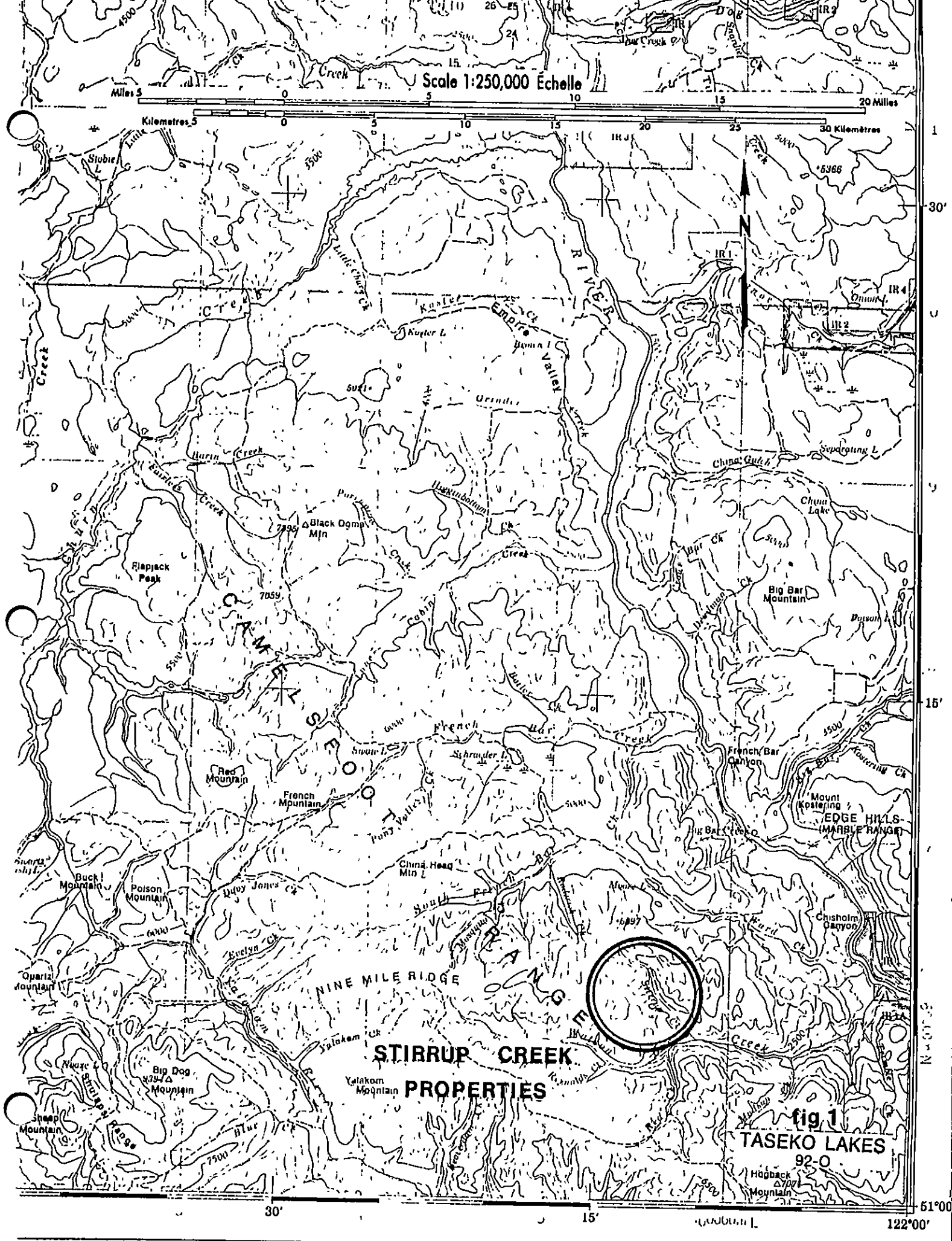
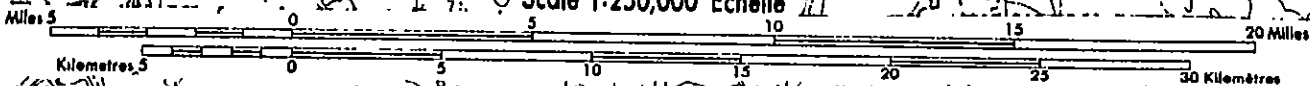
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Fig 1. Location Map, 1:250,000	Faceplate
Fig 2. Property Map, 1:50,000	Faceplate
Fig 3. Mineral Prospects and Mining Camps	Faceplate

Scale 1:250,000 Échelle



STIRRUP CREEK PROPERTIES

**fig 1
TASEKO LAKES
92-O**

30° 15' 51°00' 122°00'

Scale 1:50 000 Echelle

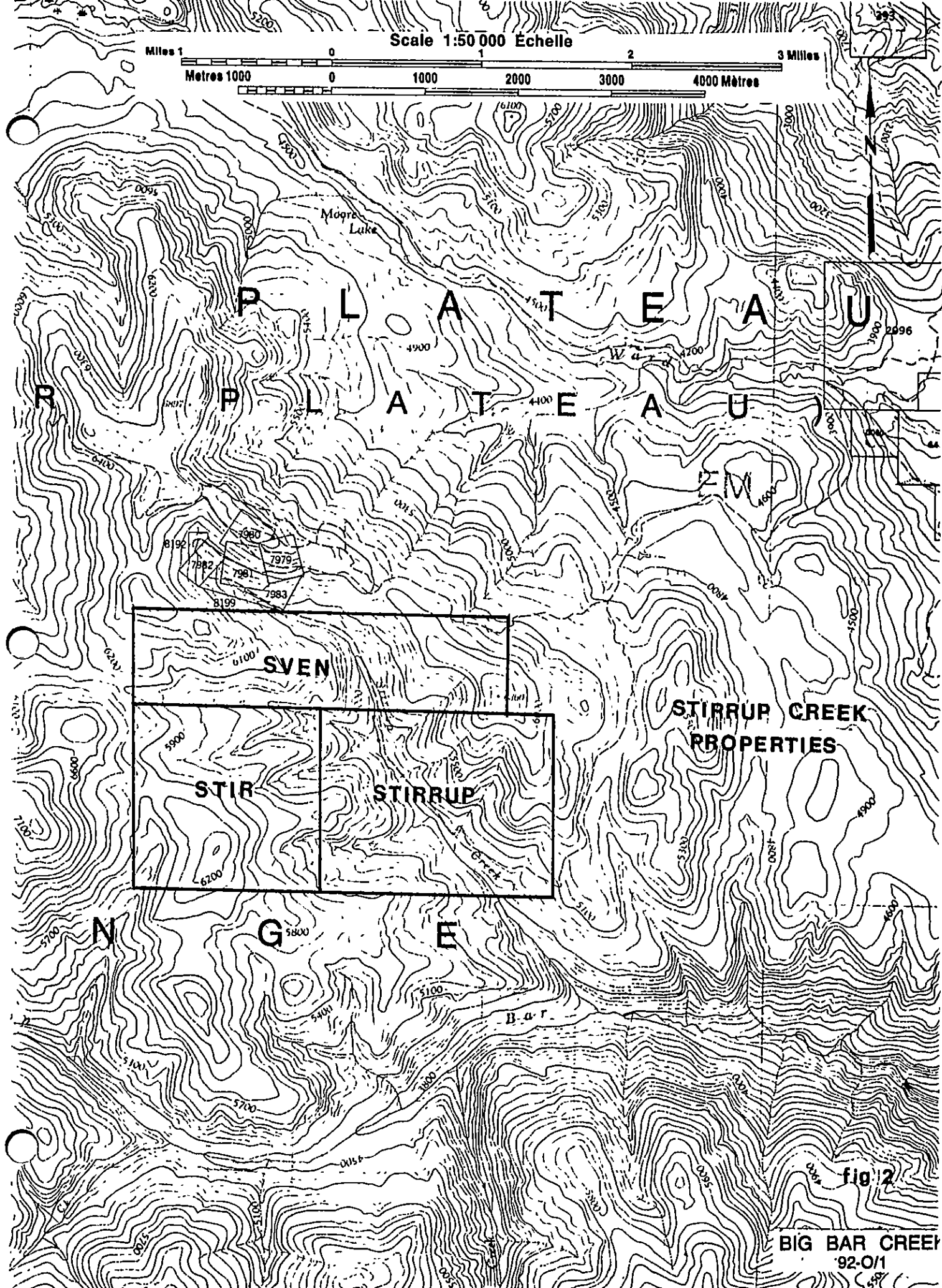
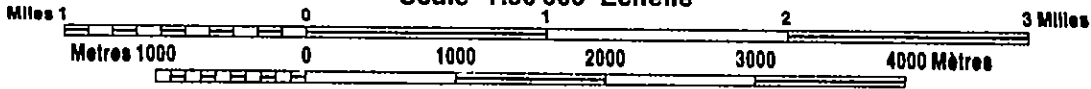


fig 12

BIG BAR CREEK
92-011

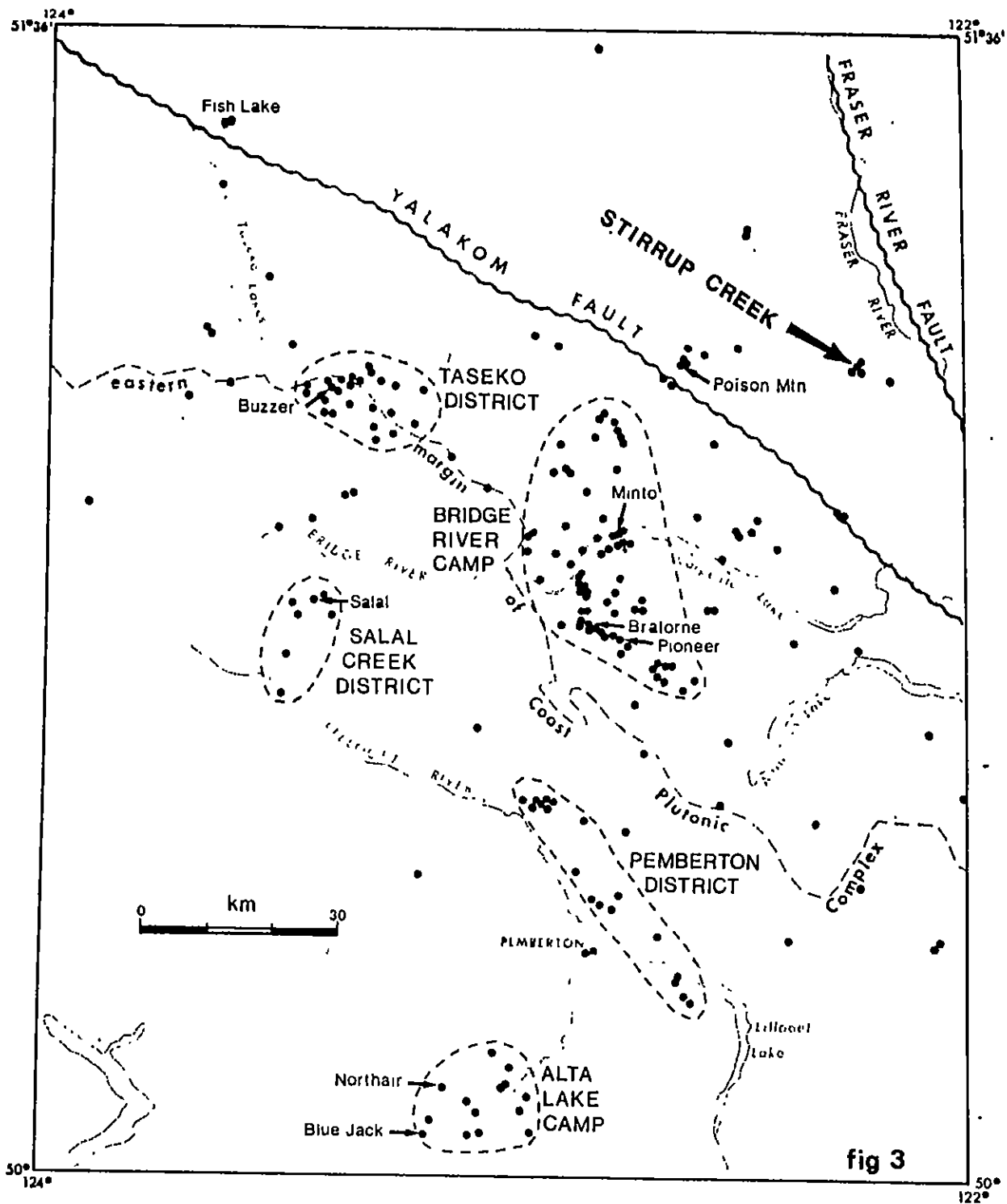


FIG. 3. Redrafted computer-generated plot of all mineral deposits (dots) in Pemberton and southern two-thirds of Taseko Lakes map-areas. Dashed lines show approximate outlines of camps.

After Woodsworth, Pearson, and Sinclair; 1977

GEOLOGICAL REPORT

STIRRUP CREEK PROPERTIES AURUN MINES LTD

INTRODUCTION AND SUMMARY

Stirrup Creek, once known as the north fork of Watson Bar Creek, is located 45 km west of Clinton, B.C., in the Clinton Mining Division, or alternatively, about 30 km southeast of the new epithermal gold mine at Blackdome Mountain. It is known principally because of placer gold - some 70,725 gm of reported production during the period 1916 to 1940, and there is still seasonal placer work being done on the creek. It is also well known because of a group of 6 crown granted mineral claims staked originally by professors from the University of British Columbia, and because of the published detailed geochemical and biogeochemical studies made in recent years by one of those professors on the low grade epithermal gold mineralization there.

Modern exploration work including detailed geochemistry, trenching and drilling has been done on the crown grants in past years by Placer Development, Chevron and Rio Tinto, and more recently on adjoining claims geological and geochemical reconnaissance work has been done by Brinco and other individual property owners. Additionally, on claims 8 km to the southeast along Watson Bar Creek, much detailed work has been done on similar epithermal gold occurrences in similar host rocks by Utah Mines, E&B, and Dome. In spite of this work, only small sub-economic amounts of gold have been discovered, but more significantly, the source of the placer gold on Stirrup Creek has not yet been found.

The writer's work in the area suggests that the most likely area to search for the Stirrup Creek gold is close to the south margin of the crown granted claims near the upstream cutoff point of the placer gold. Aurun Mines owns the 16 unit Stir Claim in this area, and has the opportunity to option the crown granted property, as well as two others - the 8 unit Sven Claim and the 20 unit Stirrup Claim.

It is recommended that a favourable option be negotiated for all of these available claims, that some additional protective claims be staked, and that a comprehensive staged exploration be initiated on the package. The recommended program would take the form of a first stage of work consisting of line cutting, geology, geochemistry and geophysics; and a second stage contingent on achieving encouraging results from the first, of fill-in geology, geochemistry, geophysics, trenching and drilling. As outlined, the first stage is estimated to cost \$88,700 and the second contingent stage, \$268,000.

CONCLUSIONS AND RECOMMENDATIONS

1. It is concluded that the best remaining exploration possibilities would be within or along strong easterly- to north-easterly trending faults, because:

- (a) the best visible mineralization - Sb - is in small irregularly silicified shears with that attitude,
- (b) many of the adits driven by the old timers followed small faults and fractures with that direction,
- (c) many of the best assays from bedrock come from fault zones or near them,
- (d) the high grade Rio Tinto float appears to have been a silicified portion from a fault,
- (e) the best stream sediment geochemical results are reported to have come from near fault zones.

2. It is concluded that the best area to explore for such strong faults would be very close to the upstream cut-off of the placer gold because:

- (a) the placer gold is reported to be angular, and presumably has not moved far,
- (b) the "V" shape of the "hanging" Stirrup Creek valley suggests that stagnant ice rather than moving ice occupied it, and hence that transport in the valley by glacial movement is minimal.

3. It is allowed that exploration possibilities for large tonnage low grade mineralization exists beneath the anomalous soils (presumably underlain mainly by quartz-feldspar porphyry) along the divide, but these possibilities are relegated to a low order because:

- (a) antimony-bearing shears appear to die out in the quartz-feldspar porphyry,
- (b) small shears erratically mineralized with gold and followed underground by old-time miners appear to die out in the quartz-feldspar porphyry,
- (c) the appreciable trenching and side-hill trenching effort in the contact area failed to disclose any important mineralization in the quartz-feldspar porphyry,
- (d) two drill holes on the summit area did not appear to indicate important mineralization.

In accordance with the foregoing conclusions, the following two-stage contingent program with estimated costs is recommended, the second stage conditional on achieving encouraging results from the first:

STAGE 1.

Line cutting	58km @ \$275/km	\$16,000
Magnetometer & EM surveys	30 days @ \$250/day	7,500
Instrument rental	2 mo @ \$1000/mo	2,000
Geochemical sampling	30 days @ \$200/day	6,000
Geology and supervision	4 months @ \$4000/mo	16,000
Geochemical analyses	1100 samples @ \$12/sample	13,200
Transportation	3 mo @ \$1500/mo	4,500
Sustenance	200 man days @ \$20/man day	4,000
Freight		1,000
Supplies		2,000
Communications		500
Head Office expense		8,000
Contingencies		8,000

Total Estimated Cost, Stage 1.		\$88,700

STAGE 2. (Contingent on encouraging results from Stage 1.)

Fill-in line cutting	allow	\$ 8,000
Magnetometer and EM surveys	allow	4,000
Instrument rentals		1,000
Geochemical Sampling	allow	4,000
Senior Geologist	6 mo @ \$4000/mo	24,000
Assistant Geologist	4 mo @ \$3000/mo	12,000
Geochemical Analyses	allow	7,000
Transportation	allow	7,000
Sustenance	allow	6,000
Freight	allow	4,000
Supplies	allow	5,000
Communications	allow	1,000
Tractor-excavator	150 hr @ \$140/hr	21,000
Drilling	1500m @ \$75/m	112,000
Core and rock assays	allow	8,000
Head Office expense	allow	22,000
Contingencies	allow	22,000

Total Estimated Cost, Stage 2.		\$268,000

PROPERTY

The subject properties of this report are:

CLAIM	UNITS	AREA	RECORD NO.	EXPIRY DATE
Stir*	16		2046	31 July 1987
Sven**	16			
Stirrup**	20			
ASTONISHER CG**		17.20 ha	L.7979	
MONITER CG**		18.72 ha	L.7980	
CHEVALIER CG**		20.49 ha	L.7981	
AJAX CG**		12.27 ha	L.7982	
MONTY CG**		10.29 ha	L.7983	
SUN FRACTION CG**		9.54 ha	L.8199	
land lot**			L.8192	

NOTE * denotes wholly owned by Aurun by staking.
** denotes available for option by Aurun.

The writer has examined a number of the legal corner and other perimeter marker posts and from these, it can be concluded that the claims appear to be properly and validly staked.

LOCATION AND ACCESS (Fig 1 & 2)

The properties start from the divide at the headwaters of Stirrup Creek and extend downstream across the placer ground (held by other interests) for a distance of about 5 km. This is at latitude 51° 06'N and longitude 122° 13'W, with a range in elevation from 1500m to 2000m, all in Clinton Mining Division. Airline distance from Clinton is about 45km in a direction nearly due west.

Access is west from Clinton to the Big Bar ferry across the Fraser River, about an hour long drive, and then generally southerly to the Reynold's ranch, then briefly south along the road to Lillooet, and then westerly along a poor tortuous road to the property, another hour long drive. At the property, the road loops back upon itself, providing good access to the placer area and the crown grants. The portion of this road beyond the ranch requires 4x4 vehicle, particularly in wet weather when portions of it can quickly become impassible.

A number of ruined log cabins were built decades ago along the gold-bearing section of Stirrup Creek and are no longer useful. A good but small cabin on L.8192 (the "farm") may be used to advantage with the permission of the owners.

GENERAL GEOLOGY (Fig 3)

The general area is underlain by the Lower Cretaceous Jackass Mountain Group, a sedimentary assemblage of graywacke, argillite, sandstone, siltstone, and occasionally conglomeratic strata - erosional detritus from volcanic and igneous rocks. These sediments occupy a portion of the graben along the Fraser River in a position where very strong splays from the major Fraser River Fault System trend northwesterly along the eastern front of the Coast Mountains. One of these strong faults, the Yalakom Fault might have as much as 200km of right lateral displacement along it.¹

The Jackass Mountain Group, for the most part, is relatively unexplored and unknown, for the literature describing it generally does not mention intrusives, alteration, or mineralization. It is known to be an environment favourable for porphyry copper mineralization, however, for two such prospects are known, Poison Mountain and Fish Lake, each of which have associated gold mineralization. Also the general area may possibly be part of a regional area of zoned mineralization extending from the Bralorne and Gold Bridge areas - zoned mineralization characterized by the well known Bralorne gold mineralization which is overlapped to the northeast by a broad area containing antimony mineralization, and both of which are in turn overlapped, again to the northeast by a broad area of weak mercury mineralization.² A prospect on Watson Bar Creek, 9km southeast of Stirrup Creek, has a large argillic, ~~propylitic~~ and silica alteration aureole associated with small intrusive masses and much fracturing, and hence might likely be the surface expression of an unroofed porphyry occurrence.

LOCAL GEOLOGY

The Stirrup Creek area is underlain by typical sediments of the Jackass Mountain Group. These are intruded by an irregular small stock of leucocratic quartz-feldspar porphyry in the area of the topographic divide between Stirrup and Ward Creeks, and a large number of irregular dykes and possibly sills of this stock extend downslope southwesterly across the bedrock and placer workings and continue an unknown distance, under overburden, upslope on the southwest side of Stirrup Creek. Other dark green diorite

¹ Tipper, H.W., 1969, Mesozoic and Cenozoic Geology of the Northeast part of Mount Waddington Map-Area, (92N), Coast District, British Columbia, G.S.C. Paper 68-33, 103 p.

² Woodsworth, F.J., Pearson, D.E., and Sinclair, A.J., 1977, Metal Distribution Patterns across the Eastern Flank of the Coast Plutonic Complex, South-Central British Columbia, Econ. Geol., vol. 72, pp 170-183.

porphyry dykes or intrusive masses, partly with fault contacts, have been found in the creek workings, particularly on the southwest side of the creek. The general attitude of the sedimentary strata is east to northeasterly with dips at low angles, generally 30° or less, to the north and northwest.

The contact zone of the feldspar porphyry with the graywackes and argillites trends generally along the ridge forming the topographic divide and shows effects of weak baking rather than hornfelsing or metasomatism. However, a conspicuous low-grade aureole of argillic alteration and bleaching is present, and most of the contact rock are rusty weathering because of weak, fracture controlled pyrite-arsenopyrite mineralization. Pervasive silicification is absent, and quartz in the porphyry appears to be depleted near the contact. The diorite porphyry dykes do not appear to have had appreciable contact effects either, some having fault contacts.

Minor silicification is locally present, however, in small shears and joints particularly near the contact. Tiny quartz veinlets have been exposed by extensive ground sluicing, and old maps show two spot references to chalcedony in carbonatized sediments in the sluiced trenches. There is no evidence of any extensive silicification, moreover, there is almost no float quartz. Small amounts of barite have been identified, however.

MINERALIZATION

Very small amounts of visible gold mineralization has been reported in some of the tiny quartz veinlets exposed in the carbonatized rocks, and a little has been found on rusty fracture surfaces in the weathered quartz-feldspar porphyry, and a rare silver-bismuth telluride - wehrlite - has also been identified. Small shears close to and paralleling feldspar porphyry dykes along the divide southeast of the saddle are erratically mineralized with coarse grained stibnite up to widths of 4m, pinching and swelling, and over strike lengths of a few metres, but assays indicate no associated gold mineralization. Cinnabar with some barite has been found in place in carbonatized rocks, and by panning on the southwest side of Stirrup Creek.

The best reported find (1969, Rio Tinto) was a piece of silicified float from near the source of Stirrup Creek; it reportedly contained micron-sized gold assaying 22 gm/tonne. This discovery of this float generated an appreciable exploration effort on the crown granted claims which included trenching and about 490m of percussion drilling in 9 holes, two of which were abandoned short of planned depths because of water problems, 2 diamond drill holes totalling 183m, 426 rock chip samples and 989 soil samples, and the best result of this work was a 15m section of rock containing 1.4 gm/tonne, 3m of which had 3.4 gm/tonne. The general results of the drilling was quite disappointing. A half-dozen

short adits on the crown granted claims, one with a winze, follow very thin joint controlled leads containing sporadic gold values.

Placer work during the interval between 1916 and 1940 produced a reported 70,725 gm (2,274 oz). Placer work continues seasonally on the creek, when water is available in sufficient amounts. The gold has been described as generally coarse, about 2-3 gm in size, and to be angular and of unusual purity, about 892 fine. More recent work³ indicates 930 fine, the impurities being mainly copper and mercury.

GEOCHEMISTRY

Soil and plant geochemistry of the prospect are very interesting, and have been very closely studied. The main anomalous area lies astride the topographic divide between Stirrup and Ward Creeks, and this coincides in position and alignment with the contact between the feldspar porphyry and the sedimentary rocks, which as mentioned earlier, is an area of argillic alteration and rusty weathering. Much of the area on the Stirrup side of the divide is a dry, windswept alpine meadow; much of the area on the Ward side supports a growth of stunted pine and fir.

Here arsenic in soils forms a large coherent anomaly 1200 metres long by 500 metres as measured along the 100 ppm contour, the length being along the ridge. The higher values are close to the contact; lower order values trail-off into broader areas down-slope on the Ward side.

Gold in soils exceeding a remarkable 1.0 ppm forms a number of discrete areas within the arsenic anomaly. An area of some 10 ha (25 acres) is underlain by soils containing 0.5 ppm Au or more. An area of 40 ha (100 acres) has soils containing 50 ppm As or more, and about 20 ha (50 acres) has soils containing 125 ppb Hg or more. These remarkably strong anomalous areas have been explored by trenching and limited drilling with disappointing results.

Interesting recent biogeochemical work⁴ documents the presence of a unique cyanogenic perennial plant, the Mountain Phacelia, which in the area contains highly anomalous amounts of gold. It is

³ Knight, J., and McTaggart, K.C., 1986, The Composition of Placer and Lode Gold from the Fraser River Drainage Area, Southwestern British Columbia, C.I.M.M., vol 1, no. 1, pp 21-30.

⁴ Warren, H.V., 1982, The Significance of a Discovery of Gold Crystals in Overburden, The Assoc. of Exploration Geochemists, Precious Metals in the Northern Cordillera Volume, pp 45-51.

believed that the gold dissolved and hence remobilized by this plant migrates progressively downslope, eventually reaching a zone of marked changes in soil chemistry, where it recrystallizes. Along the margins of a swampy area downslope from the gold-bearing plants, careful panning has yielded abundant fine faceted gold crystals, adding credence to the theory.

Small antimony anomalies within the arsenic anomaly reflect the known stibnite-bearing veins, but mercury is not markedly anomalous in this area. Elsewhere, on the southwest side of Stirrup Creek headwaters in a ground sluiced area, a little cinnabar has been found with barite in carbonatized rocks.

Bearing importantly on interpretation of these areas of anomalous soils is the direction of glacial transport: glacial geomorphology maps⁵ the direction of movement of the Cordilleran ice sheet to have been north-northeasterly in this vicinity. Interestingly, Stirrup Creek itself follows a markedly "V" shaped rather than "U" shaped valley which trends more or less perpendicular to the direction of ice movement, and it is "hanging" about 450 metres in elevation above its junction with Watson Bar Creek. A possible explanation for this would be that at the time of the main ice sheet, Stirrup Creek valley was filled by stagnant ice, and the principal ice movement was at a high elevation, perhaps mainly above 2000 metres in elevation. A few conspicuous erratics occur above this elevation, and lower in the valley most of the unconsolidated material appears to be local. These factors would help account for the trailing-off of the arsenic in soils anomaly on the Ward Creek side of the divide, and it would suggest the main exploration target indicated by the soils anomalies would be along the intrusive contact which is where most of the ridge top trenching has been done. It would also suggest that the placer gold has not travelled far, and consequently that the most probable place to search of the source of the placer gold would be close to the upstream cut-off; much of the ground sluicing has been done just above the limit of the bulk of the placer digging.

⁵ Tipper, H.W., 1971, Glacial Geomorphology and Pleistocene History of Central British Columbia, G.S.C. Bull. 196, 89 p.

WORK ACCOMPLISHED ON THE PROPERTIES

Work done on the properties can be classified according to the particular property, the Crown Grants, the Stirrup Claim and the Stir Claim. There is no record available for any work, if any, that might have been done on the Sven Claim. A brief tabulation of the work for which there is some knowledge, or partial record, follows:

(a) Crown Grants

- old time adits
- ground sluicing
- 9 percussion drill holes, about 490 metres
- 2 diamond drill holes, about 183 metres
- 426 rock samples
- 989 soil samples

(b) Stirrup Claim

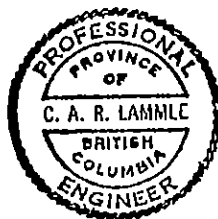
- reconnaissance geology
- reconnaissance geochemistry
 - 11 bedrock samples; Sb about 10 to 15 times background
 - As about 5 to 10 times background
 - Hg about 1.5 times background

18 stream sediments; Au amounts between 5 and 330 ppb

(c) Stir Claim

- reconnaissance geochem by a prospector sponsored by Brinco and for which there is no available record of results.

To summarize, it is clear that the soils and stream sediment geochemistry, and biogeochemistry, particularly on the Crown Granted Claims has yielded decidedly interesting and intriguing results. It is equally clear that the follow-up work completed to date has definitely not disclosed the source of the placer gold in Stirrup Creek. This study suggest a relatively unexplored covered by overburden where there is a good chance of discovering the bedrock source for the placer gold. It is concluded that additional work as outlined herein is warranted and justified because of the potential high rewards that might result from discovery of the source of the gold.



Respectfully submitted,

C. A. R. Lammle
C.A.R. Lammle, PEng.

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- BC Dept Mines An Rept 1886 p209
1918 242
1919 176, 178, 188
1920 176, 174
1921 195
1923 168
1924 144
1925 179
1926 190
1927 207
1930 198, 200
1932 155,
1933 186, 191
1940 60, 96
1938 F70
1950 32, 33
- BC Dept Mines Bull #28

REFERENCES (Continued)

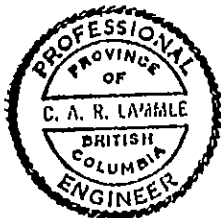
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CERTIFICATE AND PERMISSION TO USE REPORT

Re: Geological Report
Stirrup Creek Properties
92 0 1 Clinton Mining Division
for Aurun Mines Ltd
26 October 1986

I, Charles A.R. Lammle, hereby certify that:

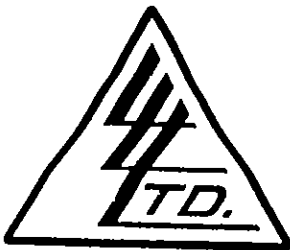
1. I am a registered professional geological engineer residing in Burnaby, British Columbia.
2. I am a graduate of the University of British Columbia (1962) having been granted the B.A.Sc. degree in Geological Engineering.
3. I have practiced my profession continuously since graduation.
4. I have been a member of the Association of Professional Engineers of British Columbia continuously since 1965.
5. I have no interest, direct or indirect in the above captioned mineral property, nor in the securities of the above named Company. The only remuneration I expect for preparation of this report is the amount of my professional fee to be normally rendered.
6. I hereby grant Aurun Mines Ltd permission to use this report for its corporate purposes.



Charles A. R. Lammle
Charles A.R. Lammle, PEng
Burnaby, British Columbia
26 Oct 1986

APPENDIX B
ANALYTICAL RESULTS
1987 GEOCHEMICAL SURVEY, SOILS

To: Mr. Emmett Horne,
 98, 920 - 9th Avenue S.W.,
 Calgary, Alberta
 T2P 2T9



File No. 30298
 Date September 17, 1987
 Samples Soil

Certificate of
 ASSAY OF
LORING LABORATORIES LTD.

Page # 1

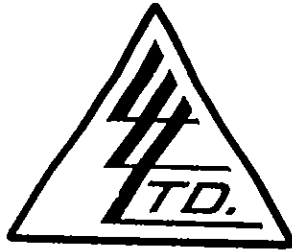
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<u>"Soil Samples"</u>		
Geochemical Analysis		
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BLN- 2	NIL	
3	NIL	
4	NIL	
5	NIL	
6	NIL	
7	10	
8	NIL	
9	NIL	
10	NIL	
11	NIL	
12	NIL	
13	175	
14	NIL	
15	NIL	
16	NIL	
17	NIL	
18	NIL	
19	NIL	
20	NIL	
21	NIL	
22	NIL	
23	10	
24	195	
25	NIL	
26	NIL	
27	NIL	
28	NIL	
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES		

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.

.....

Assayer

To: Mr. Emmett Horne
 608, 920 - 9th Avenue S.W.
 Calgary, Alberta
 T2P 2T9



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 Date September 17, 1987
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Page # 2

SAMPLE No.	PPB Au
BLN-29	NIL
30	NIL
31	25
1-EN-32	5
33	NIL
34	NIL
35	NIL
36	NIL
37	NIL
38	NIL
39	NIL
40	NIL
41	NIL
42	NIL
43	NIL
44	NIL
45	NIL
46	NIL
47	NIL
48	NIL
49	NIL
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52	NIL
53	NIL
54	NIL
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59	NIL

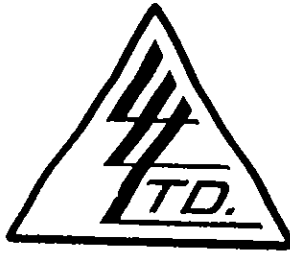
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

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D. [Signature]

Assayer

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 Samples Soil

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Page # 3

SAMPLE No.	PPB Au
1-EN-60	NIL
61	15
2-EN-62	NIL
63	20
64	NIL
65	NIL
66	265
67	15
68	NIL
69	NIL
70	NIL
71	NIL
72	NIL
73	NIL
74	5
75	NIL
76	15
77	NIL
78	NIL
79	NIL
80	NIL
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87	NIL
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90	5

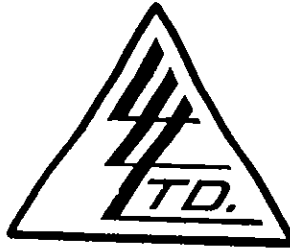
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

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D. Zeller

Assayer

To: Mr. Emmett Horne,
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Page # 4

SAMPLE No.	PPB Au
3-EN- 91	NIL
92	NIL
93	NIL
94	NIL
95	NIL
96	NIL
97	NIL
98	NIL
99	NIL
100	NIL
101	NIL
102	NIL
103	75
104	NIL
105	NIL
106	NIL
107	NIL
108	NIL
109	NIL
110	NIL
111	NIL
112	NIL
113	NIL
114	NIL
115	5
116	NIL
117	NIL
118	NIL
4-EN-119	NIL
120	NIL
121	NIL

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

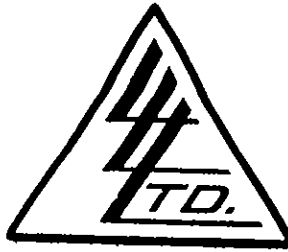
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 Pulp Retained one month
 unless specific arrangements
 made in advance.

D. [Signature]

Assayer

To: Mr. Emmett Horne,
608, 920 - 9th Avenue S.W.,
Calgary, Alberta
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Samples Soil



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Page # 5

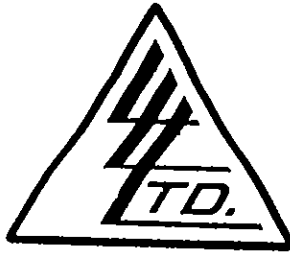
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124	NIL
125	NIL
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128	NIL
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130	40
131	15
132	15
133	NIL
134	NIL
135	NIL
136	NIL
137	NIL
138	NIL
139	NIL
140	NIL
141	NIL
142	NIL
143	10

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File No. 30299
 Date September 17, 1987
 Samples Soil

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LORING LABORATORIES LTD.

Page # 1

SAMPLE No.	PPB Au
<u>"Soil Samples"</u>	
Geochemical Analysis	
BLS- 1	NIL
2	5
3	NIL
4	NIL
5	NIL
6	NIL
7	NIL
8	NIL
9	NIL
10	NIL
11	NIL
12	NIL
13	NIL
14	175
15	NIL
16	NIL
17	NIL
18	NIL
19	NIL
20	NIL
21	NIL
22	NIL
23	NIL
1-ES-24	NIL
25	NIL
26	NIL
27	NIL
28	NIL

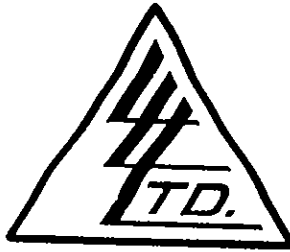
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
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 Pulps Retained one month
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T. Dole

Assayer

To: Mr. Emmett Horne,
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 Calgary, Alberta
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File No. 30299
 Date September 17, 1987
 Samples Soil

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Page # 2

SAMPLE No.	PPB Au
1-ES-29	NIL
30	NIL
31	NIL
32	15
33	NIL
34	NIL
35	5
36	NIL
37	NIL
38	NIL
39	NIL
40	NIL
41	NIL
42	NIL
43	NIL
44	NIL
45	NIL
46	NIL
47	NIL
2-ES-48	NIL
49	NIL
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54	NIL
55	55
56	NIL
57	NIL
58	NIL
59	NIL

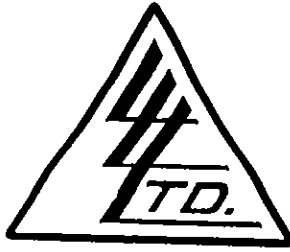
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
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 Pulps Retained one month
 unless specific arrangements
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[Handwritten Signature]

Assayer

To: Mr. Emmett Horne,
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Calgary, Alberta
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File No. 30299
Date September 17, 1987
Samples Soil

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Page # 3

SAMPLE No.	PPB Au
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62	NIL
63	NIL
64	NIL
65	NIL
66	NIL
67	15
68	NIL
69	5
70	NIL
3-ES-71	NIL
72	5
73	NIL
74	NIL
75	NIL
76	NIL
77	NIL
78	NIL
79	NIL
80	NIL
81	NIL
82	NIL
83	NIL
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86	NIL
87	NIL
88	NIL
89	NIL
90	NIL

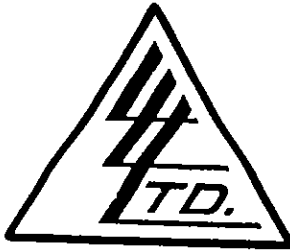
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
Pulps Retained one month
unless specific arrangements
made in advance.

P. Foley

Assayer

To: Mr. Emmett Horne,
 608, 920 - 9th Avenue S.W.,
 Calgary, Alberta
 T2P 2T9



File No. 30299
 Date September 17, 1987
 Samples Soil

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ASSAY of
LORING LABORATORIES LTD.

Page # 4

SAMPLE No.	PPB Au
3-ES-91	NIL
WN- 1	NIL
2	NIL
3	NIL
4	NIL
5	NIL
6	NIL
7	NIL
8	NIL
9	NIL
10	NIL
11	NIL
12	NIL
13	NIL
14	NIL
15	NIL
16	NIL
17	NIL
18	NIL
19	NIL
20	NIL
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22	NIL
23	NIL
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25	NIL
26	NIL
27	5
28	NIL
29	NIL

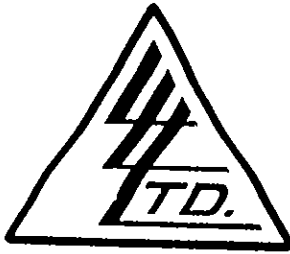
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.

[Signature]

Assayer

To: Mr. Emmett Horne,
 608, 920 - 9th Avenue S.W.,
 Calgary, Alberta
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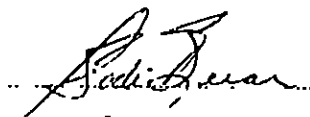
File No. 30297
 Date September 11, 1987
 Samples Rock

Certificate of
 ASSAY of
LORING LABORATORIES LTD.

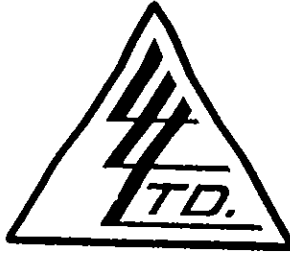
Page # 1

SAMPLE No.	PPB Au
<u>"Rock Samples"</u>	
<u>Geochemical Analysis</u>	
<u>6-28-87</u>	
1-R	NIL
2-R	5
3-R	NIL
4-R	NIL
5-R	NIL
6-R	NIL
7-R	5
8-R	5
9-R	NIL
10-R	NIL
11-R	NIL
12-R	NIL
13-R	NIL
14-R	NIL
14-R Float	NIL
<u>6-29-87</u>	
1-R	NIL
2-R	NIL
3-R	NIL
4-R	105
5-R	65
<u>10-7-87</u>	
#1-EN O/C	NIL
<p>I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES</p>	

Rejects Retained one month.
 Pulps Retained one month
 unless specific arrangements
 made in advance.


 Assayer

To: Mr. Emmett Horne
8. 920 - 9th Avenue S.W.
Calgary, Alberta
T2P 2T9



File No. 30297
Date September 11, 1987
Samples Rock

Certificate of
ASSAY
LORING LABORATORIES LTD.

Page # 2

SAMPLE No.	PPB Au
<u>11-7-87</u> #2-76-2EN # 124-4EN # 125-4EN	NIL 20 15

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES

Rejects Retained one month.
Pulps Retained one month
unless specific arrangements
made in advance.


Assayer

APPENDIX C
ITEMIZED COST STATEMENT
EXPLORATION PROGRAM, 1987

C. ITEMIZED COST STATEMENT

C.1 WAGES

For work performed between the 24th of June
and the 13th of July 1987:

S. Englund: 10 days @ \$150 per day	\$1500	
E. Goodland: 5 days @ \$100 per day	500	\$2000

C.2 TRANSPORTATION AND SUPPLIES

Truck rental 5 days @ \$50 per day		250
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C.3 ANALYSIS OF SAMPLES

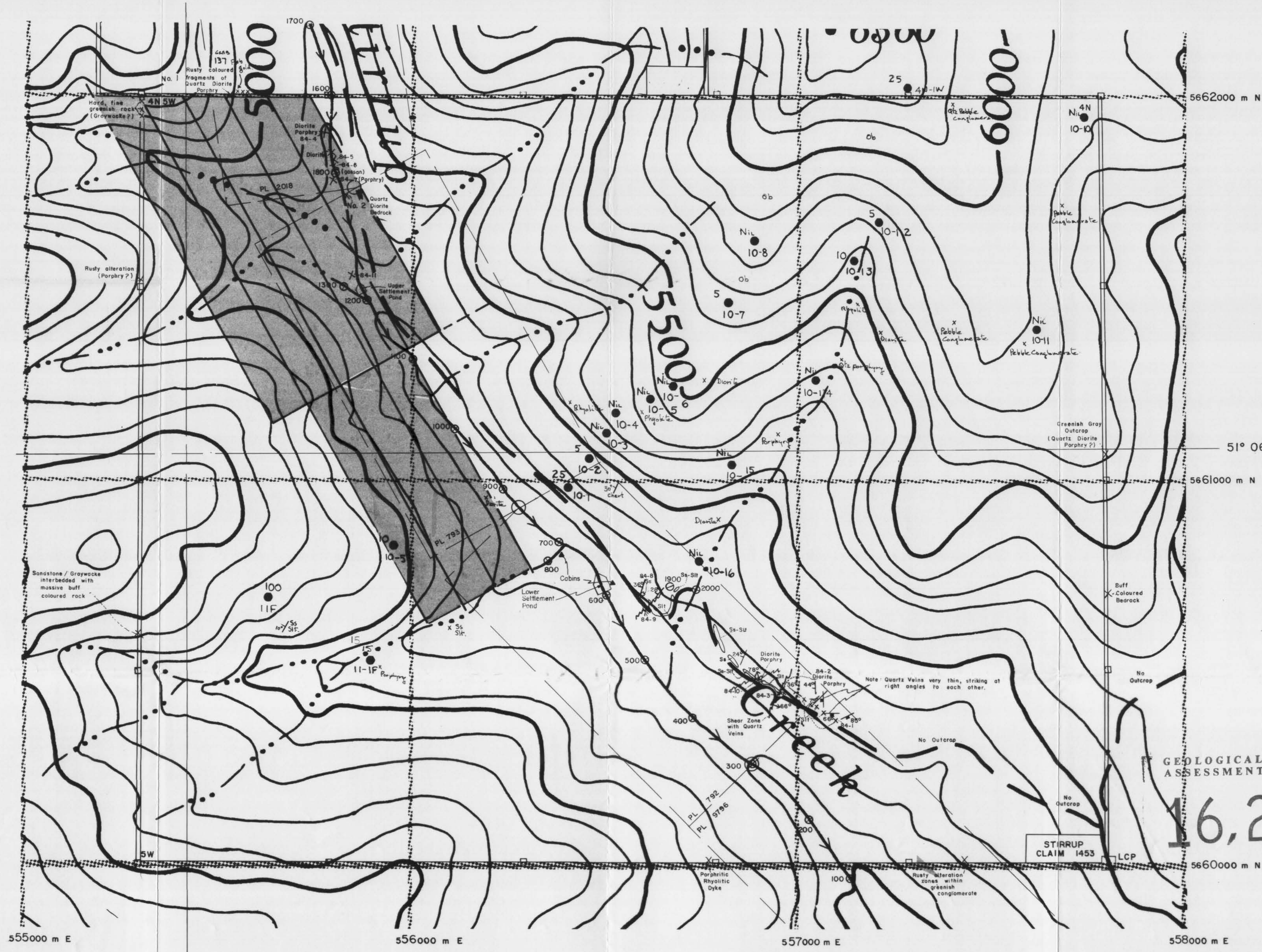
soil samples assayed for gold 263 @ \$7.05 ea.	\$1854	
rock samples assayed for gold 24 @ 8.75 ea.	210	2064

C.4 REPORT PREPARATION

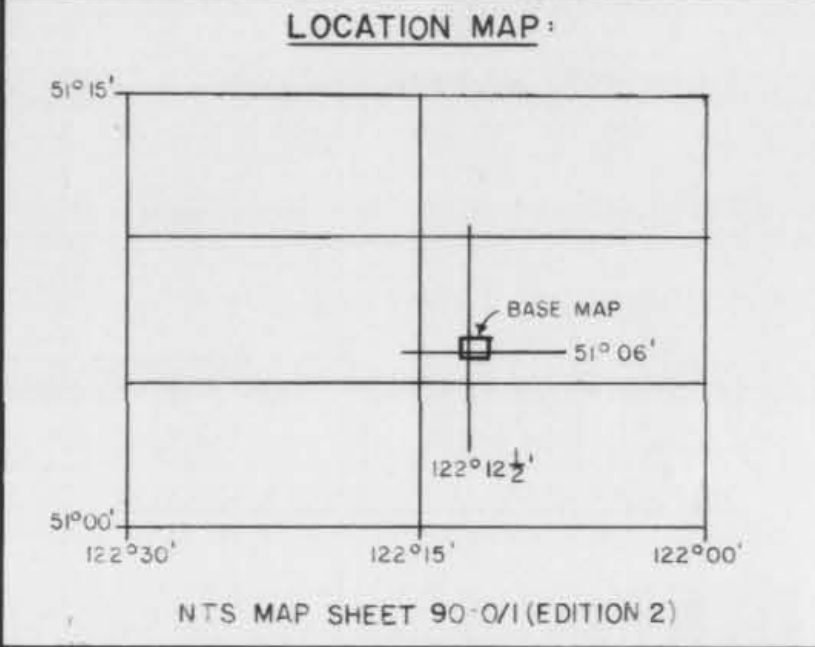
Preparation, drafting, typing and photocopying		500
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TOTAL 1987 PROJECT COST		\$4815
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- LEGEND**
- 1. TOPOGRAPHIC FEATURES**
- Roadway
 - Stirrup Creek
 - 5500 Contour (ft)
 - Contour Interval: 100 ft
- 2. CLAIM FEATURES**
- LCP Lead corner post of Stirrup Claim
 - 4N Corner post of Stirrup Claim
 - Intermediate post of Stirrup Claim
 - Mineral claim boundary
 - Placer claim post
 - - - Placer claim boundary
 - 1987 SOILS GRID AREA
- 3. GEOLOGICAL / GEOCHEMICAL FEATURES**
- 20° Strike and Dip
 - Joint vertical
 - Joint horizontal
 - Joint with dip
 - 700 Stream sediment sample and number
 - 84-7 Small outcrop and sample number
 - Extensive outcrop
 - Shear zone with attitude
 - Sandstone
 - Siltstone
 - 1986 Soils
 - Parts per billion Au
 - Location
 - Sample No.



BASE MAP:

This map has been photographically enlarged from the NTS map sheet 92-0/1 (Edition 2) ten fold.

Co-ordinates shown are of Universal Transverse Mercator Grid.

0 50 100 200 300 m

SCALE 1:5 000 (of enlargement)

GEOLOGICAL BRANCH ASSESSMENT REPORT

16,293

APPROXIMATE MEAN DECLINATION 1973 FOR CENTRE OF MAP

00° 35' NORTH
10 MILS
23° 00' MAGNETIC NORTH
415 MILS

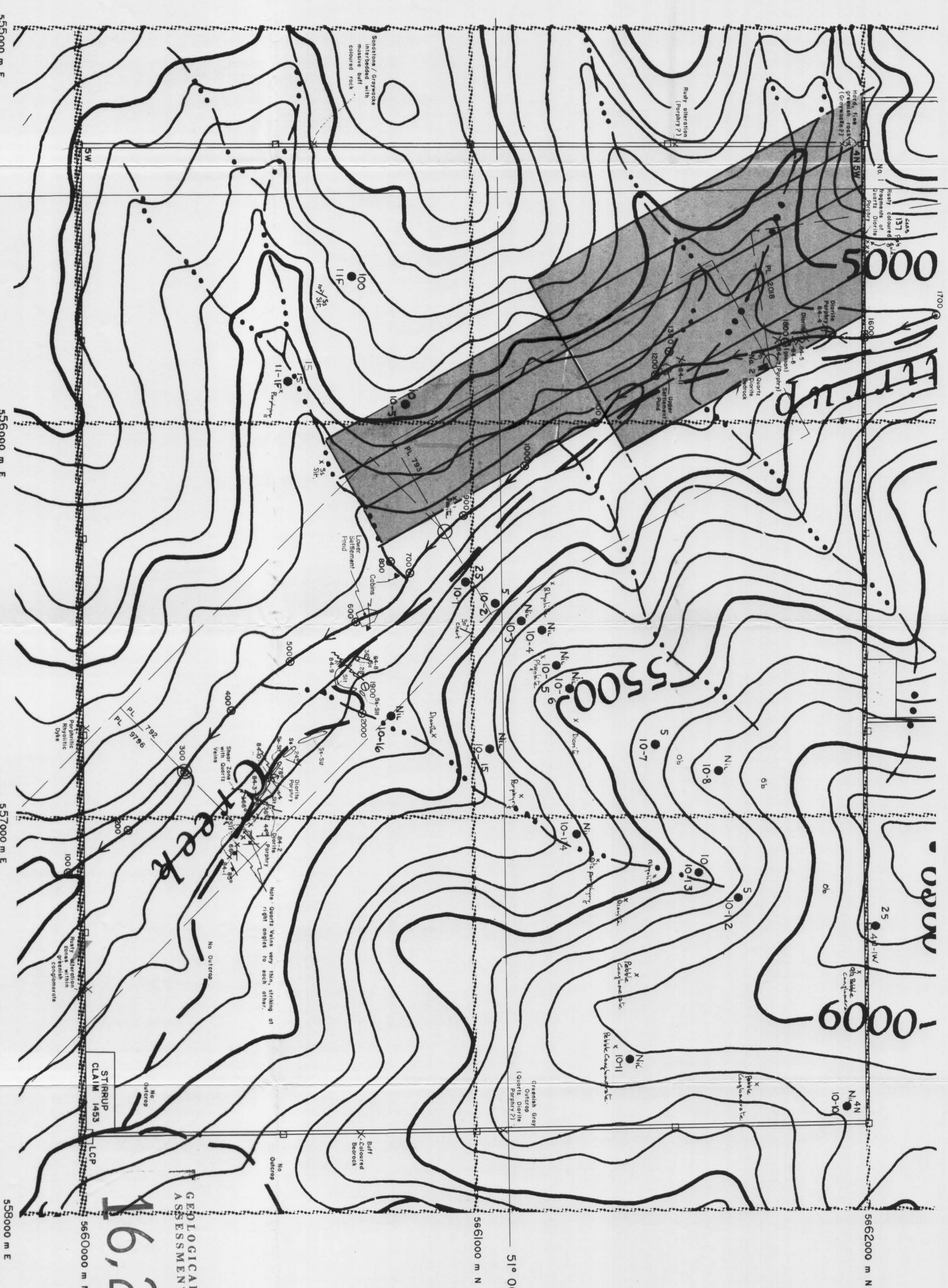
STIRRUP MINERAL CLAIM No. 1453

CLINTON MINING DIVISION

1984-87 GEOLOGICAL MAPPING and GEOCHEMICAL SAMPLING PROGRAM

Date: SEPT. 1987 Project: 84-19 By: [Signature]

MAP No 1 1984 to 87 DATA

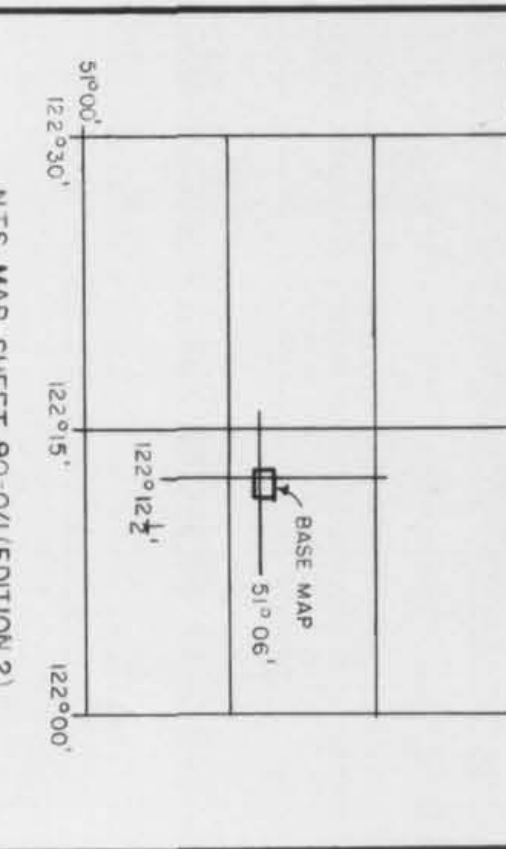


- LEGEND**
- 1. TOPOGRAPHIC FEATURES**
- Roadway
 - Stirrup Creek
 - 5500
 - Contour Interval: 100 ft
- 2. CLAIM FEATURES**
- Lead corner post of Stirrup Claim
 - Corner post of Stirrup Claim
 - Intermediate post of Stirrup Claim
 - Mineral claim boundary
 - Placer claim post
 - Placer claim boundary
 - 1987 SOILS GRID AREA

3. GEOLOGICAL / GEOCHEMICAL FEATURES

- Strike and Dip
- Joint vertical
- Joint horizontal
- Joint with dip
- Stream sediment sample and number
- Small outcrop and sample number
- Extensive outcrop
- Shear zone with attitude
- Sandstone
- Siltstone
- 1986 Soils
- Ruby per billion
- Location
- Sample No.

LOCATION MAP:



BASE MAP:

This map has been photographically enlarged from the NTS map sheet 92-0/1 (Edition 2) ten fold.

Co-ordinates shown are of Universal Transverse Mercator Grid.

GEOLOGICAL BRANCH ASSESSMENT REPORT

16,293

APPROXIMATE MEAN DECLINATION 1973 FOR CENTRE OF MAP

STIRRUP MINERAL CLAIM No. 1453

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Date **SEPT. 1987** Project **84-19**