

82. #953. 11954

GEOLOGICAL/GEOCHEMICAL REPORT

ON

GEOLOGICAL AND SOIL GEOCHEMISTRY SURVEYS

OVER THE

ROCK CANDY AND COUGAR CLAIMS

ROCK CANDY CREEK AREA

GREENWOOD MINING DIVISION

BRITISH COLUMBIA

PROPERTY : 20.5 km due N of the Town of Grand Forks in between Granby River and Rock Candy Creek.
 : 49° 118° SE
 : N.T.S. 82E/1W

WRITTEN FOR : ACORN RESOURCES LTD.
 #206-475 Howe Street
 Vancouver, B.C.
 V6C 2B3

WRITTEN BY : David G. Mark, Geophysicist
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DATED : February 17, 1984

Handwritten signature/initials



GEOTRONICS SURVEYS LTD.
Engineering & Mining Geophysicist
VANCOUVER, CANADA

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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,959

LIST OF ILLUSTRATIONS

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SUMMARY

Soil geochemistry and geological mapping were carried out over the Rock Candy and Cougar Claims from September 15th to October 2nd, 1983. The claims are located 20.5 km due north of the Town of Grand Forks, British Columbia, abutting the west side of Granby River and the east side of Rock Candy Creek. Access to much of the property is easily gained by a two-wheel drive vehicle. The terrain consists of gentle to moderate to steep slopes forested with light to moderately dense coniferous trees. The purpose of the surveys was to locate probable zones of gold mineralization of the volcanogenic porphyrite type.

The general geology of the area is Nelson and Coryell Intrusives in contact with paragneisses of the Monashee and Grand Forks Groups as well as sediments and volcanics of the Anarchist Group. The Anarchist Group is host to much mineralization in the general area.

The soil samples were dug every 50 m on 200-meter separated east-west lines and subsequently tested for gold. The results were then plotted, and contoured. This grid was used as a control for the geological mapping which was assisted by photo-interpretation.

CONCLUSIONS

1. The Rock Candy and Cougar Claims are underlain by gneisses and mica schists of the Grand Forks Group; granodiorites and porphyritic granites of the Nelson Intrusions; and syenites of the Coryell Intrusives. Cutting these rocks are dykes of trachyte, diorite porphyry, granite porphyry, quartzite, and pegmatite. Faults cross the property in several directions but mainly northerly.
2. The main showing on the property consists of pyrite replacing hornblende within Nelson Intrusives granodiorite. No evidence of economic mineralization was seen either visably or through the analysis of rocks and soil samples within this area.
3. The soil geochemistry survey revealed one significant anomaly occurring within Coryell syenites.

RECOMMENDATIONS

The writer feels the only work that should be carried out is detailing around the gold soil anomaly located on (L-4+00S, 17+00E). The soil samples should be picked up on a grid, say 140 m square, with 20-meter centers. The samples should then be tested for gold. Depending on the results, further work may then be recommended, such as trenching.

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INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data and the interpretation of geological and soil geochemistry surveys carried out over the Rock Candy and Cougar claims during the period of September 15th to October 2nd, 1983.

The surveys were carried out by Geotronics Surveys Ltd. under the field supervision of Adam Szybinski, geologist, with the aid of Tom Hunt, field technician. A total of 29.2 line km of grid were put in and a total of 660 soil samples were picked up.

The primary purpose of the geological survey was to locate volcanogenic porphyrite flows that have the potential of containing gold mineralization. That of the soil sampling was to locate gold mineralization directly.

The work was done on the recommendation of Alex Burton, P.Eng., consulting geological engineer to Acorn Resources Ltd.

PROPERTY AND OWNERSHIP

The property consists of two 16-unit claims staked within the Greenwood Mining Division as shown on Sheet 2 and as described below:

<u>Claim Name</u>	<u>No. Units</u>	<u>Record No.</u>	<u>Expiry Date</u>
Cougar	16	3338	November 26, 1983
Rock Candy	16	3340	November 26, 1983

The expiry date shown does not take into account the surveys under discussion as being accepted for assessment credits.

The claims are owned by Acorn Resources Ltd. of Vancouver, British Columbia.

LOCATION AND ACCESS

The southern boundary of the property is located 21.5 km due north of the town of Grand Forks, B.C. in between Rock Candy Creek along its western border and Granby River on its eastern border.

The geographical coordinates are 49°13'N latitude and 118°28'W longitude.

Access is easily gained by the paved road leading northerly from Highway #3 and from the west side of Grand Forks, B.C. The road runs along the western side of Granby River to the legal

corner post for the Cougar claim, about 23 km from Grand Forks. Access can also be gained by a forestry access road that runs along the north side of Pass Creek and then along the east side of Rock Candy Creek. A branch of this road runs through the center of the Rock Candy Claim.

PHYSIOGRAPHY

The property lies within the Monashee Mountains which occurs at the southern end of the physiographic division known as the Interior Plateau System. The terrain consists of gentle to moderate slopes throughout most of the property and steep slopes along the Granby River.

Elevations vary from 560 meters a.s.l. on the eastern boundary of the property at Granby River to 1310 meters a.s.l. within the southwest corner of the Cougar claim to give an elevation difference of 750 meters.

The main water sources would be Granby River flowing southerly along the eastern edge of the property, as well as Rock Candy Creek flowing southerly along the western edge.

The forest cover consists of conifers and varies from closely growing, immature stands to more widely spaced, mature stands.

HISTORY OF PREVIOUS WORK

Since the claims have been staked, no previous work has been done by Acorn Resources. The area has been worked and prospected, however, as is evidenced by two small adits, date unknown, located on the southern part of the property.

GEOLOGICAL SURVEY

(A) Field Procedure

The geological mapping was carried out by Adam Szybinski, geologist, using a grid over the property for control. The size of the grid was 50-meter stations on 200-meter separated east-west lines. The mapping over the eastern part of the grid could only be partially mapped due to rough, steep terrain and due to time constraints. Photo-interpretation was also done by Szybinski which was especially useful for mapping geological structure.

(B) Regional Geology

The oldest rock units in the area are those of the Monashee and Grand Forks Group which are Proterozoic(?) in age. They consist of paragneiss (which includes schists, quartzites and calcareous gneiss) with minor crystalline limestone and pegmatite.

The next oldest rocks in the area are the Palaeozoic Anarchist Group which may be of Permian age. This group consists of greenstone, greywacke, limestone, and paragneiss. According to Little's map, it occurs in the southeast corner of the property. The Anarchist Group is host to a number of orebodies in the area including those of the Phoenix Camp.

Intruding into the above-mentioned rocks are Mesozoic Nelson Intrusives and Paleocene(?) Coryell Intrusives. The Nelson rocks are acidic and consist of granites, granodiorites, quartz diorites, monzonites, and syenites. It is now suspected that some of these rocks could be volcanics of the Anarchist Group. The Coryell rocks consist of syenite, monzonite, shonkinite and granite.

Intruding into all of the above rocks are volcanics of the Phoenix Volcanic Group which are of Paleocene or Eocene Age. They occur as plugs or isolated outliers.

Mineralization on peripheral properties occurs as "veins" of massive pyrrhotite with accompanying pyrite and chalcopryrite in varying degrees and variable to no quartz.

The Simpson zone is described as "a quartz filled shear zone in the Anarchist greenstone skarn area which has been mineralized with pyrite pyrrhotite and chalcopryrite across a width of 100 feet or more." Former production from this area returned an average of 0.71 ounces of Au/ton and 0.25 ounces of silver per ton.

A second mineralization area is in part indicated by a gossan zone with "disseminated pyrite, pyrrhotite and chalcopryrite with quartz diorite over an area of 500 feet by 1,000 feet". The width of the zone is reported as approximately 30 feet.

On the Pathfinder there are reportedly four distinct veins "running parallel and from 8 to 21 feet in width. There are good showings on all the veins".

(C) Property Geology

The oldest rocks within the map area occur in the northwest and central parts and include gneisses and associated mica schists. The gneisses (paragneisses according to H.W. Little, 1957) contain mainly fine biotite (about 35%), feldspar, and quartz; the colour is usually light, grading into dark; the texture is granoblastic with a medium (sometimes coarse) grain size and a visible, well-developed lineation. The gneisses were probably metamorphosed from sedimentary rocks formed in a progradational

environment. In several areas (predominantly the western part) poorly formed quartz and feldspar pegmatites in the shape of irregular veins have been developed in the gneisses. According to Little's map, they may be rocks of the Monashee and Grand Forks Groups. However, they are not shown within the Rock Candy and Cougar claims.

The mica schists occur in several places with the gneisses throughout the property. It's colour is black (because of the amount of biotite); the texture, lepidoblastic; the grain size, very fine; the schistosity, poorly developed with its strike north-south.

In the northwest part of the property is developed a thin zone of agmatite (migmatite), where the Palaeozoic rocks consist of gneiss or mica schist and the Lower Cretaceous rocks are represented by granite containing two types of mica.

The above group of rocks represent a rather high metamorphic grade and is typical for areas that have been regionally metamorphosed.

Rocks of the Nelson Intrusions, mainly granodiorite and porphyritic granite, contain mainly plagioclase, quartz, and hornblende. The texture is hipidiomorphic and is granular to porphyritic (in porphyritic granite) by the development of tabular plagioclase. The structure is massive with frequent transitions to a fluidal texture. The geological boundary between the Grand Forks Group and the Nelson Intrusions is approximate, because the gneisses are partially assimilated by granodiorite and granite.

Syenitic rocks of the Coryell Intrusions cut all the above rocks usually along dislocations (joints, faults, etc) and sometimes in the shape of small batholiths. The colour of the

syenites are reddish, pale buff, and greenish, and the texture ranges from ophitic to porphyritic (both rather characteristic for volcanic rocks). The groundmass (feldspar and biotite) has a medium grain size with large phenocrysts of plagioclase that amount to 30% to 70% of the rock.

All formations have been cut by dykes of different rocks: trachyte, diorite porphyry and granite porphyry. The trachytes are probably connected with rocks of the Phoenix Volcanic Group. Diorite porphyry and granite porphyry are probably older and could have connections with plutonic rocks, but may also represent a crystallization from andesitic magma. As a result their age is not clear.

All formations have been folded. The most intense deformations are visible in the Proterozoic(?) rocks. Faults are very clearly defined in this area and occur in all directions, but principally north-south. Blocks of Proterozoic gneiss have been uplifted relative to the younger rocks.

As shown on the detail map, Sheet 5, at a scale of 1:200, sulphide mineralization was found within rocks classified as Nelson Intrusions. The hornblende has been replaced by pyrite in granodiorite. In this small showing occurs two old adits from which 5 samples were taken (the results are plotted on Sheet 5). At a few points, visible oxidization was found within rocks of this same Nelson Intrusion. From one of these points a rock sample was taken and chemically analyzed as follows: gold, <5 ppb; silver, 0.1 ppm; lead, 1 ppm; zinc, 53 ppm; and copper 30 ppm.

As seen from the results on this sample and the results of the 5 rock samples shown on Sheet 5 as well as the soil geochemistry results, this showing does not appear to carry any economic mineralization.

SOIL GEOCHEMISTRY

(A) Survey Procedure

The samples were picked up at 50-meter centers on the same east-west lines. They were dug with a D-handled shovel at about a 15- to 20-cm depth. The horizon sampled was B. Samples were placed in brown, wet-strength, paper bags (gussett bags) with the sample number marked thereon.

The detail area was sampled on a 40-meter square grid at 10-meter centers.

(B) Testing Procedure

All samples were tested by Chemex Labs Ltd. of North Vancouver, B.C. The sample is first thoroughly dried and then pulverized in a ring pulverizer. It was then rolled on a rolling sheet to homogenize it.

10 grams of the sample was then fire-assayed with standard techniques. 2 mg of silver was then added to collect the gold. The lead button from the fire assay was then cupelled and the silver-gold prill was dissolved in aqua regia. It was next analyzed by the atomic absorption technique to a detection limit of 5 parts per billion (ppb).

(C) Treatment of Data

The gold geochemistry data were not statistically analyzed due to the way the data were distributed. Rather, the statistical parameters were "eye-balled" as follows:

Mean background value	8
Sub-anomalous threshold value	18
Anomalous threshold value	30

All values are in parts per billion (ppb).

(D) Discussion of Results

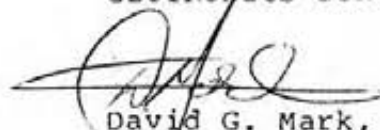
The general background level for gold is somewhat higher than normal. The mean background level is usually below 5 ppb whereas on this property it is estimated to be about 8 ppb. This indicates that the general area is favourable for the exploration of gold mineralization.

Nevertheless, only one anomaly was discovered. It contains 2 anomalous values of 40 and 70 ppb respectively. Considering that the samples were picked up on a reconnaissance grid (50 m by 200 m), the anomaly is considered quite significant. It occurs within the Coryell intrusive syenites close to Grand Forks gneisses and to the immediate west of a northerly-trending fault.

Several anomalies containing only sub-anomalous values were revealed. None of these are considered to be worthy of further interest.

The detail area contains a sub-anomalous anomaly with one barely anomalous value of 30 ppb. The anomaly correlates somewhat with the northern adit but in a very insignificant way. The results confirm the rock sample results indicating that there is very little gold in the sulphide mineralization of this area.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.



David G. Mark,
Geophysicist

SELECTED BIBLIOGRAPHY

Barr, D.A. - Gold in the Canadian Cordillera, C.I.M. Bulletin Vol. 73, No. 818, June 1980, P. 68-69.

Bayle - Geochemical Methods for the Discovery of Blend Mineral Deposits, C.I.M. Bulletin, September 1982, P. 113 - 132.

Burton, Alex, P.Eng., Report on the Rock Candy and Cougar Mineral Claims, Greenwood M.D., B.C., for Tatsa Resources Ltd. (now Acorn), Burton Consulting Inc., March, 1983

Economic Geology - Seventy-fifth Anniversary Volume 1905-1980, Economic Geology Publishing Company 1981.

Geology of Canadian Gold Deposits, C.I.M. 1982.

Geology of Canadian Ore Deposits, - 6th Commonwealth Mining and Metallurgical Congress Canada 1957, C.I.M. Geology Division 1957.

Little, H.W., Geology Map, Kettle River (82E/East Half), Map 6-1957, Geol. Surv. of Canada, 1957.

Little, H.W., Geology Map, Kettle River (82E/West Half), Map 15-1961, Geol. Surv. of Canada, 1961.

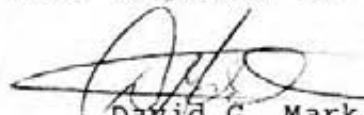
GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices located at #403-750 West Pender Street, Vancouver, British Columbia.

I further certify:

1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. I have been practising my profession for the past 15 years and have been active in the mining industry for the past 18 years.
3. I am an active member of the Society of Exploration Geophysicists and a member of the European Association for Exploration Geophysicists.
4. This report is compiled from data obtained from geological and soil geochemistry surveys carried out by Geotronics Surveys Ltd., under the supervision of myself and under the field supervision of Adam Szybinski, geologist, from September 15th to October 2nd, 1983.
5. The work was done entirely on the recommendations of Alex Burton, P.Eng., who is the consulting geologist for Acorn Resources Ltd.
6. I am a director of Acorn Resources Ltd., holding 47,500 free shares and 55,000 escrow shares. Geotronics Surveys Ltd. holds 20,000 free shares. None of these shares were acquired as a result of writing this report.


David G. Mark
Geophysicist

February 17th, 1984

AFFIDAVIT OF EXPENSES

The soil geochemistry and geological surveys were carried out from September 15th to October 2nd, 1983 on the Rock Candy and Cougar Claims, Rock Candy Creek, Greenwood M.D., B.C. to the value of the following:

FIELD:

Geologist and Field technician	
165 hrs @ \$45/hr	\$ 7,425
Vehicle Rental, including gas, 18 days @ \$110/day	1,980
Room and Board, 18 days @ \$100/day	1,800
Survey Supplies	200
	<u>\$11,405</u>

LABORATORY:

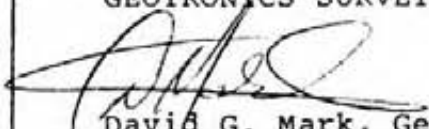
660 soil samples @ \$8.25/sample	
(including ring pulverizing and	
fire assay with AA finish for gold)	\$ 5,445
6 rock samples @ \$12.95/sample	
(for gold as above plus 4 additional metals)	78
	<u>\$ 5,523</u>

REPORT:

Senior Geophysicist, 15 hours @ \$40/hour	\$ 600
Junior Geologist, 40 hours @ \$30/hour	1,200
Drafting and printing	1,400
Typing, photocopying and compilation	150
	<u>\$ 3,350</u>

Grand Total	<u>\$20,278</u>
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Respectfully submitted,
GEOTRONICS SURVEYS LTD.

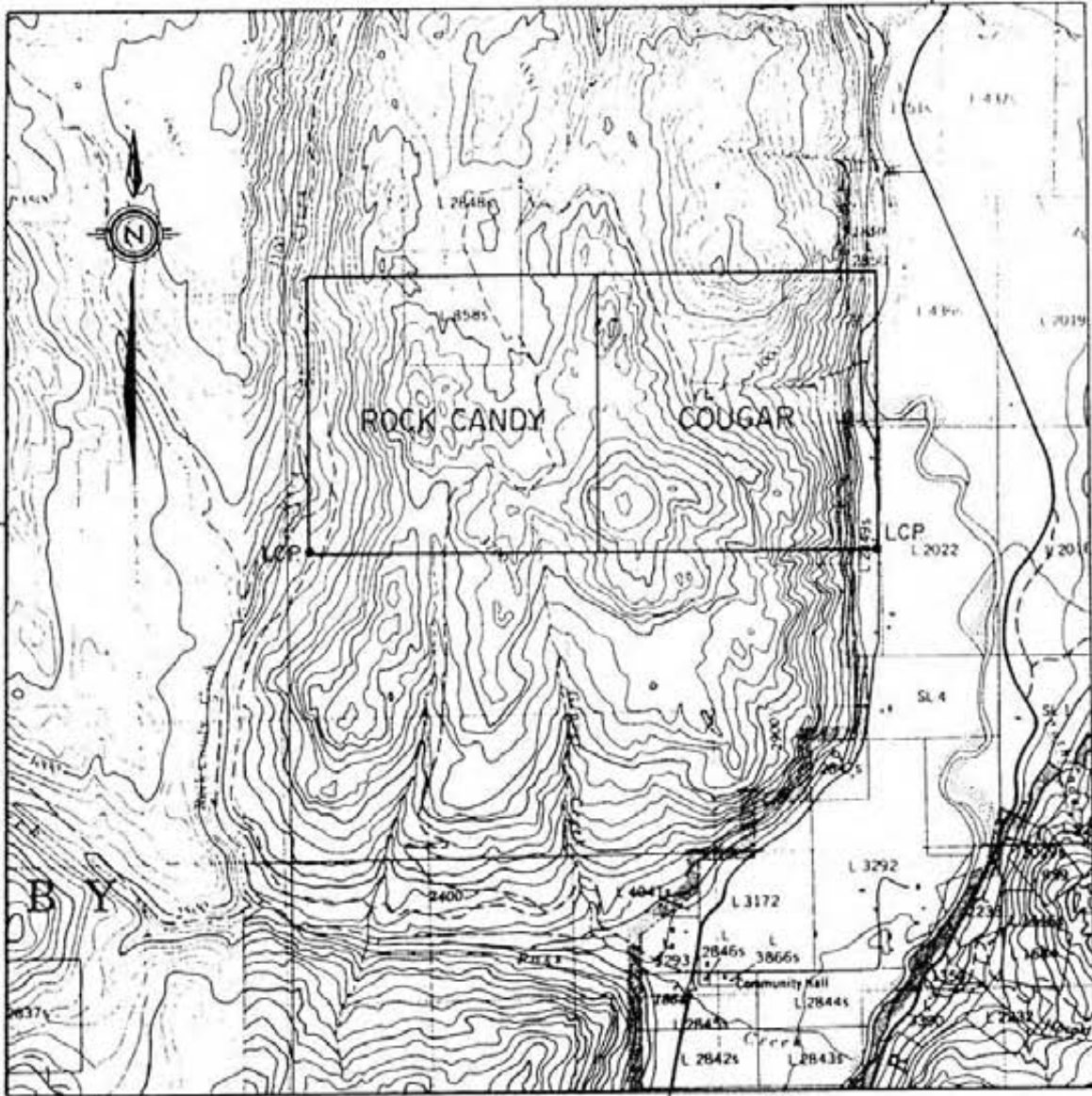

David G. Mark, Geophysicist
Manager



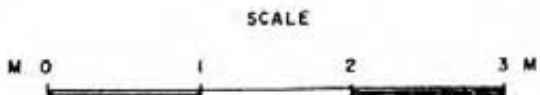
GEOTRONICS SURVEYS LTD.		
ACORN RESOURCES LTD.		
<u>ROCK CANDY & COUGAR CLAIMS</u>		
ROCK CANDY CREEK AREA GREENWOOD MINING DIVISION, B.C.		
<i>LOCATION MAP</i>		
Drawn by: —	Scale: 1: 8,000,000	Date: Feb., 1984
N.T.S. 82E/1W.	Job no.: 83-42	Sheet no.: 1

49°13'

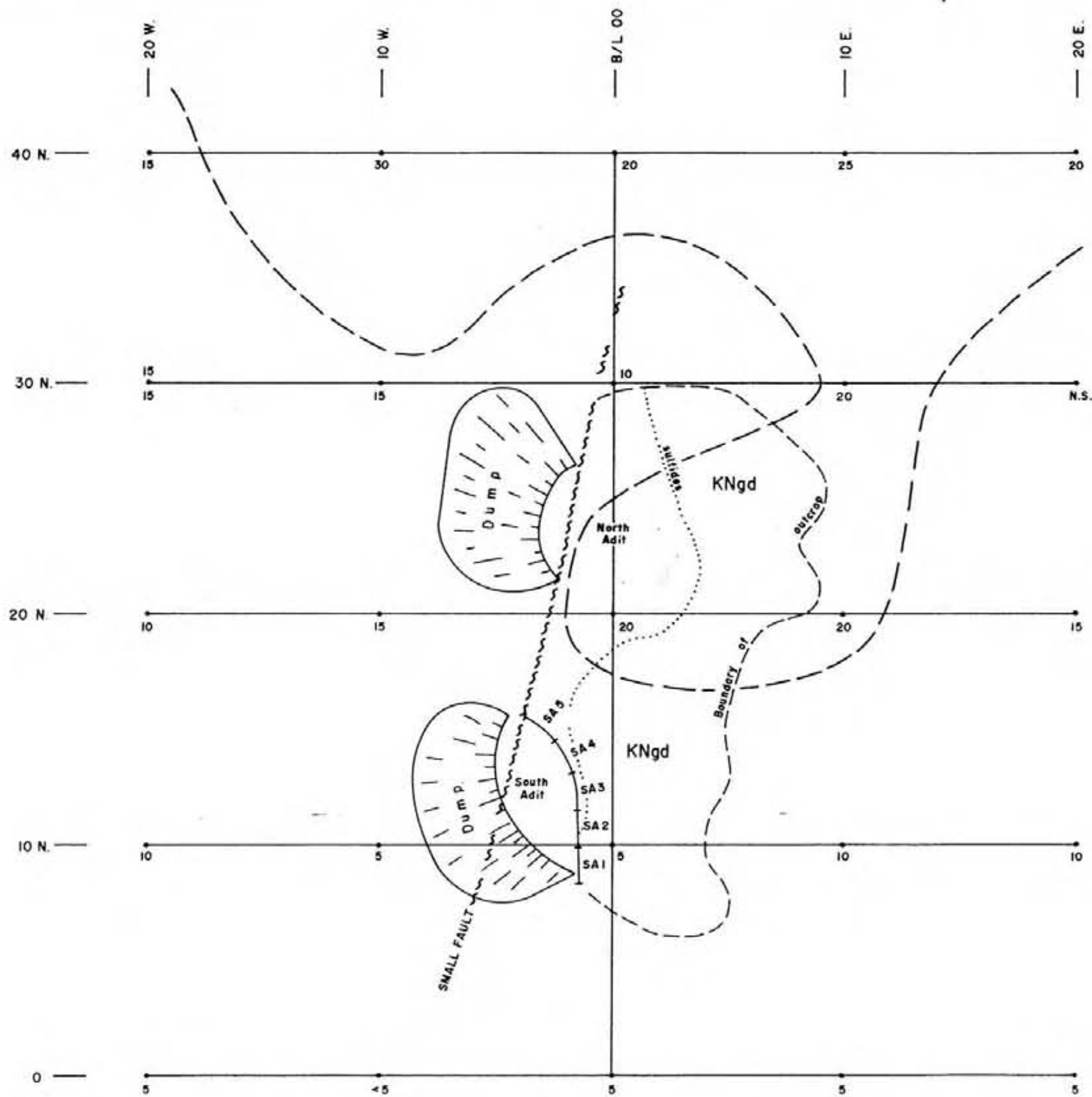
118°26'



APPROX.
19 KILOMETRES
TO
GRAND FORKS



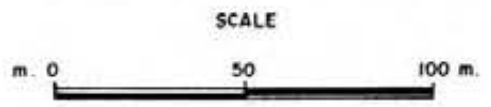
GEOTRONICS SURVEYS LTD.				
ACORN RESOURCES LTD.				
<u>ROCK CANDY & COUGAR CLAIMS,</u>				
ROCK CANDY CREEK AREA GREENWOOD MINING DIVISION, B.C.				
<i>CLAIM MAP</i>				
Scale	Date	NTS	Job No.	Sheet No.
1:50,000	Feb., 1984	82E/1,2	83-42	2



NUMBER	Au (ppb)	Ag (ppm)	Pb (ppm)	Zn (ppm)	Cu (ppm)
SA 1	< 5	0.1	5	12	23
SA 2	5	0.1	4	15	12
SA 3	5	0.1	2	12	26
SA 4	25	0.1	2	14	23
SA 5	< 5	0.1	2	44	29

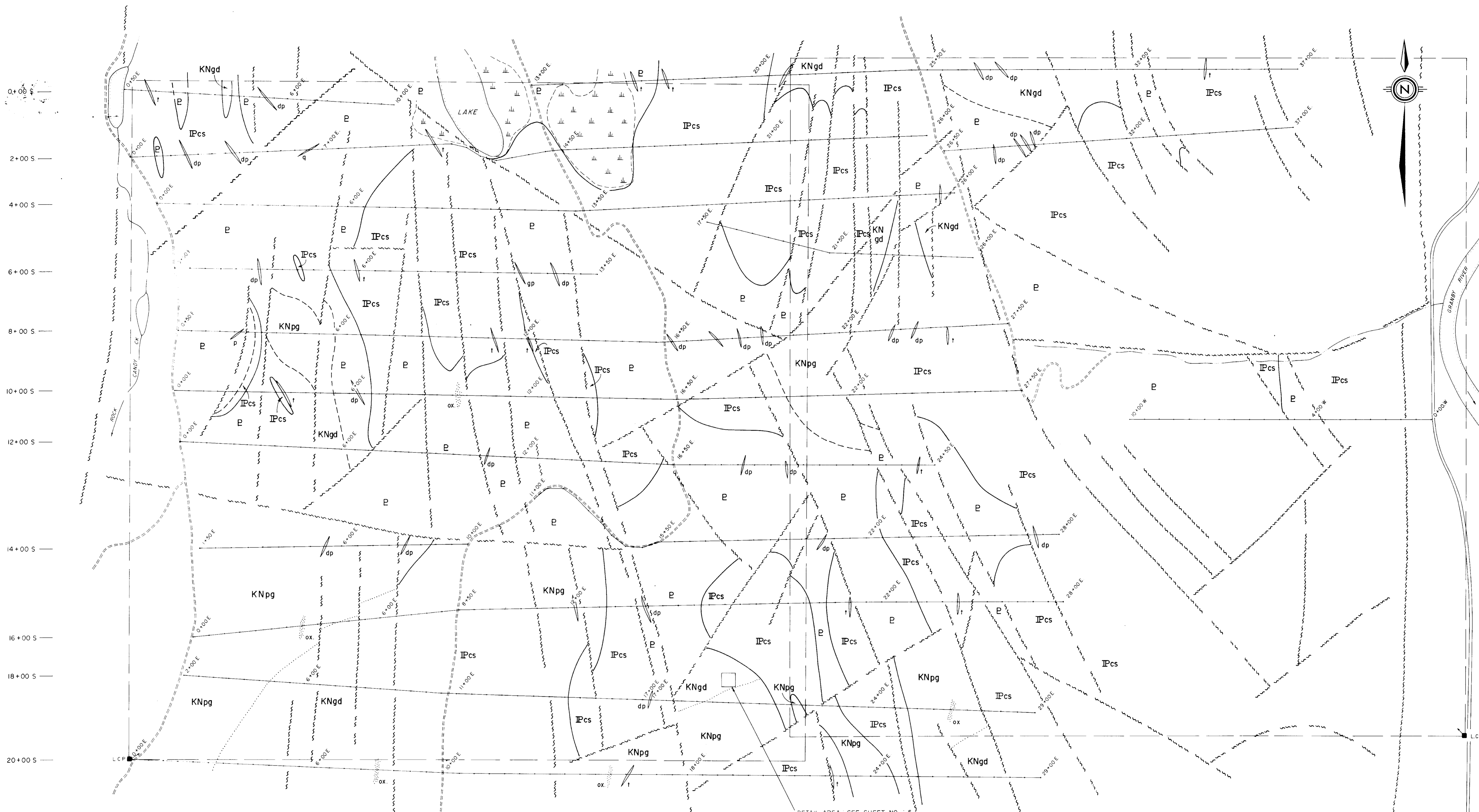
LEGEND

- SUB-ANOMALOUS CONTOUR OF GOLD - 18ppb
- KNgd** - GRANODIORITE OF NELSON INTRUSIONS.



To accompany report by David G. Mark, geophysicist, dated Feb. 17, 1984.

GEOTRONICS SURVEYS LTD.		
ACORN RESOURCES LTD.		
<u>ROCK CANDY & COUGAR CLAIMS</u>		
ROCK CANDY CREEK AREA		
GREENWOOD MINING DIVISION, B.C.		
DETAIL AREA		
GEOLOGY & SOIL GEOCHEMISTRY		
GOLD IN (ppb)		
Drawn by: A.S.	Scale: 1:200	Date: Feb., 1984
N.T.S. 82E/1W.	Job. no.: 83-42	Sheet no.: 5

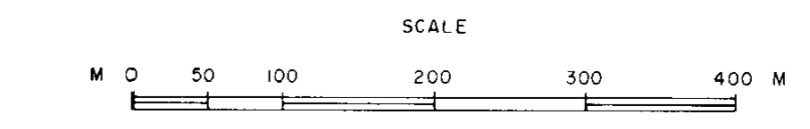


DETAIL AREA, SEE SHEET NO. 5

LEGEND

- Dykes of : t - trachyte
dp - diorite porphyry
gp - granite porphyry
- PALEOGENE (?) CORYELL INTRUSIONS**
- IPcs - syenite
- CRETACEOUS (?) NELSON INTRUSIONS**
- KNgd - granodiorite
- KNpg - porphyritic granite
- PROTEROZOIC (?) GRAND FORKS GROUP (?)**
- q - quartzite
- p - pegmatite
- P - gneisses with mica shists
- Oxidation
- Geological boundary (defined, approx, assumed)
- Fault (defined, approx.)

GEOLOGY MAPPED BY A SZYBINSKI.



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ACORN RESOURCES LTD.
ROCK CANDY & COUGAR CLAIMS
ROCK CANDY CREEK AREA
GREENWOOD MINING DIVISION, B.C.

GEOLOGICAL SURVEY

DRAWN BY A.S.	SCALE 1:5,000	DATE FEB., 1984	NTS. 82E/1W	JOB NO. 83-42	SHEET NO. 3
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LEGEND

MEAN BACKGROUND VALUE - 8 ppb GOLD

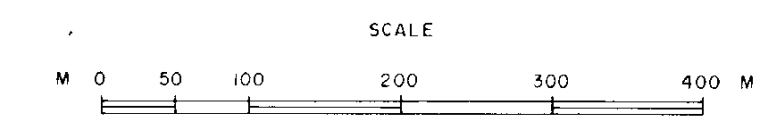
SUB-ANOMALOUS THRESHOLD VALUE - 18 ppb GOLD

ANOMALOUS THRESHOLD VALUE - 30 ppb GOLD

CONTOURS

--- 18 ppb GOLD

— 30 ppb GOLD



**GEOTECHNICAL BRANCH
ASSESSMENT REPORT**

11,959

To accompany report by David G. Marx, geophysicist, dated February 17 / 1984

GEOTRONICS SURVEYS LTD.
ACORN RESOURCES LTD.
ROCK CANDY & COUGAR CLAIMS
ROCK CANDY CREEK AREA
GREENWOOD MINING DIVISION, B.C.

**SOIL GEOCHEMISTRY SURVEY
GOLD IN (ppb)**

DRAWN BY A.S.	SCALE 1:5,000	DATE FEB, 1984	NTS 82E/1W	JOB NO. 83-42	SHEET NO. 4
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