

GEOPHYSICAL SUMMARY REPORT

on the

RUSS CLAIM GROUP

(AN ASSESSMENT REPORT)

**Dawson Mining District, Yukon
(YCS #115-P-13)**

**Latitude 63° 32' N
Longitude 137° 47' W**

by

**ACE R. PARKER & ASSOCIATES LIMITED
MINERAL INDUSTRY CONSULTANTS & CONTRACTORS
Whitehorse, Yukon**

Dated

at

Whitehorse, Yukon

this

1st Day of June, 1970

Work Conducted

Between

July 1969 & June 1970

Intermittently



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$18,100

[Signature]
Geologist or Mining Engineer

Considered as representation work under Section 83 of the Yukon Quartz Mining Act.

[Signature]
Commissioner of Yukon Territory

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INTRODUCTION

This Report covers the Geophysical Surveys conducted to date on the Russ Claim Group, a promising Uranium prospect situated along Clear Creek and near Barlow Lake in the Dawson Mining District, Yukon Territory.

The work discussed in this Report was conducted by and at the request of the Management and Staff of ACE R. PARKER & ASSOCIATES LIMITED, Mineral Industry Consultants & Contractors, Whitehorse, Yukon.

The Airborne Survey was contracted by Geotronics Surveys Ltd. and supervised by this writer.

Work completed to date is summarised in this Report and is presented as annual assessment work in compliance with the Yukon Quartz Mining Act.

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SUMMARY

This Report outlines the methods and results of Radiometric Geophysical Surveys completed on the Russ Claim Group situated along Clear Creek in the Dawson Mining District, Yukon Territory.

One Survey, an Airborne Scintillometer Survey was conducted by Geotronics Surveys Ltd. and is appended here with along with respective maps and recommendations. This survey included approximately one hundred (100) miles of flight lines and used roads, streams and topographic features as control points.

The second survey was a ground Radiometric Survey conducted to verify the results of the Airborne Survey and included approximately 54 line miles of survey.

The property warrants additional exploration in the form of additional Geophysical Surveys, extensive trenching and diamond drilling.

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PROPERTY & OWNERSHIP

The property consists of 56 contiguous and granted Mineral Claims which are shown on the attached property map.

These Claims are recorded in the Office of the Mining Recorder, Dawson Mining District, Dawson City, Yukon and are further described as follows:

<u>CLAIM NAME</u>	<u>GRANT NO.</u>	<u>EXPIRY DATE</u>	<u>REGISTERED OWNER</u>
Russ#1-8 incl.	Y15092 - Y15099 incl.	June 3, 1970	G. Karens
Russ#9-14; 30,31	Y37897 - Y37904 incl.	June 3, 1970	J. Muff
Russ#15-18; 23,27,28,48	Y37905 - Y37912	June 3, 1970	G. Gordon
Russ#19-22; 24-26,33	Y37913 - Y37920 incl.	June 3, 1970	E. Iseton
Russ#34,35, 37-40,47,49	Y37929 - Y37936 incl.	June 3, 1970	G. Davies
Russ#29,32, 41-46	Y37921 - Y37928 incl.	June 3, 1970	W. Seidler
Russ#36,50-56	Y37937 - Y37944 incl.	June 3, 1970	AOE R. Parker

No mining or milling plant exists on the Claims and to the best of my knowledge and belief, no liens are registered against the property.

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LOCATION & ACCESS

The property (63°32'N, 137°47'W), lies in west-central Yukon Territory, 220 airmiles north-northwest of Whitehorse, Yukon, 57 airmiles southeast of Dawson City, Yukon, 52 airmiles west of Mayo, Yukon and more particularly along Clear Creek, three (3) airmiles northeast of the Whitehorse-Dawson City Highway at mile Post #258.5.

The Whitehorse-Dawson Road and the Clear Creek Placer Road in the Barlow Area provide access to the area.

The local placer "roads" could be up-graded to provide easy access to the area although currently helicopters based in Whitehorse, Yukon provide the most convenient access to the property.

The Whitehorse-Dawson Highway provides a 259 mile long connection with a Railhead at Whitehorse, Yukon which is 111 miles by Railroad from dee-sea haulage facilities at Skagway, Alaska.

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HISTORY & DEVELOPMENT

Radioactive rocks have been known in the Clear Creek Area for many years and were first formerly reported by Lang in Geological Survey Of Canada - Paper #51-10, page 41 - where Allanite, a thorium-rich mineral, was reported in the placer deposits of Clear Creek upstream from the Russ Group.

Later in 1966, Yukon Prospector - Mr. George Karens - prospected the Clear Creek Area and staked an area of anomalous radioactivity presently known as the Russ Group.

Mr. Karens's dilligent work showed that the radioactivity in the Russ Group was related to uranium and not thorium.

During the period when uranium prices were relatively low, several prominent Engineers, such as Dr. Ahe and Dr. Campbell, reported on the property and suggested to their clients that work be done on the ground but very little work was done to determine if the uranium content increased below the area of weathering.

Recent limited test holes indicate that uranium content increases several hundred percent with depth and subsequently an airborne scintillometer survey was flown to determine the extent of the strongest surface radioactivity. This survey was verified by ground surveys discussed herein.

The results of the surveys are very gratifying (see attached maps.)

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DISCUSSION OF THE SURVEYSAirborne Scintillometer Survey

Self explanatory - See appendix #A for Authorization, Instrumentation, Interpretation, Survey Procedure, Methods, Conclusions and, Recommendations.

Ground Radiometric SurveyPurpose & Control of the Survey

This Survey's purpose was to provide detail, general exploration, and verification of the anomalous zones outlined by the Airborne Geophysical Survey and casual prospecting in the area.

Incorporated claim lines and chain and compass traverses spaced at 500 foot intervals and trending on a bearing of 70 degrees over a composite distance of 54 miles provided control for the survey.

Instrumentation

A portable Hoffman Model 216-1 "Countmaster" radiometric meter powered by 75 volt dry cell batteries was employed to conduct the survey. The unit is built in the United States and is equipped with a visual timed-scaler counter in addition to a meter which reads directly to a maximum of 20 MR/HR. A shielded probe is attached to the unit by a 4 foot electrical cable and completes the electrical

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Instrumentation (cont'd)

circuit which is necessary to "read" emitted radiation, essentially gamma rays.

Average radiometric readings in milliroentgen/hr were taken at regular intervals along chain and compass lines.

The respective readings were recorded and the anomalous areas were subsequently plotted on the attached maps.

RESULTS OF THE SURVEYS

The attached maps show several anomalous zones revealed by the survey and plotted on a scale of 1" = 1000 feet.

An elongate anomaly located at the confluence of Clear Creek and its northern tributary, Henry Creek, is of particular importance since this anomaly is largely covered by overburden and outcrops in this area yield significant assays of uranium and nil assays of thorium in a porphyritic and yellowish-orange granite.

A "stronger" but smaller anomaly located on the right limits of Clear Creek and 1.5 miles upstream is also judged to be extremely promising.

Due to the nature of emitted radiation and the purpose of the survey, no attempt was made to provide internal detail of each respective anomaly other than its order of importance and area of strongest radiation.

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CONCLUSIONS & RECOMMENDATIONS

Both surveys included in this Report succeeded in outlining areas of anomalous radiation worthy of additional exploration - some of probable major significance.

The anomalies indicated by the ground surveys generally coincide in location to the airborne anomalies but not in geometry. Due to the circumstantial location of the flight lines, particularly those lines crossing the Nuss Claims No. 1 to No. 8 incl., a very important area, received only sparse coverage by the airborne survey. This area was subsequently found to be anomalous by the ground survey.

Radiation, according to field evidence appears to be directly related to a small pluton of porphyritic granite and several satellite apothoses of similar rock which has intruded older granites near their contact with Precambrian (?) schists. Mineralization was probably deposited hydrothermally and controlled by fractures, joint and local lineaments directly associated with the pluton as well as regional movements associated with the Tintina Fault, which passes 10 miles southwest of the property.

Many of the anomalies represent significant exploration targets when considering the fact that most of them occupy well drained areas in a semi-arid region, and that uranium mineralization often leaches in excess of 50% at surface due to past erosional processes.

The fact that thorium is absent in assays and "background" potassium in adjacent granites did not produce anomalous

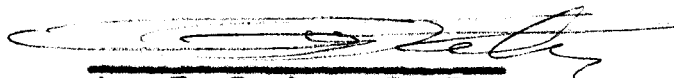
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CONCLUSIONS & RECOMMENDATIONS (cont'd)

results, indicates that the uranium content of the underlying rock is probably the cause of most of the anomalies.

The entire claim block is worthy of extensive exploration especially trenching and diamond drilling when considering all economic, geologic, and geophysical factors relating to the property - especially the well known fact that 5 feet of soil usually completely retards all gamma radiation.

Respectively submitted,



Ace R. Parker, P. Eng.

June 1, 1970

Whitehorse, Yukon

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COSTS

The composite costs of the survey work outlined in this Report and including transportation, aircraft rentals, engineering, surveying, supervision, and subsistence are as follows:

One hundred (100) line miles of airborne Scintillemeter Survey and fifty four (54) line miles of ground Radiometric Scintillemeter Survey - \$18,100.00

AFFIDAVIT OF COSTS


I, ACE R. PARKER, of the City of Whitehorse, Yukon Territory,
do certify that:

- 1 - I am a Consulting Engineer practicing under the name and style of ACE R. PARKER & ASSOCIATES LIMITED and have personal knowledge of the matters described herein.

- 2 - To the best of my knowledge and belief, the costs represented in this Report are a total statement of direct expenditures for Assessment Work performed on the Russ Claim Group as outlined by this Report.


Ace R. Parker, P. Eng.

Sworn before me at
Whitehorse in the
Yukon Territory this
17th Day of June, 1970



A Commissioner for Taking Oaths
in and for the Yukon Territory

PERSONNEL EMPLOYED ON THE PROJECT

<u>NAME</u>	<u>OCCUPATION</u>	<u>ADDRESS</u>
N. Bjerkas	Stenographer	Whitehorse, Yukon
P. Burgess	Exploration Tech.	Montreal, Quebec
G. Davies	Exploration Tech.	Vancouver, B.C.
E. Iosten	Cook & Surveyor	Whitehorse, Yukon
D. Mark	Geophysicist	Vancouver, B.C.
J. Muff	Exploration Tech. & Surveyor	Whitehorse, Yukon
Ace R. Parker	Consulting Engineer & Exploration Engineer	Whitehorse, Yukon
T. Relsten	Exploration Tech.	Vancouver, B.C.
V. Seidler	Draftsman	Whitehorse, Yukon

C E R T I F I C A T E

I, ACE R. PARKER, of the City of Whitehorse, Yukon Territory, do certify that:

- 1 - I am a Consulting Engineer practicing under the name and style of ACE R. PARKER & ASSOCIATES LIMITED with office at 3rd Avenue and Elliott Street, Whitehorse, Y.T.
- 2 - I am a Bachelor of Science in Mining Engineering from the College of Earth Sciences and Mineral Industry, University of Alaska College, Alaska - 1962. I hold a Diploma in Mineralogy from the Mineral Science Institute, Chicago, Illinois - 1959.
- 3 - I am a member of the Association of Professional Engineers of the Yukon and the Association of Professional Engineers of Alberta. I have been a member of the American Institute of Mining, Metallurgical, and Petroleum Engineers since 1954.
- 4 - I have formally practiced my Profession for the past seven years after working in the Mineral Industry since 1953.
- 5 - This Certificate is part of the attached Geophysical Assessment Report on the RUSS CLAIM GROUP dated June 1, 1970. The attached property map shows the location of the RUSS CLAIM GROUP on which the included work was performed.
- 6 - This Report is based on a comprehensive personal study of documents, maps and Reports relating to the surveys described herein, including Reports of the Geological Survey of Canada. The work outlined by this Report was conducted under my direct supervision.


Ace R. Parker, P. Eng.

Whitehorse, Yukon

June 1, 1970

APPENDIX 4A - AIRBORNE SCINTILLOMETER SURVEY

GEOTRONICS SURVEYS LTD.

AIRBORNE SCINTELLMETER SURVEY

RUSS CLAIMS # 1 to #56

BARLOW LAKE AREA, DAWSON MINING DIST. Y.T.

GEOPHYSICIST'S REPORT by: David G. Mark, B.Sc.

**GEOTRONICS
SURVEYS**

5107 VICTORY STREET, SOUTH BURNABY, B.C., PHONE 434-0137

Geophysical Surveys, Ground & Airborne

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FIELD REPORT:

Airborne scintilometer survey: Barlow Lake area, including Russ Claims # 1 - 32, Dawson Mining District, Y.T.

INSTRUMENTATION:

The instrument used was a Royal Scintilometer with 2 inch Iodide Crystal manufactured by Precision Radiation Instruments Ltd., with a Bausch & Lomb 6 inch cart recorder and associated components, comprising one airborne scintilometer system. The airborne equipment was mounted in a Cessna 172 aircraft chartered from Globe Air Ltd., Whitehorse, Y.T.

The scintilometer installation was calibrated and tested locally near Whitehorse Airport, and flown directly to Barlow Lake area.

SURVEY PROCEDURE AND METHOD:

The survey was conducted by Geotronics Surveys Ltd. under the direct supervision of Ace R. Parker. The instrument operator was Tom Rolston.

The survey was carried out using: Gravel Lake, Barlow Lake, The Dawson Highway, Clear Creek, Barlow Creek and Squaw Creek as topographical features for accurate grid control.

10 East-West grid lines and 4 north-South tie lines were flown for a total of 100 line miles. All survey lines were flown at 200 feet above ground terrain and the scintilometer scale at one MR/HR full scale. The background reading was measured and recorded at .2 to .3 MR/HR.

All readings were transferred from the 6 inch recorder chart and plotted and mapped at one inch to 1,000 feet scale. All readings of .4 MR/HR or higher were mapped and contoured .4 MR/HR being approximately twice background recording. All mapped readings were multiplied by 10 for simplicity in plotting.

INTERPRETATION:

The geology of the anomalous area from the "Geological Survey of Canada" map 1143A was transcribed onto the survey report map in order to see what type of rock the anomalies were on. All of the anomalies of major significance (0.6 MR/HR or greater) are in the granitic stock and a couple of lesser anomalies are near it. In the central part of the showing, according to the Engineer's report, this

granitic stock is pegmatitic (porphyritic) granite, a favourable host rock for uranium. It is thus quite probable, that the anomalies are in this type of rock also.

Since a significant amount of uranium has been assayed in some of this rock, it is most likely the cause of the primary radiation in these anomalies. However, since the phenocrysts are composed of a light, creamish feldspar and the matrix mostly a finer-grained feldspar, it then seems that much of the feldspar is orthoclase, or K-Spar. Thus, because of the large amount of potassium in the granite, the radioactive isotope, K-40, if present in large enough amounts, could be the cause of, or part of the cause of, some of the anomalies. This is only a possibility that must be considered and does not preclude further exploration.

CONCLUSIONS AND RECOMMENDATIONS

The fact that uranium has been assayed to an appreciable amount warrants further work on the property as follows:

- (1) Additional staking should be done to include at least all of the major anomalies and these areas should be prospected further
- (2) Like any other type of airborne survey, an airborne scintillometer survey must be followed up by a ground survey in order to obtain drill targets for the following reasons:

(a) An air survey can only obtain the approximate position of anomalies and, therefore, a ground survey would define the position of the anomalies much better.

(b) An anomaly from an airborne survey is of exploration interest only and does not mean there is a significant amount of uranium. In other words, a mass effect from an insignificant percentage of radioactive material over a large area can produce an anomalous reading in the aircraft. This radioactive material could be radon gas (a daughter product of uranium) which seeps readily through porous material, or uranium, being quite soluble, which has been leached from a primary source over a wide area.

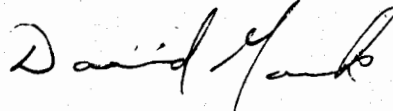
Because of the limited penetrating power of the gamma-ray, the ground survey should be done in a small

grid, say 50-foot or 100 foot line-spacing and 25 foot or 50 foot stations, and closer spacing in areas of increased interest.

- (3) Depending on the results of the ground survey, a diamond drill program should then be set up.

footnote #1 - A Report on the Geology of the Russ Claims by Dr. L.T. Tory, P.Eng., and Dr. Douglas D. Campbell, P.Eng.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "David Mark".

David Mark, B.Sc.
Geophysicist.

GEOTRONICS SURVEYS

5107 VICTORY STREET, SOUTH BURNABY, B.C., PHONE 434-0137

Geophysical Surveys, Ground & Airborne

RESUME OF TECHNICAL AND FIELD EXPERIENCE OF TOM ROLSTON, PRESIDENT AND FIELD MANAGER OF GEOTRONICS SURVEYS LTD.

- (i) Eleven years with R.C.A.F. as Instrument and Electronic Technician with crew supervisory capacity in various electronic and instrumentation systems.
- (ii) Two years with Kerr-Addison Mines Ltd. as Electronic Technician servicing, repair and maintenance of various types of geophysical instruments. Also, two seasons as Field Supervisor and geophysical instrument operator in mining exploration, including airborne and ground geophysical surveys, geochemical surveys, geophysical and geochemical drafting and mapping.
- (iii) Three years Field Supervisor of geophysical and geochemical surveys, including instrument operator of various geophysical instruments, airborne and ground systems magnetometer, electro-magnetic, gravity meter, self potential meter, scintilometer, induced polarization.
- (iv) Three years contracting geophysical - geochemical surveys with close association with mining engineers for various mining companies.

GEOTRONICS

SURVEYS

5107 VICTORY STREET, SOUTH BURNABY, B.C., PHONE 434-0137

Geophysical Surveys, Ground & Airborne

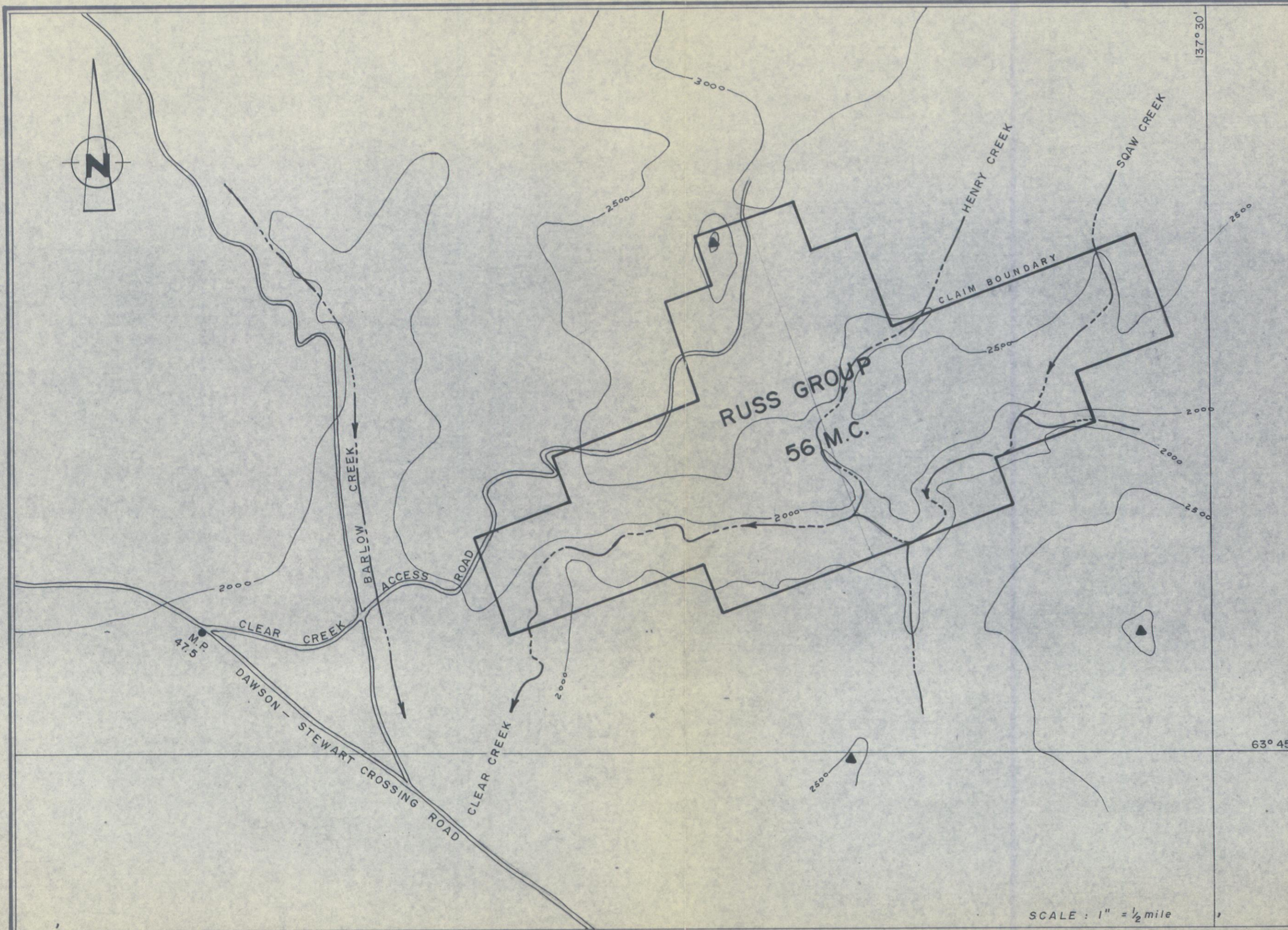
RESUME OF TECHNICAL AND FIELD EXPERIENCE OF DAVID MARK, B.Sc.

EDUCATION:

Graduate of University of British Columbia in Science (B.Sc.), in geophysics.

EXPERIENCE IN INDUSTRY:

- (i) Prospecting and geological evaluation for New Taku Mines Ltd., during exploration season of 1965.
- (ii) Field supervisor for geophysical and geochemical work and prospecting for Mastodon-Highland Bell Mines Ltd., during exploration season of 1966.
- (iii) Field supervisor in geochemical work and geological mapping for Anaconda (Canada) Company during exploration season of 1967.
- (iv) Field geophysicist for Geo-X Surveys Ltd. during exploration season of 1968.
- (v) Presently geophysicist for Geotronics Surveys Ltd.
- (vi) Experience in various geophysical instrument surveys: magnetometer, Electro-magnetic, self potential, gravity, induced polarization, resistivity, seismic methods.



PROPERTY LOCATION MAP
of the
RUSS CLAIM GROUP

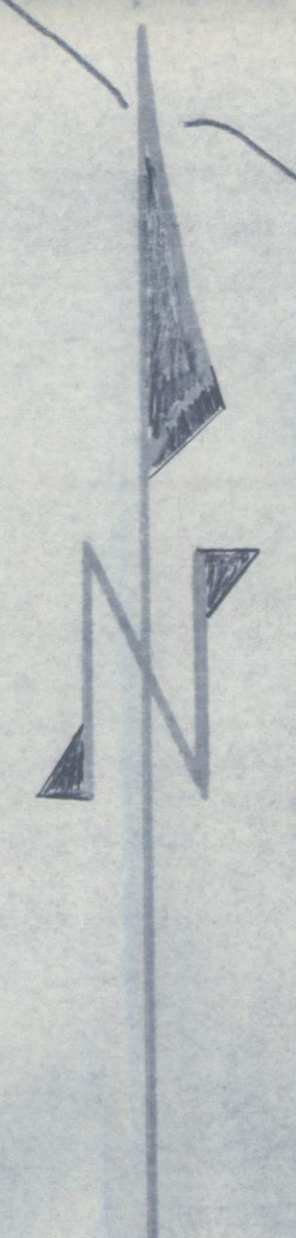
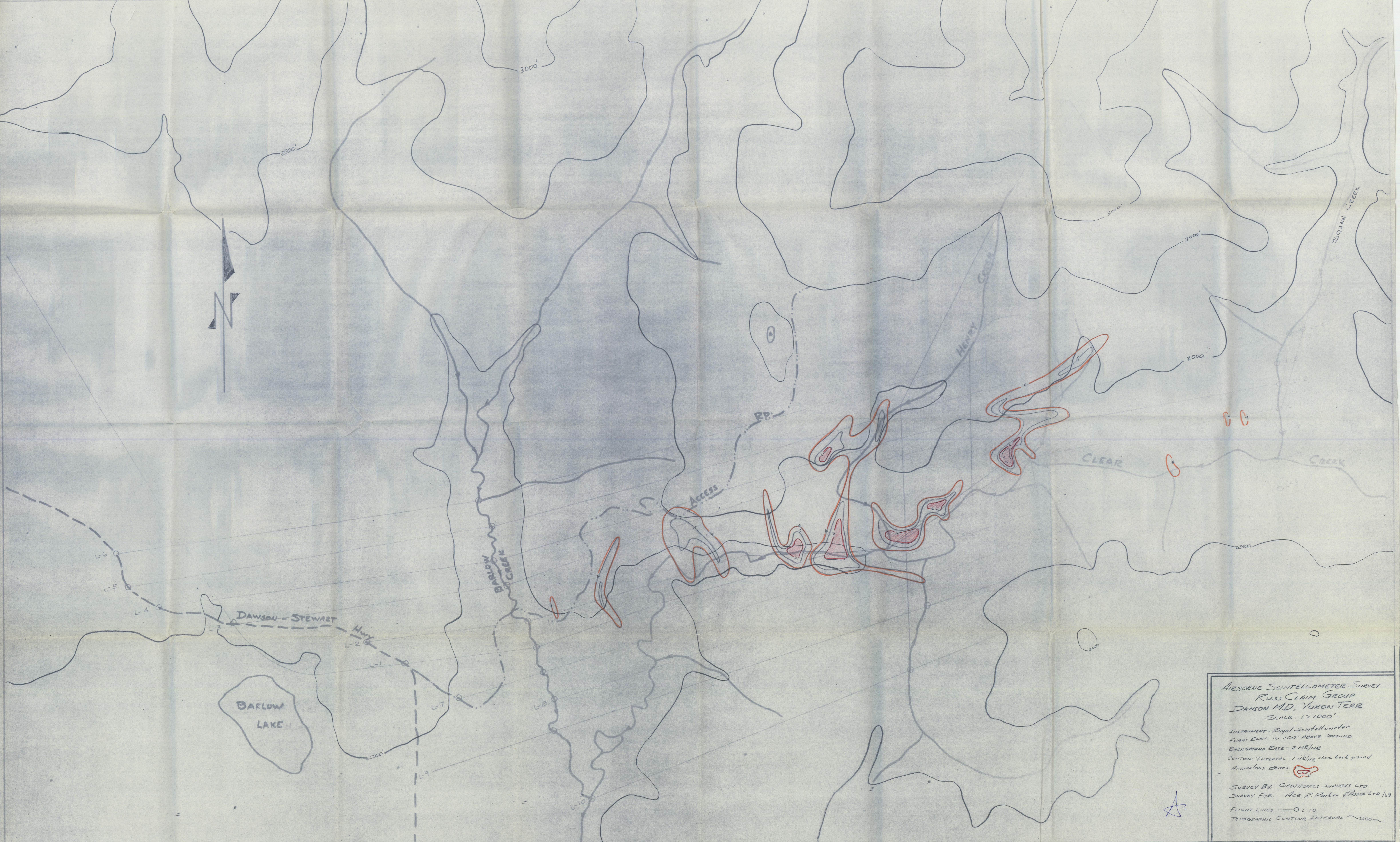
DAWSON CITY MINING DISTRICT
YUKON TERRITORY


ACE R. PARKER & ASSOCIATES LTD.
MINERAL INDUSTRY CONSULTANTS & CONTRACTORS

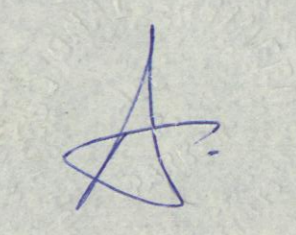
DATE	JUNE-1 -1970
SCALE	as noted
DRAWN BY	<i>H. H. Seidler</i>
DRWG. No.	

SEAL:

SCALE: 1" = 1/2 mile



AIRBORNE SCINTILLOMETER SURVEY
RUSS CLAIM GROUP
DAWSON MD, YUKON TERR
SCALE 1" = 1000'
INSTRUMENT - Royal Scintillometer
FLIGHT ELEV. ~ 200' ABOVE GROUND
BACKGROUND RATE - 2 NR/HR
CONTOUR INTERVAL - 1 NR/HR above background
Anomalous Zones 
SURVEY BY: GEOTRONICS SURVEYS LTD
SURVEY FOR: H.C. R. Parker & Assoc Ltd 1/59
FLIGHT LINES — O L-10
TOPOGRAPHIC CONTOUR INTERVAL ~ 2500'





**GROUND RADIOMETRIC
GEOPHYSICAL SURVEY
OF THE
RUSS GROUP (56 MC.)**

(VCS 115 P 13)
 SCALE 1"=1000' JUNE 1st 1970
 ACE R. FARVER & ASSOCIATES LIMITED
 INSTRUMENT: HOFFMAN PORTABLE COUNTMASTER
 RADIOMETRIC METER MODEL 216-1
 SENSITIVITY: 0.01 - 20 MR/HR

- LEGEND:
- CHAIN & COMPASS SURVEY LINES
 - FLIGHT LINES
 - AIRBORNE SCINTILLOMETRIC ANOMALY
 - GROUND ENDPOINT ANOMALY
 - (5.0 MR/HR) 1" B-TIME BACKGROUND OR MORE