402

GEOPHYSICAL EXPLORATIONS LIMITED

620 FEDERAL BUILDING EMPIRE 4-7815
TORONTO 1, CANADA

REPORT ON

GEOPHYSICAL AND GEOCHEMICAL

SURVEYS

ON THE

MINT GROUP OF CLAIMS

MERRITT, B.C.

FOR

CANFORD EXPLORATIONS LTD.

VANCOUVER, B.C.

BY

GEOPHYSICAL EXPLORATIONS LTD.

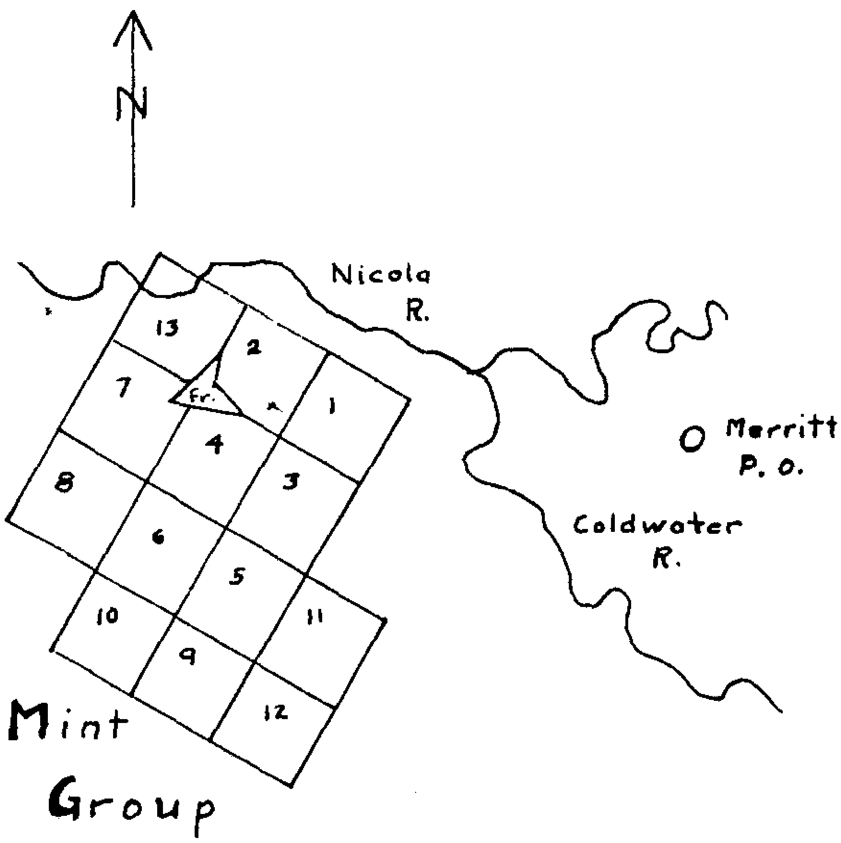
TORONTO, ONT.

FEBRUARY 1, 1962

92I/2W

TABLE OF CONTENTS

Submitted separately - map on which rubeanic test papers are pasted, entitled "Plan of Geochemical Results, Fig.2".



Key Map

Scale

2 in. = 1 mi.

To accompany report
by
Geophysical Explorations Ltd.

(From map in Recorders Office in
Merritt, B.C.)

REPORT ON

GEOPHYSICAL AND GEOCHEMICAL

SURVEYS

INTRODUCTION

Geophysical and geochemical surveys were conducted on a portion of the Mint group of claims south-west of Merritt in the late summer and early autumn of 1961. This work was carried out by Geophysical Explorations Ltd. pursuant to a contract it submitted on August 19th,1961 to Canford Explorations Ltd. and countersigned by officials of the latter company on August 31st,1961. This group of claims is held by Marvin Scheurman; the Key Map facing this page, shows their location.

The geophysical survey was made by the spontaneous polarisation technique, which relies on detecting and measuring the weak electrical currents spontaneously generated by concentrations of sulphide minerals. The geochemical investigation was made by the rubeanic acid method, a qualitative chemical technique for detecting the presence of copper in soils overlying concentrations of copper-bearing minerals.

The field work was carried out in the period from August 22nd to October 10th, 1961. Some interruptions were occasioned by disturbances in the electrical currents flowing in the ground, and of a type usually connected with auroral displays and with disturbances in the magnetic field of the earth, or "magnetic storms".

The entire operation was under the supervision of Sherwin F. Kelly, President of Geophysical Explorations Ltd. who was responsible for directing the field work and for the evaluation and interpretation of the results. He was assisted in the field work, in the laboratory analyses and in the drafting by John McGorran, geophysical operator in the employ of Geophysical Explorations Ltd.

A letter-report was submitted by Geophysical Explorations Ltd. to Canford Explorations Ltd. on October 14th, 1961, setting forth the results of the geophysical and geochemical observations. No anomalies were recorded, either geophysically or geochemically which could be considered indicative of the presence of appreciable concentrations of sulphide or other copper bearing minerals, within the limits of the survey area.

DESCRIPTION OF METHODS EMPLOYED

Spontaneous Polarisation Method

The term spontaneous polarisation refers to the fact that well mineralised sulphide bodies spontaneously exhibit an electrical polarity. In other words, a sulphide deposit is a buried battery. This results from the fact that most metallic sulphides are metallic conductors of electricity (exceptions are cinnabar, sphalerite and stibnite) and that ground waters are electrolytic conductors because of the salts, acids and alkalies they carry in solution. Electrolytes in contact with one or more metallic conductors, set up an electric current; this is the principle underlying the operation of any battery, wet cell or dry cell.

The metallicly conductive sulphides bathed in ground waters which are electrolytic conductors, therefore set up electric currents which flow down the sulphide body, out into the country rock, up to the surface and complete the circuit by flowing in to the sulphide apex. Thus, a negative center, or negative pole normally exists in and around the apex of a sulphide deposit. Its voltage, or potential may lie between several hundredths of a volt and five tenths of a volt (or even more), depending largely on the depth of overburden and the sulphide concentration in the deposit; the thickness of the lens or vein has no influence on the current potential.

When the sulphides occur in sufficient consentration to provide a continuous metallic path for the current, and extend to considerable depth, the reactions observable at the surface may amount to several hundreds of millivolts (a millivolt is 0.001 volt). As the concentration decreases, and the metallic paths become less continuous, the observable potentials fall off, and weakly disseminated sulphides may yield only a few tens of millivolts.

As the depth of cover over the sulphide apex increases, the magnitude of the potentials observable at the surface decreases, and the reaction is spread over a wider zone. It is normally possible to detect a well mineralised body of considerable vertical extent, if the top of the sulphides comes within three hundred feet of the surface. Bodies of only short vertical extent, or of disseminated sulphides, may be masked by a lesser depth of cover, and the reactions they yield are confined to a narrower zone.

A spontaneous polarisation survey is usually conducted by taking observations of the ground potentials along a grid of lines, with the lines oriented more or less at right angles to the expected strike of the ore-bearing formation. These lines are spaced twentyfive feet to three hundred feet or more apart, depending on the detail in which the work is being done. Depending on the same factor, the readings along each line will be spaced from ten to one hundred feet apart. Readings may also be made in underground workings, provided metallic installations such as rails and pipes are first removed from the drifts, cross cuts, stopes, etc., in which observations are to be taken.

After reducing the observed values to a common datum, each series of readings is plotted as a curve, or profile, along its appropriate grid line. Since the phenomenon of interest is an increase in negative potentials, this is best brought out graphically by plotting the negative values up, above the line and the positive values below the line. Thus, peaks in the curves rise above the zones underlain by sulphides.

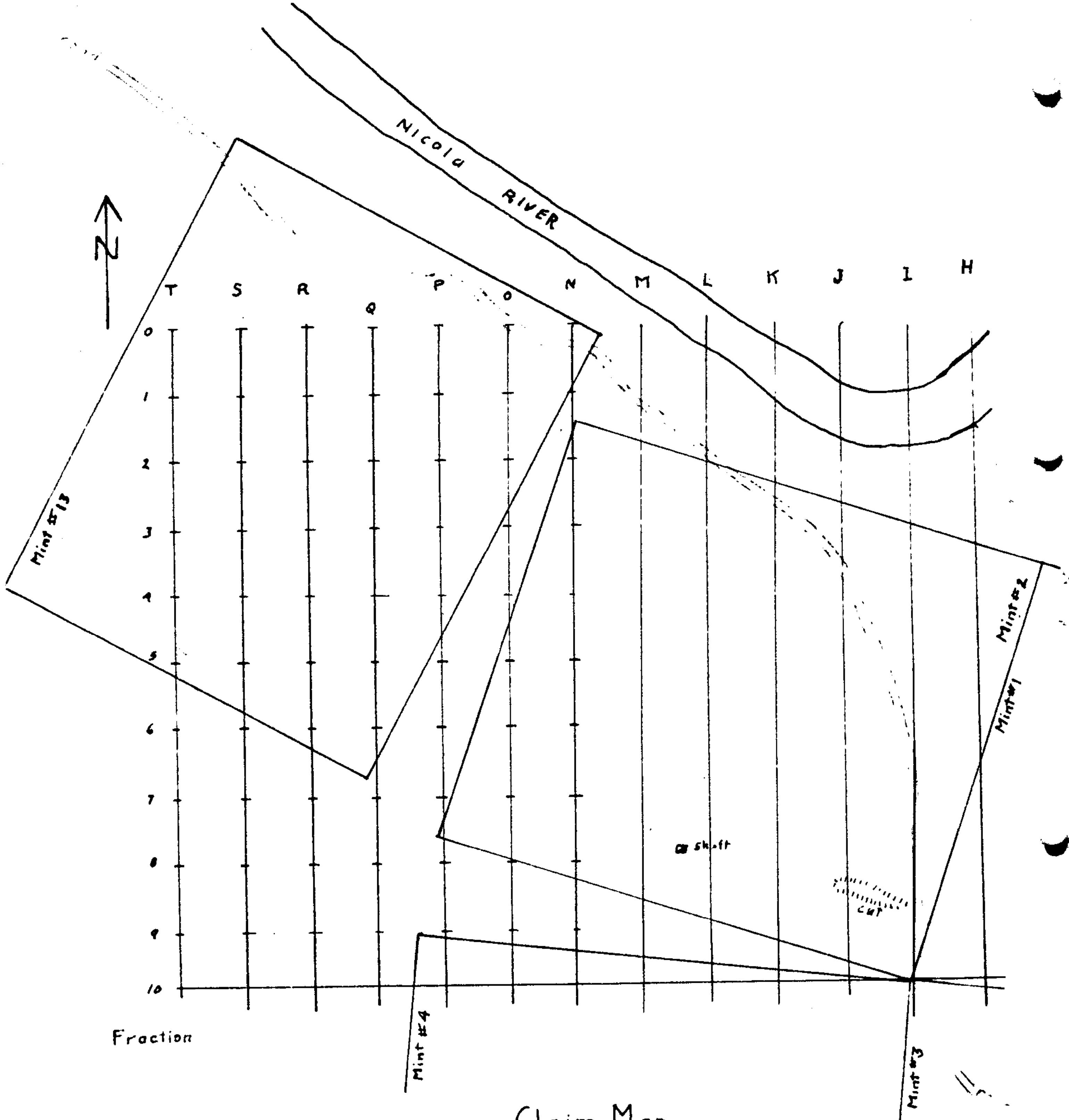
These peaks may be contoured on a plan, just as topographic cross-sections can be combined to make a topographic contour map. The spontaneous polarisation equipotential contours may then be thought of as the contours of a "mountain of electrical activity", centered on the underlying causative sulphide body.

With the peaks of the profiles, or the equipotential contours in plan as guides, subsequent trenching, test-pitting and drilling can be oriented more efficiently and economically to test the zones most favorable for sulphide ore occurrences. The geophysicist can not predict what metals the sulphides will contain, nor whether values or tonnages exist in a commercial range. That information must be obtained by drilling. The geophysical survey is one step in the progressive narrowing of the search for ore; its purpose is to give a preliminary indication of what constitutes favorable territory and what is probably unfavorable, and to provide a technique for revealing concealed deposits which might otherwise never be discovered.

Rubeanic Acid Method

Geochemical soil analyses for copper, and other metals, rely on the occurrence, in the soil, of soluble salts of such metals, presumably derived from underlying deposits. Since soils may contain some metals widely distributed, and not derived from any underlying vein, or other deposits, it is necessary for the geophysicist to evaluate this "background". He must determine whether or not the anomalies he observes are substantially stronger than such backgrounds and hence may indicate a subjacent deposit. Soil weathered in place from underlying rocks carrying metallic veins will, of course, yield better anomalies than glacially transported soil having no connection with the rocks on which it lies. Nevertheless, capillary action can, and does carry metallic ions up into glacial overburden. The distance to which they will migrate upwards varies widely from place to place; successful results have been reported through as much as forty feet of glacial soil. Experience in this area, however, indicates that eight feet of such overburden may be enough to prevent clear surface indications of underlying copper minerals. It nevertheless still remains questionable whether or not really strong mineralisation would be masked by that depth of glacial drift.

The procedure consists of taking a small sample of soil, of several grams, from the layer beneath the humic litter. Collecting the sample from the proper layer is important. About a gram of the finer material is shaken up in a test tube with a reagent solution of acetic acid, and poured into a cone folded from filter paper. The tip of this cone touches a strip of rubeanic acid test paper. The solution picks up soluble copper from the sample and, percolating through the tip of the filter paper cone, a drop is deposited on the rubeanic paper. The copper reacts with the rubeanic acid to form a dark blue or black spot. The size, and intensity of the spot are roughly proportional to the amount of copper in the drop of solution. The method, properly handled, is specific for copper, and is sensitive enough to detect less than one part of copper in a million parts of soil. What reaction is significant in a given area will depend on experience in that region, and the judgement of the geophysicist.



Claim Map

Scale

1 in. = 400 ft.

To accompany report

by

Geophysical Explorations Ltd

PLAN OF SURVEYS

A short time prior to making the arrangements for the surveys reported herein, Canford Explorations Ltd. had conducted a magnetic survey over a portion of the Mint group of claims. For this purpose the area had been laid out in a grid of lines running north and south and spaced 200 feet apart. These lines were lettered A to T from east to west. Stakes were placed along each line at 200 feet intervals, the stakes being numbered from north to south 0, 1, 2, 3, etc. to 12. The area investigated was, therefore, staked on 200 foot centers. Stake No.10 on line I is at the mutual corner of the claims, Mint nos. 1, 2, 3, & 4; see Claim Map facing this page.

The area designated for geophysical and geochemical surveys measures 1200 feet east and west by 2000 feet north and south. It extended from line N on the east to line T on the west and from station 0 on the north to station 10 on the south.

A magnetic anomaly had been observed in the vicinity of stations 2 and 3 between lines M and Q. A second one, weaker and of irregular shape was recorded just south of the west end of the first one, and in general lay between stations 4 and 6 on lines P to R. One of the purposes of the electrical and chemical studies was to check these magnetic anomalies for any possible associations of copper bearing minerals. This is a highly desirable step, since sulphide minerals (except pyrrhotite) are not magnetic, and copper sulphides are not necessarily associated with magnetic minerals, such as magnetite and pyrrhotite.

Some copper mineralisation had been observed in an old shaft not far from station 8 on line L and in an open cut near station 9 between line I and line J. The geophysical and geochemical surveys, therefore, were not to be strictly reconnaissance, but more of a detailed nature in view of the prior geological and magnetic indications. A spacing of 200 feet between the lines of geophysical observations would, therefore, be a little too wide under these circumstances. The necessary steps were taken to conduct spontaneous polarisation observations along lines spaced 100 feet apart.

The area to be surveyed geophysically was prepared by laying out new, intermediate lines between the previously established, lettered ones. These were designated N + 1, O + 1, P + 1, etc. to T + 1. The same system of stations was retained as on the older lines, i.e. at 200 feet intervals, but stakes were placed at 100 feet intervals. These were marked 0, 0 + 100, 1, 1 + 100, 2, 2 + 100 etc. to 10. Sometimes the half-way stakes were marked merely 2 + 1, 3 + 1, etc. Half-way stakes, with the same system of numbering, were placed between the original ones along the old lines, as well. The area was thus laid out with stakes on 100 feet centers.

When originally prepared for the magnetic survey the line connecting stations 10 had been surveyed by transit and thoroughly brushed out. This line was used as a base line for the geophysical work, and observations were made along it from line T to line H.

Some discrepancies and divergences developed in the line designations, as may be seen on Fig. 1. Due to a misunderstanding on the part of the helpers who were preparing the lines, they cut and staked one line, T + 1, which was west of the assigned boundary of the survey area. Since the line had been prepared, observations were made along it anyway. At the other side of the survey area, some confusion existed as to the locations of a couple of the old magnetic lines. Line O could not be found at its proper location, so a new one was brushed out and staked in that position. Then a line marked O was found in the location which should have been occupied by line N. The stakes were marked O, but the line intersected the base line (the line adjoining stations 10 on all the lettered lines) at the location of line N. We therefore marked the stakes N on the back. This line is designated "O and N" on Fig. 1. Subsequently the line of N stakes was found approximately

100 feet east of that line. It bends about 600 feet north of the base line, however, and converges on line "O and N" which it joins at the base line. This line N would therefore lie outside the survey area, on the basis of the designated east-west dimension. Observations were nevertheless taken along this line so as to avoid any possible confusion as to where the boundary actually lies.

The spontaneous polarisation observations were conducted along each of the lines from N to T + 1 by taking readings along them at 25 feet intervals. Readings were also taken along the base line (the line of stations 10) from T to H. The extension from N to H was run because of the possibility that, at a later date, Canford Explorations Ltd. might wish to have a geophysical and geochemical survey conducted on the area lying between lines N and H and extending from station 0 to the base line.

All the spontaneous polarisation observations were made by recording the potential difference between the ground at each station and a conveniently located base point. Four such base points were established, as shown on Fig.1, and the potential differences between them were correlated so that all observations could be reduced to a common datum. A stationary contact or reference electrode was maintained at a convenient location in order to make periodic checks on the ground potentials at that point; the occurrence of pronounced variations would then signal a magnetic storm in which case field work would be suspended until the disturbances had ceased. This might be anything from a few hours to a few days.

The readings, corrected for datum, were plotted in the form of profiles along the proper observation lines. When all the data had thus been plotted, a final reference, or zero datum, was chosen by inspection. The resulting profiles, thus corrected, were then used to construct the contour map of spontaneous polarisation potentials shown as Fig.1.

Non-polarising electrodes or "porous pots" of the type manufactured by the Georator Corporation of Manassas, Virginia, were utilised for making contact with the ground. The potentials were read on a potentiometer-voltmeter manufactured to the specifications set by Geophysical Explorations Ltd., by the firm of Nichols & Roe of Toronto, Ont. (Serial number 2714).

Samples for the geochemical tests were taken along the lettered lines originally used for the magnetic survey, but at 100 feet intervals. The spacings between soil samples were therefore 200 feet in an east-west direction, but 100 feet in the north-south direction, along the lines.

Some exceptions are to be noted, however, to the above spacing rule. Lines N and "N and O", both of which were sampled, are only 100 feet apart. Samples were also taken along line N + 1 between stations 2 and 4. In the area of the main magnetic anomaly, then, the soil samples were on 100 ft. centers, i.e. between stations 2 and 4 on lines N to O. Samples were also taken from intermediate stations, M + 1, N + 1 and O + 1 on the base line.

The rubeanic test papers resulting from the laboratory analytical work were then pasted in their proper positions on a plan map of the area. There is, therefore, only one copy of this map, Fig.2. The evaluations of the test results have been entered on a second set of the spontaneous polarisation contour map, however, designated Fig. 2A.

RESULTS OF SURVEYS

Spontaneous Polarisation Survey

The observations recorded during the spontaneous polarisation investigation were drawn up in the form of profiles, and from these profiles were taken the data needed to construct the contour map shown in Fig.1. In the main, the peaks and troughs of the profiles were only minor, and the "electrical relief" of the area was well-nigh featureless. In only a very few places were potentials recorded high enough to produce even a 15 millivolt contour of negative potential.

Stronger readings of positive potential were occasionally recorded, with the values reaching 45 millivolts in a couple of places. The only semblance of a pattern evident in these results is the arrangement of the contours of positive potentials. A vaguely defined zone of positive contours extends north-easterly from the south-west corner of the map area and terminates on lines 0 + 1, between stations 4 and 6. Since positive centres of this type are frequently associated with shear zones and fractures, it is highly probable that this portion of the area is traversed by a north-easterly striking fault or a zone of fracturing. Other scattered zones of positive potentials appear along the base line and in the north-east portion of the map. Since these lie near the boundaries of the grid, it is not possible to say whether they fall in a pattern or not.

Were this area underlain by sulphide mineralisation consisting of copper sulphides in adequate concentration to constitute ore, and in adequate quantity to repay extraction, the spontaneous polarisation potentials would be expected to rise above 15 millivolts, to cover a considerable area and to occur in a consistent pattern. Such is not the case, from which it may be deduced that the area is characterised by a paucity of sulphide mineralisation.

A couple of minor sulphide occurrences are marked on the map, Fig. 1. These are weak veinlets of quartz and chalcopyrite which were found as a result of investigating nearby zones of very slightly increased potentials (but less than - 15 mv). The indications on line 0 at station 7, and on line 0 + 1 at 50 ft.

south of station 7, were not quite strong enough to yield a 15 millivolt contour. The showing is a small quartz vein about 3 in. wide, contained in a fine grained andesite and sparingly mineralised with chalcopyrite. The dip of veinlet is steeply south-east and its strike is N 55° E. The strike of this vein, which is evidently a fracture filling, is very nearly parallel to the trend of the zone of positive centres previously referred to. This reinforces the idea that there may be a north-easterly fracture system traversing the map area. The mineralisation between lines 0 and 0 + 1 in the interval between stations 4 + 1 and 5, has a strike which would carry it to the 15 millivolt contour 200 feet away, between stations 3 + 1 and 4 on line 0. The showing consists of narrow quartz veins with some chalcopyrite, contained in a highly silicified andesite cut by a few epidote veinlets. Blebs of quartz and quartz veinlets occur across a width of about 6 feet. The dip is nearly vertical, and as nearly as could be determined the strike is N 25° E. In addition, some thinly disseminated pyrite was found in andesite, about 25 feet north of station 6 + 1 on line P. A slight increase in potentials, but not enough to give rise to a 15 millivolt contour, coincides with this occurrence.

The mineralisation observed in these three zones, correlated with the nearby electrical reactions, provides a good basis for evaluating the probable types of disseminated sulphides capable of producing the potentials recorded in this survey. Since nothing pronouncedly more impressive was recorded than the potentials in the vicinity of these veinlet showings, it may be concluded that they are representative of what mineralisation there is in the area studied. In other words, commercial mineralisation is not indicated.

In order to comply with the requirements for assessment work, a map of the readings, Fig. 3, accompanies this report. In this figure, the spontaneous polarisation potentials are recorded in the form of profiles which join the values at successive stations. The lines along which the readings were taken are indicated by crosses at each 100 ft. stake, but the readings were taken at 25 ft. intervals, as is apparent from the profiles.

It will be noted that the datum, or zero line, in most cases is slightly slanted, departing from the straight line which would mark the traverse along which the readings were taken. This slanting zero is shown in order to bring out the fact that there is a slight "topographic effect" here. Such an effect is occasionally observed in areas of steep slopes, where moisture moving down hill in the overburden, tends to leave a negative potential at the crest and carry a positive potential to the foot of the slope. In this area, there is a steep slope down to the river bottom, which starts at varying distances north of the base line, and the base line itself slopes down from about line N, to the east. The corrected potentials are therefore read off the profiles, with reference to this slanting zero datum line. Negative potentials are plotted above the datum, and positive ones below it.

Geochemical Survey

The rubeanic test papers resulting from the laboratory analyses of the soil samples, are characterised by the lack of any really dark spots indicative of appreciable copper mineralisation. Over most of the area, only background reactions were obtained. In a very few instances, slightly darker spots were produced which could be considered indicative of nothing more than a trace, or a very weak increase over background. The evaluation of these results is given on Fig. 2A.

Since the depth of overburden will have an effect on the geochemical results, it is necessary to take this factor into consideration. It is possible, for example, that an overburden depth of no more than 10 feet can blanket out, or materially reduce a moderate to weak reaction occurring at bedrock surface. In the area covered by the present survey however, outcrops are abundant and the evidence in the field indicates a very shallow overburden at almost all points within the grid.

The results of the geochemical survey reinforce the conclusions drawn from the spontaneous polarisation work. The latter indicated that only weakly disseminated sulphides, at best, could be expected. The geochemical reactions imply that there is no strong copper mineralisation in the underlying bedrock. The two deductions then indicate that no important copper sulphide mineralisation can be expected close to the bedrock surface within the area investigated.

One item of possible interest emerges from the geochemical results. There appears to be a tendency for the strength of the copper reactions to increase very slightly towards the east boundary of the survey area, especially in the vicinity of the magnetic anomaly (lines "N & O" and N + 1, at stations 2 + 1 and 3), and in the southeastern quadrant in the area of stations 6 + 1 to 8 on lines N to P. Of itself, this is of little significance, because the reactions are too weak to be of importance. If it is the beginning of a tendency which augments in strength to the east, however, and is verified by an increase in spontaneous polarisation reactions, a zone of more interesting mineralisation might be indicated.

Since neither geochemical nor geophysical methods have yet achieved great depth penetration, no presumption can be made as to what might occur at depths of several hundred feet. Should heavy sulphide mineralisation occur at such depths however, more positive evidences could be expected to appear at the ground surface than were observed in either the geophysical or geochemical work. Evidence would be expected, that is, in the form of well mineralised fractures and shear zones, "fingers" of sulphides extending up from the main mass of mineralisation and which would produce stronger geophysical and geochemical reactions than herein recorded.

<u>Resume</u>

As noted in the introduction, a letter-report summarising these findings was addressed to Canford Explorations Ltd. on October 14th, 1961. It stated:-

"The electrical reactions observed produced, here and there, minor irregularities indicative of only weakly disseminated sulphides - very weakly disseminated. On a couple of occasions such reactions lead us to nearby showings (in the vicinity of 6 & 7 between O & P) consisting of small pockets of disseminated sulphides with quartz, in minor fracture zones. They lacked strength or continuity. The electrical results therefore indicate that there are scattered areas wherein sulphides occur in sparsely disseminated form.

"The geochemical results (Rubeanic acid test for copper) show, along lines laid out for the prior magnetic survey, that the copper content of the soil hardly anywhere exceeds that normally occurring in unmineralised areas. Since the overburden is quite shallow (deep overburden, circa ten feet, may mask the copper reaction from bed rock occurrences) it is to be concluded that copper sulphides in the bed rock are, on the whole, pretty thinly scattered.

"The area of the magnetic anomaly proved devoid of interest, from both electrical and soil analysis results.

"One item of potential interest does emerge from the results, however. In the vicinity of 7 to 8 on lines O & P occurs one of the zones wherein there is a slight electrical activity and a slight indication of copper. There is nothing here to warrant interest of itself, but it occurs on the prolongation of the strike through the old adit and shaft, which lie to the east. The adit is between 8 & 9 on J, and the shaft is at 8 between L & M. There is no other such reaction observable on that strike to the west of P. From this it would seem that whatever mineralisation inspired the driving of the tunnel and the sinking of the shaft, does not increase along strike to the west. On the contrary, it may increase along strike to the east of O & P at least in places. I say "at least in places" because nothing is apparent on line N,* immediately east; but the showings which stimulated the adit and shaft, must have been better than the sulphide disseminations

* (other than a "trace" geochemical reaction recorded at station 8 on line N, but not mentioned in the letter.)

responsible for the weak reactions on O & P, mentioned above. The mineralisation thus might possibly get better towards the east.

"Therefore, I suggest you give consideration to continuing the investigation into the eastern segment, as tentatively envisaged during our conversation at your ranch. ...."

Respectfully submitted

GEOPHYSICAL EXPLORATIONS LTD.

per Sherwin F. Kelly

Sherwin F.Kelly, Pres.

Merritt, B.C.
Feb. 1, 1962.

ANNEX I

Statement of work performed

The field work, consisting of geophysical and geochemical observations, described in this report, was carried out in the period August 22 to October 10, 1961. Some of the laboratory analyses of soil samples, the mapping and the report writing were conducted subsequently, in the period between October 10, 1961, and February 1, 1962.

To assist in the field operations, a total of five helpers (labourers) was employed, but not simultaneously. Normally, one or two helpers were employed each day. Their duties were distributed as follows:-

Chaining and staking lines in preparation for making geophysical and geochemical observations	16½ man-days
Collecting soil samples	9 man-days
Assisting on the geophysical survey	33 man-days
	58½ man-days

The field work, analyses and mapping were conducted or supervised by Sherwin F.Kelly, assisted by John McCoran. The technical operations conducted by them were divided as follows:-

Spontaneous polarisation observations	19 man-days
Soil sample analyses	8 man-days
Plotting and drafting	8 man-days
Report writing	7 man-days
	42 man-days

The report writing (including studies and evaluations) were solely the responsibility of Sherwin F.Kelly, president of Geophysical Explorations Ltd.

Sherwin F. Kelly

ANNEX II

Statement of Qualifications

I hereby certify that:

(1) I am a graduate in mining engineering, having received the Degree of B.Sc. in Mining Engineering from the University of Kansas in 1917.

(2) I pursued graduate studies in geology and mineralogy, 1919-25, at the University of Kansas, the Sorbonne, Ecole des Mines, Museum d'Histoire Naturelle (Paris) and Toronto University. I served as Instructor in Geology at the University of Kansas, and as Instructor in Geology and Demonstrator in Mineralogy at Toronto University. For one season on each, I served as a geologist on the Kansas State Geological Survey and on the Ontario Geological Survey.

(3) I received my first training in geophysics in France 1920-21, from Conrad Schlumberger, Professor of Physics at the Ecole des Mines in Paris. In 1921 I returned to North America and introduced his electrical methods of geophysical exploration (spontaneous polarisation and direct current resistivity) into the United States and Canada. This marked the inception of commercial geophysical investigations by electrical methods in North America.

(4) Since 1921 I have practised as a geologist and geophysicist in Canada, the United States and in many Latin American countries in the Caribbean, Central America and South America.

(5) Since the organisation of Geophysical Explorations Ltd. in 1937, under the Dominion Companies Act, I have directed and supervised its operations in geological and geophysical investigations.

(6) John McGoran, who served as a field operator in the reported survey, is in his third year of geology, physics and geophysics studies at the University of British Columbia. He had to drop out of school for several years, during which interval he acquired practical experience in the field in prospecting, drilling, geophysics, geochemistry and geology. He served as a field operator for Geophysical Explorations Ltd. for a large part of 1961, during which time he received additional training at my hands. He is a thoroughly competent operator whom this company hopes to continue on its staff and train as a supervisory geophysicist and geologist.

Sherwin F. Kelly

Sherwin F. Kelly, Pres.
Geophysical Explorations Ltd.

Merritt, B.C.
Feb.1,1962

x

Cost of Electromagnetic Survey on H.N.-W.E.N. Group-Aspen Grove

Name	Occupation	Rate			Dates		Amount
P.Gottselig	Prospector & Compass	500.00 mth.	Plus	Board	July 20th.	to Oct.15	$1,620.84
W.Petrie	Compass & Axeman	400.00 "	"	"	Aug.16th.	to " "	898.28
A.Dinwoodie	"	do			July 20	to Aug.30th.	647.00
A.Hunter	Axeman	350.00	"	"	Sept.1	to Sept.18	179.01
W.J.Charters	"	375.00	"	"	Aug. 8th.	to Oct.15th.	929.16
A.Webb	"	350.00	"	"	Aug.1st.	to Aug.15th.	212.50
J.Shaw	Cook & Axeman	325.00	"	"	Sept.16th.	to Oct.18th.	469885
C.Rutherford	Engineer & Supervision	500.00	"	"	July 16th.	to Oct.16th.	1725.00
							$6681.64
		H unting Survey Corp.			-Electromagnetic Survey		$2500.00
							$9,181.64

SWORN and subscribed to at Vancouver

this 27th day of February

1962 ,before me* D. Hutton

A Commissioner for taking Affidavits within British Columbia.

Signed- C. Rutherford

Cost of Electromagnetic Survey on H.N.-W.E.N. Group-Aspen Grove

Name	Occupation	Rate			Dates		Amount
P.Gottselig	Prospector & Compass	500.00 mth.	Plus	Board	July ~~Dates~~ 20th.	to Oct.I5	$I,620.84
W.Petrie	Compass & Axeman	400.00 "	"	"	Aug.I6th.	to " "	898.28
A.Dinwoodie	"	do			July 20	to Aug.30th.	647.00
A.Hunter	Axeman	350.00	"	"	Sept.I~~2th~~.	to Sept.I8	I79.0I
W.J.Charters	"	375.00	"	"	Aug. 8th.	to Oct.I5th.	929.I6
A.Webb	"	350.00	"	"	Aug.Ist.	to Aug.I5th.	2I2.50
J.Shaw	Cook & Axeman	325.00	"	"	Sept.I6th.	to Oct.I8th.	469.85
C.Rutherford	Engineer & Supervision	500.00	"	"	July I6th.	to Oct.I6th.	I725.00
							$668I.64
		H unting Survey Corp.			-Electromagnetic Survey		$2500.00
							$9,I8I.64

SWORN and subscribed to at Vancouver

this 27th day of February

I962 ,before me*

[signature]

A Commissioner for taking Affidavits within British Columbia

Signed- [signature]

Geophysical Survey
by
Geophysical Explorations Ltd
Toronto, Ont.
on a portion of
Mint Group Claims
near Merritt, B.C.
for
Canford Explorations Ltd.
Vancouver, B.C.
Aug. - Oct. 1961

Figure 3

Spontaneous Polarisation Readings

Scale

1 Inch = 100 ft.

0 25 50 100 ft.

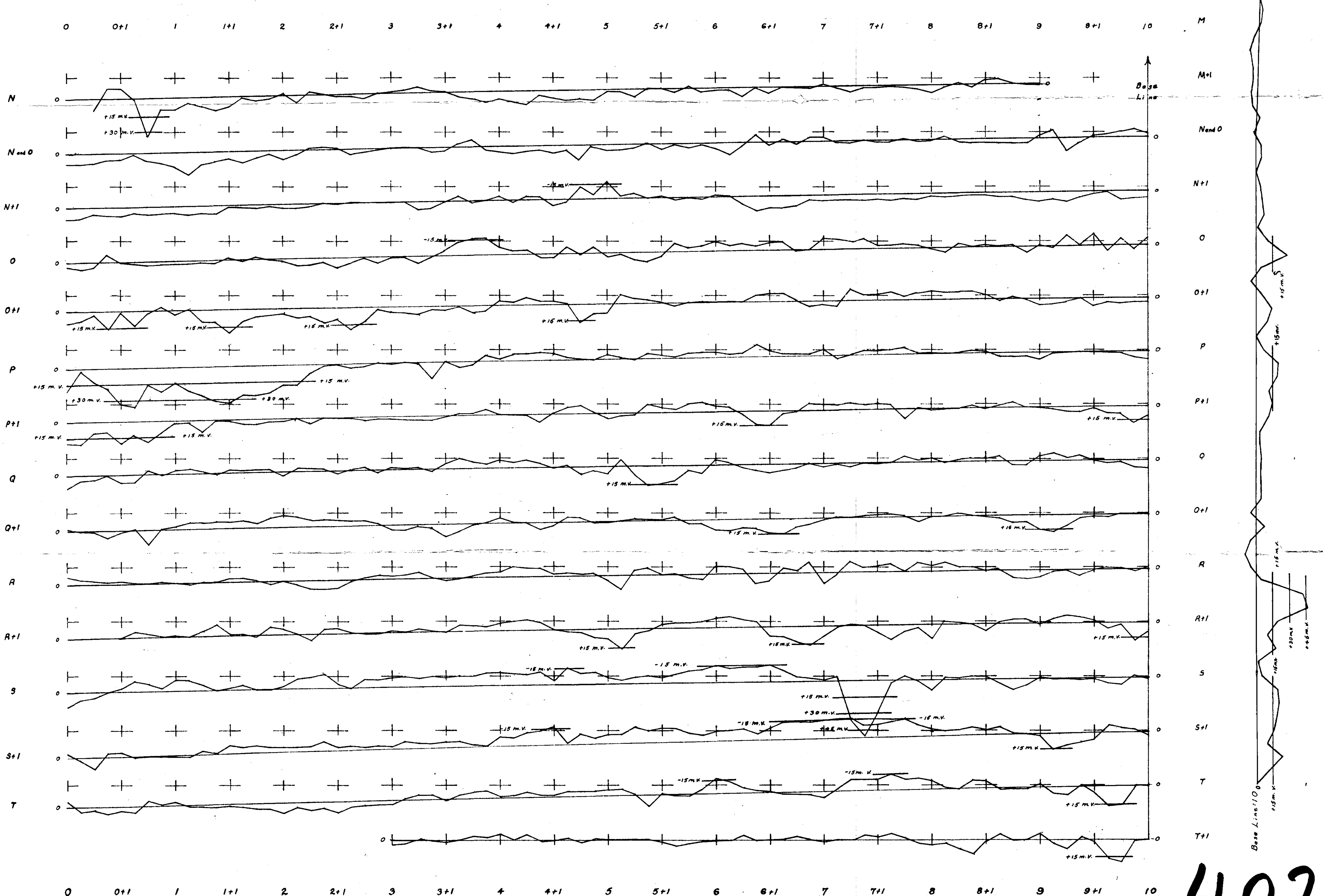
1 Inch = 50 m.v.
1 m.v. = 0·001 volt

Legend

Traverse lines along which observations were made. Lines R, S, T, etc. are original magnetic survey traverses 200 ft. apart, R+1, S+1 etc. are intermediate traverses run for electrical survey to give 100 ft. spacings between lines.

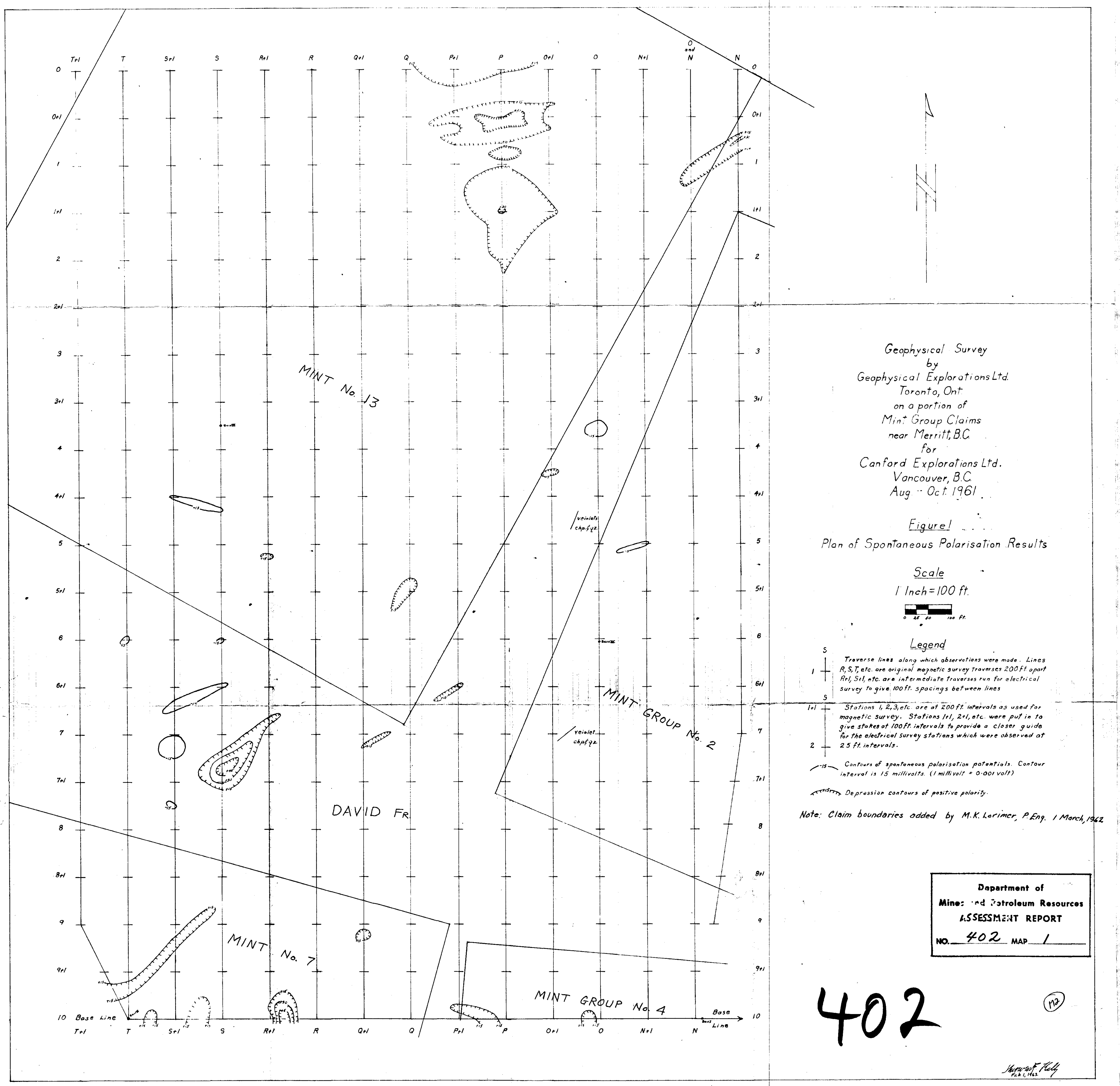
Stations 1, 2, 3, etc. are at 200 ft. intervals as used for magnetic survey. Stations 1+1, 2+1 etc. were put in to give stakes at 100 ft. intervals to provide a closer guide for the electrical survey stations which were observed at 25 ft. intervals.

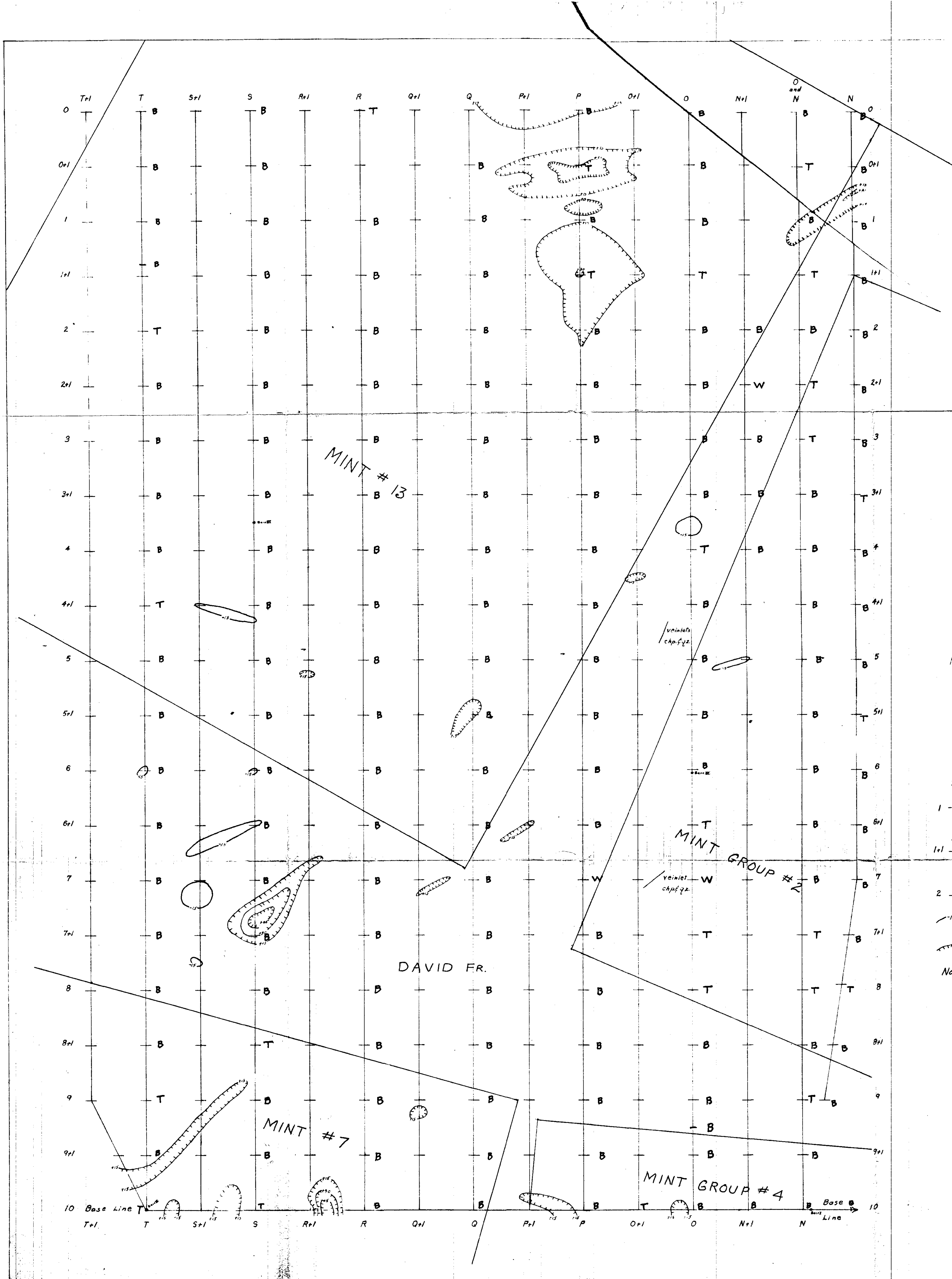
Profile lines joining values of readings at successive stations.



402

Sherwin F. Kelly
Feb. 1, 1962


Geophysical Survey
by
Geophysical Explorations Ltd.
Toronto, Ont.
on a portion of
Mint Group Claims
near Merritt, B.C.
for
Canford Explorations Ltd.
Vancouver, B.C.
Aug. - Oct. 1961
Figure 1
Plan of Spontaneous Polarisation Results
Scale
1 Inch = 100 ft.
0 25 50 100 ft.
Legend
Traverse lines along which observations were made. Lines R, S, T, etc. are original magnetic survey traverses 200 ft. apart. R+1, S+1, etc. are intermediate traverses run for electrical survey to give 100 ft. spacings between lines
Stations 1, 2, 3, etc. are at 200 ft. intervals as used for magnetic survey. Stations 1+1, 2+1, etc. were put in to give stakes at 100 ft. intervals to provide a closer guide for the electrical survey stations which were observed at 25 ft. intervals.
Contours of spontaneous polarisation potentials. Contour interval is 15 millivolts. (1 millivolt = 0.001 volt)
Depression contours of positive polarity.
Note: Claim boundaries added by M.K. Lorimer, P.Eng. 1 March, 1962
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 402 MAP 1
402
MINT No. 13
MINT GROUP No. 2
DAVID FR.
MINT No. 7
MINT GROUP No. 4
veinlets chp. & qz.
veinlet chp. & qz.
Base Line
T+1 T S+1 S R+1 R Q+1 Q P+1 P O+1 O N+1 N
0 0+1 1 1+1 2 2+1 3 3+1 4 4+1 5 5+1 6 6+1 7 7+1 8 8+1 9 9+1 10



Geophysical Survey
by
Geophysical Explorations Ltd.
Toronto, Ont.
on a portion of
Mint Group Claims
near Merritt, B.C.
for
Canford Explorations Ltd.
Vancouver, B.C.
Aug. - Oct. 1961.

Figure 1
Plan of Spontaneous-Polarisation Results

Scale
1 Inch = 100 ft.

0 25 50 100 ft.

Legend

Traverse lines along which observations were made. Lines R, S, T, etc. are original magnetic survey traverses 200 ft. apart R+1, S+1, etc. are intermediate traverses run for electrical survey to give 100 ft. spacings between lines

Stations 1, 2, 3, etc. are at 200 ft. intervals as used for magnetic survey. Stations 1+1, 2+1, etc. were put in to give stakes at 100 ft. intervals to provide a closer guide for the electrical survey stations which were observed at 25 ft. intervals.

Contours of spontaneous polarisation potentials. Contour interval is 15 millivolts. (1 millivolt = 0.001 volt)

Depression contours of positive polarity

Note: Claim boundaries added by M. K. Lorimer, P. Eng.
1 March, 1962

As Figure 2A

Geochemical Results

Legend

B = background reaction.
T = trace reaction.
W = weak reaction.

402

(M3)