81-1210-9996

GEOPHYSICAL REPORT

ON AN

INDUCED POLARIZATION SURVEY

OVER THE

KW CLAIM

DUFFEY LAKE AREA

LILLOOET MINING DIVISION

BRITISH COLUMBIA

KW CLAIM : 40 km east of Pemberton, B.C.

: 50° 122° NW

: N.T.S. 92J/8E & W

WRITTEN FOR : KENNEDY RESOURCES INC.
790-885 Dunsmuir Street
Vancouver, B.C.
V6C 1N5

WRITTEN BY : J.M. Anderson, Geophysicist
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DATED : December 31, 1981

GEOTRONICS

GEOTRONICS SURVEYS LTD.
Engineering & Mining Geophysicists
VANCOUVER, CANADA

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LIST OF ILLUSTRATIONS

SUMMARY

In early July 1981, a line of induced polarization and resistivity readings was carried out across a VLF-EM anomaly on the KW Claim, near Duffey Lake, southwest British Columbia. The purpose of the work was to detect any disseminated sulphide mineralization present.

The results have been displayed in pseudo-section form, with contours and colour shading to visually enhance the anomalous areas.

CONCLUSIONS

A strong IP anomaly was revealed in the center of the line, in the same area as previously-recorded VLF-EM, magnetic and copper geochemistry anomalies. Additional high readings were obtained at the ends of the line. The IP highs have associated resistivity lows which is consistent with metallic sulphides, or graphite, as the causative source.

RECOMMENDATIONS

1. The very encouraging results should be followed through by completing the IP survey on the VLF-EM grid. It is essential that the line be set out and cleared prior to the remobilization of the crew and equipment.

2. The anomaly at 2+50W should be drilled, although its likely shallow cause may be revealed by surface trenching.

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INTRODUCTION

This report discusses the instrumentation, theory, field procedure and results of an induced polarization survey carried out over part of the KW Claim, near Duffey Lake, southwest British Columbia.

The survey work was completed during the period July 2nd to 4th, 1981 under the direction of David G. Mark, geophysicist and the field supervision of John Ashenhurst, geophysical technician.

Molybdenum mineralization is exposed in a road cutting just south of the claim, and silver/gold occurrences are present elsewhere in the vicinity; the induced polarization was a follow-up survey to a geological and geophysical (VLF-EM) program carried out in 1979, and had the aim of detecting the presence of any disseminated mineralization on the property. Unfortunately, the IP work was severely hampered by dense

bush and only one line was completed during the current phase of work.

PROPERTY AND OWNERSHIP

The property comprises one claim of eight units, as described below.

Claim Name	No. of Units	Record No.	Tag No.	Expiry Date
KW	8	939	49968	Sept. 5, 1982

The property is owned by Kennedy Resources Inc., of Vancouver, British Columbia.

LOCATION AND ACCESS

The claim is located at the northwest end of Duffey Lake, 40 km east of Pemberton, and at geographical coordinates 50° 25' N, 122° 15' W.

Access from Pemberton is by paved and gravel highways eastwards through Creekside and Jaffre Creeks. A logging road branches off the Duffey Lake highway and provides access to the eastern portion of the property.

PHYSIOGRAPHY

The property lies within the Cayoosh Range of the Coast Mountains, part of the Canadian Cordillera. Topography variation of the property is low to moderate, with elevations ranging from 1,185 to 1,550 m. Blowdown Creek flows north through the eastern part of the claim.

GEOLOGY

The principal rock types on the property are believed to be

pelitic sediments and schist, and hornfelsic rocks of the Bridge River series. Although not mapped on the claim, occurrences of quartz diorite are believed to be nearby. The dominant structural trend on the property appears to be about 300°, which is approximately parallel to the main topography.

HISTORY OF PREVIOUS WORK

The only known exloratory work on the property is the geological/geophysical survey carried out in 1979 (Sookochoff, 1979), and the geochemical/geophysical survey undertaken in 1980 (Cu and Mo soil sampling, plus magnetic survey).

INSTRUMENTATION

The induced polarization transmitter was a Phoenix Instruments, Model IPT-1, powered by a MG-2, 60 Briggs & Stratton generator. The transmitted current varied from 0.3 to 1.3A. The receiver was a Huntec Mark IV, operating in the time-domain mode. This is state-of-the-art equipment, with software-controlled functions, programmeable through the front panel.

Following current switch-off, a delay time of 300ms was introduced before the voltage decay curve was sampled by ten 60ms wide windows. The instrument readout was the chargeability.

Stainless steel stakes were used for current electrodes. The potential electrodes comprised metallic copper in copper sulphate solution, in non-polarizing, unglazed, porcelain pots.

THEORY

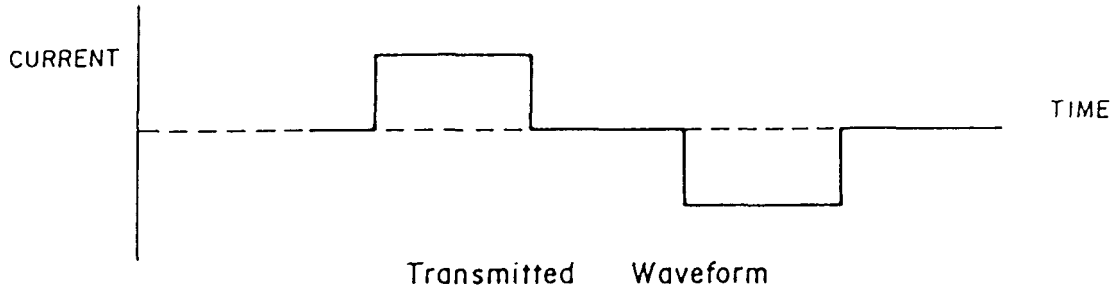
When a voltage is applied to the ground, electric current flows, mainly in the electrolyte-filled capillaries in the

rock. If the capillaries also contain certain mineral particles that transport current by electrons (most sulphides, some oxides and graphite), then the ionic charges build up at the particle-electrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomenon is known as electrode polarization.

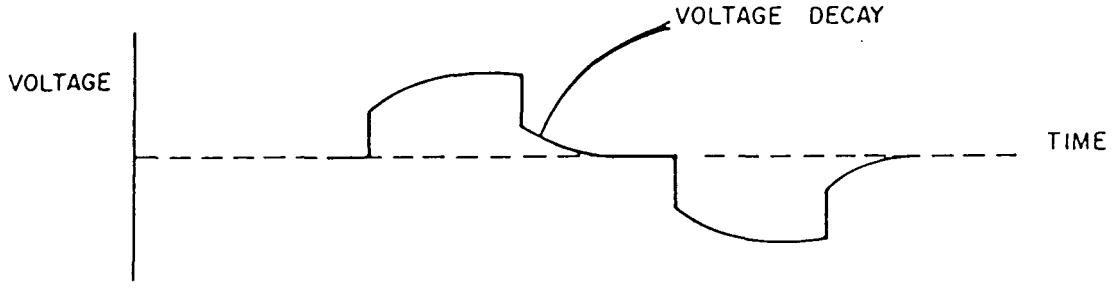
A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositely-charged ions from the surrounding electrolyte; when the current stops, the ions slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absense of metallic-type conductors.

Most IP surveys are carried out by taking measurements in the "time-domain" or the "frequency-domain".

Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless parameter, the chargeability, "M" which is a measure of the strength of the induced polarization effect. Measurements in the frequency-domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency, The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, "PFE".



Transmitted Waveform



Recorded Voltage

The two IP response parameters, M and PFE are nearly proportional at fairly low polarization values. In the absence of large membrane polarization effects, high M or PFE values may indicate the presense of disseminated sulphide mineralization.

In the process of carrying out an IP survey, two other sets of readings are taken; these are resistivity and self-potential "SP". The SP is a measured amount of the "battery-action" of the ground, caused by current flows set up by near surface oxidation processes. The resistivity is a measure of how well the ground conducts electricity, and depends mainly on the saturation and the ionic and clay particle content of the pore waters.

SURVEY PROCEDURE

The pole-dipole electrical configuration was used for the work. In this array, one of the current electrodes is deployed a long distance from the other three electrodes, so that it has a negligible effect on the voltage recorded at the potential electrodes.

The two potential electrodes were kept 50 m apart; readings were then taken for the mobile current electrode 50 m, 100 m, 150 m and 200 m from the potential dipole (i.e. n values of 1, 2, 3 and 4).

The line surveyed had not been cleared prior to the survey and progress was consequently very slow.

RESULTS

The chargeability and resistivity values have been presented in pseudo-section form on Sheet 1. There are three significant IP anomalies, against an already-high chargeability background.

The main anomaly is centered between 2+00W and 3+00W, and has chargeability values up to 15.4. The two negative values at 4+00W and 0+00 are a typical phenomenon on anomaly flanks. The causative body is probably quite shallow as the highest readings are obtained on level 1. There is good correspondence between the anomaly and the previously recorded VLF-EM anomaly. In addition, there are high copper values along this part of the line, and coincidence with a magnetic high lineation (this may represent a rock boundary).

The other two anomalies occur at the ends of the line and so have not been fully defined. All three anomalies have corresponding resistivity lows which is consistent with the presence of conducting sulphides.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

J.M. Anderson,
Geophysicist

December 31, 1981

SELECTED BIBLIOGRAPHY

Sookochoff, L., Geological Report on the Duffey Lake Property, Report for Kennedy Resources Inc., 1979.

GEOPHYSICIST'S CERTIFICATE

I, J.M. ANDERSON, 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 at #403-750 West Pender Street, Vancouver, British Columbia.

I further certify:

1. That I am a graduate of the University of Tasmania (1971), and hold a B.Sc. degree in Geophysics.

2. That I have been practising my profession for the past ten years.

3. This report is compiled from data obtained from an induced polarization survey carried out under the direction of David G. Mark, Geophysicist, and the field supervision of J. Ashenhurst in July, 1981.

4. I have no direct interest or indirect interest in the KW Property, nor in Kennedy Resources Inc., nor do I expect to receive any interest as a result of writing this report.

J.M. Anderson,
Geophysicist

December 31, 1981

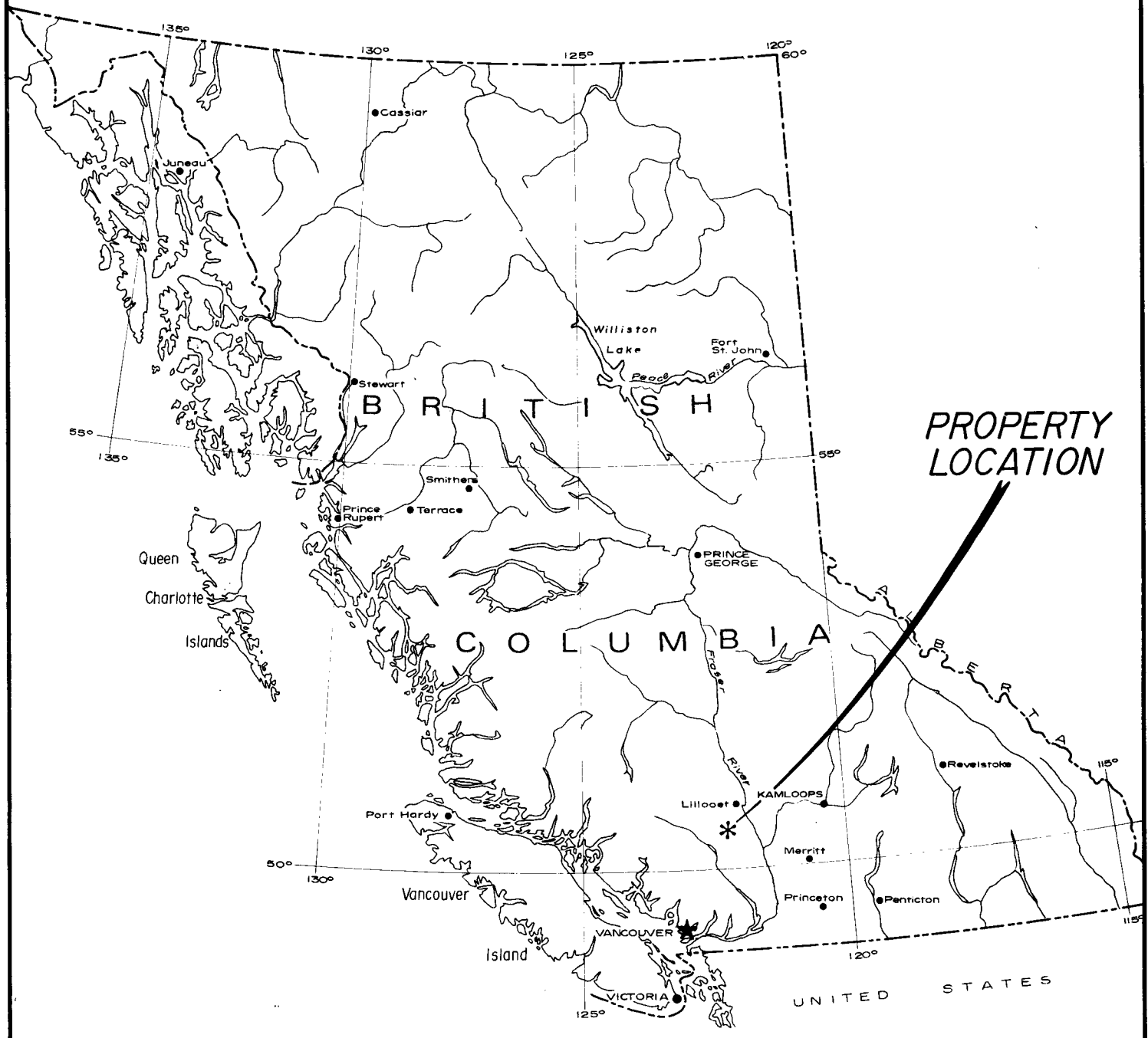
AFFIDAVIT OF EXPENSES

This is to certify that I have caused to be done on the KW Claim at Duffey Lake in the Lillooet Mining Division, British Columbia an induced polarization survey to the value of the following:

FIELD:		
5-man crew and instrument, 6 days at $1,200/day	$ 7,200	
Room and board	1,118	
Truck rental and gas, 4-wheel drive, 6 days at $80/day	480	
Survey supplies	40	$ 8,838
OFFICE:		
Geophysicist, 10 hours at $40/hour	$ 400	
Geophysical technician, 12 hours at $25/hour	300	
Drafting and printing	352	
Typing, photocopying and compilation	150	1,202
		$10,040

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

David G. Mark, Manager
Geophysicist



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KENNEDY RESOURCES LTD.

KW CLAIM

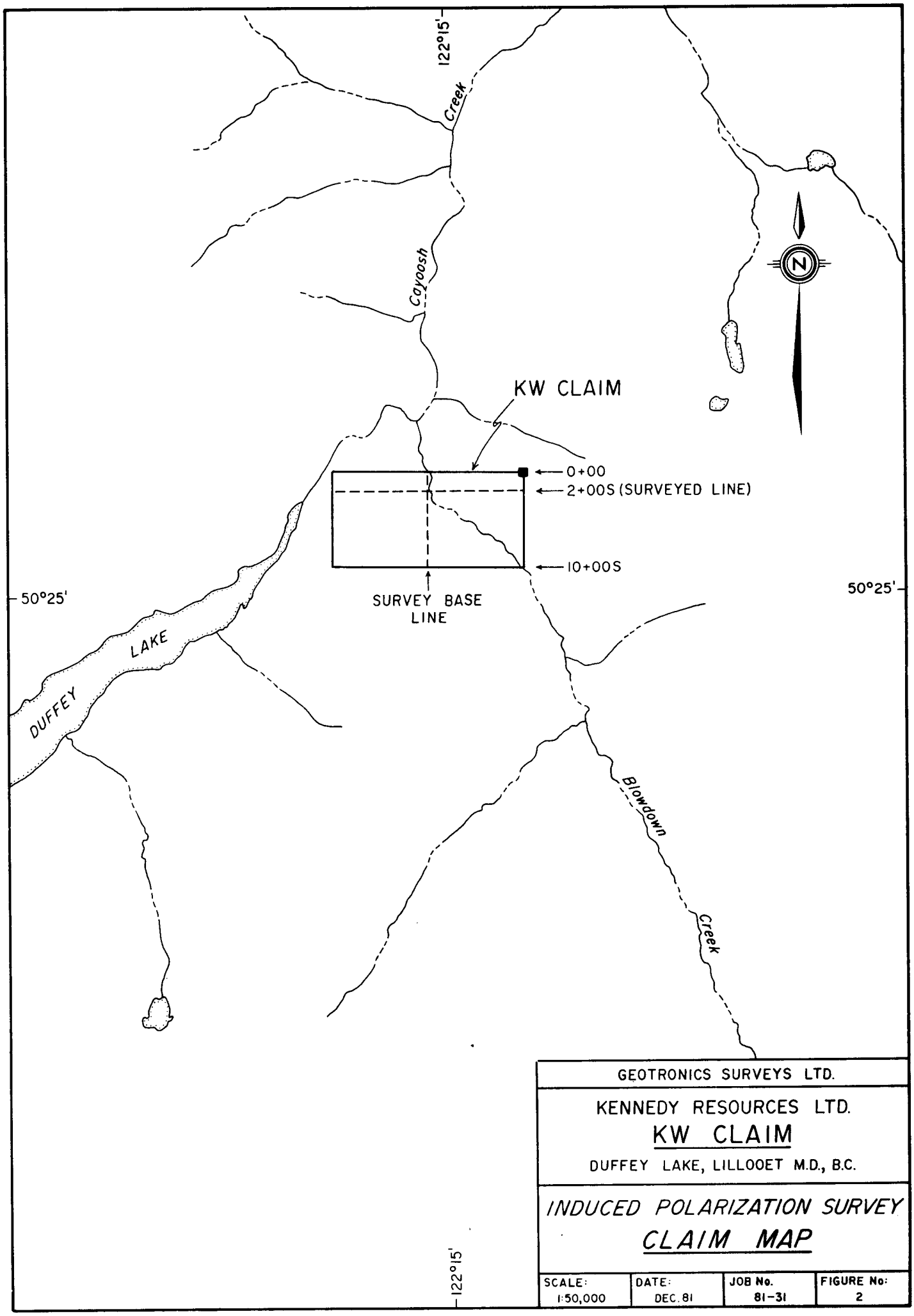
DUFFEY LAKE, LILLOOET M.D., B.C.

INDUCED POLARIZATION SURVEY

LOCATION MAP

SCALE:	DATE:	JOB No.	FIGURE No:
1:50,000	DEC. 81	81-31	1

ALTAIR drafting services ltd.



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KENNEDY RESOURCES LTD.

KW CLAIM

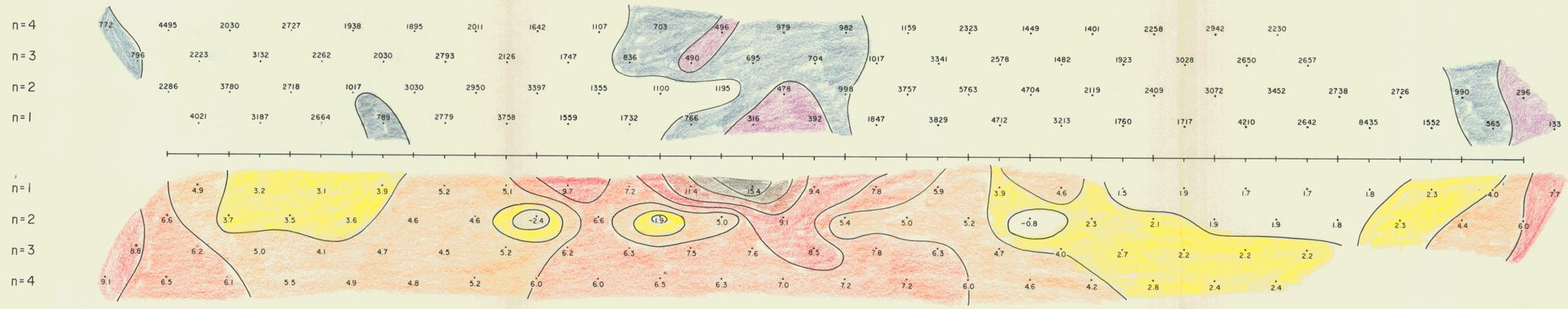
DUFFEY LAKE, LILLOOET M.D., B.C.

INDUCED POLARIZATION SURVEY

CLAIM MAP

SCALE:	DATE:	JOB No.	FIGURE No:
1:50,000	DEC. 81	81-31	2

— 7+00W — 6+00W — 5+00W — 4+00W — 3+00W — 2+00W — 1+00W — BL 0+00 — 1+00E — 2+00E — 3+00E — 4+00E



INSTRUMENTATION:

Huntec M-4 Receiver
Phoenix IPT I Transmitter

ELECTRODE CONFIGURATION:

Pole - dipole array
Dipole length - 50 m
Delay time - 300 ms
Integration time - 60 ms

LEGEND

pa — APPARENT RESISTIVITY IN OHM-METRES

M — CHARGEABILITY IN MILLISECONDS

CONTOUR INTERVAL

CHARGEABILITY — 2.0 Milliseconds

RESISTIVITY — 500 ohm-metres
For 1000 ohm-metres & Less

50 25 0 50 100 200
Metres

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KW CLAIM

DUFFEY LAKE, LILLOOET M.D., B.C.

INDUCED POLARIZATION SURVEY

PSEUDOSECTION

SCALE:	DATE:	JOB No:	SHEET No:
1:2500	DEC. 1981	81-31	1