87-32-15533

GEOCHEMISTRY AND GEOPHYSICS

ASSESSMENT REPORT

ON THE

DISCOVERY 1 AND DISCOVERY 2 CLAIMS

LIARD MINING DIVISION

BRITISH COLUMBIA

CANADA

NTS 94 E/6W

57° ~~25~~ 26.6' NORTH LATITUDE

127° ~~22~~ 24.6' WEST LONGTITUDE

OWNER

DUKE MINERALS LTD

OPERATOR

DUKE MINERALS LTD.

WORK DONE BY

BASELINE RESOURCES LTD.
AND WHITE GEOPHYSICAL INC.

REPORT BY

PETER G. MOULDEY, B.Sc.

JANUARY 9, 1987

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17	Au Till Horizon	" "
18	Au A Horizon & Silts	" "
19	Ag Till Horizon	" "
20	Ag A Horizon & Silts	" "
21	Pb Till Horizon	" "
22	Pb A Horizon & Silts	" "
23	Zn Till Horizon	" "
24	Zn A Horizon & Silts	" "

REPORT SUMMARY ON THE DISCOVERY 1+2 CLAIM
TOODOGGONE GOLD CAMP, B.C.

During the summer of 1986, Duke Minerals Ltd. carried out a program of geophysical and geochemical exploration on the Discovery 1 + 2 claims in the Toodoggone Gold Camp in north central B.C. This program consisted mainly of soil sampling, silt sampling VLF-EM surveying, and Multipole Induced Polarization surveying (carried out by White Geophysical Inc). The focus of the work was to investigate a zone of highly anomalous gold in soil values (highest: 15,000 ppb Au) outlined in 1985 on the northern part of the Discovery 1 claim. The results of this investigation were largely favourable.

Although the soil sampling failed to duplicate the previous years spectacular anomalies, a discernable pattern of weak to moderately anomalous gold values was obtained from the area of interest. The VLF-EM work, when correlated with air photo interpretation indicates a number of east west trending structures which cross cut a northeasterly trending fault in the area of high geochemical values. IP surveying seemed to give the most conclusive results, indicating a marked zone of resistivity flanked by zones of chargeability. This response is characteristic of gold bearing silicified alteration zones on the Energex property immediately to the north of the Discovery property.

Taken together, the geologic, geochemical and geophysical data strongly suggests the presence of a gold bearing zone of silicification underlying the area of interest, the Discovery 1 claim. Extensive overburden (perhaps 5-10 meters thick) and consequent lack of outcrop make it difficult to confirm this hypothesis.

Further work should include additional IP and geochemical surveying, backhoe trenching where possible, followed up by diamond drilling.

I Introduction

LOCATION AND ACCESS

The DISCOVERY 1 and 2 claims are a precious metals prospect located in the Toodoggone River area of north-central British Columbia approximately 300 km north of Smithers, B.C., as shown on Fig 1. The claims are in the Liard Mining Division at 57° 25' North Latitude and 127° 22' West Longtitude.

The claims cover the gently sloping hillside immediately north of Metsantan Lake at an altitude of 1300 to 1350 m.

A 1600 m airstrip capable of handling aircraft as large as a Hercules is located at Sturdee Valley, approximately 20 km southeast from the claims. Alternately, fixed wing aircraft equipped with floats can land on Metsantan Lake.

PROPERTY

Duke Minerals Ltd. holds an option on two unpatented mineral claims, the DISCOVERY 1 and 2 in the Liard Mining Division:

Claim	Units	Record No.
DISCOVERY 1	12	3254
DISCOVERY 2	20	3255

These claims consist of 32 units covering 800 hectares. Claim boundaries are shown on Fig. 1A

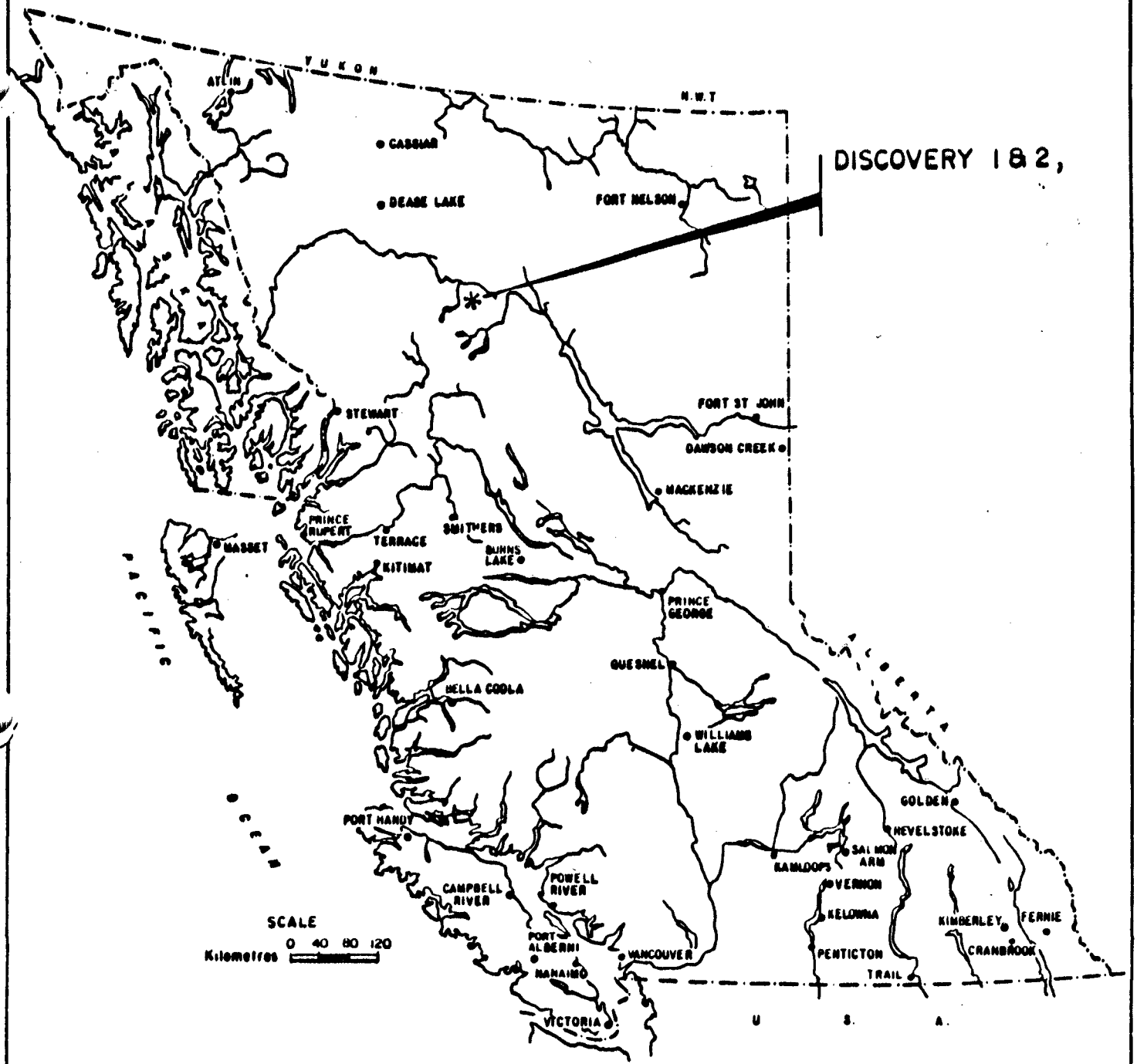


FIG. 1

DUKE MINERALS LTD.

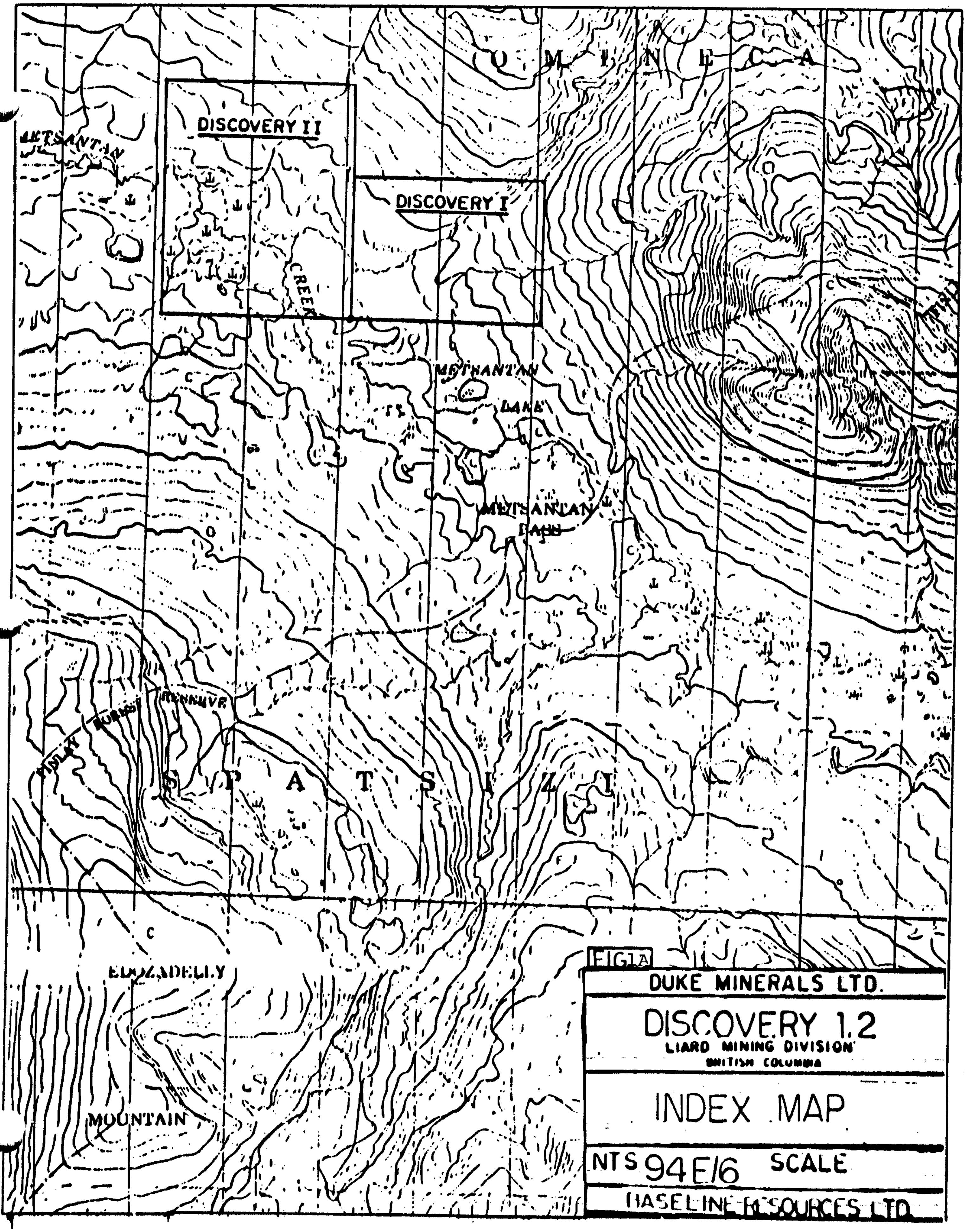
DISCOVERY 1,2

LIARD MINING DIVISION
BRITISH COLUMBIA

LOCATION MAP

NTS 94E/6 SCALE

BASELINE RESOURCES LTD.


O M I N E C A
DISCOVERY II
DISCOVERY I
CREEK
METSANTAN
METSANTAN LAKE
METSANTAN PASS
FINLAY FOREST RESERVE
S P A T S I Z I
MOUNTAIN
FIG 1A
DUKE MINERALS LTD.
DISCOVERY 1.2
LIARD MINING DIVISION
BRITISH COLUMBIA
INDEX MAP
NTS 94 E/6 SCALE

HISTORY

Placer gold was first found and mined in the Toodoggone River area near the junction of McClair Creek and Toodoggone River by Charles McClair in 1925. Placer mining was continued on a larger scale during the 1930's. In the 1930's Cominco found and explored several lead-zinc occurrences: near the head of Thutade Lake, and 1,500 metres southwest of the Chappelle (Baker Mine) gold-silver deposit.

Mineral exploration in the area was relatively quiet until the late 1960's when numerous companies began searching for large tonnage copper and molybdenum porphyry deposits. In 1969, Kennco Explorations found the gold and silver mineralization on the Chappelle property. Subsequent exploration during 1969-1974 by Kennco resulted in the discovery of most of the gold and silver occurrences on what are now the Baker and Lawyers properties. Other gold and silver occurrences were found by other mining companies working the district at the same time.

In 1974, DuPont of Canada optioned the Chappelle claims from Kennco, and in March 1980, placed the Baker Mine into production at a rate of 100 tons per day. The mine closed in 1982 due to the exhaustion of the known ore reserves.

In 1979, Serem Inc. optioned the Lawyers gold-silver prospect and has continued both surface and underground exploration since then. Kidd Creek Mines Ltd. explored the AL claim for several years and made a number of discoveries. These claims are now held by Energex. Other exploration companies active in the area in recent years include Newmont (SHAS and GOLDEN LION prospects), St. Joe (SILVER POND), DuPont (BILL), Anaconda (RON prospect) and Lacana (METSANTAN).

The Toodoggone River area (NTS 94E) was one of the last regions of British Columbia to be geologically mapped and studied by either the Geological Survey of Canada or the B.C. Department of Mines. The Toodoggone volcanics had not been recognized as a

separate formation at the time of Kennco's gold discovery in 1969. The only regional geological map of the district is a comparatively recent (1977) 1:125,000 scale Open File (No. 483) map by the officers of the Geological Survey of Canada. Eisbacher of the GSC had been in the area between 1969-1971, but was mainly concerned with the Sustut sediments to the west (GSC Paper 70-68). Carter of the B.C. Department of Mines began mapping in 1971, and Schroeter has continued that work from 1974 to the present.

The B.C. Ministry of Energy, Mines and Petroleum Resources has published a comprehensive 1:50,000 scale geologial map of the area of present interest in 1986 , which includes all geological mapping to date, and locatesall known mineral occurrences, structures, gossans, and alteration zones.

There is no record of previous exploration on the Discovery 1 and 2 claims.

The Discovery property was staked in 1985 to explore areas that appeared favourable relative to the adjacent Energex claim block on which several promising gold discoveries had been made in recent years. Duke Minerals Ltd. subsequently acquired options on the property.

GEOLOGY

The descriptions in Regional Geology and in Local Geology are based on recent geological mapping by the Geological Survey of Canada and the B.C. Ministry of Energy, Mines and Petroleum Resources which are published in G.S.C. Open File 438 and in the Ministry of Energy, Mines and Petroleum Resources publications, on Assessment Reports by various companies, and on our own observations. The Regional Geology is shown on the attachment marked. The local geology in the property area is shown on the attachment marked.

REGIONAL GEOLOGY

The Toodoggone River district lies within the eastern margin of the Intermontane Belt. It is on the Spatsizi Plateau, an open, gently rolling upland surface dissected by wide valleys. Treeline extends to about 1,400 m elevation, with tree cover being confined mainly to some of the major valleys. Outcrops are generally confined to steeper portions of ridges and to banks of creeks in deeply incised valleys.

The Toodoggone River district is underlain by volcanic rocks of the Takla Group of Upper Triassic age, which are intruded by granitic stocks of the Omineca Intrusions, and overlain by Jurassic and younger volcanics and sedimentary rocks.

The Takla Group rocks are mainly andesitic flows and pyroclastic rocks including augite porphyries and crystal and lapilli tuffs. Associated with the Takla rocks are fault block wedges of white crystalline limestone, up to 150 metres thick, belonging to the Asitka Group which is of Permian age. The Omineca Intrusions, of Jurassic and Cretaceous age, include medium-grained, equigranular pink to grey quartz monzonite and granodiorite.. Some syenomonzonite bodies and quartz feldspar porphyry dykes may be feeders to the Toodoggone volcanic rocks which unconmformably overlie the Takla Group.

The Toodoggone volcanics are a Jurassic, subaerial, intermediate, calcalkaline to alkaline, predominantly pyroclastic assemblage. This assemblage forms a northwesterly-trending belt 100 km long by 25 km wide, preserved between the Hazelton Group to the east, and the Sustut Group to the west.

To the west, flat-lying to gently west dipping Upper Cretaceous to Tertiary pebble conglomerates and sandstones of the Tango Creek Formation of the Sustut Group unconformably overlie Takla Group and Toodoggone volcanic rocks.

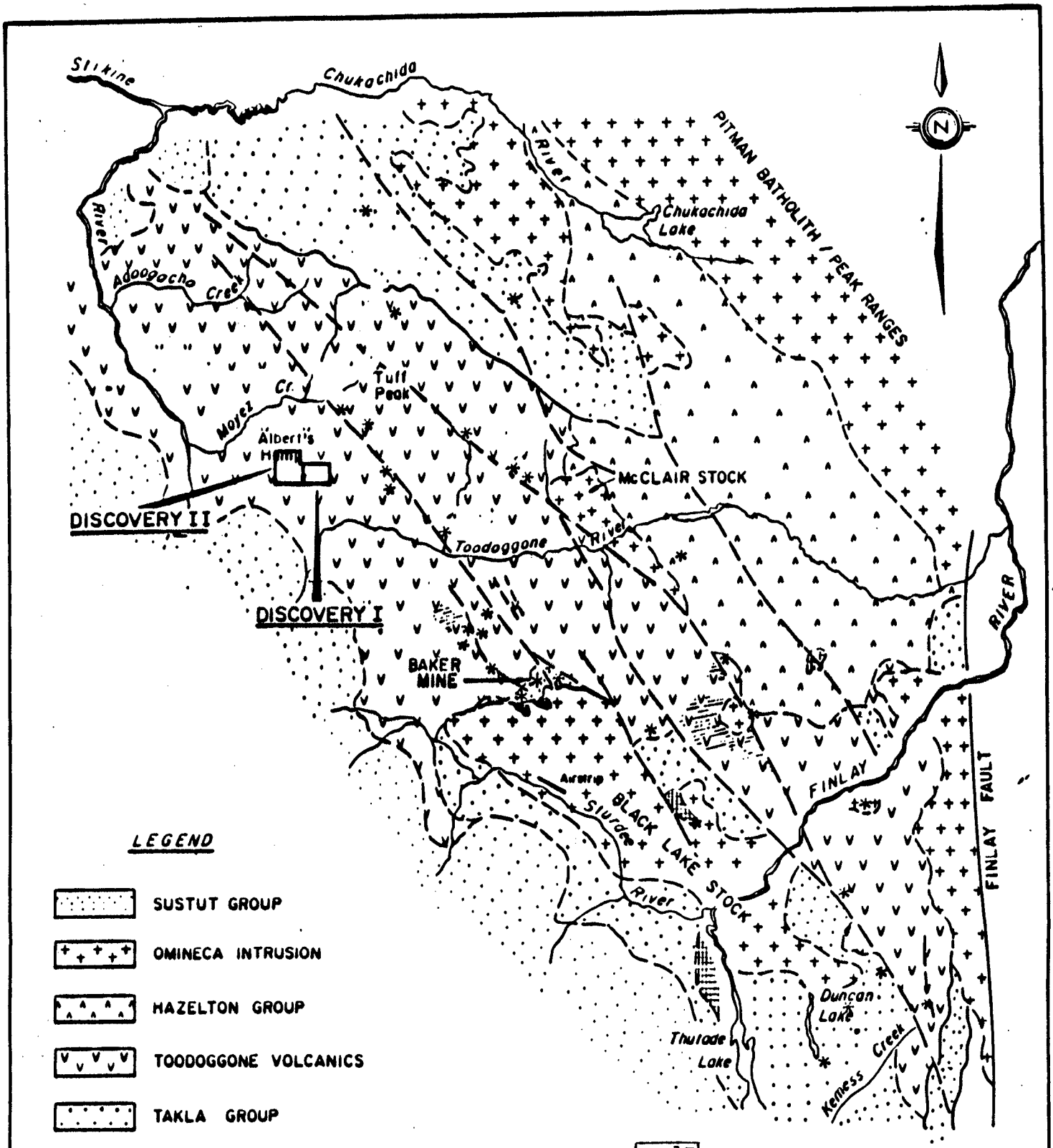


FIG 1B

DUKE MINERALS LTD.

DISCOVERY 1,2

LIARD MINING DIVISION
BRITISH COLUMBIA

REGIONAL GEOLOGY

NTS 94E/6 SCALE

BASELINE RESOURCES LTD.

The Toodoggone volcanics dip gently to the west. The most obvious and probably most important structures in the area are long northwesterly trending fault systems (e.g., McClair System). Associated with these larger faults are abundant smaller splays. Northerly trending faults and block faults are also common.

Epithermal gold-silver mineralization has been found at several locations in the Toodoggone River area. At the Baker Mine, mineable reserves were reported to be 100,000 tons grading 0.92 oz. gold and 18.7 oz. silver per ton. At the Lawyers property, total reserves are reported to exceed 1,000,000 tons containing 0.21 oz. gold and 7.1 oz. silver. Kidd Creek Mines discovered six structurally controlled, gold mineralized alteration zones on the AL property.

No mineralization is presently known to occur within this claim area.

Kidd Creek Mines completed soil sampling surveys (100 x 50 m spacing) on their AL 5 and 6 claims, about 200 metres north of the north boundary of Discovery 1 and 2 claims, in 1981 and 1982. Their work showed the occurrence of both gold and silver soil anomalies, with gold values up to 50 ppb and silver values up to 4.1 ppm occurring on the AL 5 claim, west of the large southwest flowing creek, at about 1,300 m elevation.

In 1980-81 Lacana Mining found and explored the Metsantan gold-silver prospects, on the southeast flank of Metsantan Mountain, about 3,000 metres east of the Discovery 1 and 2 claims. A quartz stockwork zone with minor amounts of galena, sphalerite, chalcopyrite and pyrite cuts crystal to lithic tuff, which is locally pervasively epidotized. Lacana conducted both trenching and diamond drilling of these prospects, which were traced on surface for about 600 metres.

PROPERTY GEOLOGY

These claims cover low-lying gently sloping ground to the north of Metsantan Lake. Pits dug for the purpose of doing soil profiles and cut-banks along streams show that nearly all of this area is covered by a thick (up to 30m) layer of ablation glacial till. Only along the northern boundary of Discovery 1 where the slope steepens does the till layer become thin enough for soil geochemistry to be useful.

Correlation of outcrop on surrounding properties indicate that the Discovery 1 and 2 claims are underlain by volcanics of the Toodoggone Group. Extrapolation of the strike of Au-Ag mineralized shear zones on Energex's AL claims adjacent to the north indicate that they may cross the Discovery claims.

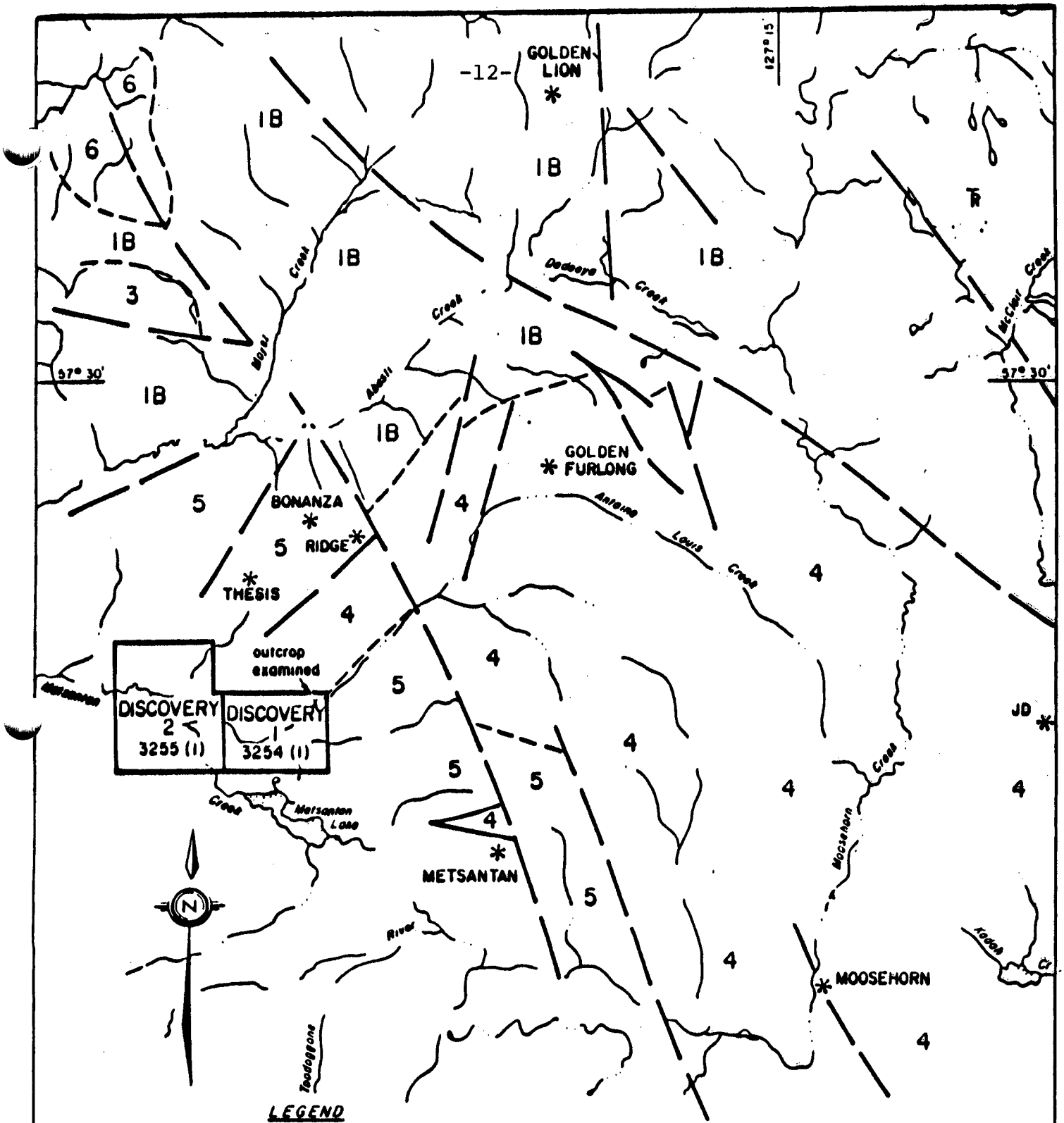


FIG 1 C

DUKE MINERALS LTD.

DISCOVERY 1,2

LIARD MINING DIVISION
BRITISH COLUMBIA

LOCAL GEOLOGY

NTS 94E/6 SCALE

BASELINE RESOURCES LTD.

DISCOVERY 1 WORK SUMMARY July 6 - 31, 1986

	Man Days
Camp Set Up, Mob and Demob	20
Claim Boundary Location	2
Establish Geochem Grid	2
Establish I.P. Grid (cut lines)	7
Soil Sampling	5
VLF Survey	5
Cut Chopper Pads	3
Claim Staking	2
I.P. Survey (Assisting crew)	2
Camp Days (office work, cut firewood, weather etc.)	13

Total = 61 man-days

Grid Establishment For I.P. Survey	4.7 Km.
Grid Establishment For Geochem Survey (In addition to I.P. Lines)	2.3 Km.
Soil Sampling	8.3 Km.
VLF - EM	9.7 Km.

III SOIL GEOCHEMISTRY

A total of 160 soil samples were taken on the Discovery 1 grid of which seven were for orientation purposes. Also of the 160 samples taken 46 were of the A horizon only in order to attempt to provide more consistant gold and silver results. It was determined that many of the original till samples were A horizon samples which when plotted with the till horizon data showed anomalous values due to a preferential concentration of Cu and Ag in the A horizon.

All samples were analysed for Cu, Pb, Zn, Ag and Au by Min-En Labs Ltd. of Vancouver, B.C. Analysis for Cu, Pb, Zn and Ag was by digestion of a .5 gm subsample in 3 ml. HCl : HNO3 : H20 solution at 90 degrees C. for one hour. Following dilution to 10 ml, analysis was by atomic absorption (A.A.)

A 10 g subsample was used for the Au analysis. The subsample was digested with hot aqua regia (3:1 HCL/HNO3) followed by a methyl 150-butyl Ketone (MIBK) solvent extraction, and analysis by Atomic Absorption.

Soil Horizon Development

Soil horizon development on the Discovery claims is extremely poor. The B horizon is absent over the entire claim. A small A horizon exists in forested areas but generally is less than 10 cm thick. As approximately 50% of the grid is underlain by swamp, a thick black organic layer (up to 35 cm thick) can be found in these water-lain areas.

Beneath the A horizon exists an ablution till of varying thickness. Along the large creek cutting the property from the NE several till sections up to 25 M thick can be seen. The glacial till begins to thin out at the 1370 m contour level which is approximately 300 m north of the Discovery, Al 3 claim border.

The direction of glacial movement on the Energex and Discovery claims appears to have been from south to north. Many rounded boulders of the Sustut conglomerate from the south can be found on the Discovery claims and claims to the north. On the Ranger claim , owned by Cusac Industries; north of the Energex Al camp, angular pieces of float resembling the Energex ore material was seen by the author during the feild season of 1985.

The thickness of this transported overburden on the Discovery 1 claim renders the reliability of soil geochemistry data questionable. Orientation work was necessary to determine whether or not soil geochemistry was a possible exploration method. It was decided that since the area of interest was close to the 1370 m (approx. 1300 m) contour interval, soil geochemistry should be attempted.

Results

Orientation Survey

Three soil pits were dug over the anomalous gold zone on L10 N at stations 7+00E, 7+25E,and 7+50E. The following results were obtained:

Station 7+50E	Cu(ppm)	Zn(ppm)	Pb(ppm)	Ag(ppm)	Au(ppb)
A Horizon (5cm)	20	20	13	1.4	5
A Horizon (20)	34	53	20	0.9	5
Till	18	52	16	0.4	10
7+25E					
A Horizon	28	65	16	1.2	5
Till	19	65	20	0.5	5
7+00E					
A Horizon	18	40	10	1.1	5
Till	22	92	20	0.8	5

It can be seen that Ag and Cu generally show much greater concentraton in the A horizon than the till horizon. Pb and Zn show slightly higher values in the till horizon but the results from the A horizon are more consistent. Gold shows no preferential concentration to either the A or till horizon.

While the 1985 gold results over 6+50E, 7+00E, and 7+50E on L10 N were not duplicated by resampling the same sample pits it can be seen there is a clustering of weak to moderately anomalous gold value obtained in the same vicinity of the resistive zone.

The 1985 results probably reflected a coarse-grained free gold that was sampled. This coarser fraction of gold (250 + 125 micron) has been found in other areas of the Toodoggone and can commonly give erractic results in excess of 10,000 ppb.

It appears the best element for outlining the silicified Au bearing zone is gold itself. The results are inconlusive as to whether the A is a till horizon and should be sampled for Au. Generally gold values appear to increase with depth in the soils of the Toodoggone. The gold is released by mechanical rather than hydromorphic weathering.

The A horizon was sampled over the resistivity anomaly after it was determined that the anomalous values originally obtained by sampling the till horizon where actually from the A horizon. Samplers had taken the A horizon instead of till wherever the former was too thick. The soil samples taken as A horizons are bracketed on the till horizon soil sample locaton map. Once this problem was determined the A horizon only was sampled over the resistive zone. No strong anomalous zones are evident except for the gold in the A horizon which shows moderately anomalous values just south of the resistive zone.

Statistical analysis cannot be performed on the till horizon examples until the A horizon values are removed. Only then will the till horizon data represent a single horizon population.

Stream sediment analyses were not anomalous. The stream was intermittent and probably too small to allow concentration of Au in its limited stream bed.

III GEOPHYSICS

VLF - EM Survey

A total of 9.5 line kilometers were run using a Sabre Electronics VLF receiver. Seattle, Washington was used as the transmitter station for the east west grid and Annapolis, Maryland for the north-south grid. The Seattle, station was very stable during the survey but problems were encountered with signal stability from Annapolis. Several lines were re-run to insure reproducibility. No problems were incurred on the Discovery 1 grids due to conductive overburden.

Fraser filter and dip angle data are plotted in the plan view. Field strength data was inconclusive and showed very little correlation with the dip angle crossovers, as the crossover are not a result of continuous metallic mineralization.

Results

Lines were run in both the east-west and north-south directions in order to determine the strike of the structures possibly associated with the highly anomalous soil gold zone outlined in 1985.

East-West Grid

Line 11 N was re-run to check the reproducibility of the 1985 results. The correlation between 1985 and 1986 results was excellent. No strong VLF conductors were delineated although a weak structure bearing 045 degrees appears to correlate with a strong zinc soil anomaly on the Kidd Creek (now Energex)" Muzzer" grid to the north (Al Claim Assesment Report 11157 Part III). This structure is not seen on the air photo and does not have an associated soil gold anomaly.

The strong air photo linement (015 degrees) which crosscuts Discovery 1 was not outlined by the VLF survey but does appear to correlate with a moderate I.P. anomaly.

North-South Grid

Three weak to moderate east west trending VLF conductors are located at 6+50 N, 9+00 N, and 11+ 25 N on all the N-S lines surveyed. It is inferred that these conductors cross the airphoto linement, as similar but weaker responses are indicated on lines 18W and 20W, west of this linement.

Previous experience by the author with VLF surveys in the Toodogone has shown that VLF conductors are extremely numerous due to block faulting. These conductors may or may not be associated with areas of alteration and anomalous gold zones. A survey carried out on the Wolf Claim north of Energex outlined over 20 conductors with no associated favorable epithermal alteration or auriferous zones. The VLF outlined the clay gouge in the shear zones.

The significance of these E-W conductors can only be inferred as no outcrop is present. The I.P. survey in conjunction with the soil geochemistry indicates the VLF conductors represent clay zones associated with the E-W faults. There is a good correlation between the E-W chargeability anomalous zones and the VLF conductors. The chargeability highs are inferred to be clay zones with no associated mineralization, unless there is a coincidental resistive zone and gold soil anomaly. The VLF conductor at 9+00N flanks a strong resistivity zone associated with an auriferous soil anomaly. This is probably an argillic clay zone bordering the resistive silicification zone. The other conductors at 6+25N and 11+25N maybe interpreted as clay zones as there are no coincidental resistive zones.

I.P. REPORT AS PREPARED BY WHITE GEOPHYSICAL INC.

INTRODUCTION

White Geophysical Inc. conducted a brief program of multipole induced polarization surveying on the Duke Minerals Ltd. Discovery Project. This survey consisted of coverage on four north-south lines and two east-west lines using the 25 metre dipole configuration. The objective of the survey was to attempt to trace the mineralized zone on the basis of its apparent resistivity and chargeability characteristics.

MULTIPOLE INDUCED POLARIZATION SURVEY

The multipole induced polarization method is a technique which exploits the rapid signal acquisition and processing capabilities available with current micro computer technology. With this technique the potential field information is obtained through a multiconductor cable having 36 takeouts at 25 metre intervals. The cable is presently configured as up to six end and position interchangeable cables of 150 metre length. The takeouts are addressed by the 40 channel multiplexer assembly in a specially configured HP-3497A data acquisition system as 25 metre to 275 metre dipoles. The data acquisition system is driven by a HP-85 computer, allowing the data to be stacked in the computer for a number of cycles at full precision until a criteria is reached. Ten windows on the secondary voltage are compiled, as well as the primary voltage information. Time zero is sensed by direct reference to the transmitter timing circuitry. The cable is scanned simultaneously in groups of five dipoles and the decay curves presented graphically for acceptance and logging or rejection and rescan by the operator. The data is logged on digital tape cartridges and is readily accessed in the field in order to produce pseudo-sections. These tapes are read by a HP-9845 computer for further processing and production of final report ready sections.

The primary field power is provided by a Huntec MK IV 2.5 kw transmitter operated in time domain mode which is driven by a 400 Hz, 120 volt three phase motor generator. The transmitter signal is an alternate cycle reversing current pulse of two second on and two second off time. The current is introduced into the ground through two current electrodes for each scan of the potential cable. By scanning the cable for each of several current stake positions both along the cable and off the ends of the cable a strong measure of redundancy of coverage of a given depth point is assured. The stacking of this multiple scan information in the computer results in an improved determination of the geoelectric section.

The apparent resistivity is obtained from the ratio of the primary voltage measured on the potential dipole during the current on part of the cycle to the current flowing through the current electrodes. A geometric factor is computed from the electrode locations to arrive at the apparent resistivity, measured in ohm-metres.

The apparent chargeablility is calculated from the ten secondary voltage windows as the area under the secondary decay curve and is measured in milliseconds.

DISCUSSION OF RESULTS

Four test lines traversed the east-west trending zone. These data are illustrated in pseudo-section form on Figures 3 - 6. A clearly defined resistivity high, likely due to enhanced silicification, is evident on lines 12W - 15W near 1000N. The limits of this response are displayed in plan on Figure 2. In addition to this zone a second resistive effect is expressed at 775N on line 12W. This zone is present, although weak on line 1300W at 800N.

Two lines were traversed east-west, which from the results of the north-south lines, are indicated as paralleling the main resistive zone. Line 1000N, Figure 7, places limits on the strike length of the feature, showing termination at 400E and a weakening near 900E.

The coverage of line 1100N shows the presence of a "bulge" to the north between lines 1400W and 1300W. Alternately, the resistivity high at 650E on line 1100N may be evidence of a separate resistive effect at a quite different strike, which intersects the main east-west zone.

The chargeability response to the zone is more complex than that of the apparent resistivity. In general, the response shows a high on the flanks of the apparent resistivity low and probably reflects a local enhancement of clay alteration minerals. The best example of this character of response is seen on line 1300W, Figure 4.

SUMMARY AND CONCLUSIONS

White Geophysical Inc. conducted a program of multipole induced polarization surveying on the Discovery project on behalf of Duke Minerals Ltd. The survey covered six lines and proved useful in mapping an apparent resistivity high, likely associated with increased silicification in the zone of interest. As well, the technique mapped a chargeability high, probably proportional to clay alteration degree on the flanks of the resistivity high.

Respectfully submitted,

Cliff Candy

Cliff Candy, B.Sc.
Geophysicist

IVCONCLUSION AND RECOMENDATIONS

Based on the favorable resistive zones outlined by the I.P. survey and coincidental with a moderately anomalous gold bearing zone in the soil, further exploration is indicated.

The next step would be to trench the zone of interest but excessive overburden thickness and the presence of a surface groundwater table rendered trenching unfeasible.

It is recommended that further I.P. work be done prior to diamond drilling. As the zone is open both to the east and west the N-S grid should be extended to the east and west to determine the true length of the resistive zone. Several, three to four hundred metre detailed I.P. lines should be carried out on L13-L15W over the 10+00N zone. By using a 12.5 m dipole the boundaries of the resistive zone could be more accurately defined prior to diamond drilling.

As the VLF conductors do not correlate with the resistive zone further VLF work is not justified. This method may outline nearby structures but gives no indication of alteration or gold content of the underlying structures.

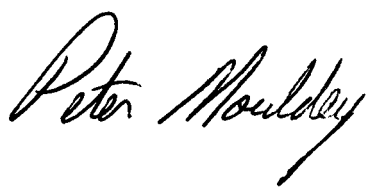
Diamond drilling using NQ core to insure sample representitivity should be carried out after the detailed I.P. work. The larger core would help insure gold values more representative of the actual bedrock values. The first holes should test the zone on L13 W and L14 W at 10+00 N where the resistive zone is strongest and closest to the surface. A drill set up approximately 50 M south of the zone at an azimuth of 360 degrees, dipping 45N should intersect the zone of interest. As the chargeability anomaly is south of the resistive zone a section of altered clay gouge of argillic alteration should provide a marker for the silicified zone. Sampling of all alteration zones from drill core should be done at 1 m intervals.

AUTHOR'S STATEMENT OF QUALIFICATIONS

Peter G. Mouldey

1. I am a qualified geologist, graduate of Queen's University with a Honours Bachelor of Science degree in 1983.

2. I have practiced as a geologist in Canada since 1983 as detailed in the attached resume.



Peter G. Mouldey

10 Welkin Cres.

Nepean, Ontario

K2E 5M5

Work Experience:

May - Sept. 1980 Abitibi-Price Mineral Resources

- Massive sulphides, Beardmore, Ontario
- Geological Assistant

May - Sept. 1981 Texasgulf Inc.

- Precious metals (Au Ag) Mo, Massive sulphides, Northern B.C. and Yukon
- Geological Assistant

May - Sept. 1982 Kidd Creek Mines Ltd.

- Precious metals (Au Ag) Toodogone B.C.
- Geological Assistant

May - Sept. 1983 Kidd Creek Mines Ltd.

- Massive sulphides, Squamish, B.C.
- Geologist

May - Sept. 1984 Geological Survey of Canada

- Resource Geophysics and Geochemistry Division
- East Kemptville tin deposit - Hydrogeochemical research
- Research Assistant

May - Sept. 1985 Baseline Resources Ltd.

- Precious metals, Toodoggone, B.C.
- Geologist

May - Sept 1986 Duke Minerals Ltd.

- Precious metals, Toodogone B.C. and Alturas, California
- Party Chief 4 man crew

EDUCATION

1983 Bachelor of Science, Honors Geology

Queen's University, Kingston, Ontario

B.Sc. Thesis

Gold Distribution in Soils of the Pit Grid, Toodoggone, B.C.

IV COST STATEMENT

MOBILIZATION

Helicopter, 6.3 hr. @ $610/hr.	$3,845.00
Fixed Wing Service to/from Metsantan Lake	$3,643.00

CONSULTING

W.G. Stevenson & Associates, as per attached invoice	$1,239.00
White Geophysical Inc., as per attached invoice	$4,745.00
Peter G. Mouldey, consulting geologist, June 15 to July 31 @ $80/day	$3,680.00

CONTRACT SERVICES

Baseline Resources Ltd., line cutting, soil sampling, etc. as per attached invioce	$9,606.00

ANALITICAL COSTS

Min-En Laboratories Ltd.,	
164 soil geochem @ $10/sample	$1,640.00
3 rock samples @ $11.70/sample	$31.00
Total Cost	$28,429.00

TELEPHONE: 685-1123
RESIDENCE: 987-6967

W. G. STEVENSON & ASSOCIATES LIMITED
CONSULTING GEOLOGISTS
CROWN TRUST BUILDING
475 HOWE STREET
VANCOUVER, B.C. V6C 2B3

INVOICE

August 28, 1986

In Account With

Duke Minerals Ltd.
510 - 700 West Pender Street
Vancouver, B.C. V6C 1G8

Attention: David Brett

Professional Services between June 26 and July 9, 1986 relating to the revision of our earlier report on the Discovery 1 & 2 claims in the Toodoggone area to include fieldwork that was done during the summer of 1985, and including the following:-

- discussions with David Brett
- discussions with Geir Leland of the VSE
- interpretation of the data
- instructions for drafting maps to present the new data
- revision of the report, and preparation of new copies
- discussion of revisions with the legal counsel of Duke Minerals.

Professional Services, R. W. Stevenson, P. Eng. (12 hours)		$600.00
Disbursements		
Secretarial; draft preparation	$ 18.00	
Word processor	88.64	
Xerox	17.82	
Drafting new data onto maps (invoice attached)	501.06	
Report covers	14.00	
	639.52	639.52
TOTAL DUE		$1,239.52

THIS IS MY ACCOUNT

per R. W. Stevenson
W. G. Stevenson, P. Eng.

63A

WHITE GEOPHYSICAL INC.
9251 BECKWITH ROAD, RICHMOND, B.C. CANADA V6X 1V7 (604) 273-1636

July 30, 1986

Duke Minerals Ltd.
510 - 700 West Pender St.
Vancouver, B. C.
V6C 1G8

INVOICE #115

To professional services, multipole induced polarization surveying, Toodoggone, B.C. July, 1986.

Mobilization - demobilization:		
Proportion of total	$ 875.00	
Food and Accommodation, July 25 to 27 3 days X 4 men @ ~~$85.00~~/manday $50.00	~~1,020.00~~ 600.00	
Production: July 25-26 Surveying 2 days @ $1,090.00/day	2,180.00	
July 27 Surveying, clean up and mobilization 1 day @ $1,090.00/day	1,090.00	
TOTAL OWING	~~$ 5,165.00~~ 4365.00	$4765.00

BASELINE RESOURCES LTD.

MINING EXPLORATION SERVICES

August 8, 1986

Duke Minerals ltd.,
510-700 West Pender Street,
Vancouver, B.C.
V6C 1G8

Re: Toodoggone, Discovery 1&2

Invoice

Mob/De Mob, Van to/from Smithers	1,200.00
Mob/De Mob, Smithers to/from/Metsantan	400.00
Camp set up, tear-down	600.00
Accomodation $30.00/Man day x 50	1,500.00
Soil sampling, 176 @ $6.00/sample	1,056.00
Line cutting, 4.6 Km @ $300.00/Km	1,380.00
Assist I.P. survey, mob & demob, etc.	1,800.00
Grid Establishment, 3.4 Km @ $50.00/Km	170.00
Stake HOWL claim	200.00
Prospecting, 1 day @ 100.00/day	100.00
Expediting	300.00
Disbursements	
100 Watt HF radio rental, 1 mo.	~~400.00~~ 298
Ford F250 4X4, 1 mo.	600.00
Chev Luv P.U., 1 mo.	300.00
Total	10,006.00
Less Advances	~~10,000.00~~ 5000.
Balance Due	5006.00

9606.00

APENDIX I

GEOCHEMICAL

CERTIFICATES

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company: DUKE MINERALS
Project: 01
Attention:

- A Ho

File: 6-474
Date: JULY 16/86
Type: SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB	
P1-PM001	18	16	52	0.4	10	
P1-PM002	34	20	53	0.9	5	
P1-PM003	20	13	20	1.4	5	
P1-PM004	19	20	65	0.5	5	
P1-PM005	28	16	65	1.2	5	
P1-PM006	22	20	92	0.8	5	
P1-PM007	18	10	40	1.1	5	40MESH
P1-WB001	12	14	41	0.6	10	
P1-WB002	10	11	60	0.5	25	
P1-WB003	36	19	80	1.1	5	
P1-WB004	18	17	94	0.6	3	
P1-WB005	16	12	44	0.6	5	
P1-WB006	28	16	73	0.8	10	
P1-WB007	17	14	44	0.6	5	
P1-WB008	14	12	49	0.6	5	
P1-WB009	17	14	59	0.6	10	
P1-WB010	20	12	56	0.6	5	
P1-WB011	20	18	86	0.6	10	
P1-WB012	13	16	44	0.3	5	
P1-WB013	30	22	80	0.6	5	
P1-WB014	14	18	50	0.6	5	
P1-WB015	29	26	62	0.6	5	
P1-WB016	24	22	51	1.4	5	20 MESH
P1-WB017	16	17	56	0.5	5	
P1-WB018	13	16	42	0.4	10	
P1-WB019	10	16	66	0.6	5	
P1-WB020	8	14	34	0.4	5	
P1-WB021	27	23	110	1.0	5	

Certified by _____

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company: DUKE MINERALS
Project: 01
Attention: D. BRETT

File: 6-498/P2
Date: JULY 24/86
Type: SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB	
P1-DH010	51	29	102	1.5	10	
P1-DH011	18	15	44	0.9	5	
P1-DH012	14	12	46	0.8	5	
P1-DH013	14	13	24	0.8	5	
P1-DH014	13	12	45	0.9	3	
P1-DH015	15	14	48	1.0	5	
P1-DH016	12	12	47	0.7	5	
P1-DH017	35	27	112	1.8	10	40MESH
P1-DH018	22	21	80	1.1	5	
P1-DH019	16	13	58	1.0	5	

Certified by _____

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company:DUKE MINERALS
Project:01
Attention:D.BRETT

- A Hor

File:6-498/P1
Date:JULY 24/86
Type:SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB	
P1-WB022	28	18	87	1.5	5	
P1-WB023	19	15	74	0.9	5	
P1-WB024	38	24	93	2.2	5	
P1-WB025	15	13	53	0.6	5	
P1-WB026	13	14	56	0.7	5	
P1-WB027	26	20	108	1.4	5	40MESH
P1-WB028	35	25	93	3.2	15	20MESH
P1-WB029	18	19	78	1.3	60	
P1-WB030	15	16	46	1.0	5	
P1-WB031	19	14	52	0.9	5	
P1-WB032	10	12	37	0.6	5	
P1-WB033	16	14	43	0.7	5	
P1-WB034	13	12	42	0.8	10	
P1-WB035	18	11	58	1.2	5	
P1-WB036	38	8	27	0.9	5	
P1-WB037	10	12	37	0.6	5	
P1-WB038	14	14	66	0.6	5	
P1-WB039	14	10	44	0.7	5	
P1-WB040	17	17	89	1.2	5	
P1-WB041	18	14	50	0.6	10	
P1-WB042	21	16	56	0.7	5	
P1-DH001	15	13	49	0.7	5	
P1-DH002	27	20	65	0.9	5	
P1-DH003	36	19	117	2.2	5	20MESH
P1-DH004	16	15	49	1.0	5	
P1-DH005	37	17	87	1.6	10	
P1-DH006	29	14	64	1.3	5	
P1-DH007	12	12	38	1.0	5	
P1-DH008	18	12	43	0.7	5	
P1-DH009	44	18	90	2.1	5	

Certified by

MIN-EN LABORATORIES LTD.

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Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company: DUKE MINERALS
Project: 01
Attention: D. BRETT

File: 6-515/P1
Date: JULY 25/86
Type: SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB	
P1-WB043	19	17	97	0.7	5	
P1-WB044	20	14	68	0.5	5	
P1-WB045	46	25	154	1.1	5	
P1-WB046	22	23	90	0.9	3	
P1-WB047	16	13	55	0.6	5	
P1-WB048	33	15	57	1.8	5	40MESH
P1-WB049	21	18	53	0.7	10	
P1-WB050	26	17	54	1.0	5	
P1-WB051	23	10	32	0.7	5	40MESH
P1-WB052	24	14	72	0.9	5	
P1-WB053	24	14	68	0.7	5	
P1-WB054	17	16	59	0.9	15	
P1-WB055	11	11	47	0.6	10	
P1-WB056	30	12	75	1.9	3	40MESH
P1-WB057	17	9	60	0.8	10	
P1-WB058	16	10	41	0.6	20	
P1-WB059	12	13	110	0.8	5	
P1-WB060	34	24	83	1.2	10	
P1-WB061	9	11	32	0.7	5	
P1-WB062	18	14	78	0.7	5	
P1-WB063	10	13	56	0.5	5	
P1-WB064	11	10	73	0.4	10	
P1-WB065	12	8	34	0.6	5	
P1-WB066	15	14	44	0.6	5	
P1-WB067	17	15	49	0.7	5	
P1-WB068	13	18	54	0.6	5	
P1-WB069	50	23	73	1.3	3	40MESH
P1-WB070	35	26	76	2.4	5	
P1-WB071	13	15	38	0.6	10	
P1-WB072	10	9	39	1.6	5	

Certified by _____

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company:DUKE MINERALS
Project:01
Attention:D.BRETT

File:6-515/P2
Date:JULY 25/86
Type:SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB
P1-WB073	23	15	102	1.3	5
P1-WB074	15	7	52	0.7	15
P1-PM008	12	9	44	0.7	5
P1-PM009	18	14	87	0.8	5
P1-PM010	11	8	56	0.7	5
P1-PM011	14	13	93	1.6	10
P1-PM012	10	12	77	0.6	5
P1-PM013	16	15	80	0.7	5
P1-PM014	9	11	57	0.8	10
P1-PM015	15	14	46	0.9	5
-PM016	12	12	45	0.7	5
1-PM017	19	15	52	1.0	5
P1-PM018	38	13	61	1.6	5
P1-PM019	21	14	72	0.9	10
P1-PM020	24	16	75	0.9	5
S1-PM001	30	27	145	1.5	5

Certified by

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company: DUKE MINERALS
Project: 01
Attention: D.BRETT

File: 6-562/P1
Date: AUGUST 7/86
Type: SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB	
WB 075	18	13	74	0.6	5	20MESH
WB 076	20	11	40	0.8	15	20MESH
WB 077	10	10	38	1.2	5	20MESH
WB 078	28	15	64	1.1	5	20MESH
WB 079	18	12	26	0.8	5	20MESH
WB 080	8	6	20	0.6	20	20MESH
WB 081	18	8	45	1.6	5	20MESH
WB 082	19	10	52	1.0	10	20MESH
WB 083	22	9	50	1.2	5	20MESH
WB 084	25	8	85	1.6	5	20MESH
WB 085	37	18	43	1.0	5	20MESH
WB 086	27	132	70	0.8	5	20MESH
WB 087	18	9	40	0.9	10	20MESH
WB 088	16	11	45	1.8	5	20MESH
WB 089	28	8	46	2.3	5	20MESH
WB 090	13	10	37	0.8	5	20MESH
WB 091	7	11	34	0.6	5	20MESH
WB 092	10	6	43	0.6	5	
WB 093	24	10	45	1.6	5	
WB 094	23	10	57	0.8	10	40MESH
WB 095	32	8	41	1.4	5	
WB 096	8	6	35	0.5	5	
WB 097	7	4	18	0.4	5	
WB 098	32	6	88	0.7	50	
PM 021	26	6	70		10	20MESH
PM 022	16	10	22		5	
PM 023	8	8	25		5	20MESH
PM 024	11	18	40		5	20MESH
PM 025	20	10	50		25	
PM 026	17	11	28		30	

Certified by _____

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company:DUKE MINERALS
Project:01
Attention: D.BRETT

File:6-562R
Date:AUGUST 11/86
Type:PULP GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AG PPM	
PM 021	1.2	20MESH
PM 022	0.8	
PM 023	0.8	20MESH
PM 024	2.2	20MESH
PM 025	1.4	
PM 026	0.6	
PM 027	0.7	
PM 028	2.4	
PM 029	1.9	
PM 030	1.5	
031	1.7	
PM 032	1.1	
PM 033	1.4	
PM 034	2.7	
PM 035	2.5	
PM 036	1.2	
PM 037	1.5	
PM 038	1.3	
PM 039	1.3	
PM 040	1.2	
PM 041	0.8	
PM 042	1.2	

Certified by _____

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

E:(604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company:DUKE MINERALS
Project:01
Attention:D.BRETT

File:6-562/P2
Date:AUGUST 7/86
Type:SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AU PPB
PM 027	15	8	27	5
PM 028	32	14	125	10
PM 029	23	20	87	5
PM 030	27	14	75	10
PM 031	33	18	95	5
PM 032	23	12	45	5
PM 033	36	14	50	3
PM 034	33	18	93	5
PM 035	32	32	113	5
PM 036	12	12	36	5
037	25	16	138	3
PM 038	20	17	75	5
PM 039	22	28	62	5
PM 040	21	12	30	5
PM 041	8	8	76	5
PM 042	15	12	63	10

Certified by

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604)980-5814 OR (604)988-4524 TELEX: 04-352828

Certificate of GEOCHEM

Company: DUKE MINERALS
Project: 00,01
Attention: D. BRETT

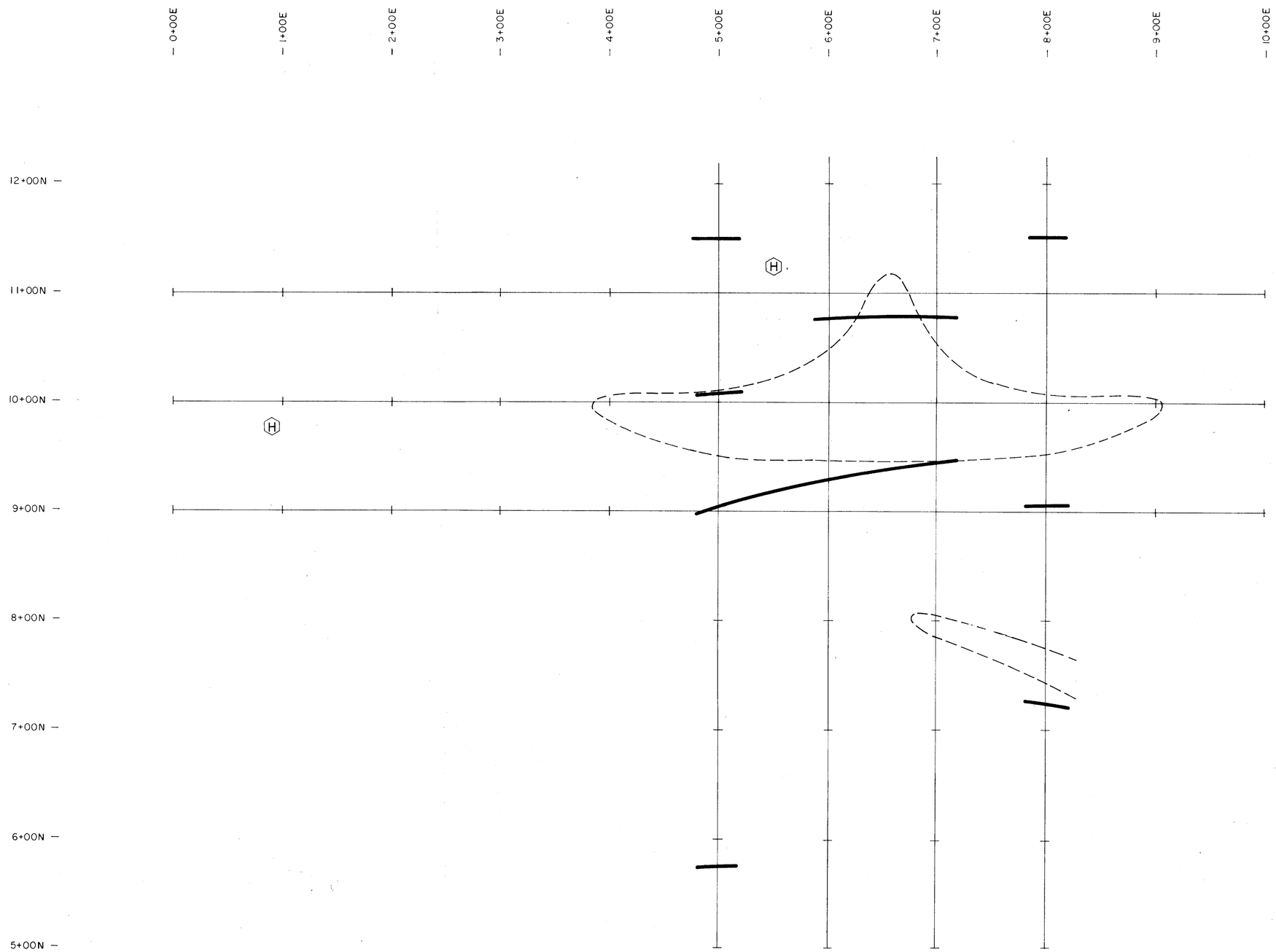
File: 6-544
Date: AUGUST 5/86.
Type: STREAM SEDIMENT

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU PPB
S1-PM002	15	18	87	0.6	5
S1-PM003	16	16	93	0.9	5
S1-PM004	15	15	86	0.4	3
S1-PM005	27	20	105	0.7	5
S1-PM006	18	17	90	0.8	10
S1-PM007	14	14	73	0.5	5
S1-PM008	13	8	65	0.3	5
S1-PM009	20	16	96	1.0	5
S1-PM010	26	23	126	1.2	15
S1-PM011	21	22	94	0.7	5
S1-PM012	22	22	116	0.7	5
S1-PM013	20	19	107	0.6	10
S1-PM014	13	14	59	0.4	5
S1-PM015	12	16	55	0.4	5
S1-PM016	25	20	118	1.0	5
S1-PM017	16	17	74	0.6	10

Certified by _____

MIN-EN LABORATORIES LTD.



LEGEND:

- SURVEY GRID
- RESISTIVITY ZONE – SILICIFICATION
- CHARGEABILITY ZONE

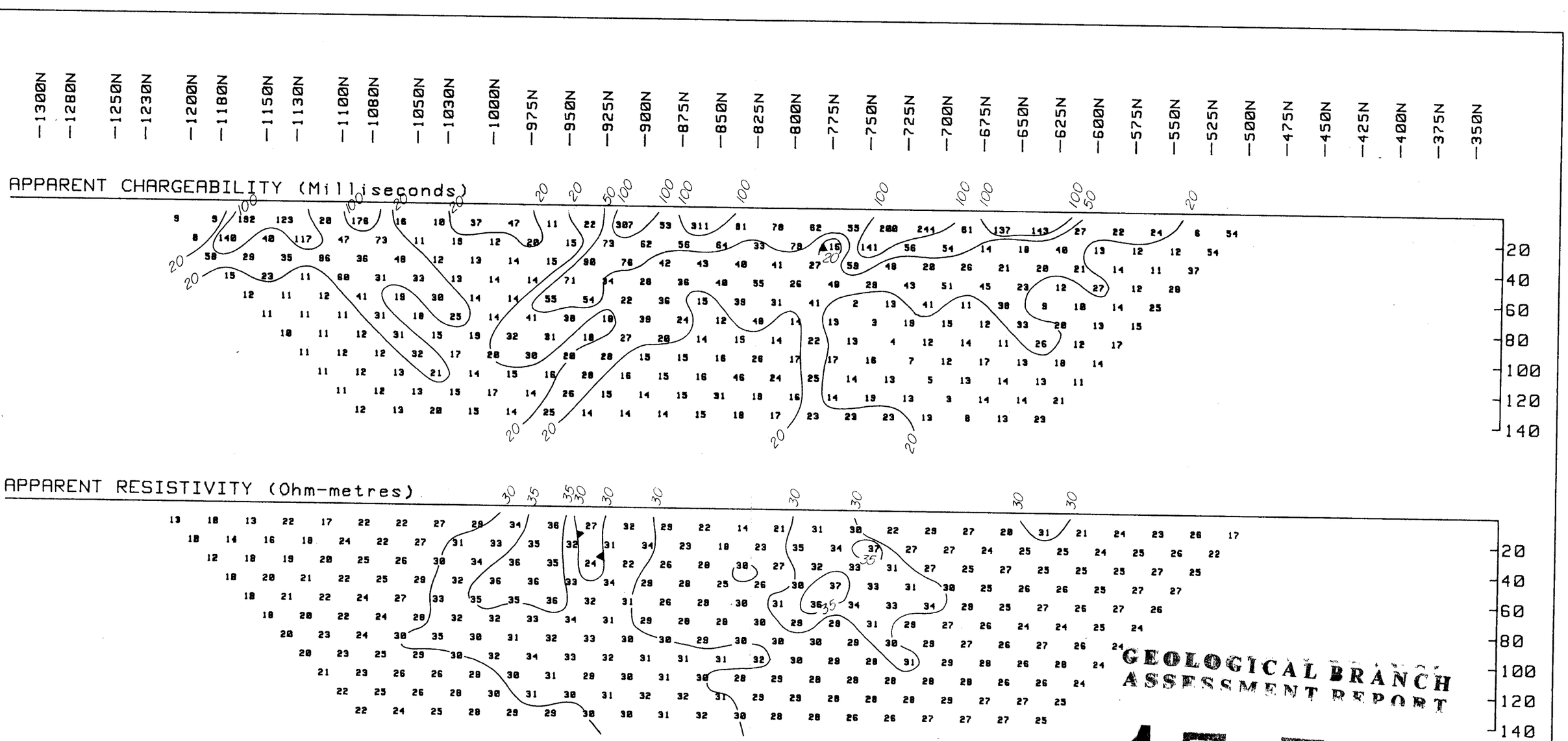
50 25 0 50 100 150

DUKE MINERALS LTD.
— DISCOVERY GRID —
LIARD MINING DIVISION – BRITISH COLUMBIA

MULTIPOLE INDUCED POLARIZATION SURVEY

WHITE GEOPHYSICAL INC.

INTERPRETED BY: C.E.C.
DRAWN BY: FINELINE DRAFTING
CHECKED BY: C.E.C.
DATE: SEPT./86
FIGURE NO. 2



TOP: CHARGEABILITY (MILLISECONDS)
BOTTOM: RESISTIVITY (OHM-METRES)
INSTRUMENT: 36 CHANNEL MULTIPOLE I.P.

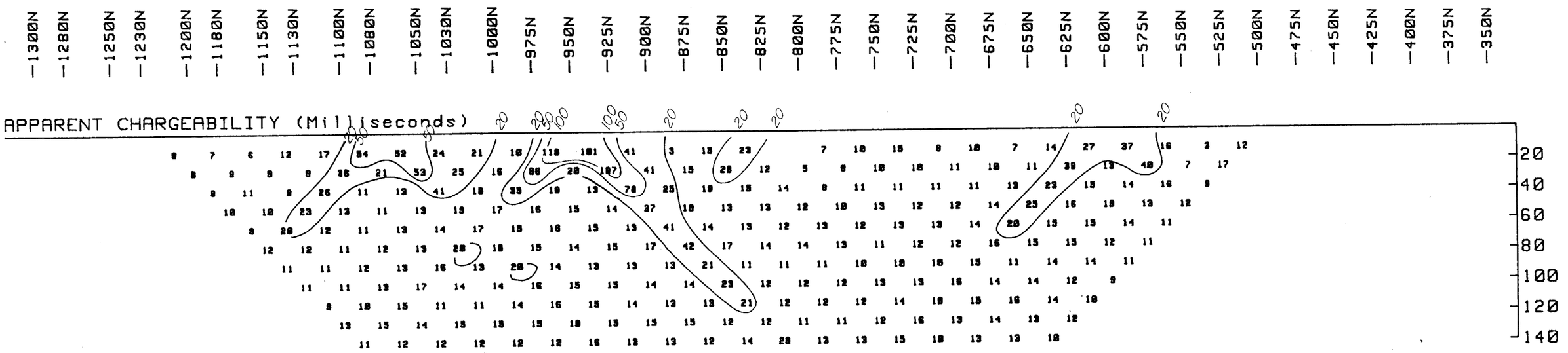
METRES
0 25 50 75 100

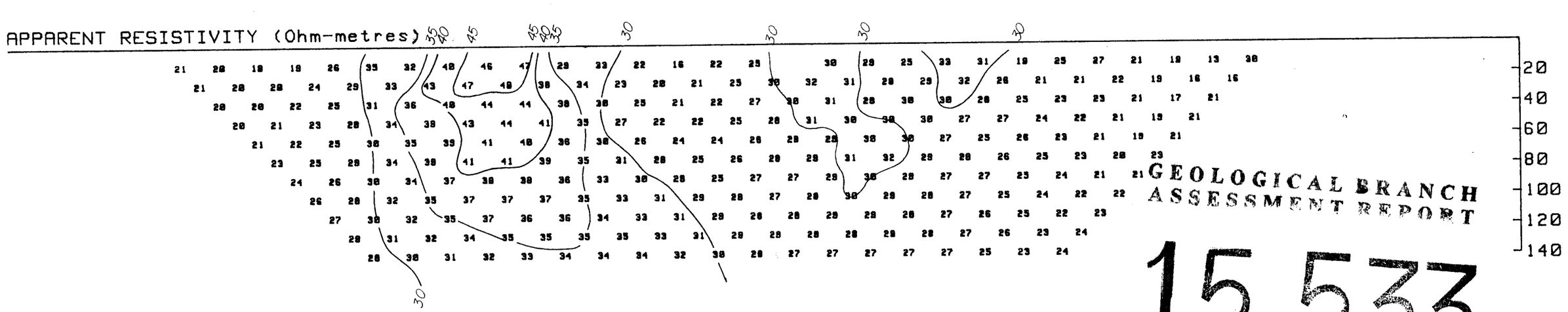
WHITE GEOPHYSICAL INC.

DUKE MINERALS LTD.
DISCOVERY PROJECT
MULTIPOLE INDUCED POLARIZATION SURVEY
LINE 12W

DATE: JULY/86

FIG.: 3





TOP: CHARGEABILITY (MILLISECONDS)
BOTTOM: RESISTIVITY (OHM-METRES)
INSTRUMENT: 36 CHANNEL MULTIPOLE I.P.

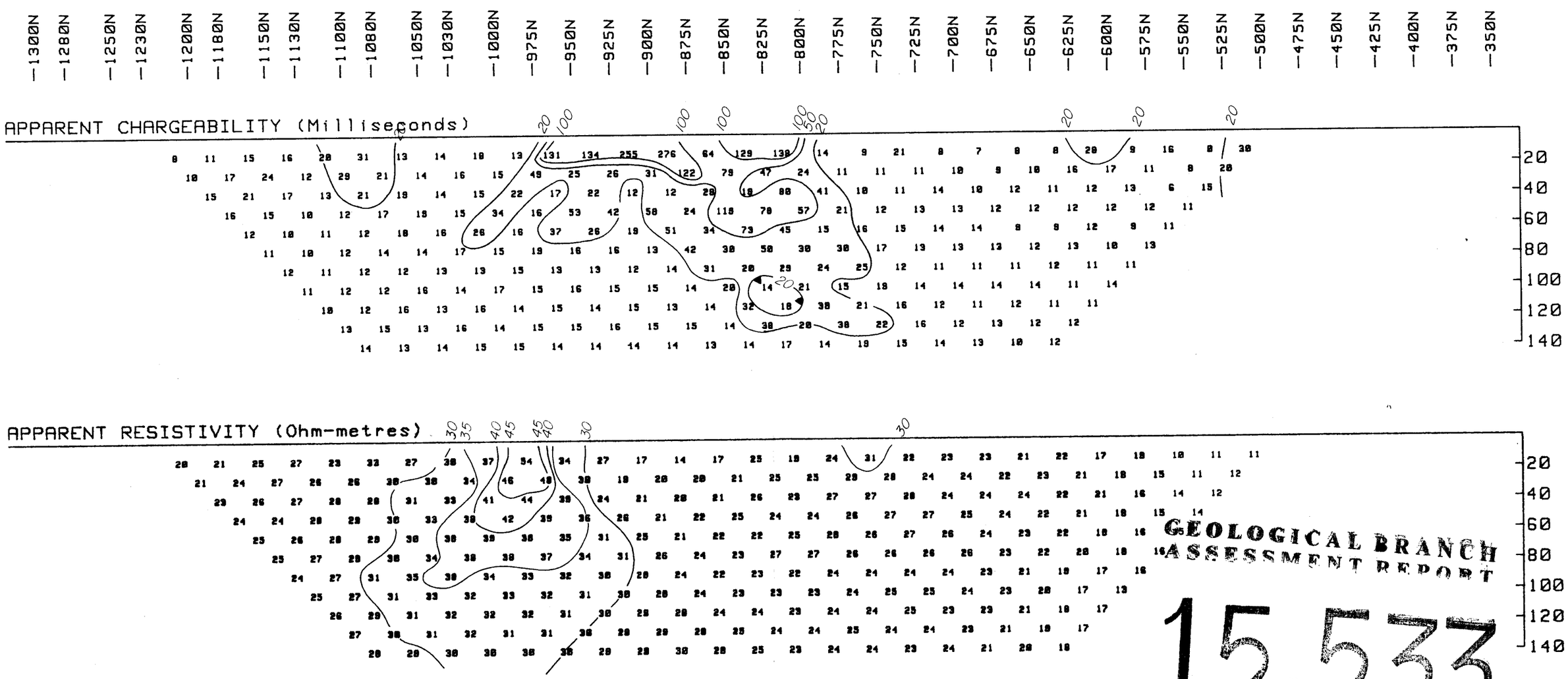
METRES
0 25 50 75 100

DUKE MINERALS LTD.
DISCOVERY PROJECT
MULTIPOLE INDUCED POLARIZATION SURVEY
LINE 13W

WHITE GEOPHYSICAL INC.

DATE: JULY/86

FIG.: 4



TOP: CHARGEABILITY (MILLISECONDS)
BOTTOM: RESISTIVITY (OHM-METRES)
INSTRUMENT: 36 CHANNEL MULTIPOLE I.P.

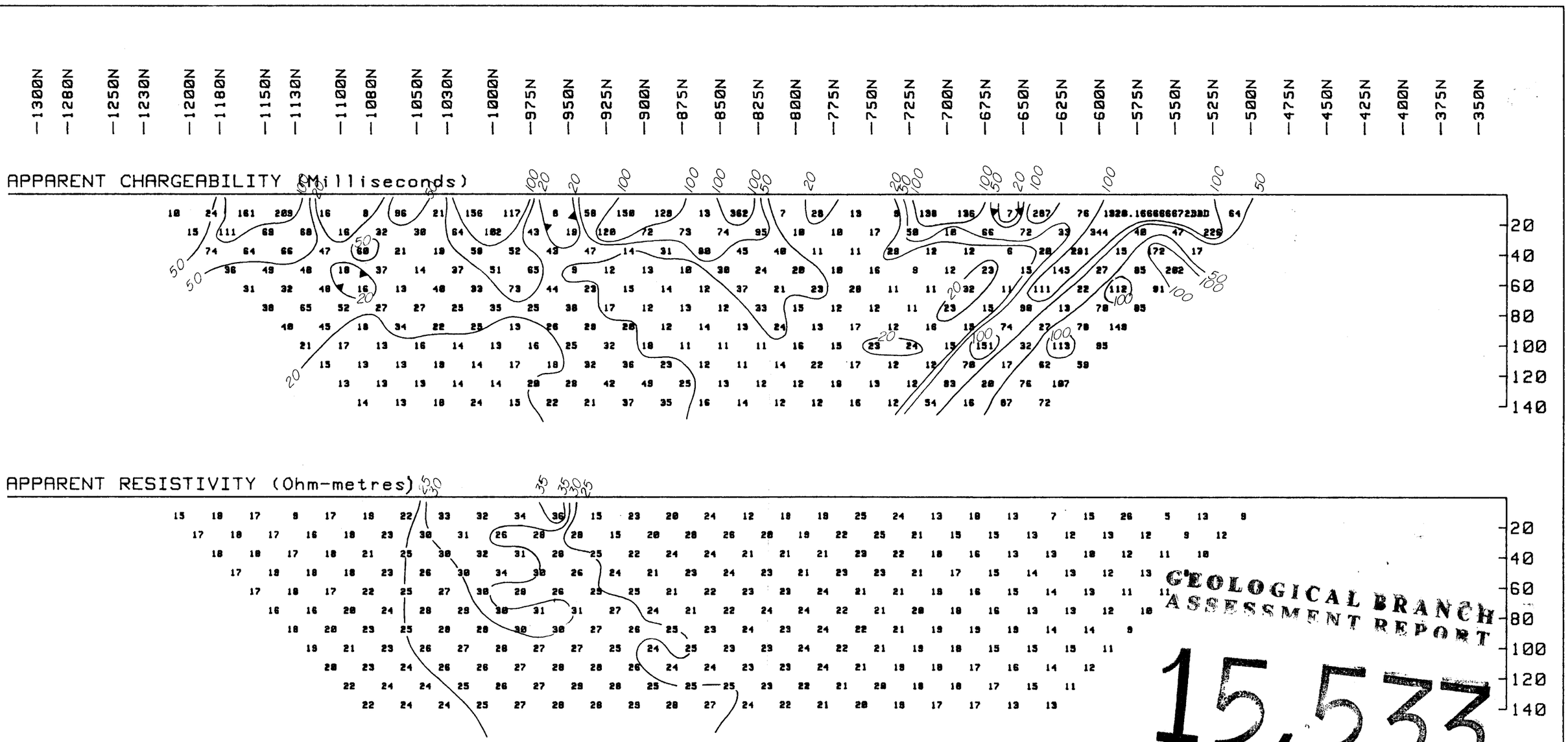
METRES
0 25 50 75 100

DUKE MINERALS LTD.
DISCOVERY PROJECT
MULTIPOLE INDUCED POLARIZATION SURVEY
LINE 14W

WHITE GEOPHYSICAL INC.

DATE: JULY/86

FIG.: 5



TOP: CHARGEABILITY (MILLISECONDS)
BOTTOM: RESISTIVITY (OHM-METRES)
INSTRUMENT: 36 CHANNEL MULTIPOLE I.P.

METRES
0 25 50 75 100

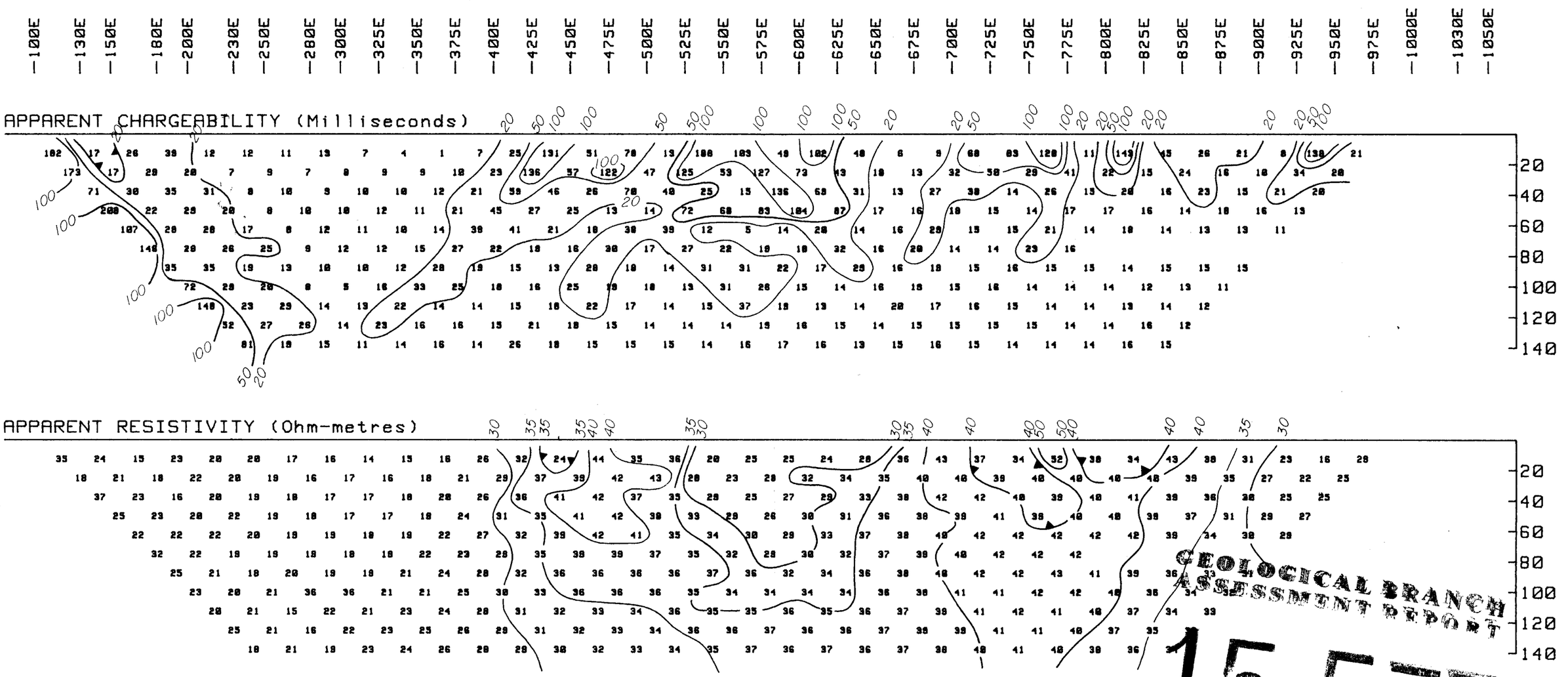
WHITE GEOPHYSICAL INC.

DUKE MINERALS LTD.

DISCOVERY PROJECT
MULTIPOLE INDUCED POLARIZATION SURVEY
LINE 15W

DATE: JULY/86

FIG.: 6



TOP: CHARGEABILITY (MILLISECONDS)
BOTTOM: RESISTIVITY (OHM-METRES)
INSTRUMENT: 36 CHANNEL MULTIPOLE I.P.

METRES
0 25 50 75 100

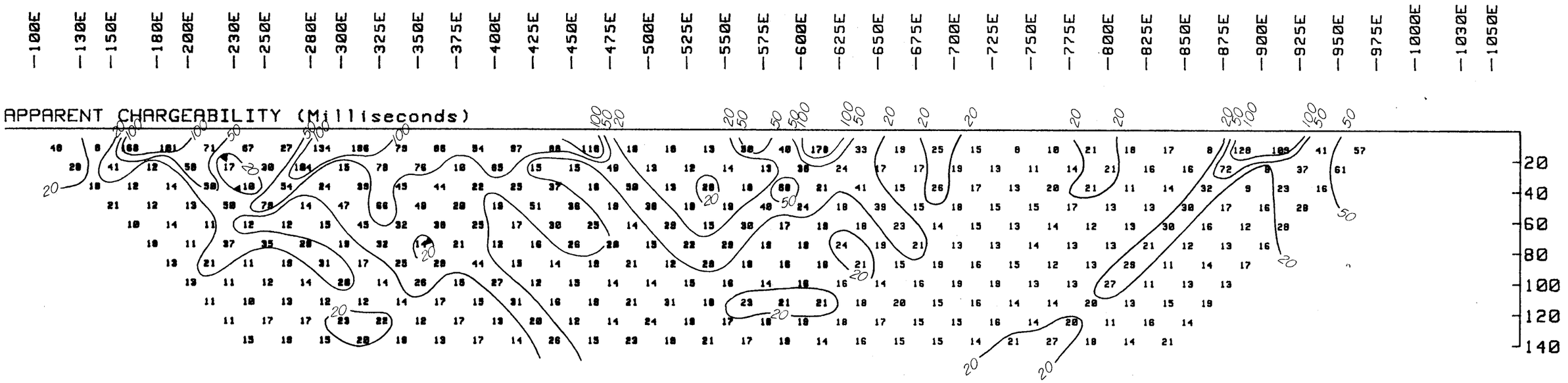
DUKE MINERALS LTD.

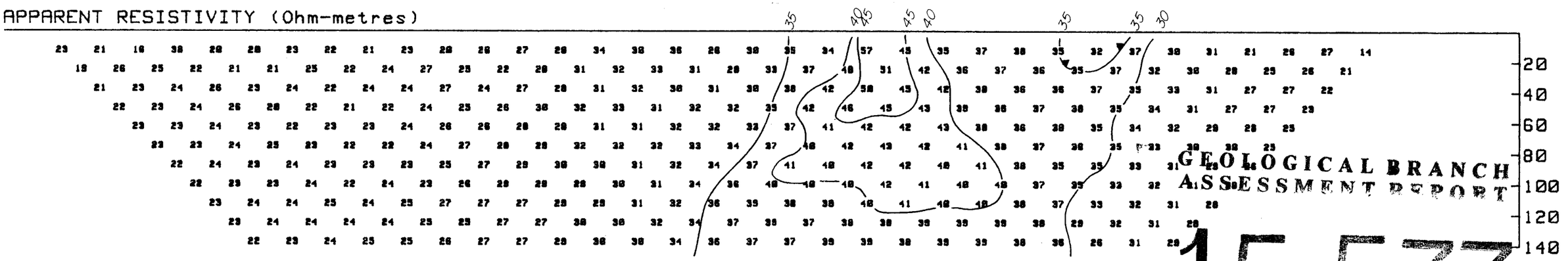
DISCOVERY PROJECT
MULTIPOLE INDUCED POLARIZATION SURVEY
LINE 10N

WHITE GEOPHYSICAL INC.

DATE: JULY/86

FIG.: 7





TOP: CHARGEABILITY (MILLISECONDS)
BOTTOM: RESISTIVITY (OHM-METRES)
INSTRUMENT: 36 CHANNEL MULTIPOLE I.P.

METRES
0 25 50 75 100

DUKE MINERALS LTD.
DISCOVERY PROJECT
MULTIPOLE INDUCED POLARIZATION SURVEY
LINE 11N

WHITE GEOPHYSICAL INC.

DATE: JULY/86

FIG.: 8

AL 3, ENERGEX

LCP, AL 5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE L15W

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

L20W BASELINE

AL 5 CLAIM LINE

AL 5 253W

METSANTAN 3CJ 4N (APPROX.)

DISCOVERY 1

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

METSANTAN 7 3JON (APPROX.)

METSANTAN LAKE

CEMETARY

CAMP

N

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LEDGEND

SWAMP .....
HELI PAD .....
CREEK SED. ...
LINEMENT. ..
CREEKS ....
CLIFFS ....

Fig. 9

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

SOIL SAMPLE LOCATIONS
A HORIZON + SILTS

NTS 94E/6 SCALE 1:5000

Completed Jan 11

50 m 500 m

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

22W BASELINE

25W 24W 23W 15W

KIDD CREEK GRID

AL 5, ENERGEX

AL 5 CLAIM LINE SURVEYED

22W BASELINE

10+50N AL 5 CLAIM LINE

DISCOVERY 1

METSANTAN 7
3W 4N
(APPROX.)

LCP
BASELINE

CREEK

METSANTAN LAKE

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

N

METSANTAN 7
3W 0N (APPROX. MKR)

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LEDGEND

SWAMP.....
HELI PAD.....
CREEK SED.....
LINEMENT.....
CREEKS.....
CLIFFS.....

FIG. 10

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

SOIL SAMPLE LOCATIONS
TILL HORIZON

NTS 94E/6 SCALE 1:5000

Completed Jan 17

( ) - sample taken was A horizon

50m 500m

CEMETARY

CAMP

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

22W BASELINE 15W

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

AL 5 CLAIM LINE

AL 5 253W

DISCOVERY 1

METSANTAN 7 3CN 4N (APPROX.)

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

N

METSANTAN 7 3UON (APPROX. MARK)

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

LEDGEND

SWAMP.....

HELI PAD.... (H)

CREEK SED...

LINEMENT...

CREEKS....

CLIFFS.....

FIG. 11

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

VLF
FRASER FILTER

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

V.L.F. INFO:

Machine used: Sabre Model 27 VLF-EM Reciever
Station used : Seattle, Wa. East-West Grid
Annapolis, Maryland. North-South Grid
Directions : Seattle - Asimuth of 165°
Asimuth of 120°

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

L27W

L2W

CHOPPER PAD

L22W BASELINE

L15W

25W 24W 23W

KIDD CREEK GRID

Approximate Air Photo Lineament 015°

20+00 18+00 16+00 14+00 12+00 10+00 8+00 6+00 4+00 2+00 0+00

15+00N BASELINE

14+00N 13+00N 12+00N 11+00N 10+00N 9+00N 8+00N 7+00N 6+00N 5+00N 4+00N 3+00N 2+00N 1+00N

1+00E 2+00E 3+00E 4+00E 5+00E 6+00E 7+00E 8+00E 9+00E 10+00E 11+00E 12+00E 13+00E 14+00E 15+00E 16+00E 17+00E 18+00E 19+00E

AL 5, ENERGEX

METSANTAN 7
3400N (APPROX.)

AL 5 CLAIM LINE SURVEYED

DIP ANGLE +10°

+20° 0

L 2+00 BASELINE

10+50N AL 5 CLAIM LINE

AL5 25SW

CLIFFS

CURTIS

DISCOVERY 1

L5W L4W L3W L2W

+20° DIP ANGLE 10 0

L 8+00 W L 6+00 W L 4+00 W L 2+00 W L 0+00

L 8+00 W L 6+00 W L 4+00 W L 2+00 W L 0+00

LCP
BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

N

METSANTAN 7
3400N (APPROX.)

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METSANTAN
LAKE

LEDGEND:

SWAMP.....
HELI PAD.....(H)
CREEK SED....
LINEMENT...
CREEKS .....
CLIFFS.....

CEMETARY

CAMP

FIG. 12

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

VLF SURVEY
DIP ANGLE

NTS 94E/6 SCALE 1:5000

Completed Jan/87

50 m

400 m

V.L.F. INFO:

Machine used: Sabre Model 27 VLF-EM reciever
Stations used: Seattle, Wa. East-West Grid
Annapolis, Maryland. North South Grid
Directions: Seattle - Asimuth of 165°
Annapolis - Asimuth of 120°

AL 3, ENERGEX

LCP, AL 5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE L15W

25W 24W 23W

KIDD CREEK GRID

Approximate Air Photo Lineament 015°

AL 5, ENERGEX

METSANTAN 7 340 4N (APPROX.)

AL 5 CLAIM LINE SURVEYED

L 22W BASELINE

AL 5 CLAIM LINE

DISCOVERY 1

LCP BASELINE

CREEK

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

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METSANTAN 7 340N (APPROX. MAP)

N

FIG. 13A

LEDGEND

SWAMP .....

HELIPAD ....

CREEK SED ...

LINEMENT ....

CREEKS ....

CLIFFS ....

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

I.P. SURVEY
RESISTIVITY ohm metres x 10^{-1}

NTS 94E/6 SCALE 1:5000

Completed Jun 87

50m 500m

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE L15W

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

BASELINE

AL 5 CLAIM LINE

DISCOVERY 1

METSANTAN 7
345 14N
(APPROX.)

CLIFFS

CLIFFS

LCP
BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

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METSANTAN 7
340N (APPROX. MAST)

VILLAGE

METSANTAN
LAKE

CEMETARY

CAMP

N

LEDGEND:

SWAMP.....
HELI PAD....
CREEK SED..
LINEMENT..
CREEKS....
CLIFFS....

FIG. 13 B

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

I.P. SURVEY
RESISTIVITY ohm metres x 10^{-1}

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

AL 3, ENERGEX

AL 5, ENERGEX

DISCOVERY 1

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

GEOLOGICAL BRANCH
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FIG. 14A

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE

L15W

KIDD CREEK GRID

BASELINE

AL 5 CLAIM LINE SURVEYED

AL 5 CLAIM LINE

L22W BASELINE

LCP BASELINE

METSANTAN 7 3.0 KM (APPROX.)

METSANTAN LAKE

CREEK

VILLAGE

CEMETARY

CAMP

LEDGEND:
SWAMP.....
HELI PAD.....
CREEK SED....
LINEMENT....
CREEKS.....
CLIFFS....

DUKE MINERALS LTD.
DISCOVERY 1 CLAIM
LIARD MINING DIVISION
I.P. SURVEY
CHARGEABILITY millisecs x 10'
NTS 94E/6 SCALE 1:5000
Completed Jan 87

50m 500 m

N

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

L22W

L19W

CHOPPER PAD

25W 24W 23W L22W BASELINE L15W

KIDD CREEK GRID

L20000 1800 1600 1400 1200 1000 800 600 400 200 0 L200

Approximate Air Photo Linement 015°

15+00N BASELINE

14+00N

13+00N

12+00N

AL 5, ENERGEX

1400E 2100E 3100E 4100E 5100E 6100E 7100E 8100E 9100E 10100E 11100E 12100E 13100E 14100E 15100E 16100E 17100E 18100E 19100E

METSANTAN 7 SW 4N (APPROX.)

AL 5 CLAIM LINE SURVEYED

L 2000 BASELINE

10+50N AL 5 CLAIM LINE

AL 5 253W

11+00N

10+00N

9+00N

8+00N

7+00N

6+00N

5+00N

4+00N

3+00N

2+00N

1+00N

11+00N 10+00N 9+00N 8+00N 7+00N 6+00N 5+00N 4+00N 3+00N 2+00N 1+00N

DISCOVERY 1

L20100 L18100W L16100W L14100W L12100W L10100W L8100W L6100W L4100W L2100W L100

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

N

GEOLOGICAL BRANCH
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METSANTAN 7 3.0N (APPROX. MAP)

FIG. 14 B

LEDGEND:
SWAMP.....
HELI PAD.....
CREEK SED.....
LINEMENT.....
CREEKS.....
CLIFFS.....

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

I.P. SURVEY
CHARGEABILITY

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

N

AL 3, ENERGEX

L 2W

L 1W

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L 22W

BASELINE

L 1SW

2SW

1SW

2SW

KIDD CREEK GRID

20+00

18+00

16+00

14+00

12+00

10+00

8+00

6+00

4+00

2+00

0+00

15+00N

BASELINE

14+00N

13+00N

12+00N

AL 5 CLAIM LINE SURVEYED

11+00N

L 22+00

BASELINE

10+50N AL 5 CLAIM LINE

10+00N

9+50N

8+00N

7+00N

6+00N

5+00N

4+00N

3+00N

2+00N

1+00N

1+00E

2+00E

3+00E

4+00E

5+00E

6+00E

7+00E

8+00E

9+00E

10+00E

11+00E

12+00E

13+00E

14+00E

15+00E

16+00E

17+00E

18+00E

19+00E

AL 5, ENERGEX

DISCOVERY 1

METSANTAN 7 3W 4N (APPROX.)

CLIFFS

L 20+00 W

L 18+00 W

L 16+00 W

L 14+00 W

L 12+00 W

L 10+00 W

L 8+00 W

L 6+00 W

L 4+00 W

L 2+00 W

L 0+00

LCP

BASELINE

CREEK

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

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METSANTAN 7 3W 4N (APPROXIMATE)

FIG. 15

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

CU
TILL HORIZON

NTS 94E/6 SCALE 1:5000

completed Jan 87

50m 500m

LEDGEND

SWAMP. . . . .

HELI PAD. . . . .

CREEK SED. . . .

CREEKS . . . . .

CLIFFS . . . . .

N

AL 3, ENERGEX

LCP, AL 5

Kidd Creek Baseline

CHOPPER PAD

22W BASELINE

26W 24W 23W

KIDD CREEK GRID

15W

BASELINE

AL 5, ENERGEX

AL 5 CLAIM LINE SURVEYED

AL 5 CLAIM LINE

AL 5 253W

METSANTAN 7 3600 4N (APPROX.)

DISCOVERY 1

CLIFFS

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

METSANTAN 7 3600N (APPROX.)

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

N

LEDGEND

SWAMP

HELI PAD

CREEK SED.

CREEKS

CLIFFS

FIG 16

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

CU
A HORIZON + SILTS

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

N

AL 3, ENERGEX

L 2W

L 1W

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

2SW 1SW BASELINE L 1SW

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

L 2200

BASELINE

10+50N AL 5 CLAIM LINE

AL 5 253W

CLIFFS

CLIFFS

METSANTAN 7 3U 4N (APPROX.)

DISCOVERY 1

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

N

METSANTAN 7 3U 0N (APPROXIMATE)

METSANTAN LAKE

CEMETARY

CAMP

LEDGEND

SWAMP

HELI PAD

CREEK SED.

CREEKS

CLIFFS

FIG. 17

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

AU
TILL HORIZON

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

22W BASELINE

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

BASELINE

AL 5 CLAIM LINE

DISCOVERY 1

METSANTAN 36 4N (APPROX.)

CLIFFS

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

METSANTAN 7 3U0N (APPROX. MAT.)

METSANTAN LAKE

CEMETARY

CAMP

N

LEDGEND

SWAMP

HELI PAD

CREEK SED.

CREEKS

CLIFFS

FIG. 18

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

AU
A HORIZON + SILTS

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

N

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

BASELINE

KIDD CREEK GRID

AL 5, ENERGEX

AL 5 CLAIM LINE SURVEYED

BASELINE

DISCOVERY 1

METSANTAN 7
3C 4N
(APPROX.)

CLIFFS

CREEK

LCP
BASELINE

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

METSANTAN 7
3C0N (APPROXIMATE)

VILLAGE

CEMETARY

CAMP

METSANTAN
LAKE

LEDGEND

SWAMP.....
HELI PAD.....
CREEK SED...
LINEMENT...
CREEKS.....
CLIFFS.....

FIG. 19

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

AG
TILL HORIZON

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500 m

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

BASELINE

KIDD CREEK GRID

AL 5, ENERGEX

AL 5 CLAIM LINE SURVEYED

BASELINE

AL 5 CLAIM LINE

DISCOVERY 1

METSANTAN 7 3600N (APPROX.)

LCP BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

METSANTAN LAKE

VILLAGE

CEMETARY

CAMP

N

LEDGEND

SWAMP

HELI-PAD

CREEK SED.

LINEMENT

CREEKS

CLIFFS

FIG. 20

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

AG
A HORIZON + SILTS

NTS 94E/6 SCALE 1:5000

Completed Jun 87

50m 500m

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE L15W

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

L 2200

BASELINE

METSANTAN 7 3W 4N (APPROX.)

DISCOVERY 1

CREEK

LCP
BASELINE

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

N

METSANTAN 7 3W 0N (APPROX. MKR)

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

LEDGEND

SWAMP

HELI PAD

CREEK S.

CLIFFS

CREEK SED.

FIG. 21

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

PB
TILL HORIZON

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

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AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE L15W

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

L 22+00 BASELINE

10+50N AL 5 CLAIM LINE

N.S. 25°W

DISCOVERY 1

METSANTAN 7
3.0 KM
(APPROX.)

LCP
BASELINE

CREEK

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

METSANTAN 7
3.0 KM (APPROX.)

VILLAGE

METSANTAN
LAKE

CEMETARY

CAMP

N

LEDGEND

SWAMP

HELI PAD

CREEK SED.

CREEKS

CLIFFS

FIG. 22

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

PB
A HORIZON + SILTS

NTS 94E/6 SCALE 1:5000

completed Jan 87

50m 500m

AL 3, ENERGEX

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE

L25W

25W 24W 23W

KIDD CREEK GRID

AL 5, ENERGEX

BASELINE

AL 5 CLAIM LINE SURVEYED

BASELINE

AL 5 CLAIM LINE

AL 5 253W

METSANTAN 7 3600N (APPROX.)

DISCOVERY 1

CREEK

LCP BASELINE

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

N

METSANTAN 7 3600N (APPROX.)

VILLAGE

METSANTAN LAKE

CEMETARY

CAMP

LEDGEND

SWAMP. . . . .

HELI PAD. . . . (H)

CREEK SED. . .

LINEMENT. . .

CREEKS . . . .

CLIFFS . . . .

FIG. 23

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

ZN
TILL HORIZON

NTS 94E/6 SCALE 1:5000

Completed Jan 87

50m 500m

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AL 3, ENERGEX

AL 5, ENERGEX

DISCOVERY 1

DISCOVERY 4
BLACKDIAMOND RESOURCES LTD.

LCP, AL5

Kidd Creek Baseline

CHOPPER PAD

L22W BASELINE

L15W

KIDD CREEK GRID

BASELINE

AL 5 CLAIM LINE SURVEYED

AL 5 CLAIM LINE

METSANTAN 3400N (APPROX.)

METSANTAN 7 3400N (APPROX.)

LCP BASELINE

CREEK

METSANTAN LAKE

VILLAGE

CEMETARY

CAMP

LEDGEND

SWAMP. . . . .

HELI PAD. . . .

CREEK SED. . .

LINEMENT. . .

CREEKS . . . .

CLIFFS . . .

FIG. 24

DUKE MINERALS LTD.

DISCOVERY 1 CLAIM
LIARD MINING DIVISION

ZN
A HORIZON + SILTS

NTS 94E/6 SCALE 1:5000

Completed Jan 17

50m 500m

N

GEOLOGICAL BRANCH
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