GEOPHYSICAL REPORT

on

MAN 1-24, ROMAN 1-16

ROM 17-20, ROM 25-44

WATSON LAKE MINING DIVISION

NTS 105A/2E-W

LATITUDE 60° 00'N

LONGITUDE 128° 35'W

on

CLAIMS OWNED AND UNDER OPTION

to

BILLITON CANADA LTD.

by

D.R.B. RAINSFORD

August 20, 1984.

091552

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MAP	
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MAP

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A. INTRODUCTION

The ROMAN prospect is a Pb-Zn-Ag-Ba occurrence in Upper Devonian shales of Selwyn Basin. Two mineralized zones, 3.5 km apart, are exposed along the banks and canyon of the meandering Liard River. Notable shale-hosted massive sulphide deposits elsewhere in Selwyn Basin are listed below:

Deposit or camp	Owner	Tonnes ($x10^6$)	Percent Pb	Zn	g/t Ag
ANVIL	Dome	112	3.9	5.9	48
MACMILLAN PASS (TOM)	HBMS	16	6.0	9.0	71
HOWARDS PASS	Placer/ US Steel	125	2.1	5.4	
GATAGA CAMP (CIRQUE)	Dome	40	2.2	7.8	47
MIDWAY	Regional/ Canamax	6.7	6.6	12.1	347 (deposit in limestone)
CLEAR LAKE	Getty	23	not reported		
QUARTZ LAKE	Noranda	1	5.0	10.0	56

B. LOCATION AND ACCESS (Figure 1)

The property straddles the Yukon - B.C. border, 10 km south-east of the village of Watson Lake, Y.T. (population 1500). The Alaska highway crosses the eastern edge of the property. Current B.C. Hydro plans call for the construction of two major hydroelectric dams across the Liard River starting in 2010. The upstream edge of the proposed Liard reservoir would be 10 km south of the B.C. - Yukon border. Diesel generators provide electricity at Watson Lake and Cassiar.

The tidewater port of Stewart, B.C. is 700 road km south of the property. The 4000 TPD Cassiar Asbestos Mine trucks fibre into Stewart. Skagway, Alaska is 540 road km and 160

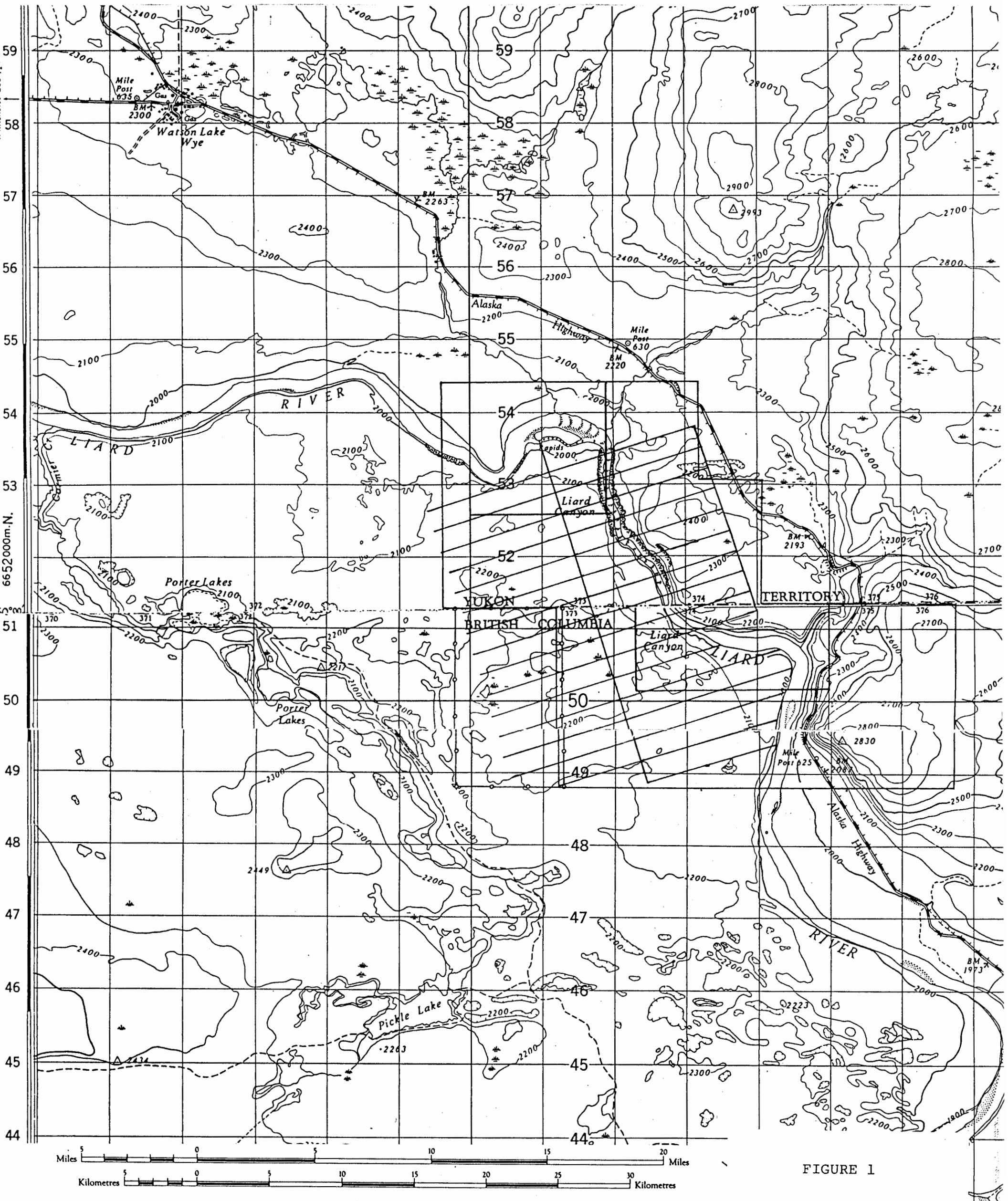

Mile Post 635
Gas
BM 2300
Watson Lake Wye
BM 2263
Alaska Highway
Mile Post 630
BM 2220
RIVER
LIARD
Rapids
Liard Canyon
Porter Lakes
YUKON
BRITISH COLUMBIA
TERRITORY
Mile Post 625
BM 2087
Pickle Lake
BM 1973
Miles
Kilometres

FIGURE 1

rail km west of the property. Prior to shutdown of the Faro Mine, Cyprus Anvil shipped Pb-Zn concentrate through this port.

C. PROPERTY HISTORY

Reports of argentiferous galena in the Lower Liard Canyon were first noted by G.M. Dawson in 1886. Recent work on the property is as follows:

1962 Staked by F. Lutz as JIM and MOOSE.

1965 Re-staked by R. Kirk as BARITE.

1968 Re-staked by C. Pete as KIRK.

1969 Re-staked by N. Zinchuk as NAZO - minor trenching in 1969, 1971 and 1973.

1975 Re-staked by P. Kremar as N.

1979 Re-staked by J. Melnychuck as ROMAN - St. Joseph Exploration optioned ROMAN 1-16 and completed geologic mapping and geochemical sampling in 1979 and 1980.

1980 Logan Mines Ltd. optioned the property and completed two diamond drill holes totalling 122m on ROMAN 1-16 and an EM-16 survey in the vicinity of main barite showing.

1981 Logan Mines completed 9.2 line km of soil geochemical and magnetometer surveys.

1983 Messrs. Robertson, Scott, Price and Christopher enter into a syndicate agreement with Melnychuck. The syndicate staked ground between the two original Melnychuck claim blocks ROMAN 1-16 in Yukon and ROMAN 50 in British Columbia (Figure 2).

Billiton Canada Ltd. entered into an option agreement with the syndicate and completed 65 km of grid linecutting (Figure 3).

SHEET 105-A-2

LATITUDE 60° 00' To 60° 15
LONGITUDE 128° 30' To 129° 00'

WATSON LAKE

CANADA

DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES
NORTHERN ADMINISTRATION BRANCH
RESOURCES DIVISION

SCALE: ½ MILE To 1 INCH

FT. 1500 0 1500 3000 4500 6000 7500 9000 10500 FT.

ISSUED UNDER THE AUTHORITY OF THE MINISTER
OF
NORTHERN AFFAIRS AND NATIONAL RESOURCES

WATSON LAKE WYE
WYE LAKE
SUBDIVISION
P.C. 1975-3018
PARCEL K
Mile Post 630
D/L 80/18
D/L 83/2
P.L. 4344
PORTER L.
YUKON
BRITISH COLUMBIA
128° 40'
128° 35'
L 21 N
L 15 N
L 9 N
L 3 N
ROMAN
RAP
LIARD CANYON RAPIDS
ROM
MAN
1945

FIGURE 2

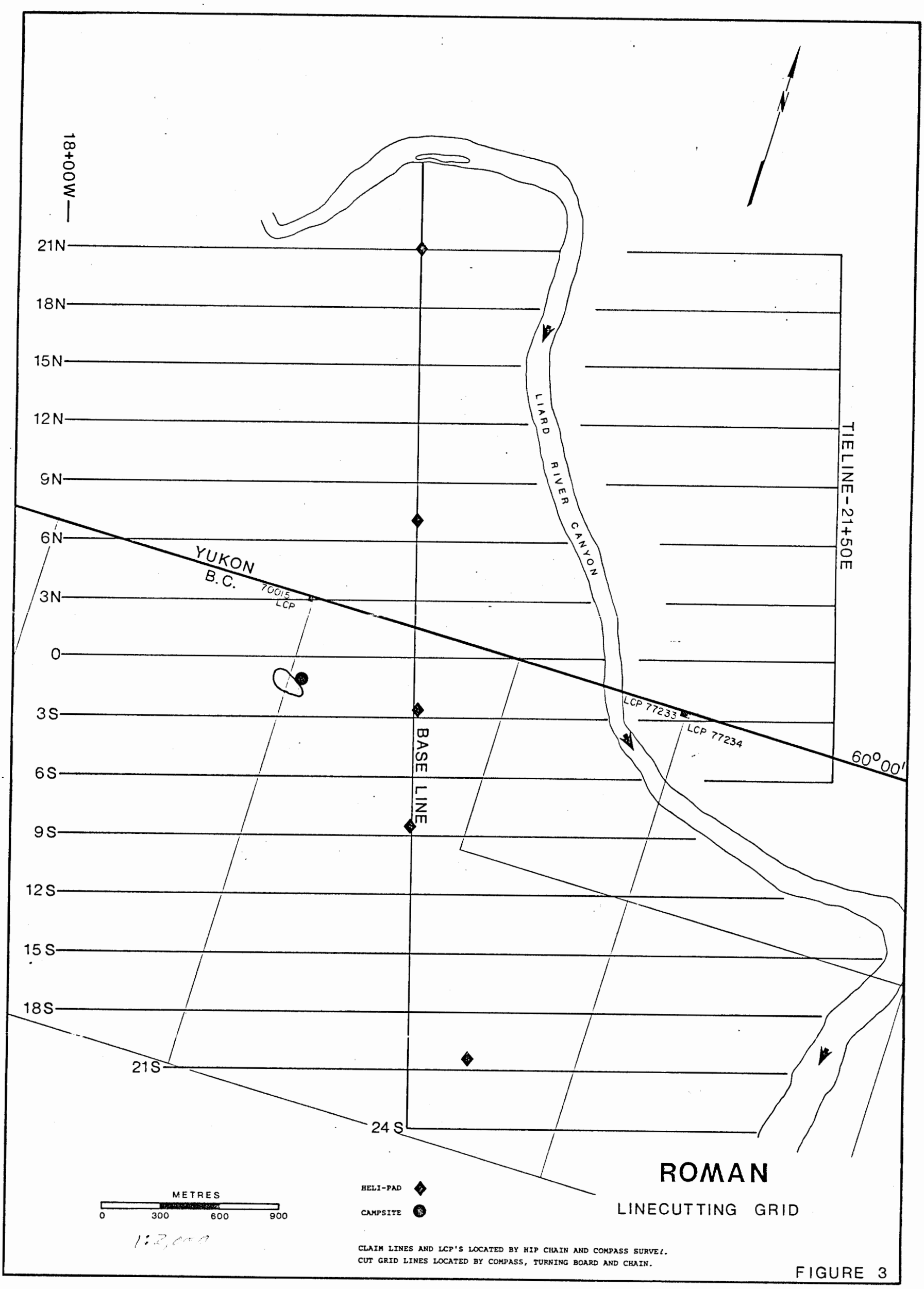

18+00W
21N
18N
15N
12N
9N
6N
3N
0
3S
6S
9S
12S
15S
18S
21S
24S
YUKON
B.C.
70015
LCP
LIARD RIVER CANYON
TIELINE-21+50E
BASE LINE
LCP 77233
LCP 77234
60°00'
METRES
0
300
600
900
1:2,000
HELI-PAD
CAMPSITE
ROMAN
LINECUTTING GRID
CLAIM LINES AND LCP'S LOCATED BY HIP CHAIN AND COMPASS SURVEY.
CUT GRID LINES LOCATED BY COMPASS, TURNING BOARD AND CHAIN.

FIGURE 3

1984 Billiton Canada Ltd. completed a ground geophysical survey programme on the ROMAN grid.

D. REGIONAL GEOLOGY

The ROMAN property is in Paleozoic basinal facies, clastic sediments ("Black Clastic Group") that were deposited in the Kechika Trough part of epi-continental Selwyn Basin (Figure 4).

True basinal facies are only exhibited by the Road River Formation (Figure 5). The Road River Formation is characterized by carbonaceous, pelitic sedimentary rocks, with minor, coarse clastic components. It can be crudely subdivided into shale facies (host to the Anvil and Howards Pass camps) on either side of a central chert facies. The quiet depositional environment of the Road River Formation was succeeded in the Middle Devonian by markedly different conditions characterized by block faulting, rifting and uplifting of the basin. This resulted in erosion of Road River rocks, particularly from the central chert zone, and the deposition of a chaotic assemblage that includes turbidite fans, submarine density flows and slump breccias with interbedded shale and chert. Shale units in this package tend to contain more silica and iron and less organic matter than those in the Road River Formation. Known informally as the "Black Clastic Group", this assemblage currently lacks a suitable nomenclature and is locally called the Canol, Imperial, Iron Creek, Yara Peak, Kalzas, Crystal Peak, Gunsteel and Warneford formations and the Earn and Besa River Groups. These rocks blanket both carbonate platforms. Attempts to correlate the stratigraphy of this group, even over fairly short distances, have generally been unsuccessful, although the lithologies are similar wherever studied. The most distinctive characteristic of the "Black Clastic Group" is the presence of a barite-rich stratigraphic inverval, recognized throughout Selwyn Basin, that occasionally hosts stratiform Zn-Pb-Ag massive sulphide deposits.

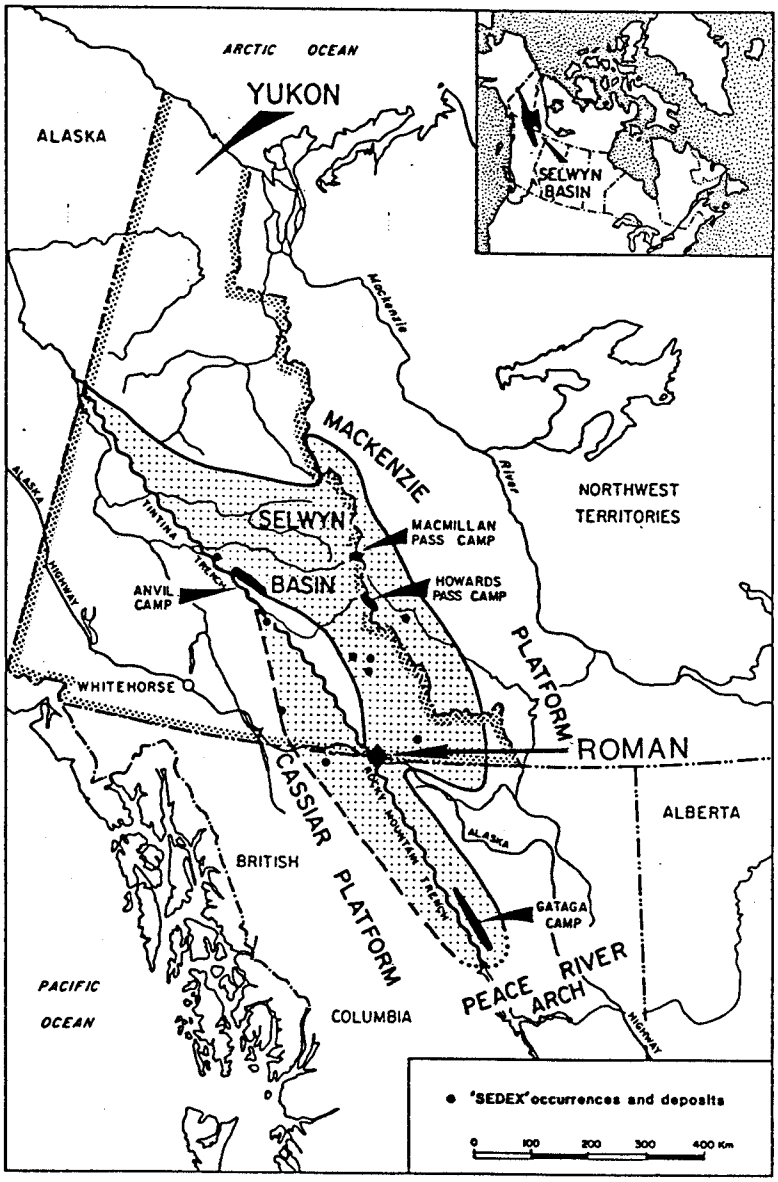

ARCTIC OCEAN
YUKON
ALASKA
SELWYN BASIN
Mackenzie
MACKENZIE
River
NORTHWEST TERRITORIES
SELWYN
BASIN
MACMILLAN PASS CAMP
HOWARDS PASS CAMP
ANVIL CAMP
TINTINA TRENCH
ALASKA HIGHWAY
WHITEHORSE
PLATFORM
ROMAN
CASSIAR PLATFORM
ROCKY MOUNTAIN TRENCH
ALBERTA
BRITISH COLUMBIA
GATAGA CAMP
PEACE RIVER ARCH
ALASKA HIGHWAY
PACIFIC OCEAN
'SEDEX' occurrences and deposits
0 100 200 300 400 Km

Figure 4

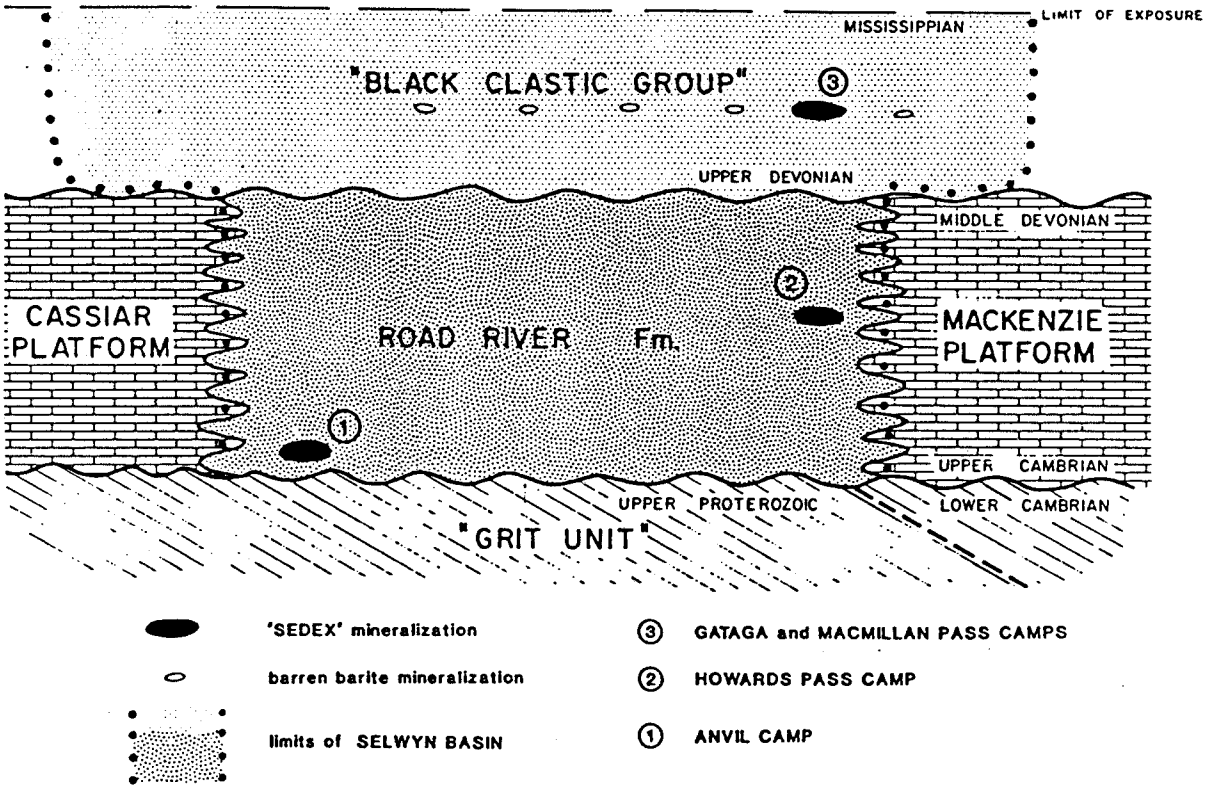

LIMIT OF EXPOSURE
MISSISSIPPIAN
"BLACK CLASTIC GROUP"
UPPER DEVONIAN
MIDDLE DEVONIAN
CASSIAR PLATFORM
ROAD RIVER Fm.
MACKENZIE PLATFORM
UPPER CAMBRIAN
UPPER PROTEROZOIC
LOWER CAMBRIAN
"GRIT UNIT"
'SEDEX' mineralization
barren barite mineralization
limits of SELWYN BASIN
GATAGA and MACMILLAN PASS CAMPS
HOWARDS PASS CAMP
ANVIL CAMP

Figure 5

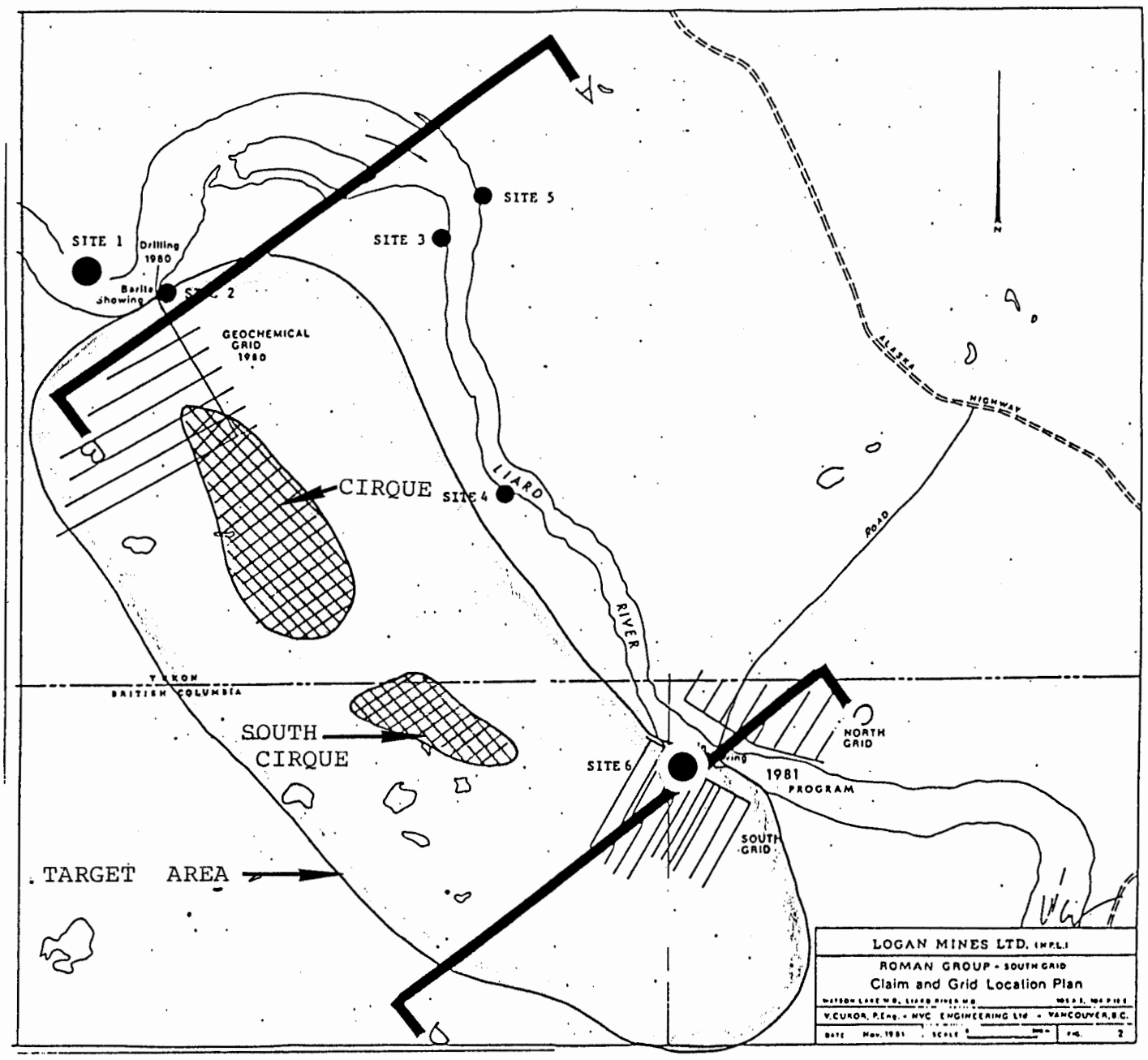
The Kechika Trough is within the western half of the Rocky Mountain Fold and Thrust Belt. The Trough is bordered on the west by the Rocky Mountain Trench. The linear nature of the geology in the Trough reflects northeast directed thrust faulting with subsequent stacking and folding of thrust plates. High angle, normal and reverse faults are also common and appear to post-date thrusting.

E. EXPLORATION TARGET

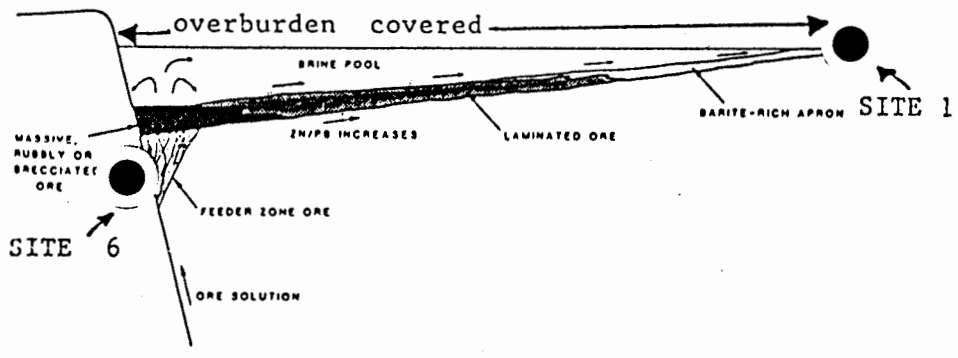
Outcrop on the property is restricted to those areas immediately adjacent to the Liard River. Figures 6A and 6C show, in a schematic manner, the structural geology of the property.

1. There is a dramatic change in the development of D_2 folds across the property. A zone of intense, upright D_2 folding is coincident with the Liard River canyon. Compositional layering (S_{0-1}) is generally steep and parallels the canyon walls. This configuration probably provided a path of least resistance for the river and may explain the development of the canyon. These D_2 folds are open to close structures, plunge gently to the north and lack axial plane cleavage. They trend south-southeast.

2. West of the canyon, infrequent rock exposures indicate that S_{0-1} dips gently to steeply to the southwest. These rocks locally show the development of an S_2 cleavage, but lack accompanying minor fold structures. At sites 1 and 2, barite veins occupy upright structures which are approximately parallel to this S_2 cleavage. Within and immediately adjacent to, sites 1 and 2, S_{0-1} has been completely transposed into S_2. Zones of steep S_{0-1} occur elsewhere in the panel and may be related to thrust faults.



(A)



(B)

Idealised major geological and genetic characteristics of sediment-hosted stratiform sulphide deposits.

ROMAN VERTICAL CROSS SECTIONS (looking southeast)

(C)

Figure 6

Host rocks and mineralization on the ROMAN property suggest that the prospect has potential for shale-hosted, massive sulphide or SEDEX mineralization. The following geological features were noted (Figure 6):

Site 1 - YUKON

1. Graphitic shale horizons locally show delicate laminations and beds of pyrite-marcasite. The dominant rock type on the property is siltstone.

2. Pyritic shales locally show pervasive, upright and discordant flooding by coarse, crystalline barite.

3. Disseminated galena-sphalerite (low Fe) mineralization occurs in discordant barite veins.

Site 6 - BRITISH COLUMBIA

1. Narrow, concordant to discordant bands of massive galena contain rounded fragments (pebbles) of sphalerite.

2. Country rocks show strong muscovite-sericite alteration and bleaching.

3. Discordant to concordant quartz veining (± siderite) and Cu and Ag mineralization (argentiferous galena-tetrahedrite) occur near 1.

The SEDEX target area is outlined on Figure 6A; for comparative purposes, the CIRQUE and SOUTH CIRQUE deposits are shown to scale in cross-hatching. The following model is envisaged for the overburden covered area between sites 1 and 6 (Figure 6B).

A. Site 1 is at the peripheral apron of stratiform and base metal-deficient barite. This barite has been remobilized and now occupies locally strong S_2 cleavage zones.

B. Site 6 is at, or close to a SEDEX vent or feeder zone. Massive, weakly brecciated sulphides, Pb greater than Zn, bleached muscovite-sericite alteration, the presence of Cu minerals, enhanced Ag values and well developed concordant to discordant quartz-silica veining all support this proposal. Strong D_2 folding in the canyon may have remobilized base metal mineralization at the feeder zone.

C. Graphitic shales, with delicate pyrite-marcasite laminations, occur at both of the above sites.

D. The bulk of the proposed sulphide basin is covered between sites 1 and 6 (Figures 6B and 6C).

A multi-parameter geophysical survey programme tested the target area.

F. 1984 GEOPHYSICAL SURVEY PROGRAMME

1. Introduction

The results and methodology of the five surveys that comprise the geophysical program are outlined in the following sections. Each survey is discussed separately though, in many cases, the results of one survey directly influence the interpretation or execution of another. The reader is referred to Map 11 on which the interpreted results of all the surveys have been compiled.

The grid over which the work has been done straddles the Yukon - British Columbia border and so lies within two different mining jurisdictions. No reasonable distinction can be made between the results obtained in either area. This is especially evident when numerous anomalous trends cross between territories without regard to the border. In consequence, the results obtained over the whole property are described here in their entirety, so that the conclusions drawn from them can be better stated.

2. Magnetic Survey (Map 6)

2.1 Instrumentation and Field Procedure

The magnetic survey was carried out using a GEM Systems, GSM-8 proton precession field magnetometer. This instrument measures the earth's total magnetic field and has an accuracy of ±1 nanoteslas (nT). Measurements were made every 25 meters along the grid lines, baseline and tieline. The data were collected for diurnal variations of the earth's magnetic field with the aid of an EDA, PPM400 base-station magnetometer.

2.2. Discussion of Results (see also Map 11)

The corrected data are presented in contour form on Map 6. Inspection of the grid line-baseline intersections where two or more readings have been recorded, show only small discrepancies that are typically less than four nT.

A high degree of confidence can therefore be placed in the quality of the data.

Examination of the contoured magnetic field indicates a NNW-SSE "fabric" which closely parallels the baseline. This fabric appears to be a reflection of the principal geologic strike through the area. A regional magnetic trend is observed and is manifest by a gradual decrease in total field from the southwestern section of the grid to the northeastern corner. Such a broad feature suggests a basement source and is, as a result, of no economic interest.

Superimposed on the regional trend and parallelling the NNW-SSE fabric is a broad but subtle linear "low" feature, which can be traced from about line 2lN/3W until it dies out at approximately line 6S/0+50W. This feature is significant, as it appears to be closely associated with a broad conductive zone detected by the HLEM survey. The nature of this anomaly will be considered further in the discussion of HLEM survey results.

A number of narrow linear anomalies are evident from the magnetic data. The most significant of these is detected at 14E on lines 0 and 3S, where it is coincident with HLEM anomaly E-24. The 40 nT anomaly, along with its coincident EM response, suggests the presence of a pyrrhotitic conductor.

It is not possible to distinguish between litholigical units underlying the grid, on the basis of the magnetics. The shales and siltstone, which are the dominant rock-types in the area, appear to have little susceptibility contrast and cannot, therefore, be distinguished by their magnetic response.

3. VLF-EM Survey (Maps 4 and 5)

3.1 Instrumentation and Field Procedure

The VLF-EM survey was executed using an EM-16 VLF receiver manufactured by Geonics Ltd. of Mississauga, Ontario. Measurements of In-Phase and Quadrature components of the EM field were recorded every 25 meters along grid lines, baseline and tieline. The receiver was tuned to the U.S. military transmitter situated in Seattle, Washington and broadcasting at 24.8 kHz while surveying along the grid lines. The operator faced east for all measurements. The Cutler, Maine transmitter (24.0 kHz) was used while surveying the baseline and tieline. The operator facing direction was, in this case, south.

Fraser (1969) filtering of the In-Phase values was performed and is presented in addition to the profile data.

3.2 Discussion of Results (see also Map 11)

As a result of the orientation of the chosen transmitter stations, with respect to the grid, conductors oriented NNW-SSE will respond preferentially to the Seattle, Washington signal; whereas those conductors oriented WSW-ENE will couple poorly with the signal and will be discriminated against. The Seattle transmitter happens to be located in such a way as to provide nearly ideal coupling with the stratigraphy underlying the property. The baseline and tieline were surveyed using the Cutler, Maine transmitter, which couples best with east-west trending features and couples poorly with those oriented north-south.

The plotted profile data indicates a small number of well defined trends and a multitude of low amplitude, apparently incoherent, anomalies. The results at first appear surprising, when compared with those obtained

from the IP and HLEM surveys, which outline many long conductive zones. Fraser filtering of the data enables the anomalies to be contoured in a coherent fashion and, 51 conductive trends can then be identified. These trends are characterized by mainly weak or moderate anomaly amplitudes and are oriented in a predominantly ENE-WSW direction. They are, therefore, probably almost all stratigraphic conductors.

In many cases the VLF and HLEM conductor axes are coincident, as would generally be expected. In some instances, however, a displacement between the VLF and HLEM axes is observed (for example: conductors E-5 and V-6). This displacement is pronounced only when anomaly amplitudes are low and the location of the conductor is, as a result, poorly defined.

The low anomaly amplitudes over many of the conductors are probably best explained by the elevated background conductivity of the bedrock. The secondary field created by the conductors would therefore tend to be dissipated within the host-rock, giving rise to a reduced signal at surface. A similar effect was observed during the course of the IP survey, where some difficulty in obtaining an adequate signal of the receiving electrodes was encountered.

4. Horizontal Loop EM Survey (Maps 1,2 and 3)

4.1 Instrument and Field Procedure

The Horizontal Loop EM survey was performed using a Max-Min II system, manufactured by Apex Parametrics of Toronto. Measurements of In-Phase and Out-of-Phase components of the secondary EM field were made at three frequencies (444 Hz,888 Hz and 1777 Hz). A coil separation of 200 meters and a 25 meter station interval were used throughout the grid. A 100 meter coil separation was also used on part of line 15N, to resolve some

closely spaced conductors.

In order to correct the In-Phase data for topographic effects, due to apparent cable shortening and coil misorientation, inclinometer readings along the grid lines were obtained prior to the HLEM survey. A Suunto PH5/SPC inclinometer was used for this purpose. The data thus obtained, were used during the course of the survey to orient the transmitter and receiver coils parallel to the ground surface, so as to optimize coupling with buried conductors. Corrections, due to the apparent shortening of the normal transmitter-receiver separation, caused by uneven topography, were performed using a calculator program developed by M.H. Konings (1981).

4.2 Discussion of Results (see also Map 11)

Examination of the plotted profiles reveals very little noise and the survey data is considered to be of high quality. Where possible, a quantitative interpretation of the anomalies has been made and is noted alongside the conductor axes. In many cases however, interference between adjacent conductors has made the estimation of physical parameters unreliable. The lowest frequency (444 Hz) data was used, in order to obtain depth, conductivity-thickness and dip estimates, as this frequency reacts least to a conductive host rock environment and, type-curves based on a "Free Space" assumption are most applicable. In cases where the conductor was weak and anomaly amplitudes were too low for a reasonable interpretation to be made, 1777 Hz data was used. It was found that, in many cases the apparent width of a conductor increased at higher frequencies. This phenomenon implies that the majority of conductors have gradational margins rather than well defined edges. As a result, the conductor axes marked on the complilation, have been determined using the 888 Hz data.

In all, 25 separate conductor systems have been delineated by the HLEM survey. The conductors are most steeply dipping, shallowly buried and are commonly less than ten meters in depth. Conductor E-5 is, however, more deeply buried, which suggests a thickening of overburden towards the western margin of the grid. Although overburden is generally quite thin over the property, outcrop is scarce, except along the edges of the Liard Canyon and none of the conductors have been directly identified at surface.

The most striking feature revealed by the survey is a broad zone of multiple conductors running along the length of the baseline. This zone (conductor E-1, 2,3,4 and 5), which ranges between 700 meters and 400 meters wide, is centered about 200 meters west of the baseline. The zone can be resolved into several good conductors near the ends of the grid and lies within the low resistivity band identified by the IP survey. The conductors are probably the same broad, graphitic units that are exposed directly to the north of the grid along the Liard River. The subtle low magnetic feature associated with this zone would be consistent with the presence of graphitic shale.

Several other similarly long strike-length conductive trends (eg. E-8 and E-20) detected on the grid are probably also due to graphitic horizons. It is noticeable, however, that the conductors outlined on the eastern side of the Liard River, appear to be more discontinuous than those on the western side. The eastern conductors, therefore, may have undergone a greater degree of tectonic activity.

Conductor E-24 is unique among the conductors identified, as it correlates directly with a 40 nT magnetic anomaly on line 0+00. This feature, as has been

suggested previously, is probably due to the presence of a pyrrhotitic horizon.

5. Induced Polarization Survey (Maps 9A to 10E)

5.1 Instrumentation and Field Procedure

The IP survey was carried out using a Huntec 7.5 kilowatt transmitter and two Huntec MK IV receivers. A pole-dipole array was used in the field, with a 50 meter receiver dipole. Measurements of apparent resistivity and chargeability were made up to "a" spacings of at least n = 4. On some lines, data was also obtained at n = 5. Initially, a 50 meter dipole-dipole array, using a 2.5 kilowatt transmitter had been selected for the orientation survey. The highly conductive nature of parts of this grid gave rise to low signal levels at the receiver electrodes and a larger transmitter and different array was necessitated, in order to obtain satisfactory results. The orientation survey data is not presented in this report.

A two second "on", two second "off" pulse was transmitted into the ground and a one second sampling time with a 200 millisecond delay was used at the receiver. Metal factors were calculated from the observed resistivities and chargeabilities.

5.2 Discussion of Results (see also Map 11)

A total of fourteen separate anomalous trends were identified from the IP survey. These trends range from strong through to questionable anomalies, with the majority falling into the strong and moderate categories.

The best developed IP response (I-1) can be traced from line 18N, subparallel to the baseline, through to line 15S. The anomaly is characterized by a very broad, high chargeability zone, up to 1,500 meters wide and a central low resistivity zone. The resistivities within the

central part of the anomaly typically fall below ten ohmmeters. This anomalous zone defines a belt, in which many of the high conductivity HLEM anomalies discussed previously, lie. The width of the IP response is considerably larger than any of the HLEM responses and examination of the resistivity and chargeability data indicates a gradational response. This IP survey would then appear to be defining the same features as detected by the HLEM survey, as well as the more weakly conductive flanks of these anomalies. This anomalous zone is very probably caused by a broad band of graphitic shales passing through the grid. Anomalies 1-6 and 1-7 may be a southern extension of I-1. They do, however, appear to be distinguished by their higher resistivities and lower chargeabilities. Further consideration will be given to these anomalies, in relation to their gravity responses.

Anomalous trend I-11 has similar characteristics to I-1, including very low resistivities and high chargeabilities. In addition, several HLEM and VLF anomalies are straddled by the IP response. The remaining IP responses are generally weaker in nature and, with the exception of I-2, are discontinuous.

6. Gravity Survey (Maps 7 and 8)

6.1 Instrumentation and Field Procedure

A Scintrex CG-2 gravimeter was used for this survey. This meter is a Wordentype instrument and is not thermostatically compensated. Station elevations were obtained using a GDD hydrostatic level. The baseline and tieline were levelled using a transit and staff.

Gravity base-stations were first established along the baseline and tieline. These bases were then used when "looping" surveys along the grid lines. Thus, by returning regularly to the establishes bases, the effects of earth

tides and instrumental drift could be removed. Free Air, Bouguer and Latitude corrections were applied to the observed gravity values. A Bouguer density of 2.7 g/cm^3 was assumed, based on previously measured rock samples from the property. A terrain correction was applied using a two-dimensional Talwani (1959) model to simulate the surface topography, in order to compensate for departures from the horizontal slab approximation of the Bouguer corrections. An Inner Circle correction, based on inclinometer readings taken in the field, was also applied.

Corrections for the "zero error" in the hydrostatic level were made by bringing sensor and meter together at each station, and subtracting the "zero reading" obtained from the measured elevation differences. Each elevation traverse was looped and the closing error was distributed evenly around the loop. Unsatisfactory closure errors necessitated the loop being repeated. All elevations were tied into the National Topographic Survey network and are calculated in meters above sea level.

6.2 Discussion of Results

The gravity survey is considered to be the most critical test of economic potential of all the methods used. Model studies have shown that a sedimentary exhalative body of the Cirque type would be expected to have a gravity anomaly greater than one milligal over a strike length of 1,000 meters. A depth of burial less than 200 meters is assumed for the model.

The preceeding surveys have clearly defined a broad conductive zone passing through the center of the grid and numerous, more narrow conductive zones, all of which represent favorable environments for economic mineralization. On the basis of these results, gravity profiles were obtained over the conductive zones in

order to test them for excess mass. Line 0+00 was profiled in its entirety, so as to define the regional gradient.

The profiled Bouguer gravity data indicates a fairly subdued regional field, which increases eastward, reaching a maximum to the west of the Liard River and declines again further east. The total amplitude of this broad feature is approximately 1.5 milligals.

The terrain effect on the profiles is quite marked, particularly in the vicinity of the canyon, where steep slopes give rise to pronounced negative anomalies. Terrain corrections largely remove these features.

There appears to be no excess mass associated with the central low resistivity zone (I-1). Indeed, a small negative residual anomaly on line 21N through to 15N is coincident with this zone. The negative residual anomaly implies that the graphitic shales, which are thought to give rise to the low resistivity response, possess a lower density than the surrounding units (probably siltstones).

The steeply dipping barite showing, which is exposed on the banks of the Liard River to the north of line 21N/7+50W, does not give rise to an observable gravity response. Such a body would be expected to give rise to an anomaly of only 0.2 to 0.3 milligals.

The only gravity anomalies detected on the grid that are significant with respect to base metal mineralization, are two located both on line 21S at 0+75E and 2+50W, with residual amplitudes of 1.0 milligals and 0.9 milligals respectively. The anomalies are of particular interest, as they are directly coincident with IP responses (I-6 and I-7). The western gravity anomaly is the broader of the two, has a double peak and possesses the stronger IP response. The eastern gravity anomaly is characterized by a higher amplitude

and a regular shape. Of note also, is an apparent negative correlation of both anomalies, with the elevation profile. Such a correlation is sometimes caused by using a density for the Bouguer correction that is too large. The data on this line should be reduced, using a range of densities, in order to determine that the anomalies have not been enhanced by the Bouguer correction. The shape of the residual gravity anomalies indicate near surface bodies. The amplitudes of the anomalies are, therefore, smaller than that expected from a Cirque-type body at similar depth. These anomalies should, however, be further investigated, by reason of their undefined strike length. As there is no gravity or IP coverage south of line 21S, there is potential for the anomalies to be economically significant dimensions. For this to be the case, it would be necessary to define the anomalies on at least three more lines.

G. 1984 GEOCHEMICAL SURVEY

Map 12 shows the results of a geochemical soil sampling programme of nine separate areas on the ROMAN grid. The purpose of this survey was to test overburden-covered bedrock conductors for possible anomalous geochemical responses.

Several test pits were dug on the property. The B horizon is typically within 0 to 45 cm of the surface. This horizon is everywhere underlain by glacial-fluvial sands and sandy gravel. Geophysical surveys suggest that up to 10 meters of sandy material sits on the bedrock surface.

The B soil horizon was collected at each sampling site (25 m intervals). Samples were not collected when this material was not available. The samples were prepared and analyzed at Min-En Laboratories Ltd., North Vancouver.

A 1 gram, -80 mesh split from each sample was analyzed by atomic absorption for Ag, Pb, Zn and Ba. The Ag, Pb, Zn analyses were obtained by digestion of the 1 gm split in nitric (85%) perchloric (71%) acid; the Ba analyses were obtained by fusion.

The results for all elements can be best described as flat, or, not anomalous. Ag values typically vary between 0.4 and 1.0 ppm; the maximum value was 4.0 ppm. Ba values show a remarkable grouping around a mean of approximately 1000 ppm; the maximum value was 2500 ppm. Pb values are typically in the 14 to 20 ppm range; the maximum value was 108 ppm. Zn values commonly vary between 40 and 100 ppm; the maximum value was 580 ppm.

It is concluded that:

1. The soil sampling sites straddle the position of bedrock conductors.

2. The elevated levels of Ag, Pb, Zn and Ba are not present in the soil.

3. The glacial-fluvial material below the sampled soil horizon has been transported and does not accurately reflect the metal content of the underlying bedrock.

H. CONCLUSIONS AND RECOMMENDATIONS

The multiparameter geophysical program carried out on this property was designed in order to detect an orebody similar to the Cirque deposit. An orebody of this magnitude is necessitated by the remoteness of the locality. As a result, a strict set of criteria have been established, in order to determine whether observed anomalies (or surface mineralization) are economically significant.

The EM and IP surveys have clearly defined a wide conductive zone passing through the center of the property. This zone is thought to represent a graphitic shale unit and is therefore a potentially favorable host for the type of mineralization defined by the exploration model. Numerous other, more narrow conductive horizons have likewise been detected. These conductors all appear to be steeply dipping, contrary to expectation prior to this phase of work, of flat lying or gently dipping strata.

A gravity survey was used to evaluate each of the anomalous trends, in order to determine which, if any, possessed sufficient mass to warrant further consideration. The result of the gravity survey was predominantly negative and seems to clearly indicate that, with two exceptions, no economically significant accumulations of sulphides were associated with these trends.

The two residual gravity anomalies that were detected are coincident with IP responses, in accord with the exploration model. As these anomalies are defined on only one line, and are open to the south, it is not possible at this stage, to establish whether they have sufficient strike length to fit the model. In order to property define the anomalies, it is recommended that the IP and gravity coverage be extended 600 meters to the south. If the anomalies were shown to be continuous, by the additional work, they should then be tested by drilling.

Prior to this work being carried out, it should be established that the gravity anomalies have not been enhanced by the Bouguer correction. The cost of the additional survey work is estimated to be as follows:

Linecutting:	5.6 km @ $375/km	$2,500
Gravity:	6 km, six days @ $1,300/day	8,000
IP:	6 km, six days @ $1,500/day	9,000
Mob/Demob:		6,500
Helicopter:		3,000
Contingency:		3,000
Total		$32,000

The estimated cost of 300 meters follow-up drilling, based on a total cost of $50/foot, is approximately $50,000.

D.K.B. Rainsford

D.R.B. Rainsford
Geophysicist

COST STATEMENT

The geophysical survey grid straddles the British Columbia-Yukon border. A total of 61.3 km of cut grid line were surveyed by geophysical contractor, Peter. E. Walcott and Associates Ltd., Vancouver, B.C. The grid was surveyed from April 23 to June 30, 1984. Surveyed grid lines in Yukon total 27.9 km (45.4%). Surveyed grid lines in British Columbia total 33.5 km (54.6%). Accordingly, 45.4% of the total survey costs have been allocated to Yukon.

Quartz claims ROMAN 1-16 were staked in 1979; 1984 survey work (non-physical) cannot be applied to these claims. 17.6% of the total YUKON grid km occur on ROMAN 1-16. Accordingly, 17.6% of the total YUKON costs have been deducted from the total YUKON cost, to give the allowable YUKON cost. The allowable YUKON cost has been distributed to three groupings based on their contained percentage of the remaining grid line km (excluding ROMAN 1-16):

GROUP 1	CLAIMS	% OF ALLOWABLE TOTAL YUKON COSTS
1	MAN 1,2,4,6,8 10,12,14 MAN 17-24	27
2	MAN 3,5,7,9,11 13,15,16 ROM 17,18 ROM 39 to 44	35
3	ROM 19,20 ROM 25 to 32 ROM 33 to 38	38
TOTAL		100

Invoices and a detailed cost statement follow.

COST STATEMENT - YUKON

GROUP	NO. OF CLAIMS	CLAIM	DATE OF RECORD	WORK PERIOD 1984	TOTAL COST B.C. AND YUKON IN WORK PERIOD	ALLOWABLE COST - YUKON CLAIM YR. 1983-1984	ALLOWABLE COST - YUKON CLAIM YR. 1984-1985	ALLOWABLE COST - GROUP CLAIM YR. 1983-1984	ALLOWABLE COST - GROUP CLAIM YR. 1984-1985	RECEIPT NO.	NO. YRS. WORK FILED	PRESENT EXPIRY DATE	COMMENTS
1	8	MAN 1,2,4 6,8,10 12,14	May 20,1983	Apr.23-May 20	35245	13185		(27%) 3560		A32360	NIL	May 20,1990	Refused - late filing
1	8	MAN 17-24	June 17,1983	Apr.23-May 20	35245	13185		(27%) 3560		A32360	2 16 CLAIM YEARS	June 17,1988	
2	8	MAN 3,5,7 9,11,	May 20,1983	Apr.23-May 20	35245	13185		(35%) 4615		A32359	NIL	May 20,1990 May 20,1989	Refused - late filing
		MAN 13	May 20,1983										
2	8	MAN 15,16	June 16,1983	Apr.23-May 20	35245	13185		(35%) 4615		A32359	2	June 16,1988	
		ROM 17,18	Aug. 5,1983								2	Aug. 5,1988	
		ROM 39-44	Aug. 1,1983								2 16 CLAIM YEARS	Aug. 1,1988	
3	16	ROM 19,20	Aug. 5,1983	Apr.23-June 16	68296	25549		(38%) 9709		A32362	2	Aug. 5,1988	
		ROM 25-32	June 28,1983								2	June 28,1988	
		ROM 33-36	July 15,1983								2	July 15,1988	
		ROM 37	July 15,1983								2	July 15,1988	
		ROM 38	July 15,1983								1 31 CLAIM YEARS	July 15,1988	
1	8	MAN 1,2,4 6,8,10 12,14	May 20,1983	May 21-June 16	33051		12364		(27%) 3338	A32361	4 32 CLAIM YEARS	May 20,1990	
2	8	MAN 3,5,7 9,11,13	May 20,1983	May 21-June 16	33051		12364		(35%) 4327	A32358	4 32 CLAIM YEARS	May 20,1990	
TOTAL	48 CLAIMS			Apr.23-June 16	68296	25549		17884	7665		127 CLAIM YEARS		
								25549					

PETER E. WALCOTT & ASSOC. LTD.
605 RUTLAND COURT, COQUITLAM, B.C. V3J 3T8 • TEL. 939-0383

INVOICE

NO. 1652

Date: May 9th, 1984

Terms: NET 30 DAYS

To: BILLITON CANADA LTD.
460 The Station,
601 W. Cordoba St.,
Vancouver, B.C.
V6B 1C1

Re: Geophysical Surveys, Roman property
Billing period April 23rd - 30th, 1984

1.	Mobilization (1/2 total)	$3,250.00
2.	Provision of 3 man crew & equipment 2 days at $1,050.00	2,100.00
3.	Provision of 4 man crew & equipment 4 days at $1,400.00	5,600.00
4.	Helicopter as attached	1,498.00
		$12,448.00
	Less 15% to be billed on final invoice	1,867.20
		$10,580.80

Project W-342

INVOICE NO. 1652

Please note interest will be charged at the rate of 1 1/2% per month on all overdue accounts.

GEOPHYSICAL SERVICES

PETER E. WALCOTT & ASSOC. LTD.

605 RUTLAND COURT, COQUITLAM, B.C. V3J 3T8 • TEL. 939-0383

INVOICE

NO. 1653

Date: May 31st, 1984

Terms: NET 30 DAYS

To: BILLITON CANADA LTD.
460 The Station,
Vancouver, B.C.
V6B 1C1

Re: Geophysical Surveys, Roman property
Billing period May 1st - 31st, 1984

1.	Provision of 4 man crew and equipment May 1st - I.P. day	$1,400.00
2.	Provision of 4 man crew and equipment May 2nd - 4th = 3 days at $1,300.00 per day	3,900.00
3.	Provision of 4 man crew and equipment May 5th - 9th = 5 days at $1,400.00 per day	7,000.00
4.	Provision of 3 man crew and equipment at $950.00 per day for period May 10th - 31st = 22 days	$20,900.00
5.	Provision of truck May 3rd - 15th = 13 days at $60.00 per day	780.00
6.	Helicopter as attached May 1 - 3	642.00
		$34,622.00
	Less 15% to be billed on final invoice	5,193.30
		$29,428.70

PROJECT W-342

INVOICE NO. 1653

Please note interest will be charged at the rate of 1 1/2% per month on all overdue accounts.

GEOPHYSICAL SERVICES

PETER E. WALCOTT & ASSOC. LTD.

605 RUTLAND COURT, COQUITLAM, B.C. V3J 3T8 • TEL. 939-0383

INVOICE

NO. 1656

Date: June 30th, 1984

Terms: NET 30 DAYS

To: BILLITON CANADA LTD.
460 The Station
Vancouver, B.C.
V6B 1C1

Re: Geophysical Surveys, Roman property.
Billing period June 1st - 30th, 1984.

1.	Provision of 7 man I.P. crew and equipment June 1st - 8th = 8 days at $1,750.00 per day		$14,000.00
2.	Provision of 7 man crew - gravity, levelling, terrain correction and nails - June 9th		1,650.00
3.	Provision of 5 man crew - gravity, levelling and nails - June 10th & 11th at $1,350.00 per diem		2,700.00
4.	Provision of 3 man crew (P.W. & G.M.) June 12th and 13th - at $1,150.00 per day		2,300.00
5.	Provision of 2 man crew June 14th - 19th, 21st - 25th = 11 days at $650.00 per day		7,150.00
6.	Provision of 1 man crew June 20th and 26th at $450.00 per day		900.00
7.	Provision of one man June 27th - calculations		375.00
8.	" " " " June 28th - 30th " at $300.00 per day		900.00
9.	Provision of truck east side 20th - 27th = 8 days at $60.00 per day		480.00
10.	Mob. & demob. of extra crew and 7.5 I.P. equipment and extra wire driven up from B.C. and back - 2 days drive each way - Truck plus mileage	$418.00	
	gasoline	448.27	
	Room and board	430.58	
	Travel time (bill only two days)	1,100.00	2,396.85
11.	Helicopter as per attached		2,835.50

GEOPHYSICAL SERVICES

INVOICE NO. 1656

12.	Demobilization 1/2 total	$3,250.00
		$38,937.35
	Less 15% to be billed on final invoice	5,840.60
		$33,096.75

PROJECT W-342

INVOICE NO. 1656

Please note interest will be charged at the rate of 1 1/2% per month on all overdue accounts.

EXCALIBUR
INTERNATIONAL
CONSULTANTS LTD.

10 Hurontario Street,
Mississauga, Ont., Canada L5G 3G7
Telephone (416) 271-1043

August 13, 1984.

Billiton Canada Ltd.,
460 The Station,
601 West Cordova St.,
VANCOUVER, B.C.,
V6B 1G1.

RE: Ground Geophysical Surveys,
Roman Claims, B.C. - Y.T.

1.	Professional Services by Frank L. Jagodits, P. Eng.,	
July &	Preparations for terrain corrections of gravity data,	
Aug. 84	terrain correction computations, supervision of computations;	
	total: 19 hrs.	$1,235.00
2.	Data Handling	
	Terrain correction computations, plotting of results;	
	A. Boniwell - 82 hrs.	1,353.00
		$2,588.00

Invoice No.: 5868

Your P.O. No.:

STATEMENT OF QUALIFICATIONS

I, Desmond R.B. Rainsford, of 44 Murray Avenue, Fredericton, New Brunswick, DO HEREBY CERTIFY.

1. THAT I am a Geophysicist in the employ of Billiton Canada Ltd., with offices at 500 Beaverbrook Court, Fredericton, New Brunswick.

2. THAT I am a graduate of the University of Bristol 1978, with a Bachelor of Science Degree in Geology.

3. THAT I am a graduate of the Royal School of Mines, University of London 1979, with a Master of Science Degree in Geophysics.

4. THAT I am a member of the Society of Exploration Geophysicists.

5. THAT I have practiced my profession for over four years.

DATED at Fredericton, New Brunswick this 9th day of August, 1984.

D.R.B. Rainsford

D.R.B. Rainsford

REFERENCES

Fraser, D. (1969): Geophysics Vol. 34, #6, pp. 958-967.

Konings, M.H. (1981): Manual of Geophysical Hand-Calculator Programs edited by Ballantyne, E.J. Campbell, D.L. Mentemeier, S.H. Wiggins; published by Society of Exploration Geophysicists.

Talwani, M. Worzel, J.L. Landisman, M. (1959): Rapid Gravity Computations for Two Dimensional Bodies with Application to the Mendocino Submarine Fracture Zone, Jl. Geophys. Research, pp. 49-59.

SOIL GEOCHEMICAL DATA

E 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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P1
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	112	102	4.0	500	
L25S-0+10EA	20	124	0.5	1240	
0+10EB	23	61	0.7	1100	
0+10EC	18	40	0.5	1200	40MESH
L21S-100EA	16	80	0.6	1010	
100EB	20	79	0.6	1200	
100EC	19	45	0.7	1270	
100ED	17	32	0.6	2530	40MESH
2+80WA	18	101	0.5	1040	
2+80WB	16	40	0.5	1100	
2+80WC	18	43	0.4	1190	
2+80WD	17	44	0.5	1010	
L 2N-0+25E	18	54	0.6	1040	
0+50E	15	55	0.5	1030	
0+75E	18	40	0.4	1000	
1+00E	20	46	0.5	1100	
LXN-0+00E	14	54	0.7	1100	
0+25E	18	64	0.6	1020	
1+25E	56	670	1.0	2500	
1+75E	18	63	0.3	900	
2+00E	18	56	0.7	1130	
2+25E	16	51	0.6	900	
2+50E	18	75	0.5	1030	
2+75E	17	57	0.4	970	
3+00E	19	63	0.6	1160	
3+25E	20	65	0.7	1200	
3+50E	21	68	0.7	1140	
3+75E	19	50	0.6	1000	
4+00E	20	61	0.5	1200	
L21S-0+00	14	147	0.6	1120	
0+25W	12	142	0.6	910	
L21S-0+25W	13	141	0.6	910	
STANDARD	112	103	4.0	500	

Certified by Eric Jonats

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P2
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	110	100	4.1	490	
L21S-0+50W	16	176	0.8	1000	
0+75W	17	170	0.6	1100	
1+00W	15	107	0.7	1020	
1+25W	12	38	0.7	1110	
1+50W	16	57	0.7	980	
1+75W	16	124	0.6	1300	
2+00W	19	57	0.8	1100	
2+25W	13	36	0.6	900	
2+50W	18	122	0.7	1130	
2+75W	16	86	0.7	910	
3+00W	15	86	0.8	1100	
3+25W	15	98	0.9	1020	
3+50W	12	31	0.8	1000	
3+75W	18	87	0.6	900	
4+00W	20	130	0.6	1130	
4+25W	17	68	0.5	980	
4+50W	17	79	0.6	1020	
4+75W	16	125	0.7	1010	
5+00W	15	129	0.6	930	
5+25W	10	69	0.7	1010	
5+50W	19	70	0.6	1200	
5+75W	17	103	0.6	900	
6+00W	18	113	0.6	1100	
6+25W	19	98	0.7	1000	
6+50W	18	88	0.6	1020	
LXN-0+00W	34	48	0.8	2730	
0+25W	27	30	0.6	2200	
0+50W	93	36	1.2	3000	
0+75W	18	51	0.6	1400	
1+00W	83	694	1.6	1820	
LXN-1+00W	84	691	1.5	1820	DUPLICATE
STANDARD	111	99	4.0	500	

Certified by _____

MIN-EN Laboratories Ltd.
Specialists in Mineral Environments
705 WEST 15th STREET NORTH VANCOUVER, B.C. CANADA V7M 1T2

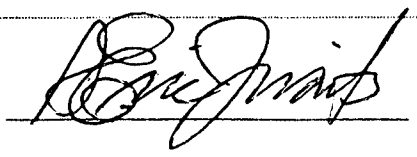
PHONE:(604)980-5814 OR (604)988-4524 TELEX: 04-352828

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD. FILE:4-714/P3
PROJECT: 926-04-02 DATE: AUGUST 9/84
ATTENTION: J. FRANZEN TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	110	100	4.0	500	
LXN-1+75W	16	57	0.5	930	
2+00W	15	58	0.5	940	
2+25W	19	43	0.4	970	
2+50W	20	144	0.6	1040	
2+75W	24	56	0.7	800	
3+00W	23	69	0.9	1170	
3+25W	19	50	0.8	1000	
3+50W	21	78	0.7	1140	
3+75W	24	60	0.6	1200	
4+00W	23	79	0.7	1830	
4+25W	41	208	1.0	2600	
4+50W	16	47	0.5	1190	
4+75W	13	44	0.5	1010	
5+00W	15	61	0.5	1300	
5+25W	20	65	0.6	1220	
5+50W	17	59	0.7	1100	
5+75W	22	55	0.9	1120	
6+00W	16	64	0.7	1130	
6+25W	15	45	0.4	995	
6+50W	12	48	0.5	980	
6+75W	14	47	0.5	1040	
7+00W	15	38	0.4	1030	
7+25W	12	61	0.4	940	
7+50W	15	41	0.5	1330	
7+75W	16	43	0.5	1170	
8+00W	16	44	0.4	1200	
L9S-3+00E	15	82	0.5	1000	
2+75E	14	33	0.4	1020	
0+25W	21	150	0.7	1000	
0+50W	20	142	0.6	900	
L9S-0+50W	20	143	0.5	995	DUPLICATE
STANDARD	110	101	4.0	500	

Certified by 

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-713/P4
DATE: AUGUST 8/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	116	103	4.0	500	
L9S-1+50W	18	77	0.9	900	
1+75W	15	82	0.8	1020	
2+00W	14	101	0.5	1000	
2+25W	14	46	0.5	1100	
2+50W	17	66	0.8	1040	
2+75W	14	55	0.9	1130	
3+00W	14	43	0.7	940	
3+25W	15	50	0.8	1000	
3+50W	13	69	0.9	940	
3+75W	16	65	0.8	1000	
4+00W	15	33	0.4	930	
4+25W	14	47	0.5	1130	
4+50W	15	71	0.5	1120	
4+75W	16	139	0.5	1200	
5+00W	14	103	0.6	1400	
5+25W	14	77	0.7	1200	
5+50W	17	96	0.8	1100	
5+75W	13	51	0.8	1160	
6+00W	14	47	0.8	990	
6+25W	17	63	0.7	1130	
6+50W	16	58	0.6	1190	
6+75W	19	59	0.9	1050	
7+00W	23	150	1.0	1170	
7+25W	108	581	1.1	1490	
7+50W	24	110	1.4	990	
L21S-0+25E	14	47	0.6	910	
0+50E	19	153	0.8	930	
0+75E	18	122	0.8	1080	
1+00E	15	101	0.8	1160	
1+25E	19	79	0.9	1190	
L21S-1+25E	19	78	0.8	1190	DUPLICATE
STANDARD	116	102	4.0	500	

Certified by Eric Jensen

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P5
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	114	99	4.1	500	
L21S-1+50E	22	80	0.9	1120	
1+75E	18	75	0.7	1110	
2+00E	19	81	0.8	1180	
2+25E	21	111	0.7	1100	
2+50E	20	51	0.8	1020	
2+75E	24	79	0.8	995	
3+00E	22	96	0.7	1140	
3+25E	20	131	0.6	1200	
3+50E	19	84	0.9	1210	
3+75E	21	54	0.9	1100	
4+00E	20	62	1.1	1300	
0+00	22	97	0.9	1310	
0+25E	21	114	0.9	1100	
0+50E	22	88	1.0	1110	
0+75E	19	75	0.8	1040	
1+00E	18	65	0.7	1000	
1+25E	21	59	0.6	1100	
1+50E	22	114	0.8	1090	
1+75E	22	91	0.9	1000	
2+00E	20	87	0.8	1060	
2+25E	23	85	0.9	1070	
2+50E	19	79	0.8	900	
2+75E	22	82	0.9	1040	
3+00E	21	88	1.0	1190	
3+25E	22	129	1.1	1050	
3+50E	23	124	0.9	1020	
3+75E	21	82	0.9	1180	
4+00E	21	111	0.9	1050	
0+25W	20	103	0.8	1000	
0+50W	22	120	0.9	950	
L25S-0+50W	23	120	0.8	950	DUPLICATE
STANDARD	116	101	4.0	510	

Certified by _____

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P6
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	110	100	4.1	500	
L25S-0+75W	13	42	0.4	800	
1+00W	17	97	0.8	900	
1+25W	19	80	0.7	940	
1+50W	20	73	0.8	1000	
1+75W	18	93	0.9	1010	
2+00W	18	77	0.6	1120	
2+25W	19	100	0.8	920	
2+50W	20	82	0.8	1000	
2+75W	18	101	0.7	1070	
3+00W	17	80	0.7	1050	
3+25W	16	74	0.5	1250	
3+50W	16	106	0.5	1030	
3+75W	17	126	0.5	910	
4+00W	18	110	0.8	970	
4+25W	14	75	0.7	960	
4+50W	17	72	0.5	1130	
4+75W	18	92	0.6	1020	
5+00W	16	140	0.6	1200	
5+25W	16	73	0.6	1080	
5+50W	19	88	0.6	1200	
5+75W	15	79	0.5	1020	
6+00W	19	74	0.6	1100	
L18N-0+37EA	11	35	0.4	1030	
0+37EB	11	34	0.4	1010	
0+37EC	10	33	0.3	1000	
0+37ED	9	40	0.4	1100	
0+25E	13	53	0.5	940	
0+50E	16	74	0.6	920	
0+75E	12	50	0.5	900	
1+00E	11	37	0.4	1100	
L18N-1+00E	11	37	0.4	1100	DUPLICATE
STANDARD	110	99	4.0	500	

Certified by

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION:J. FRANZEN

FILE:4-714/P7
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 32 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM
STANDARD	112	100	4.0	500
L18N-1+25E	15	44	0.5	1200
1+50E	13	41	0.6	1210
1+75E	13	60	0.6	1080
2+00E	9	72	0.6	1350
2+25E	15	38	0.6	1330
2+50E	14	41	0.5	2000
2+75E	12	59	0.6	1100
3+00E	14	127	0.6	1040
3+25E	13	112	0.7	1170
3+50E	17	44	0.6	960
3+75E	15	65	0.8	990
4+00E	16	50	0.6	1020
4+25E	13	32	0.4	1230
4+50E	15	68	0.6	1200
4+75E	15	55	0.4	775
5+00E	18	77	0.8	1000
L15S-17+50E	22	110	0.5	1000
17+75E	17	99	0.6	995
18+00E	14	118	0.6	970
18+25E	19	91	0.7	975
18+50E	16	126	0.7	1290
18+75E	15	101	0.8	980
19+00E	12	53	0.4	920
19+25E	14	45	0.5	800
19+50E	18	112	0.7	1100
19+75E	18	63	0.7	910
20+00E	17	66	0.6	1050
20+25E	16	41	0.5	1000
L18N-0+00	14	45	0.7	990
L18N-0+00	15	45	0.7	990
STANDARD	112	100	4.1	510

Certified by Eric Ivanic

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/PB
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM
STANDARD	117	100	4.1	490
L18N-0+25W	16	50	0.7	950
0+50W	13	33	0.5	930
0+75W	13	38	0.6	900
1+00W	13	41	0.5	810
1+25W	12	60	0.6	1100
1+75W	13	45	0.5	1000
2+00W	15	48	0.6	1000
2+25W	15	50	0.7	1190
2+50W	15	70	0.6	950
2+75W	12	34	0.5	970
3+00W	12	55	0.6	930
3+25W	15	60	0.7	980
3+50W	14	45	0.5	920
3+75W	12	34	0.4	940
4+00W	15	33	0.4	1100
4+25W	13	36	0.4	950
4+50W	12	45	0.4	940
4+75W	14	56	0.5	910
5+00W	17	57	0.6	1120
5+25W	16	51	0.7	900
5+50W	11	35	0.5	910
5+75W	14	48	0.6	890
6+00W	14	40	0.7	900
6+25W	14	50	0.6	900
6+50W	14	62	0.7	895
6+75W	15	36	0.7	920
7+00W	13	38	0.6	1000
7+25W	15	48	0.5	860
7+50W	13	55	0.5	905
7+75W	13	120	0.4	1020
L18N-7+75W	13	121	0.4	1020
STANDARD	116	100	4.0	495

Certified by Eric Jurans

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

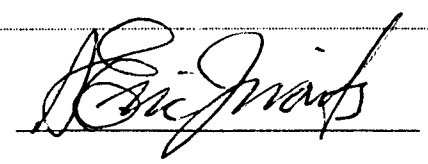
GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P9
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM
STANDARD	111	102	4.2	510
L18N-8+00W	16	244	0.8	1140
L15S-20+50E	22	141	0.9	1000
20+75E	26	165	1.0	1170
21+00E	19	97	0.9	1100
21+25E	21	139	1.1	1250
21+50E	23	133	1.0	830
21+75E	16	91	0.8	900
22+00E	18	98	1.0	1090
22+25E	20	121	1.0	1000
22+50E	18	161	0.8	1000
L 0+00E	15	64	0.7	1140
0+25E	19	95	0.9	1180
0+50E	22	94	0.8	1120
0+75E	17	72	0.9	1100
1+00E	16	82	0.6	970
1+25E	16	52	0.8	1010
1+50E	17	73	0.4	1200
1+75E	15	43	0.4	1000
2+00E	15	47	0.5	940
0+25W	16	65	0.3	1080
0+50W	18	71	0.6	1100
0+75W	17	87	0.5	1030
1+00W	16	78	0.4	1220
1+25W	14	76	0.6	1300
2+00W	18	177	0.8	950
1+50W	17	140	0.6	1000
1+75W	17	113	0.8	1290
4+25W	19	233	0.7	1100
4+75W	20	107	0.7	970
5+00W	14	60	0.4	1300
L0-5+00W	14	59	0.4	1300
STANDARD	110	102	4.1	500

Certified by 

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P10
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 33 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PM
STANDARD	111	102	4.1	510
L0-5+25W	16	116	0.8	1000
6+25W	11	48	0.4	1200
L12N-0+00W	14	61	0.4	1000
0+50W	16	131	0.6	1060
0+75W	12	68	0.3	1250
1+00W	10	51	0.6	1160
1+50W	19	81	0.7	1200
1+75W	17	94	0.7	1120
2+00W	13	56	0.5	1090
2+25W	16	103	0.5	1130
2+75W	15	123	0.4	1200
3+00W	11	42	0.3	1040
3+50W	13	63	0.4	1200
3+75W	10	48	0.3	1140
4+00W	8	41	0.5	940
4+50W	15	66	0.6	900
4+75W	18	127	0.4	1190
5+00W	12	58	0.3	1010
5+25W	10	40	0.4	1170
5+50W	14	79	0.4	1200
6+00W	17	57	0.3	1100
6+25W	15	61	0.5	1120
6+50W	11	49	0.3	940
7+00W	13	38	0.3	1100
7+25W	16	41	0.4	1140
7+50W	12	42	0.3	1220
7+75W	9	41	0.3	1000
8+00W	15	64	0.6	1100
9+50E	13	88	0.5	800
9+75E	14	87	0.4	940
L12N-9+75E	14	88	0.4	930
STANDARD	110	100	4.1	510

Certified by _____

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

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: BILLITON CANADA LTD.
PROJECT: 926-04-02
ATTENTION: J. FRANZEN

FILE:4-714/P11
DATE: AUGUST 9/84
TYPE: SOIL GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 5 samples submitted.

SAMPLE NUMBER	PB PPM	ZN PPM	AG PPM	BA PPM	
STANDARD	110	101	4.0	500	
L12N-10+00E	4	40	0.2	780	
10+25E	6	43	0.2	640	
10+50E	10	101	0.4	1250	
L12N-10+50E	10	101	0.4	1240	DUPLICATE

Certified by _____

N

BL 00

TIE LINE 21+50 E

18W 15W 12W 9W 6W 3W 3E 6E 9E 12E 15E 18E 21E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

LIARD CANYON

LIARD

LUCKY LAKE

POND

B.C. - YUKON BORDER

RIVER

18W 15W 12W 9W 6W 3W BL 00 3E 6E 9E 12E 15E 18E 21E 24E

LEGEND:

COIL SPACING 200m 100m

IN-PHASE PROFILE

OUT-PHASE PROFILE

+20%
0
-20%
PROFILE SCALE 1cm = 20%

0 100 200 300 400 500m
SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

HORIZONTAL LOOP ELECTROMAGNETIC SURVEY
(OP FREQUENCY = 444 Hz)

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº
1

N

18W 15W 12W 9W 6W 3W BL 00 3E 6E 9E 12E 15E 18E 21E — TIE LINE 21+50 E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

LIARD CANYON

LIARD RIVER

LUCKY LAKE

POND

B.C. - YUKON BORDER

18W 15W 12W 9W 6W 3W BL 00 3E 6E 9E 12E 15E 18E 21E 24E

LEGEND:

COIL SPACING = 200 m

IN-PHASE PROFILE

OUT-PHASE PROFILE

+20%
0
-20%
PROFILE SCALE 1 cm = 20%

0 100 200 300 400 500 m
SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

HORIZONTAL LOOP
ELECTROMAGNETIC SURVEY
(OP FREQUENCY = 888 Hz)

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº 2

N

B.L. 00

TIE LINE 21+50 E

18W 15W 12W 9W 6W 3W 3E 6E 9E 12E 15E 18E 21E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

LIARD CANYON

LIARD RIVER

LUCKY LAKE

POND

B.C. - YUKON BORDER

18W 15W 12W 9W 6W 3W B.L.00 3E 6E 9E 12E 15E 18E 21E 24E

LEGEND:

COIL SPACING 200m 100m

IN-PHASE PROFILE

OUT-PHASE PROFILE

+20%
0
-20%

PROFILE SCALE 1cm = 20%

0 100 200 300 400 500 m

SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

HORIZONTAL LOOP ELECTROMAGNETIC SURVEY

(OP FREQUENCY = 1777 Hz)

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº 3

N

18W 15W 12W 9W 6W 3W B.L.00 3E 6E 9E 12E 15E 18E 21E TIE LINE 21+50E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

LIARD CANYON

LIARD RIVER

LUCKY LAKE

POND

OFFSET SOUTH OF POND

B.C. - YUKON BORDER

LEGEND:

GRID LINES SURVEYED FACING EAST - SEATTLE, WASHINGTON

TIE LINES AND BASE LINE SURVEYED FACING SOUTH - CUTLER, MAINE.

IN-PHASE PROFILE

OUT-PHASE PROFILE

+20% 0 -20% PROFILE SCALE 1 cm = 20%

0 100 200 300 400 500 m

SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

VLF EM-16

ELECTROMAGNETIC SURVEY

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.

JULY 1984

MAP Nº 4

N

BL 00

TIE LINE 21+50 E

18 W | 15 W | 12 W | 9 W | 6 W | 3 W | 3 E | 6 E | 9 E | 12 E | 15 E | 18 E | 21 E

L 21 N

L 18 N

L 15 N

L 12 N

L 9 N

L 6 N

L 3 N

L 00

L 3 S

L 6 S

L 9 S

L 12 S

L 15 S

L 18 S

L 21 S

L 24 S

LIARD CANYON

LUCKY LAKE

POND

LIARD RIVER

B.C. - YUKON BORDER

18 W | 15 W | 12 W | 9 W | 6 W | 3 W | BL 00 | 3 E | 6 E | 9 E | 12 E | 15 E | 18 E | 21 E | 24 E

0 100 200 300 400 500 m

SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

VLF EM-16 SURVEY
FRASER FILTER MAP

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº 5

N

18W 15W 12W 9W 6W 3W BL.00 3E 6E 9E 12E 15E 18E 21E 24E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

TIE LINE 21+50E

LIARD CANYON

LIARD RIVER

B.C. - YUKON BORDER

LUCKY LAKE

POND

BASE STATION (58,687)

BASE STATION (58,666)

BASE STATION (58,620)

NOTE: 58,000 GAMMAS SHOULD BE ADDED TO EACH STATION.

0 100 200 300 400 500 m

SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

PROTON PRECISSION MAGNETOMETER SURVEY

(CONTOURS OF TOTAL MAGNETIC FIELD)

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP No. 6

N

18W 15W 12W 9W 6W 3W BL.00 3E 6E 9E 12E 15E 18E 21E

TIE LINE 21+50 E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

LIARD CANYON

LIARD RIVER

LUCKY LAKE

POND

B.C. - YUKON BORDER

MILLIGALS 130 129 128

ELEVATION 700 m 650 m 600 m

0 100 200 300 400 500 m
SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

BOUGUER GRAVITY PROFILES

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JUNE, 1984

MAP No. 7

N

18W 15W 12W 9W 6W 3W BL.00 3E 6E 9E 12E 15E 18E 21E 24E

TIE LINE 21+50 E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

LIARD CANYON

LIARD RIVER

LUCKY LAKE

POND

B.C. - YUKON BORDER

LEGEND:

PROFILE SCALE

MILLIGALS

131.00
130.00
129.00
128.00

0 100 200 300 400 500m

SCALE 1:5,000

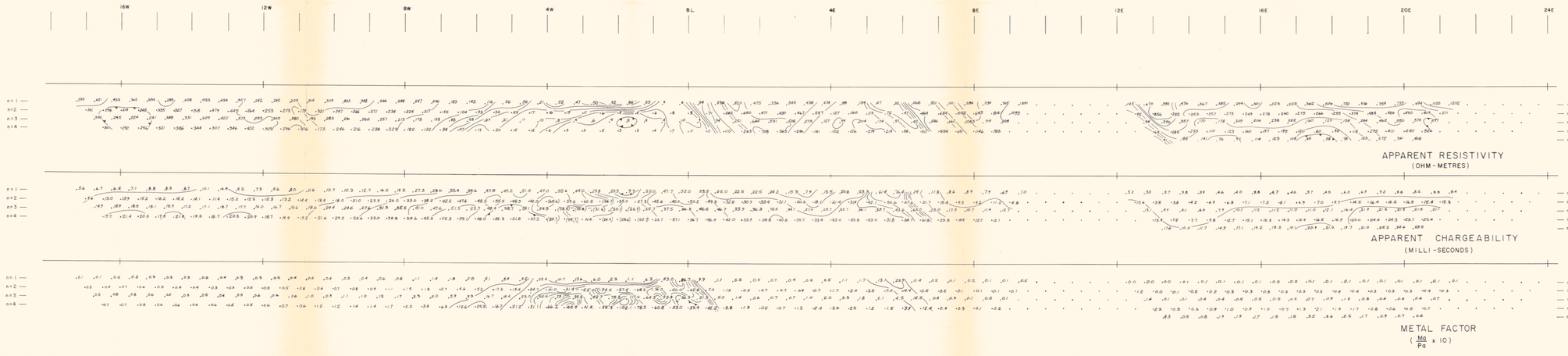
BILLITON CANADA LTD.

ROMAN PROPERTY

TERRAIN CORRECTED BOUGER GRAVITY PROFILES

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP No. 8



BILLITON CANADA LTD.

ROMAN PROPERTY

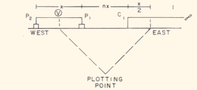
LINE 0+00

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE

ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

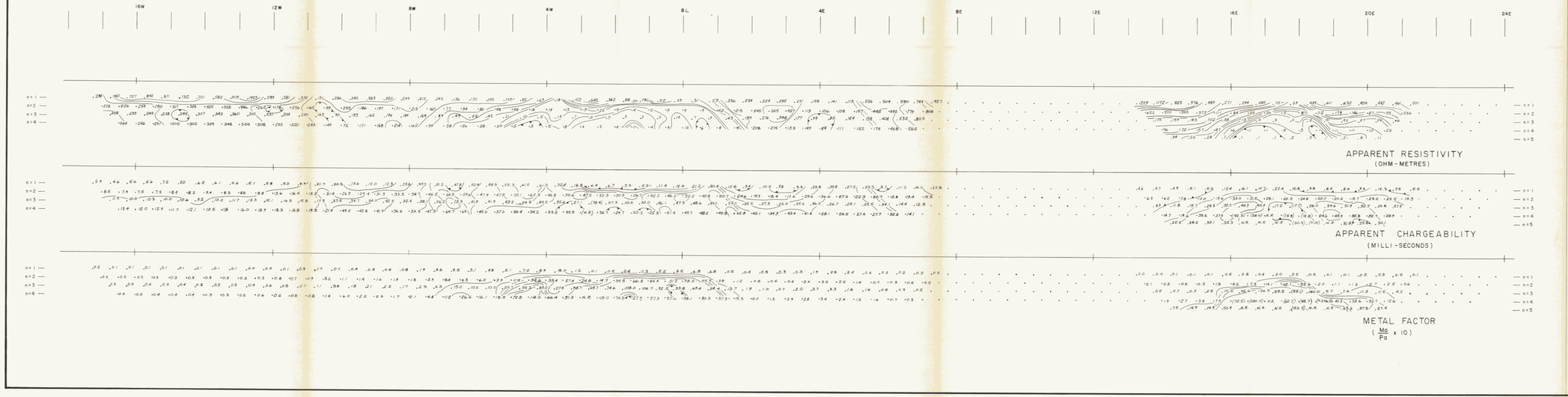
APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E WALCOTT & ASSOCIATES LTD.

JULY 1984

MAP Nº 9A



BILLITON CANADA LTD.

ROMAN PROPERTY

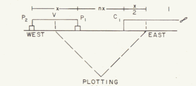
LINE 6+ 00 N

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE
ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

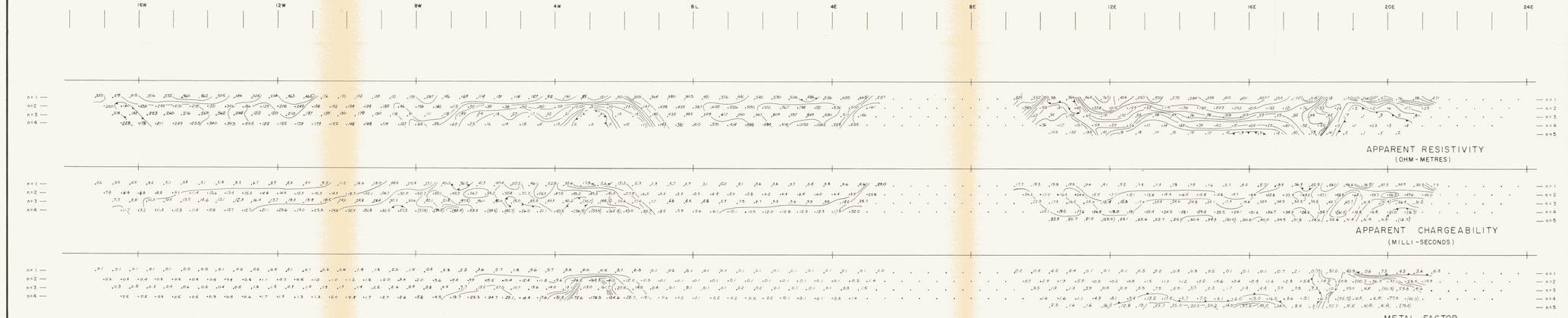
APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº
9B



BILLITON CANADA LTD.

ROMAN PROPERTY

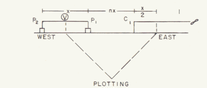
LINE 12+00 N

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE

ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

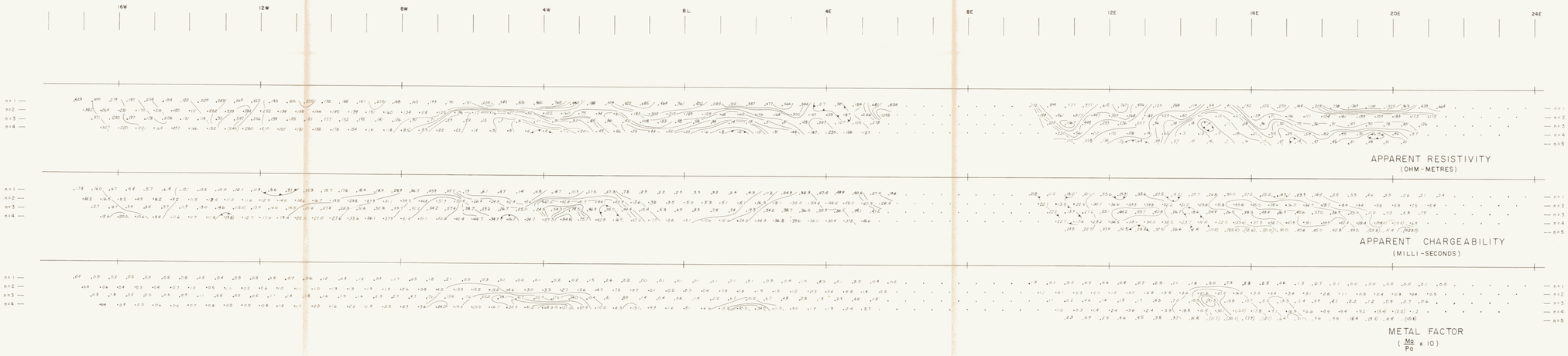
APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.

JULY 1984

MAP No. 9C



BILLITON CANADA LTD.

ROMAN PROPERTY

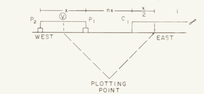
LINE 18+00N

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE

ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

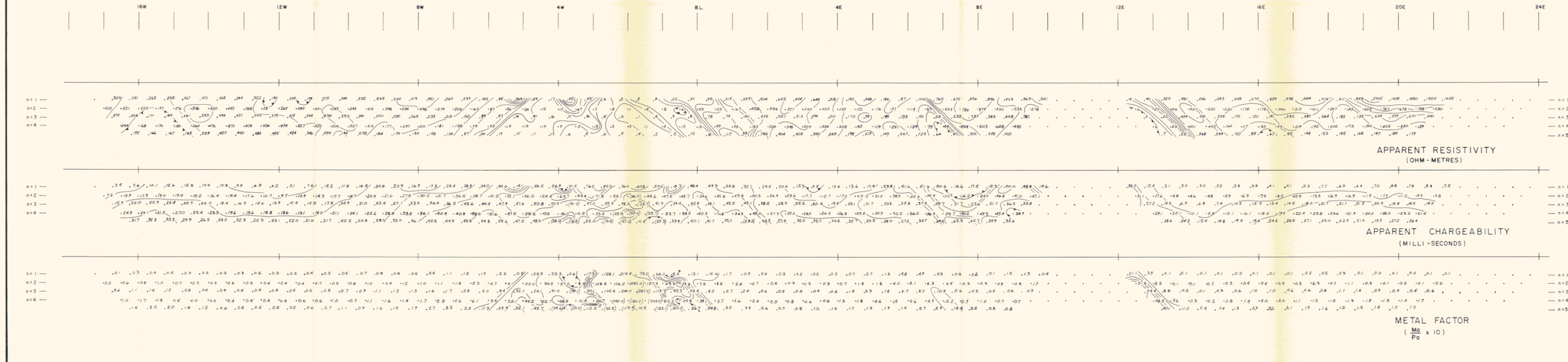
APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.

JULY 1984

MAP Nº 9D



BILLITON CANADA LTD.

ROMAN PROPERTY

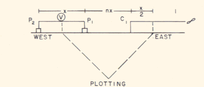
LINE 3+00S

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE
ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

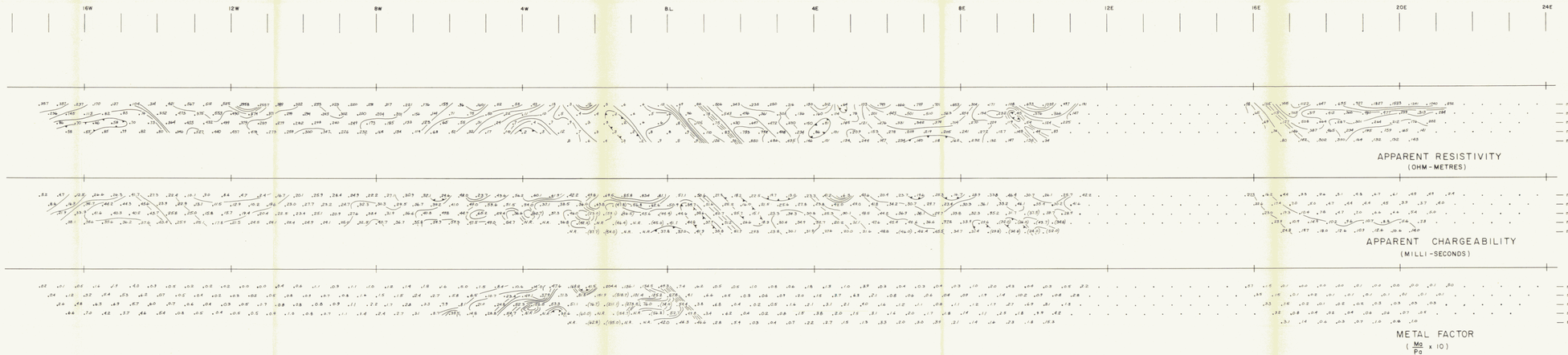
APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP No.
10A



BILLITON CANADA LTD.

ROMAN PROPERTY

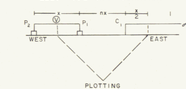
LINE 6+00S

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE
ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

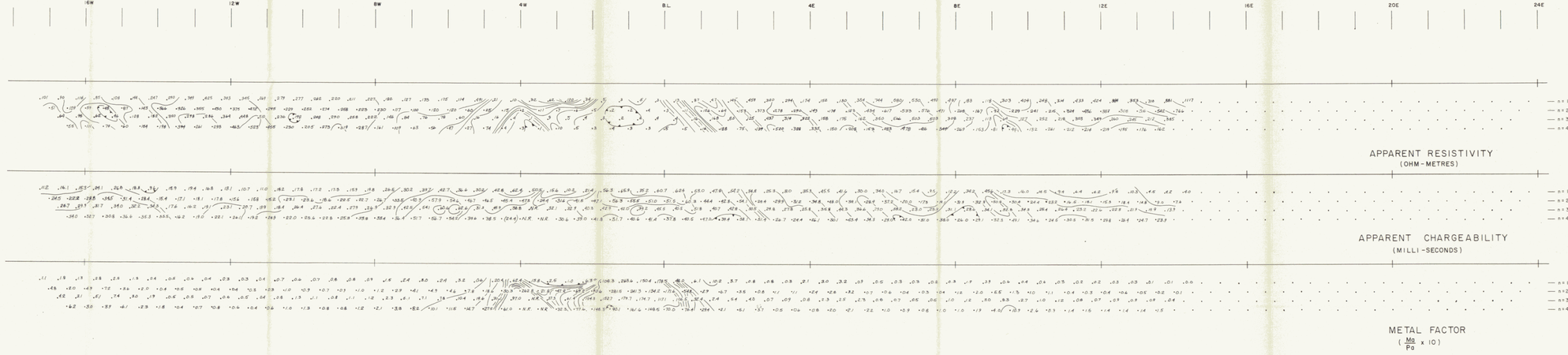
APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP No.
10B



BILLITON CANADA LTD.

ROMAN PROPERTY

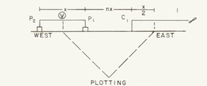
LINE 9+00 S

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE

ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº. 10C

BILLITON CANADA LTD.

ROMAN PROPERTY

LINE 15+00S

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION

CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE

ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

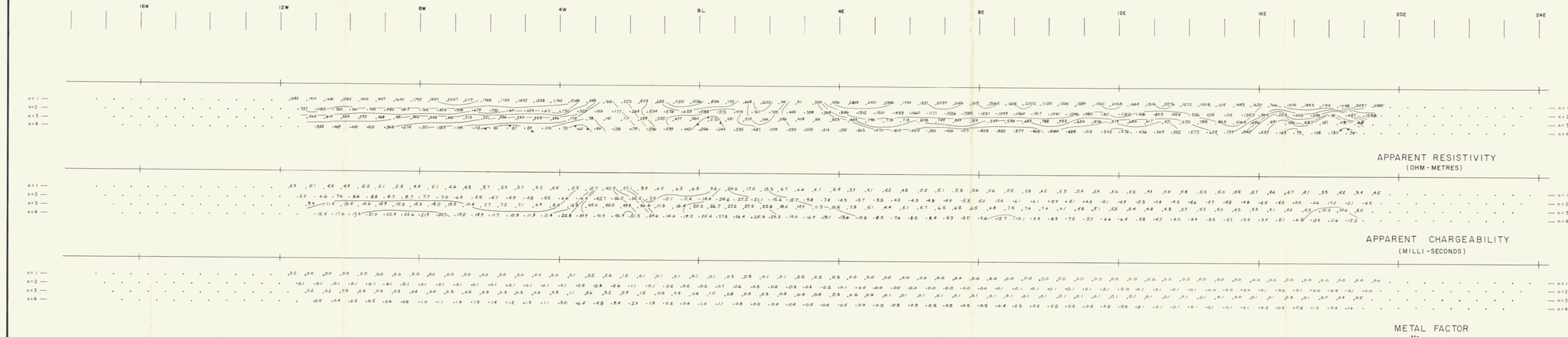
APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.

JULY 1984

MAP Nº 10D



BILLITON CANADA LTD.

ROMAN PROPERTY

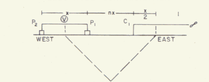
LINE 21+00S

INDUCED POLARIZATION SURVEY

0 100 200 400 600

SCALE 1:5000

POLE - DIPOLE
ELECTRODE CONFIGURATION



CURRENT ELECTRODE EAST OF POTENTIAL ELECTRODE
ELECTRODE SPACING a = 50 metres

CONTOUR INTERVAL

APPARENT RESISTIVITY - 5,7,10,20,30,50,70,100,200,300, 500,700,1000,2000 etc.

APPARENT CHARGEABILITY - 10,20,30 etc.

METAL FACTOR 10,20,30 etc.

SURVEY BY: PETER E. WALCOTT & ASSOCIATES LTD.
JULY, 1984

MAP No. 10E

N

N44

NLK

TIE LINE 21+50 E

LIARD CANYON

LIARD RIVER

LUCKY LAKE

POND

LOW RESISTIVITY ZONE

B.C. - YUKON BORDER

18W 15W 12W 9W 6W 3W BL 00 3E 6E 9E 12E 15E 18E 21E

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

V-1 V-2 V-3 V-4 V-5 V-6 V-7 V-8 V-9 V-10 V-11 V-12 V-13 V-14 V-15 V-16 V-17 V-18 V-19 V-20 V-21 V-22 V-23 V-24 V-25 V-26 V-27 V-28 V-29 V-30 V-31 V-32 V-33 V-34 V-35 V-36 V-37 V-38 V-39 V-40 V-41 V-42 V-43 V-44 V-45 V-46 V-47 V-48 V-49 V-50 V-51

E-1 E-2 E-3 E-4 E-5 E-6 E-7 E-8 E-10 E-11 E-12 E-13 E-16 E-17 E-18 E-19 E-20 E-21 E-22 E-23 E-24

I-1 I-2 I-3 I-5 I-6 I-7 I-8 I-9 I-10 I-11 I-12 I-13

σt=14.6 d=<10

σt=16.9 d=10

σt=3.4 d=30

σt=10.5 d=10 70°

σt=9.0 d=<10 70°

σt=3.1 d=55

σt=4.8 d=20

σt=5.1 d=35

σt=3.4 d=45

σt=13.5 d=<10

σt=16.9 d=<10 to°

σt=16.9 d=15

σt=20 d=<10

σt=7.9 d=<10 75°

σt=11.3 d=50

σt=11.3 d=<10

σt=6.8 d=<10

σt=33.8 d=20

LEGEND

I.P

- LIMIT OF I.P COVERAGE
- LR LOW RESISTIVITY
- HR HIGH RESISTIVITY
- STRONG ANOMALY
- MODERATE "
- WEAK "
- POSSIBLE "
- I-1 ANOMALY NUMBER

HLEM

- NARROW CONDUCTOR AXIS
- WIDE CONDUCTOR OR ZONE OF CONDUCTORS.
- σt=10.3 ESTIMATED CONDUCTIVITY THICKNESS (
- d=15 " DEPTH (METRES)
- /58° " DIP
- E-1 ANOMALY NUMBER

VLF-EM

- STRONG CONDUCTOR AXIS
- MODERATE " "
- WEAK " "
- V-1 ANOMALY NUMBER

MAGNETICS

- AXIS OF LINEAR ANOMALY (HIGH)
- " " " " (LOW)

0 100 200 300 400 500 m

SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

GEOPHYSICAL COMPILATION

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº. 11

N

18W 15W 12W 9W 6W 3W BL 3E 6E 9E 12E 15E 18E 21E

TIE LINE 21+50 E

Line - XN

L21N L18N L15N L12N L9N L6N L3N L00 L3S L6S L9S L12S L15S L18S L21S L24S

BL 00

RESISTIVITY LOW ZONE

RESISTIVITY LOW ZONE

POND

LIARD CANYON

LIARD RIVER

LUCKY LAKE

LOW RESISTIVITY ZONE

LOGAN MINES LTD. - 1981 ZINC IN SOILS ANOMALY

B.C. - YUKON BORDER

LEGEND:

Zn p.p.m.
Pb p.p.m.
Ba p.p.m.
Ag p.p.m.

HLEM CONDUCTOR

0 100 200 300 400 500 m
SCALE 1:5,000

BILLITON CANADA LTD.

ROMAN PROPERTY

SOIL GEOCHEMISTRY
Pb, Zn, Ag & Ba RESULTS

SURVEY BY:
PETER E. WALCOTT & ASSOCIATES LTD.
JULY 1984

MAP Nº 12