5111

92I/4E

GEOPHYSICAL REPORT

ON A

92I/4E

MAGNETIC SURVEY

BOSTON CLAIM GROUP

LOG CREEK AREA, B.C.

KAMLOOPS M.D. & NEW WESTMINSTER M.D.

JULY, 1974

Boston Claim Group: 14 miles NW of Boston Bar

: 50° 121° SW

: NTS - 92I/4E

Report by: David G. Mark
Geophysicist
Geotronics Surveys Ltd
302-475 Howe Street
Vancouver, B.C.

5111

for: NAHATLATCH RESOURCES Ltd
411-475 Howe Street
Vancouver, B.C.

dated: August 26, 1974

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		SCALE
	MAP - at end of report	
#1	LOCATION MAP, Plate 1	1" = 4226 feet
	MAP - in pocket	
#2	Magnetometer Survey, Plate 2	1" = 200 feet

SUMMARY

A detailed magnetic survey was completed over a small portion of the 19-claim Log Creek property of Nahatlatch Resources Ltd. The claims are located north of Frances Lake along a ridge between Log Creek and Fraser River 14.5 air miles N60W of the town of Boston Bar. Access is best by helicopter from Lytton. The terrain is rough and the vegetation consists of large conifers. Several lakes and creeks occur throughout the property.

The property is largely underlain by an elongated northwest trending body of serpentine. Phyllite occurs on both the southwestern and northeastern contacts and granodiorite stocks occur nearby. Two bodies of talc are found on the property. The mineralization consists of magnetite, chromite, pentlandite, heazlewoodite and possibly millerite.

A Scintrex model MF-1 portable vertical-component fluxgate magnetometer was used to carry out the survey. The resulting data was plotted and contoured.

The magnetic survey outlined several highs that could well be reflecting magnetite associated with nickel mineralization. A large magnetic low was felt to be reflecting phyllite. The talc zone appeared not to be reflected by the magnetics.

CONCLUSIONS

1) Nickel mineralization occurs with magnetite within the serpentine body.

2) The magnetic survey outlined several magnetic highs that could well be reflecting magnetite associated with nickel sulphides.

3) A relatively large magnetic low is probably reflecting phyllite.

4) If the talc zone was at all covered by the survey, the magnetic data appears not to reflect it.

5) The area surveyed was not large enough. A more definite interpretation could otherwise be given.

RECOMMENDATIONS

It is felt positive results were obtained from the survey and that therefore further exploration is warranted as follows:

1) The magnetic survey should be expanded in all directions. It should go well into the phyllite so that its contact with the serpentine is well-defined. It should also be run on the northern side of the lake between the two survey areas to ascertain whether zones B and C join.

2) Testing of the vertical gradient magnetic method should be carried out over some of the anomalies where mineralization is known to occur. This method gives excellent definition to magnetite mineralization.

3) A soil geochemistry survey should be carried out over the whole property in which the samples are tested for nickel.

Respectfully submitted,
GEOTRONICS SURVEYS LTD

David G. Mark
Geophysicist

GEOPHYSICAL REPORT
ON A
MAGNETIC SURVEY
BOSTON CLAIM GROUP
LOG CREEK AREA, B.C.
KAMLOOPS M.D. & NEW WESTMINSTER M.D.

INTRODUCTION AND GENERAL REMARKS

This report discusses the procedure, compilation and interpretation of a detailed portable fluxgate magnetometer survey carried out on the H, G, and TM claims during July, 1974.

The field work was carried out by Hanspeter Werder. Mr. Werder also compiled the data and drafted the two maps accompanying this report. The finished map was then brought to the writer for interpretation and report.

The number of line miles completed was 7.2.

The object of the survey was to outline zones of nickel mineralization within an elongated northwest trending body of a serpentinized ultrabasic rock. Magnetite occurs with several different minerals of nickel as disseminations and veinlets.

Much of the information on the claims discussed below was obtained from T.R. Tough's engineering report.

PROPERTY AND OWNERSHIP

The property consists of 19 contiguous mineral claims as shown on Plate 1 and as described below:

KAMLOOPS M.D.

Claim Name	Record No.	Expiry Date
H # 5	120522	12 July 1974
H # 7	120524	12 July 1974
H # 9	120526	12 July 1974
H # 11 to 16 incl.	120528 to 30 incl.	12 July 1974
G # 1 to 3 incl,	126397 to 99 incl.	17 July 1974
TM # 1 to 4 incl.	126614 to 17 incl.	20 August 1974

NEW WESTMINSTER M.D.

H # 17 to 19 incl.	28026 to 28 incl.	12 July 1974

The expiry date does not take into account the assessment credits gained from the magnetic survey.

The registered owner of all the claims is Nahatlatch Resources Ltd of Vancouver, B.C.

LOCATION AND ACCESS

The southeastern tip of the claims is approximately 14.5 air miles N60W of the town of Boston Bar and 3 air miles N60E of Frances Lake. The claims are staked along a ridge that parallels Log Creek about 10,000 feet to the northeast.

The geographical coordinates of the claims are 50° 03' N latitude and 121° 38' W longitude.

Access at present is best by helicopter from Lytton which is 24 miles to the north. It can also be gained from Boston Bar by using the cable car to cross to North Bend and travelling along logging roads on the north side of Nahatlatch River and then on the northeast side of Log Creek to where a 'cat' road climbs steeply to the north end of the claim group.

PHYSIOGRAPHY

The property is found within the physiographic unit known as the Coast Range in which the terrain is rough and the slopes are steep. The claims themselves are found along the top of a northwest trending ridge between Log Creek and the Fraser River. The elevations vary from 4,500 feet asl near the southeastern end of the claims to 6,200 feet asl at the northwestern end.

As shown on the two plates accompanying the report, a lake 2,400 by 1,000 feet is found within the center of the claim group. Numerous other small lakes and creeks are found throughout the claims area.

The property is forested by large coniferous-type trees.

HISTORY OF PREVIOUS WORK

No previous geological, geophysical, geochemical or physical work has been done on the claims.

GEOLOGY

The oldest rock on the property is a phyllite of Triassic or earlier age. Intruding into this rock type and underlying most of the claims is a northwest trending body of serpentinized ultrabasic rocks, probably of Cretaceous age. Also intruding into the phyllite and related rocks as stocks is granodiorite of Lower Cretaceous age.

Two known bodies of talc are found within the serpentine. One is found within the survey area and cuts across the northern part of the lake in a direction of 110° on the H #9, #7, and G #2 claims. The other talc body is found on the H #15 and #16 claims.

Magnetite is found as an accessory mineral (5%) within the serpentine. It also occurs with the nickel mineralization as disseminations and veinlets, and rims chromite. Nickel occurs as pentlandite, heazlewoodite, and possibly millerite.

INSTRUMENTATION AND THEORY

The instrument used was a portable, vertical component fluxgate magnetometer, Model MF-1, manufactured by Scintrex Limited of Downsview, Ontario. The instrument reads directly in gammas on a meter and has a range from 0 to 100,000 gammas through 5 different scales. The accuracy is 0.5% of full scale on the 1000 to 10,000 gamma ranges and 1% on full scale on the 30,000 to 100,000 gamma ranges. Sensitivity varies from 20 gammas/div. on the 1000 gamma scale to 2000 gammas/div. on the 100,000 gamma scale. Temperature stability is 1 gamma/^{o}F and stability is kept at 1 gamma for 24 hours at constant temperature.

Only two commonly occurring minerals are strongly magnetic; magnetite and pyrrhotite. Hence, magnetic surveys, both ground and airborne, are used to detect the presence of these minerals in varying concentrations. Magnetic data are also useful as a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite.

SURVEY PROCEDURE

The grid was put in using chain and compass with the base line running in a northwest direction along the claim line. The survey lines run perpendicular to the base line at 100-foot intervals and to 1,000 feet on each side. The stations were put in at 100-foot intervals and marked with red ribbon.

Magnetometer readings were taken at each station on the survey line. The diurnal change was only checked in the evening and apparently was noted to be minimal. From examining Plate 2, the diurnal check appears to have been adequate.

COMPILATION OF DATA

The data was plotted on Sheet 2 at a scale of 1 inch to 200 feet with the physical features and claims. It was contoured at a 500-gamma interval.

DISCUSSION OF RESULTS

The magnetic data varies from a minimum of -1350 gammas to a maximum of 3800 gammas giving a range of 5150 gammas. This is a rather large range and is reflective of the serpentine body underlying most of the survey area.

From examination of the data, the background is taken at the interval between the 0- and 1000-gamma contours. Therefore magnetic highs are those areas above 1000 gammas and magnetic lows below 0 gammas.

The high areas above 1500 gammas and labelled by the letters A to G reflect zones of higher magnetite concentration which therefore could be associated with nickel mineralization. Zones B and C may well join together since they seem to be on strike. Zones E and F may also join together through the lake.

If the anomalous highs above 1500 gammas are reflecting magnetite, it is difficult to say whether the 1500-gamma contour is outlining the magnetite mineralization. It could be a lower contour such as the 1000-gamma contour, or perhaps a higher contour such as the 2000-gamma contour.

Those areas defined by the 1000-gamma contour could possibly be reflecting a different rock-type within the serpentine body but is more likely just reflecting a zone of greater concentration of magnetite.

There are only two anomalous lows within the survey area and are labelled by the letters H and I.

From its shape and the variability of its values, anomaly H appears to be reflecting a different rock-type, probably the phyllite along the serpentine body's southwestern contact. Because of the small survey area, it is difficult to say whether the 0-gamma contour or the -500-gamma contour reflects this contact. It could also be anywhere between the two contours.

Anomaly I could be reflecting phyllite also, but is more likely a result of the dipole effect associated with the 1000-gamma high 25 feet away.

It was expected that the talc body along the northern edge of the lake would be reflected by a magnetic low. Talc in this case, however, was probably formed by the alteration of the serpentine and therefore the original magnetite within the serpentine likely remains unaltered within the talc. Also it appears that much of the area covered by the talc zone was not surveyed.

Respectfully submitted,
GEOTRONICS SURVEYS LTD

David G. Mark
Geophysicist

SELECTED BIBLIOGRAPHY

Duffel, S. and McTaggert, K.C., Geological Map with Descriptive Notes - Ashcroft, Geol. Surv. of Can. Map 1010 A, sheet 92I (West Half), 1951.

Tough, T.R. Geological Report on the Log Creek Property, Kamloops M.D. and New Westminster M.D. for Nahatlatch Nickel Mines Ltd (NPL), T.R. Tough and Associates Ltd., October, 1973.

RESUME OF HANSPETER WERDER

EDUCATION

1959-1962	High school in Horgen, Switzerland
1962-1966	Apprenticeship with Schweiter Engineering Ltd., in Horgen, Switzerland as a design draftsman.
1973/74	B.C.I.T. course, technical report and letter writing.

EXPERIENCE

April 1972 - present	Occasional geophysical field work, geophysical drafting and mining engineering.
Nov. 1969 - Apr. 1972	Employed as a crew chief with Scintrex Services Ltd., Vancouver. Duties included supervision of geophysical field exploration and mapping of datas.

GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at 302-475 Howe Street, Vancouver, B.C.

I further certify that:

1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.

2. I have been practising in my profession for the past six years and have been active in the mining industry for the past nine years.

3. I am an active member of the Society of Exploration Geophysicists and a member of the European Association of Exploration Geophysicists.

4. This report is compiled from data obtained from a magnetic survey carried out under the supervision of Hanspeter Werder, during July, 1974 on the Boston claim group in the Log Creek area of the Kamloops and New Westminster Mining Districts.

5. I have no direct or indirect interest in the properties or securities of Nahatlatch Resources Ltd, Vancouver, B.C. nor do I expect to receive any interest therein.

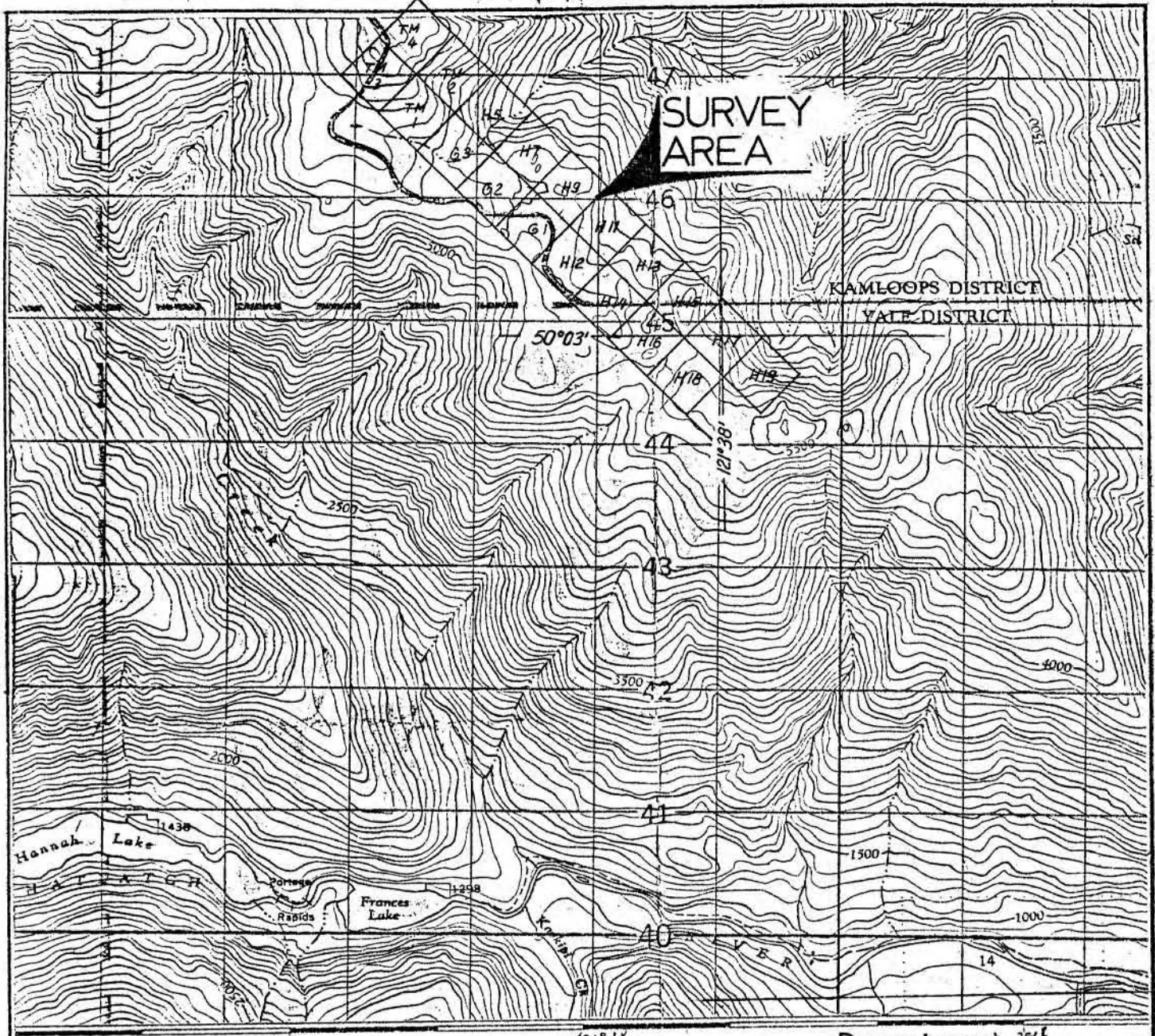
David G. Mark
Geophysicist

August 26, 1974

COST BREAKDOWN
MAGNETIC SURVEY
ON THE
BOSTON CLAIM GROUP
LOG CREEK AREA, B.C.
KAMLOOPS M.D. & NEW WESTMINSTER M.D.

Magnetometer survey, grid layout, survey supplies, instrument rental and operator for 7 miles @ $175/mile (with contractor)	$ 1,225.00
1 assistant for 2 days @ $30/day	60.00
Food and Accomodation	43.32
Truck Rental	44.19
Helicopter	214.15
	$ 1,586.66

Receipts attached for helicopter and contractor.



Department of Mines and Petroleum Resources

ASSESSMENT REPORT

LYTTON

BRITISH COLUMBIA 5111 MAP #1

NAHATLATCH RESOURCES LTD.

LOCATION MAP 5111 M1

H, G & TM MINERAL CLAIMS

4226' 0 4226' 8452'

JULY 1974 | PLATE 1

BET DEVELOPMENT LTD.

#208 - 1178 West Pender St.
Vancouver, B.C.

681-7431

BET DEVELOPMENT LTD.

IN ACCOUNT WITH: Nahatlatch Resources Ltd.

To: Costs re: work at Boston Bar

line cutting - 7 miles @ $100.00		$ 700.00
magnetometer survey - 7 miles @ $75.00		525.00
		$1,225.00

Expenses:

Helicopter rental	$214.15	
Truck rental	44.19	
Board & accomodation	43.32	
	$301.66	
Contract Charges	45.19	346.85
Total Account		$1,571.85

OKANAGAN HELICOPTERS LTD.

HEAD OFFICE
439 AGAR DRIVE
INTERNATIONAL AIRPORT SOUTH
VANCOUVER, B.C.
TELEPHONE (604) 278-5502 TELEX 04-5088 83

ACCOUNT NUMBER: 4170 | No. 42869

INVOICE DATE: 18.07.74
FLIGHT DATE: DAY 10 | MONTH 07 | YEAR 74
TYPE OF FLYING:

A/C TYPE: 206-13
BASE: KAMLOOPS | BASE NO. 080
TYPE OF CONTRACT – X: HOURLY | DAILY MINIMUM 1 TO 29 DAYS | 30 DAYS OR MORE
FLIGHT LOCATION: LYTTON | FLIGHT LOCATION 61
IND. CLASS: 08 | AIRCRAFT REG. NO. CF-FONL
PILOT 1: FRANKLIN | PILOT 1: 1826
PILOT 2: | PILOT 2:

CHARTERER'S BILLING ADDRESS

BERT DEVELOPMENT CORP
MR. HANS HERDER
210 - 890 W. PENDER ST VAN. 1 B.C.

FUEL & OIL – X: O.H.L. (X) | CUST.
FLYING HOURS ACCORDING TO FUEL USED: O.H.L. | CUST.
PURCHASE ORDER NO.:
STATE OF AIRCRAFT – X: UNSERVICEABLE | STORED

OPERATION	TAKE-OFF	LAND	FLYING TIME
LYTTON – MAN. CHAIN SITE & RETURN	12 35	13 00	25

G'DS REC'D ☑ PAID BY
QNTY. OK ☑ DATE
PRICES OK ☑ CHEQUE #
EXTN'S OK ☑ CHARGE TO
ADDIT'N OK ☐ ACCT. DIST.
PAYM'T OK ☐ CHGD. OUT

ENG. NAME

7 G.L. 10	DIV. 12	SUB. 14	EXTRA CHARGES OR ADJUSTMENTS	AMOUNT

NON-REV. HRS.	REVENUE HOURS	TARIFF	AMOUNT
	.4	285 00	114 00
FUEL: 9 gal		HRS. @ .85	7 65
OIL: .4 HR @ 1.50 /HR			60

EXTRA CHARGES OR ADJUSTMENTS

NO. OF PASSENGERS: 2
FREIGHT LBS.: 150
TOTAL $ 122 25

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS BY OKANAGAN HELICOPTERS LTD. IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF. LIABILITY FOR LOSS OR DAMAGE TO GOODS IS LIMITED TO 50 CENTS PER POUND. FILED WITH THE ATC. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF OKANAGAN HELICOPTERS LTD.

ORL - 017/673-15

SIGNED FOR CHARTERER BY: Hans Herder
SIGNED FOR OKANAGAN HELICOPTERS LTD. BY: J. Franklin

INVOICE A

OKANAGAN HELICOPTERS LTD.

HEAD OFFICE
439 AGAR DRIVE
INTERNATIONAL AIRPORT SOUTH
VANCOUVER, B.C.
TELEPHONE (604) 278-5502 TELEX 04-5088 83

ACCOUNT NUMBER	4170		42871

CHARTERER'S BILLING ADDRESS

BEST DEVELOPMENT CORP.
MR. HANS HERDER
210 – 890 W. PENDER ST. VANC. B.C.

INVOICE DATE	FLIGHT DATE: DAY	MONTH	YEAR	TYPE OF FLYING
18.07.74	11	07	74	

A/C TYPE	BASE	BASE NO.
206-B	KAMLOOPS	080

TYPE OF CONTRACT – X: HOURLY ✓ | DAILY MINIMUM 1 TO 29 DAYS | 30 DAYS OR MORE

FLIGHT LOCATION	FLIGHT LOCATION
LYTTON	61

IND. CLASS	AIRCRAFT REG. NO. CF-	PILOT 1	PILOT 1
08	? OAL	FRANKLIN	1826

PILOT 2 | PILOT 2

FUEL & OIL - X		FLYING HOURS ACCORDING TO FUEL USED			PURCHASE ORDER NO.
O.H. LTD. ✓	CUST.	O.H.L.		CUST.	

STATE OF AIRCRAFT - X: UNSERVICEABLE | STORED

OPERATION	TAKE-OFF	LAND	FLYING TIME
LYTTON D/U TWO MEN AT.	16 40	17 00	20
E.			

G'DS REC'D ☑	PAID BY	
QNTY. OK ☑	DATE	
PRICES OK ☑	CHEQUE #	
EXTN'S OK ☑	CHARGE TO	
ADDIT'N OK ☐	ACCT. DIST.	
PAYM'T OK ☐	CHGD. OUT	

ENG. NAME

7 G.L. 10	DIV	12 SUB. 14	EXTRA CHARGES OR ADJUSTMENTS	AMOUNT

NON-REV. HRS.	REVENUE HOURS	TARIFF	AMOUNT
	.3	285.00	85.50
FUEL: 7 gal.	HRS. @ 85		5.95
.3 HRS @ 1.50 HR.			.45
EXTRA CHARGES OR ADJUSTMENTS			

NO. OF PASSENGERS: 2

TOTAL $ 91.90

FREIGHT LBS.: 150

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SIGNED FOR CHARTERER BY: Hans Herder

SIGNED FOR OKANAGAN HELICOPTERS LTD. BY: J. Franklin

OHL - 017/673-15

INVOICE A

10 W

BASELINE

10 E

G 3

H 5

G 2

H 7

G 1

H 9

H 12

H 11

L 06 N
L 05 N
L 04 N
L 03 N
L 02 N
L 01 N
L 00 N

L 00 S
L 01 S
L 02 S
L 03 S
L 04 S
L 05 S
L 06 S
L 07 S
L 08 S
L 09 S
L 10 S
L 11 S

LAKE

LOCATIONLINE

10 W

BASELINE

10 E

5111
M2

TO ACCOMPANY A GEOPHYSICAL REPORT
BY DAVID G MARK GEOPHYSICIST

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5111 MAP #2

H, G & TM CLAIMS

LYTTON AREA—KAMLOOPS & NEW WESTMINSTER MDs

MAG VALUES IN GAMMAS

NAHATLATCH RESOURCES LTD.

CONTOUR INTERVAL— 500 GAMMAS

MAGNETOMETER SURVEY

(SCINTREX MF 1)

0 200' 400'

DATE: JULY 12,74 | DRAWN: H.W | PLATE: 2