GEOPHYSICAL REPORT (VLF-EM SURVEY)

on the

GOLD DUST II MINERAL CLAIM

Babine Lake Area
Omineca Mining Division
British Columbia

NTS: 93L/16E
54°45.5' N 126°12W'

OWNER: N.C. CARTER

AUTHOR: N.C. CARTER, Ph.D. P.Eng.

DATE: January 9,1990

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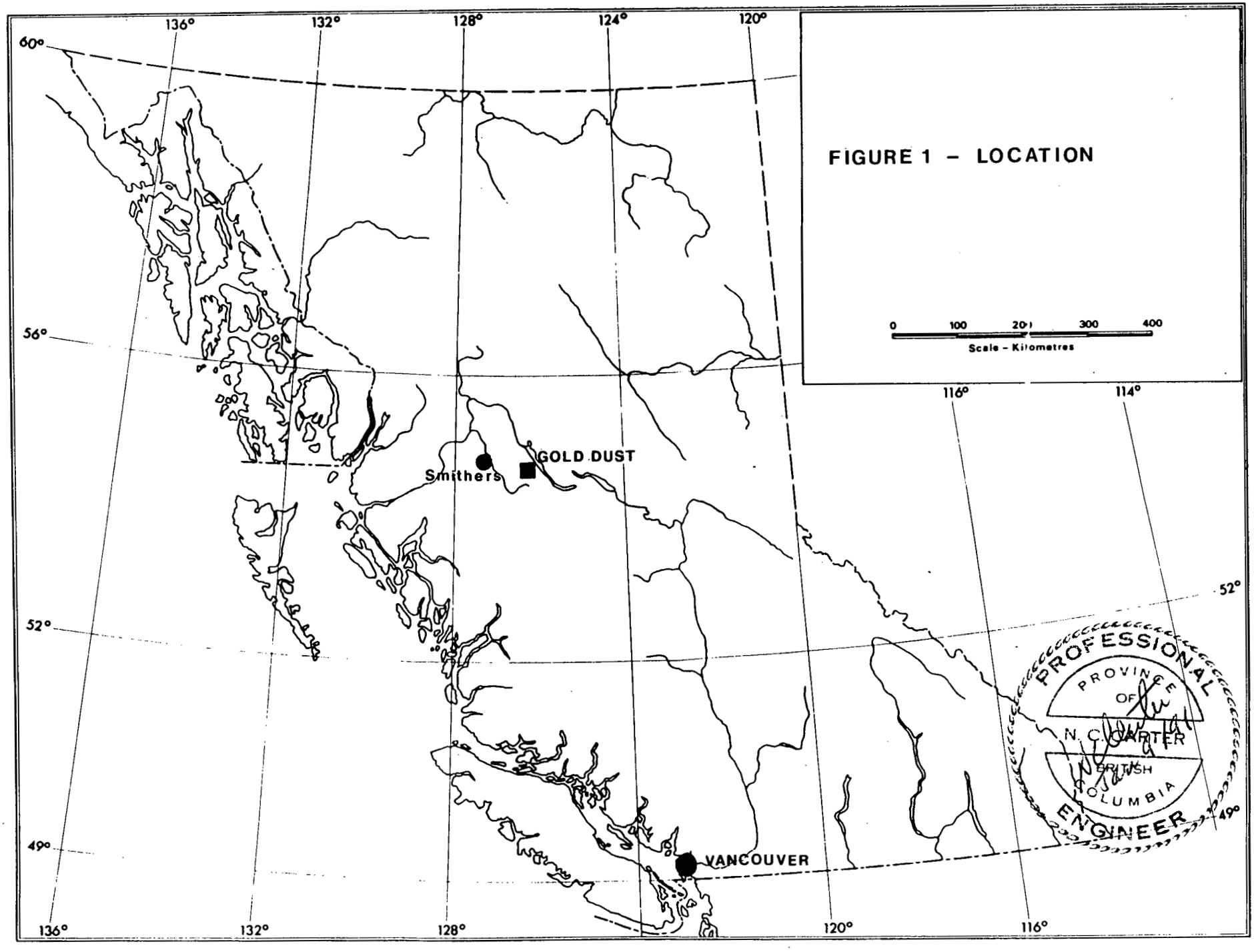

FIGURE 1 – LOCATION

INTRODUCTION

Location and Access

The Gold Dust II mineral claim, near Babine Lake, is situated 65 km east of Smithers in west-central British Columbia (Figure 1). The geographic centre of the property is at latitude 54°45.5' North and longitude 126°12' West in NTS map-area 93L/16E.

Excellent access is afforded by a paved highway which passes through the property and links Granisle and Topley Landing with highway 16 at Topley, 32 km to the south (Figure 2).

Mineral Property

The Gold Dust property consists of one Modified Grid mineral claim of 20 units as shown on Figure 3. Details of the mineral claim are as follows:

Claim Name	Units	Record Number	Date of Record
Gold Dust II	20	8027	October 14,1986

History

Copper and molybdenum mineralization was discovered by local prospectors in Tachek Creek in the central part of the present claim in the late 1960's.

Noranda Exploration Company, Limited held an option on 170 2-post claims in 1968 and 1969 and work included geological mapping, geochemical and geophysical surveys, road building, 1,725

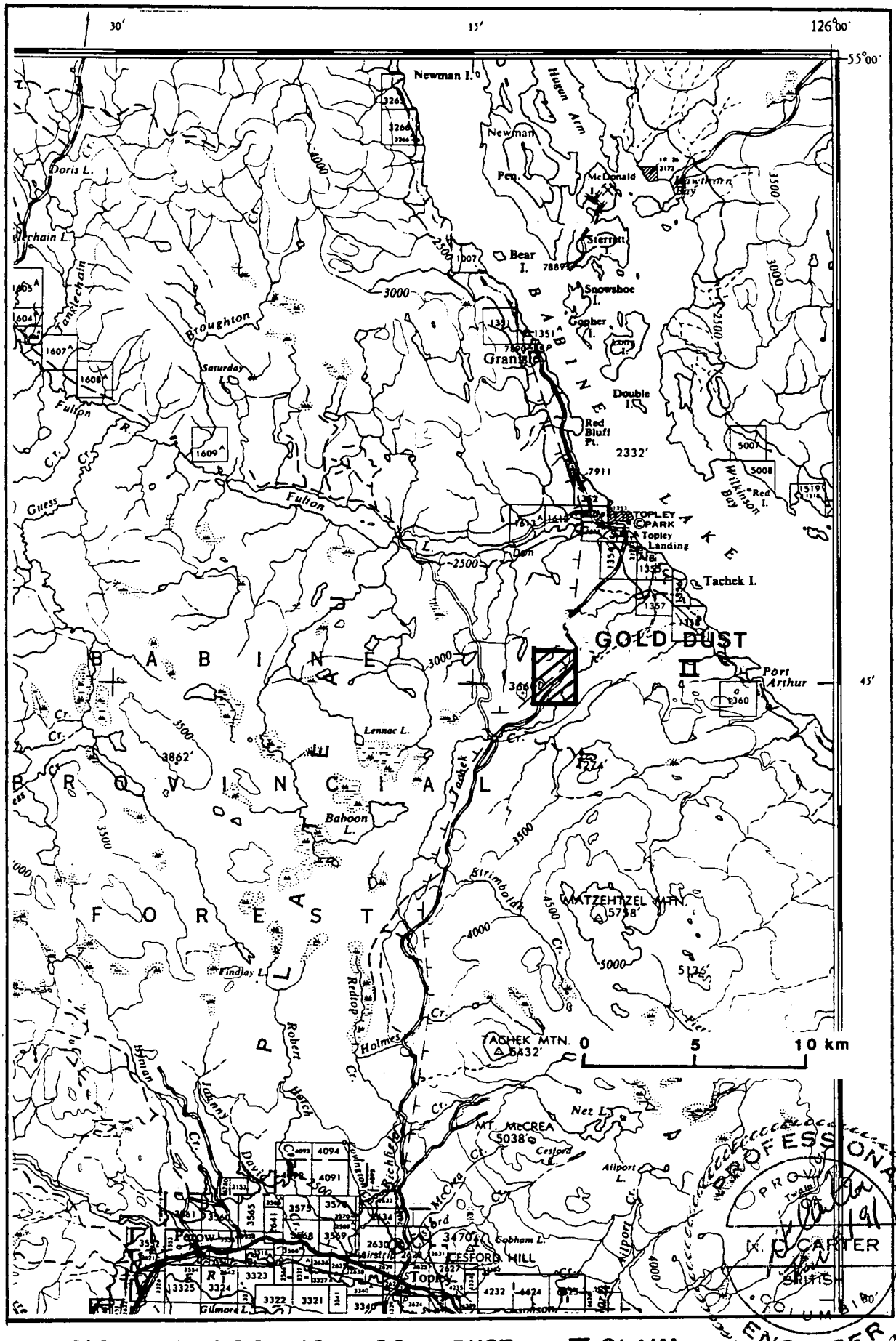

FIGURE 2 – LOCATION – GOLD DUST II CLAIM

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metres of percussion drilling and 1,015 metres of diamond drilling.

Taseko Mines Limited completed 3 diamond drill holes totalling 300 metres in 1970 and Perry, Knox, Kaufman Inc. carried out 11 km of IP survey and drilled 3 holes totalling 300 metres in 1973.

Amoco Canada Petroleum Company Limited held claims immediately north of the present property in 1973 and carried out geochemistry, geophysics and 500 metres of diamond drilling in 3 holes.

Limited prospecting and geological mapping was conducted on claims in the general area of the present property in 1977 and in 1982 Dancer Energy and Resources Ltd. completed a soil geochemical survey over the northern part of the present claim.

Present Status

The Gold Dust II mineral claim was located by the late Gerard Auger September 25,1986.

A field program in 1987 included prospecting, geological mapping and the collection of rock samples for geochemical analysis (Carter,1988). More detailed rock sampling and geological mapping was undertaken in September of 1989 as was an analysis of previous percussion and diamond drilling carried out by Noranda Exploration Company, Limited (Carter,1990).

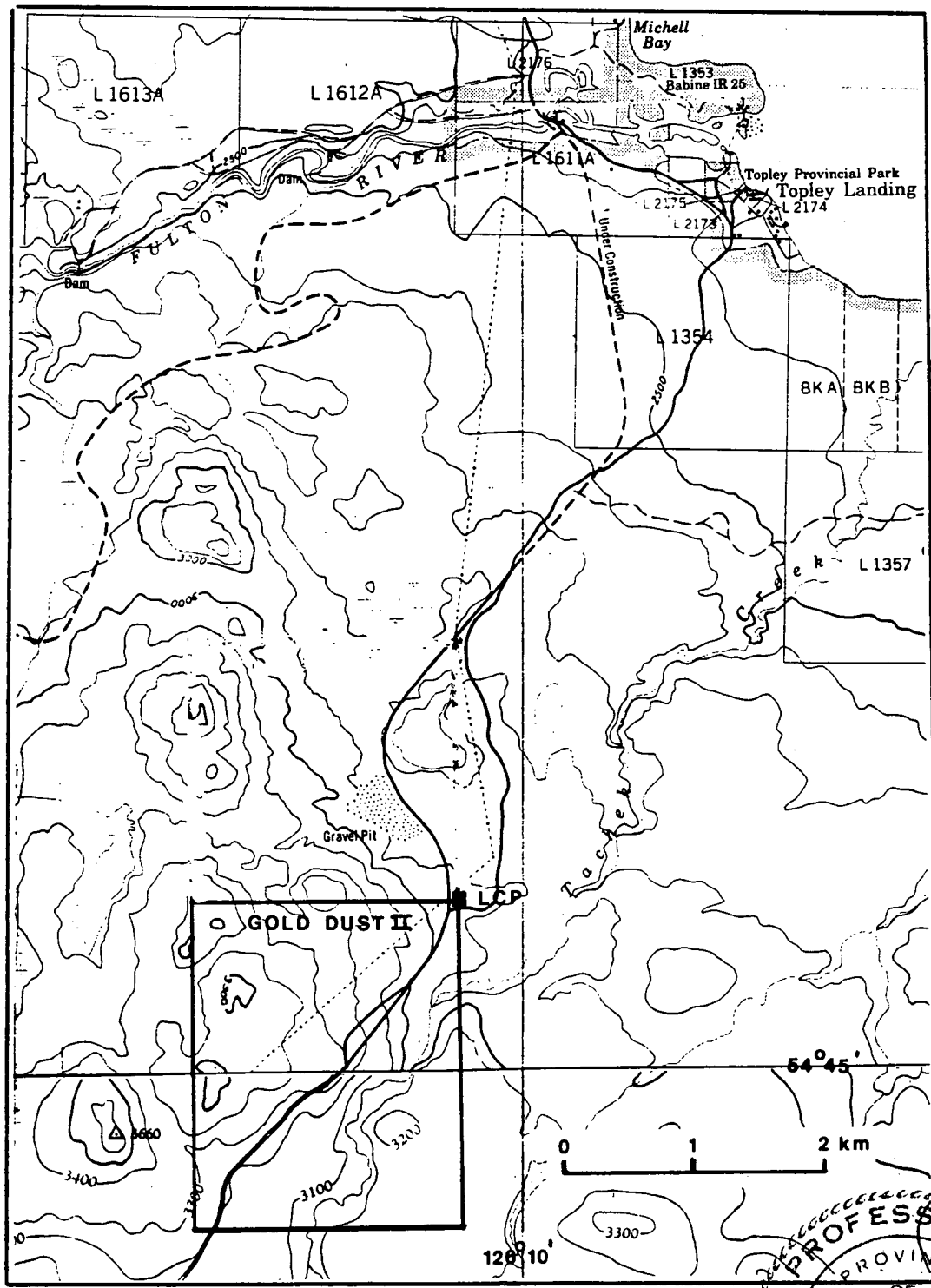

FIGURE 3 - GOLD DUST II CLAIM.

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A VLF-EM survey over 12.5 km of flagged lines in the southeastern claim area, carried out by the writer between August 29 and September 1,1990, is the subject of this report.

GEOLOGY AND MINERALIZATION

Physical Setting

The northern Babine Lake area is within the Nechako Plateau, a physiographic subdivision of the Interior Plateau.

The Gold Dust property is just north of the height of land between Babine Lake and highway 16. Elevations range from 850 metres along Tachek Creek to more than 1050 metres along the western claim boundary (Figure 3).

The property area features relatively gentle topography with the exception of some local, steep-walled, 35 metre high canyons along Tachek Creek.

Bedrock is reasonably well exposed along sections of Tachek Creek and on ridges in the western half of the claim area (Figure 4). The eastern part of the claim features extensive overburden cover of gravel, sand and clay.

Regional Geological Setting

The Babine Lake area is within the Intermontane tectonic belt which is underlain principally by Mesozoic and older layered

rocks, the most widespread in this area being volcanic and sedimentary rocks of the Jurassic Hazelton Group. These are intruded by plutonic rocks of various ages including lower Jurassic Topley intrusions, Omineca intrusions of early Cretaceous age, late Cretaceous rhyolite and granodiorite porphyries and Babine intrusions of early Tertiary age.

The best known style of minmeralization in the Babine Lake area is porphyry copper mineralization associated with small stocks and dyke swarms of biotite-feldspar-porphyry of the Babine intrusions. More than a dozen of this type of deposit have been drilled over the past 25 years of which two (Bell, Granisle) have been developed as producing mines and one (Morrison) has drill-indicated reserves.

The Bell copper mine is also a significant producer of gold with past production and anticipated reserves totalling 68 million tonnes with a recovered and contained 17755 kg (570,819 oz.) of gold (Schroeter et al,1989). Bell Copper produced 21926 tonnes of copper and 875 kg of gold from 5964020 tonnes milled in 1987 (Schroeter et al,1989).

Copper-molybdenum mineralization is also known to occur in late phases of the Topley intrusions, as is evident on the Gold Dust II claim, and in late Cretaceous granodiorite porphyries. Other deposit types in the area include narrow veins with base and precious metals values, which commonly occur marginal to known

porphyry deposits, and disseminated copper mineralization in Hazelton Group volcanic rocks.

Deposits with volcanogenic massive sulfide affinities and containing precious metals values include Topley Richfield 10 km north of Topley, the RED prospect 5 km northeast of the dormant Granisle copper mine and the Fireweed silver-lead-zinc prospect 12 km west of the Bell Copper mine.

Property Geology and Mineralization

The Gold Dust II mineral claim covers a north to northeast trending contact between early Jurassic Topley granitic rocks on the east and late Triassic volcanic and lesser sedimentary rocks on the west (Carter,1988,1990).

Principal lithologies within the claim area include variably deformed chlorite and sericite schists and massive andesite units which are exposed north of the highway in the northern part of the claim. Part of this principally volcanic sequence are argillaceous siltstones which underlie the drift covered area between exposures of Topley granitic rocks in Tachek Creek and the highway - power line in the central part of the claim. The siltstones are not exposed but were intersected in three holes drilled in 1973 (Carter,1990).

Topley granitic rocks are exposed in two principal areas along Tachek Creek in the southeast claim area. In the

northernmost area, light grey to pink granodiorites and quartz monzonites are cut by 2 - 10 metres wide quartz-hornblende-biotite-feldspar porphyry dykes and by narrow, post-mineral basic dykes. The southern exposure area in Tachek Creek features variably weathered granodiorite.

As noted, the contact between the granitic rocks and the volcanic-sedimentary sequence is not exposed but has been inferred on the basis of a few previous diamond drill holes.

Chlorite and sericite schists in the northern part of the claim contain numerous quartz veins ranging in width from several cm to 0.5 metre. These veins contain some K-feldspar but no sulphide minerals were noted. Samples collected from both veins and schistose country rocks contained no significant values (Carter,1990).

Samples collected from the northern exposure area of Topley granitic rocks in Tachek Creek included one which contained 1675 molybdenum and 1270 ppb gold (Carter,1988). Additional sampling of iron-stained granodiorite with magnetite stringers and disseminated pyrite, chalcopyrite and molybdenite at this locality in 1989 yielded values of 196 ppm copper, 994 ppm molybdenum and 4900 ppb gold. Subsequent fire assaying indicated a gold value of 6.84 grams/tonne (Carter,1990). Limited sampling of the southern Topley granite exposures indicated slightly higher overall molybdenum values in addition to copper values of up to

3543 ppm and gold values up to 117 ppb.

VLF-EM SURVEY

Survey Method

The VLF (very low frequency) method makes use of powerful radio transmitters set up in various parts of the world for military purposes. These transmitters induce electric currents in conductive bodies thousands of kilometres away. These induced currents produce secondary magnetic fields which can be detected at surface through deviations of the normal VLF field. The magnetic component of the VLF primary field is horizontal. Local conductivity inhomogeneities add vertical components.

A Geonics Limited EM16 unit was used to conduct the survey over a part of the Gold Dust II mineral claim. This instrument measures in-phase and quadrature phase components of the vertical magnetic field as a percentage of the horizontal primary field.

Ideally, VLF-EM surveys require that the strike of the conductive body be in the direction of the VLF transmitting station such that the lines of magnetic field from the the transmitter cut the conductor. Depending on the mineral property location, this is not always feasible and variations of up to 45 degrees are tolerable for most surveys. For this reason, most VLF-EM surveys record readings using two transmitting stations.

Objectives of Survey

In addition to defining conductive zones, VLF-EM surveys are often susceptible to wet areas and topography. Because the method has proven to be successful in defining faults and lithologic contacts, it was considered to be potentially useful on the Gold Dust II claim in better defining the contact between Topley granitic rocks and the volcanic-sedimentary sequence.

Survey Procedure

The VLF-EM survey of the Gold Dust II mineral claim was conducted along east-west flagged lines spaced 200 metres apart between the highway and the eastern claim boundary (Figures 4-7).

Readings of in-phase and quadrature phase components of the vertical magnetic field as a percentage of the horizontal primary field were recorded at 50 metre stations along the flagged lines. Data from two transmitting stations, Seattle, WA (24.8 khz) and Cutler, ME (24.0 khz) were recorded for each station on the flagged lines. The Seattle, WA transmitting station was considered to be potentially useful for defining north to northeast trending conductive zones while the Cutler, ME station might have reflected northwest trending conductors.

In-phase and quadrature readings for Cutler and Seattle transmitting stations are shown on Figures 4 and 6 respectively.

Figures 5 and 7 are profile maps plotted using the raw data. As noted on Figures 6 and 7, the Seattle transmitting station was not operating on the day lines 23S and 25S were surveyed. Readings for both transmitting stations were taken facing north.

Survey Results

The Cutler, ME data (Figures 4,5) do not show any discernible patterns probably due to the geographic location of the transmitting station relative to the orientation of the flagged grid.

The Seattle, WA data (Figures 6,7) show some apparent conductive zones including one west of Tachek Creek which may reflect an arcuate contact between Topley granitic rocks and the volcanic-sedimentary sequence (Figure 7). Elsewhere within the grid area, and particularly east of Tachek Creek, the relatively flat quadrature response suggests locally conductive overburden, known to be in the order of 30-40 metres thick in this area (Carter,1990).

CONCLUSIONS AND RECOMMENDATIONS

The VLF-EM survey conducted in the southeastern part of the Gold Dust II mineral claim yielded only moderately useful results. Data from the Seattle transmitting station shows a weak conductive zone west of Tachek Creek which may mark the contact between granitic rocks on the east and a volcanic-sedimentary sequence on the west.

The VLF-EM method is of little value in that part of the grid east of Tachek Creek where significant thicknesses of overburden are present. Similar surveys may be of some use in the northern part of the Gold Dust II mineral claim where overburden thicknesses are not as great.

COST STATEMENT

Wages	
N.C. Carter - August 29 - September 1,1990 -	
4 days @ $450/day	$1,800.00
Transportation	
Airfare - Victoria - Smithers	$266.00
Property Access - rental car - 5 days @ $46.64/day	$233.20
kilometre charge - 490 km @ $0.16/km	$78.40
Gasoline	$30.38
	$607.98
Equipment Rental	
Geonics EM16 (rental and insurance)	$273.75
Freight (instrument)	$45.99
	$319.74
Accomodation, Meals	
August 28 - September 1,1990	$298.57
Miscellaneous Supplies	
Instrument batteries, topofill, flagging tape, etc.	$44.08
Report Preparation	
N.C. Carter - 2.5 days @ $450/day	$1,000.00
Word processing, drafting, duplicating	$103.83
	$1,103.83
TOTAL EXPENDITURE	$4,175.00

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AUTHOR'S QUALIFICATIONS

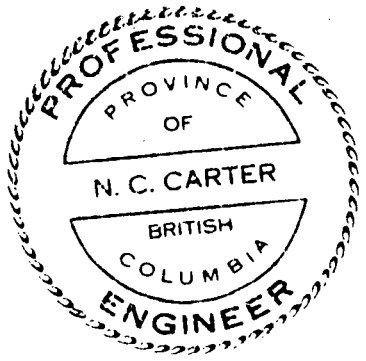
I, NICHOLAS C. CARTER, of 1410 Wende Road, Victoria, British Columbia, do hereby certify that:

1. I am a Consulting Geologist, registered with the Association of Professional Engineers of British Columbia since 1966.

2. I am a graduate of the University of New Brunswick with B.Sc.(1960), Michigan Technological University with M.S.(1962) and the University of British Columbia with Ph.D.(1974).

3. I have practised my profession in eastern and western Canada and in parts of the United States for more than 25 years.

4. The geophysical survey of part of the Gold Dust II mineral claim as described in the foregoing report was carried out by the undersigned in August and September of 1990.



N.C. Carter Ph.D. P.Eng.

N.C. Carter, Ph.D. P.Eng.

January 9/91

126°12'

55°45'

LCP

15 W

10 W

5 W

0 W

7 S

9 S

11 S

13 S

15 S

17 S

19 S

21 S

23 S

25 S

CUTLER ME

Highway

Tachek Creek

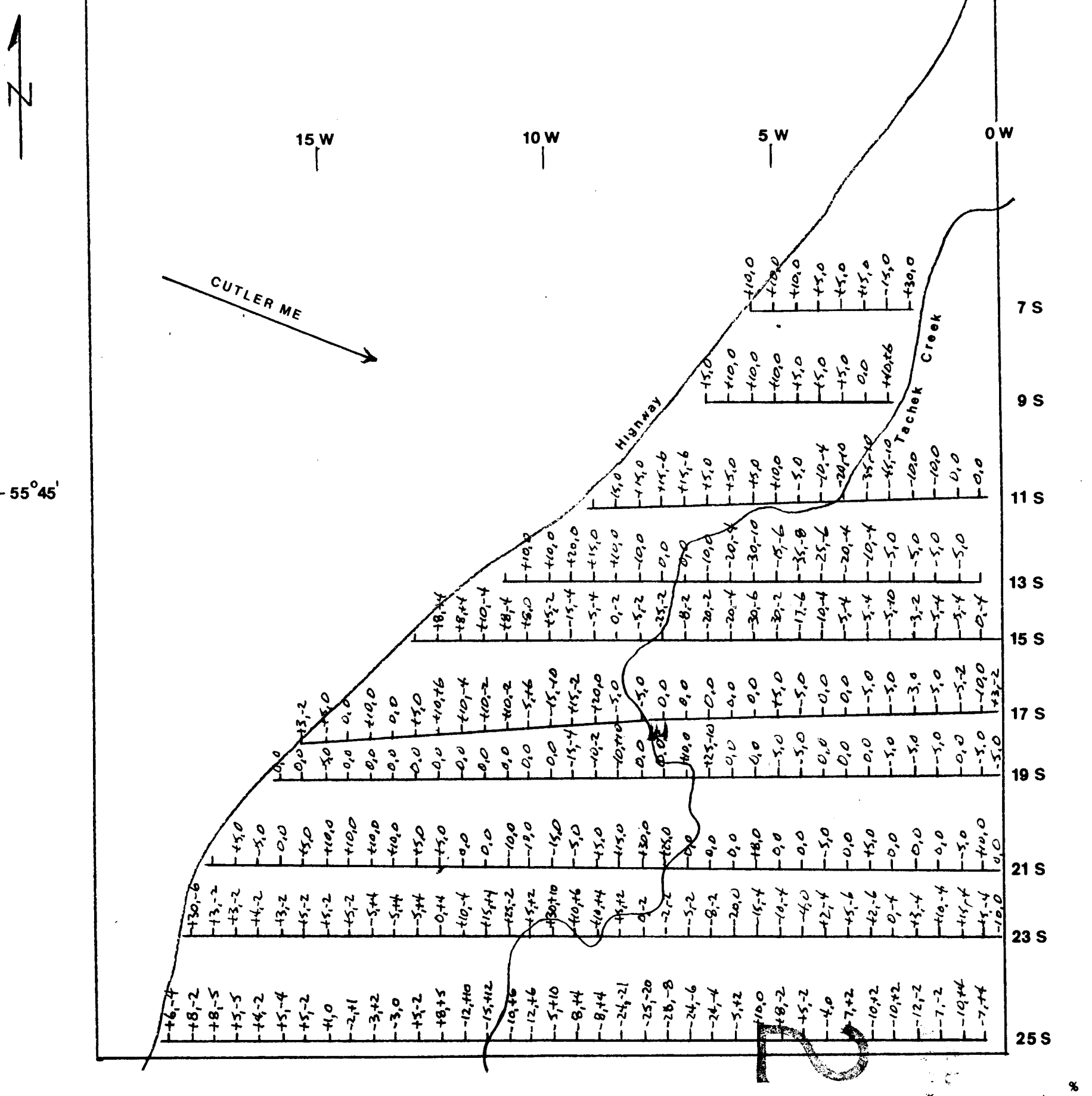


FIGURE 4 GOLD DUST II MINERAL CLAIM

VLF EM SURVEY

TRANSMITTER STATION: CUTLER ME

IN-PHASE, QUADRATURE (%) +10,-4

0 100 500

METRES

% +40 +20 0 -20 -40

HORIZONTAL SCALE

RECEIVED
OCT 10 1979
GOLD COMMISSIONER'S REPORT

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126°12'

55°45'

LCP

15 W

10 W

5 W

0 W

N

CUTLER

Highway

Tachek Creek

7 S

9 S

11 S

13 S

15 S

17 S

19 S

21 S

23 S

25 S

%

+40

+20

0

-20

-40

HORIZONTAL SCALE

0 100 500

METRES

IN-PHASE, QUADRATURE (%)

FIGURE 5 GOLD DUST II MINERAL CLAIM

VLF EM SURVEY

TRANSMITTER STATION: CUTLER ME

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GEOLOGICAL BRANCH

ASSESSMENT REPORT

PROFESSIONAL ENGINEER

PROVINCE OF BRITISH COLUMBIA

126°12'

55°45'

LCP

15 W

10 W

5 W

0 W

7 S

9 S

11 S

13 S

15 S

17 S

19 S

21 S

23 S

25 S

SEATTLE

Highway

Tachek Creek

FIGURE 6 GOLD DUST II MINERAL CLAIM

VLF EM SURVEY

TRANSMITTER STATION: SEATTLE WA

IN-PHASE, QUADRATURE (%)

CONDUCTOR

0 100 500

METRES

% +40 +20 0 -20 -40

HORIZONTAL SCALE

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. C. CARTER

126°12'

55°45'

N

SEATTLE

LCP

15 W

10 W

5 W

0 W

7 S

9 S

11 S

13 S

15 S

17 S

19 S

21 S

23 S

25 S

Highway

Tachek Creek

FIGURE 7 GOLD DUST II MINERAL CLAIM

VLF EM SURVEY

TRANSMITTER STATION: SEATTLE WA

IN-PHASE, QUADRATURE (%) -15,+6

0 100 500

METRES

% +40 +20 0 -20 -40

HORIZONTAL SCALE

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PROVINCE OF BRITISH COLUMBIA
N. C. CARTER