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GEOLOGICAL AND GEOCHEMICAL REPORT

on the

GOLD DUST II MINERAL CLAIM

Babine Lake Area
Omineca Mining Division
British Columbia

NTS: 93L/16E
54°45.5 N 126°12 W
OWNER: N.C. CARTER
AUTHOR: N.C. CARTER, Ph.D. P.Eng.
DATE: January 5, 1990

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19.556

TABLE OF CONTENTS

	Page
INTRODUCTION	
Location and Access	1
Mineral Property	1
History	1
Present Status	2
GEOLOGY AND MINERALIZATION	
Physical Setting	3
Regional Geological Setting	4
Property Geology and Mineralization	5
Previous Diamond and Percussion Drilling	9
CONCLUSIONS AND RECOMMENDATIONS	12
COST STATEMENT	13
REFERENCES	14
AUTHOR'S QUALIFICATIONS	15
APPENDIX I - Geochemical Analyses	16

List of Figures

	Following Page
Figure 1 - Location	Frontispiece
Figure 2 - Location - Gold Dust II Claim	1
Figure 3 - Gold Dust II Claim	2
Figure 4 - Gold Dust Property - Geology	in pocket

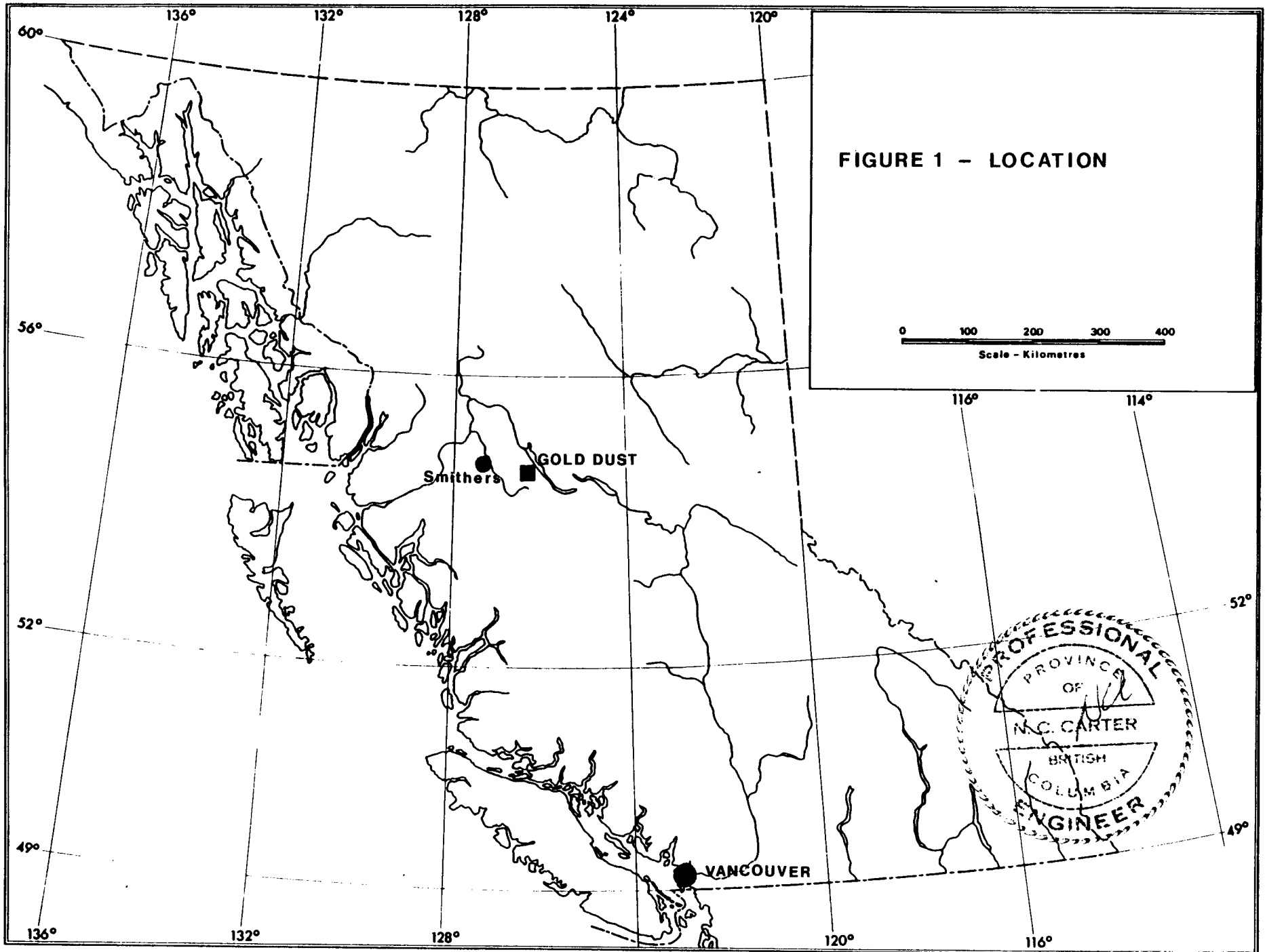


FIGURE 1 - LOCATION

0 100 200 300 400
Scale - Kilometres

116° 114°
52°
49°
136° 132° 128° 120° 116°
PROFESSIONAL
PROVINCE OF
M.C. CARTER
BRITISH
COLUMBIA
ENGINEER

INTRODUCTION

Location and Access

The Gold Dust property, 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 $54^{\circ}45.5'$ North and longitude $126^{\circ}12'$ 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:

<u>Claim Name</u>	<u>Units</u>	<u>Record Number</u>	<u>Date of Record</u>
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 two-post claims in 1968 and 1969 and work included geological mapping, geochemical and geophysical surveys, road building, 1,725

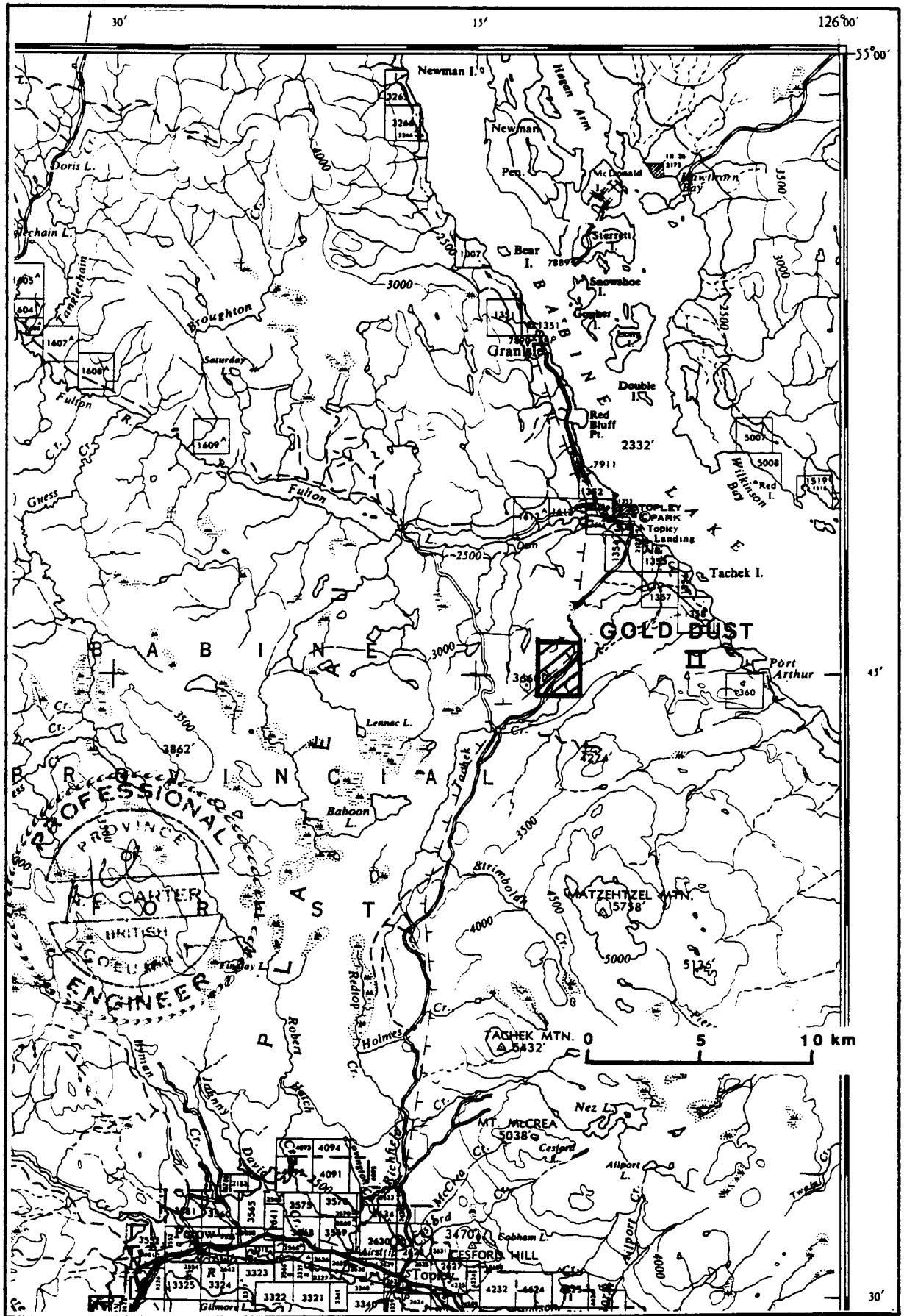


FIGURE 2 - LOCATION - GOLD DUST II CLAIM

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 soil geochemistry, geophysics and 500 metres of diamond drilling in 3 holes.

Limited prospecting and geological mapping was conducted on claims in the area 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 analyses (Carter, 1988).

Lower than usual water levels in Tachek Creek, the principal drainage on the property, afforded an opportunity to conduct more detailed rock sampling and geological mapping in September of

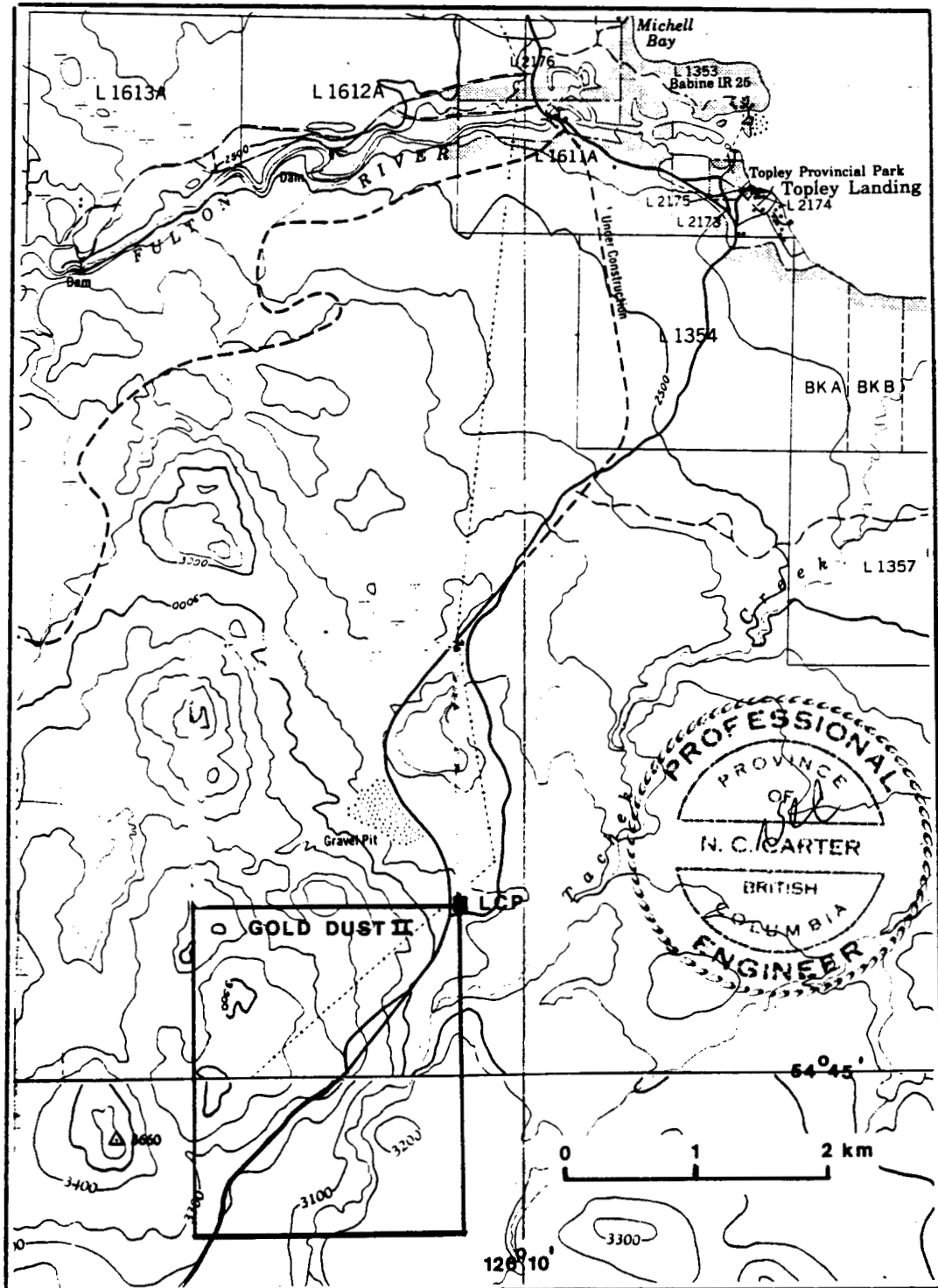


FIGURE 3 - GOLD DUST II CLAIM.

1989. Sampling and mapping was also carried out in the northern part of the claim.

Data pertaining to previous percussion and diamond drilling, carried out by Noranda Exploration Company, Ltd., was made available to the writer in July. These data, not heretofore contained in any public record, are incorporated in 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 mineralization 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 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 property includes a north-trending contact between early Jurassic Topley granitic rocks on the east and late Triassic volcanic and lesser sedimentary rocks on the west (Figure 4).

The late Triassic (or older?) sequence extends from the claim area to north of Fulton Lake and is in fault contact on the west with Topley granitic rocks and Jurassic Hazelton Group volcanics and sediments (Carter, 1973). Younger units, of Cretaceous and Tertiary age, include felsic volcanic porphyries and andesite breccias with fragments of Topley granitic rocks 2 km south of the Gold Dust II claim and an outlier of gently dipping sediments 1.5 km to the northeast (Carter, 1969).

Principal lithologies within the claim area include chlorite and sericite schists which are exposed north of the highway in the northwest part of the claim. These are variably deformed and feature north-trending, steeply dipping schistosity (Figure 4). Intercalated with the schists and bordering them on the west are mainly massive andesites (greenstones) which are locally weakly schistose. Felsic varieties (rhyolite-dacite), massive to schistose, occur in the extreme northwest part of the claim. Apparently part of this principally volcanic sequence are argillaceous siltstones which underlie the drift-covered area between the Topley granitic rocks and the highway - power line in the central part of the claim. These rocks are not exposed but were intersected in 3 holes drilled in 1973 (T-1 - T-3, Figure 4).

Topley granitic rocks are exposed in two areas along Tachek Creek in the southeast claim area (Figure 4). In the northernmost area, light grey to pink granodiorites and quartz monzonites feature steeply dipping west-northwest and east-northeast fractures. Crowded texture quartz-hornblende-biotite-feldspar porphyry dykes, 2 -10 metres wide, intrude the granitic rocks and trend west-northwest, parallel to one of the principal fracture directions in the granitic rocks. A radiometric age of 176 Ma was obtained from one of these porphyry dykes (Carter, 1981).

Basic dykes, weakly magnetic and up to 1 metre wide, were also noted cutting the granitic rocks in this exposure area. These

dykes, believed to be of post-mineral or Tertiary age, have chilled margins and occupy the northerly trending fracture set.

The southern exposure area in Tachek Creek (Figure 4) features variably weathered granodiorite cut by the fractures with the same orientation as those in the northern area.

The contact between the granitic rocks and the volcanic-sedimentary sequence is not exposed and that shown on Figure 4 is based largely on data obtained from 1973 drilling.

Chlorite and sericite schists in the northern part of the claim contain numerous quartz veins ranging in width from several centimetres to 0.5 metre. The veins, which occupy northerly trending planes of schistosity, commonly pinch and swell but appear to be continuous along strike. Locally, the veins border on pegmatite with some K-feldspar, but generally they are milky white with some manganese staining. No sulfide minerals were seen.

Near the northwest corner of the claim, locally schistose felsic volcanic rocks contain some 15 cm wide milky white to smoky grey quartz veins.

Samples collected of vein material and schistose country rocks and elsewhere on the Gold Dust II claim were analyzed by inductively coupled argon plasma (ICP) techniques for 31 major and trace elements by Min-En Laboratories of North Vancouver. Gold values were determined by atomic absorption methods. Analyses are contained in Appendix I.

Samples of vein material (GD89-12,-14) indicate little of economic interest with only slightly elevated copper values (134 ppm) in sample GD89-14. Similarly, samples GD89-13,-15 collected from the schistose country rocks contained no significant values.

Four samples (GD89-16,-18,-19), from the felsic unit in the northwest claim area, showed low values for base and precious metals, while GD-17 from a smoky-grey quartz vein contained 2.2 ppm silver, 29 ppm arsenic and 11 ppm antimony.

Two samples (GD89-20,-21) of more massive andesite along the western claim boundary yielded higher alumina, iron and vanadium values as compared with other samples collected in the northern claim area. Silver values were 2.6 and 3.2 ppm.

Samples collected in the northern exposures of Topley granitic rocks in Tachek Creek in 1987 included one sample (GD-2) which contained 1675 ppm molybdenum and 1270 ppb gold (Carter, 1988). Additional sampling was carried out in this area in 1989 (GD89-1 to -7 -Figure 4). Sample GD89-1, from a basic dyke, contained higher alumina, calcium, iron, magnesium and vanadium values than the older granitic rocks (Appendix I). The granitic rocks in this area (GD89-2,-4-6) contain quartz-magnetite-pyrite stringers with some chalcopyrite; samples yielded 101-245 ppm copper. GD89-3, from a hornblende-biotite-feldspar porphyry dyke cutting the granitic rocks, had a distinctly lower copper content

(43 ppm), confirming results of samples from similar units obtained in 1987 (Carter, 1988).

Sample GD89-7, collected from the same exposure as 1987 sample GD-2, consisted of iron-stained granodiorite with magnetite stringers and disseminated pyrite, chalcopyrite and molybdenite. In addition to 196 ppm copper and 994 ppm molybdenum, this random chip sample contained 4900 ppb gold which on subsequent fire assay indicated a gold value of 6.84 grams/tonne (Appendix I).

The southern Topley granite exposures (samples GD89-8 to -11 - Figure 4) contain higher overall molybdenum values (up to 169 ppm) and one copper value of 3543 ppm in the southernmost exposure area. A gold value of 117 ppb was obtained from GD89-8 which also contained 334 ppm copper and 169 molybdenum. This particular exposure area features pyrite and chalcopyrite as disseminations and in 4mm quartz stringers rimmed by K-feldspar. Malachite and azurite were seen coating some fractures.

Previous Diamond and Percussion Drilling

Records pertaining to previous drilling within and adjacent to the present Gold Dust II mineral claim were made available to the writer. These records included results of percussion and diamond drilling carried out by Noranda Exploration Company, Limited in 1968-69 and 3 diamond drill holes completed by Perry, Knox, Kaufman Inc. in 1973. Drill hole locations are shown on

Figure 4 - Noranda holes are listed numerically while 1973 holes include T-1 and T-2.

Useful information provided by these records includes depths of overburden which is 30 - 40 metres thick throughout much of the area drilled. Most holes drilled were vertical with the exception of the initial 6 Noranda diamond drill holes. Hole orientations, depths of overburden and hole lengths are as follows:

<u>Drill Hole</u>	<u>Azimuth</u>	<u>Dip</u>	<u>Overburden(m.)</u>	<u>Total Depth(m.)</u>
(Noranda)				
DDH 1	270	-50	112.5	abandoned
2	090	-50	53.9	198.4
3	090	-50	30.5	183.5
4	090	-50	34.1	153.9
5	270	-50	32.9	152.7
6	090	-50	15.2	185.3
PDH 7	-	-90	21.3	76.2
8	-	-90	36.6	abandoned
9	-	-90	3.0	45.7
10	-	-90	30.5	76.2
11	-	-90	36.6	76.2
12	-	-90	39.6	76.2
13	-	-90	41.1	abandoned
14	-	-90	21.3	76.2
15	-	-90	39.6	abandoned
16	-	-90	6.1	76.2
17	-	-90	6.1	67.1
18	-	-90	39.6	abandoned
19	-	-90	39.6	76.2
20	-	-90	39.6	abandoned
27	-	-90	29.0	76.2
28	-	-90	33.5	57.9
PDH 29	-	-90	30.5	76.2
30	-	-90	19.8	76.2
31	-	-90	21.3	76.2
32	-	-90	21.3	61.0

(Perry, Knox, Kaufman)

Diamond Drill Holes

T-1	-	-90	18.3	61.0
T-2	-	-90	45.1	121.9

As indicated on Figure 4, the 6 Noranda diamond drill holes were drilled near the two areas of exposure of Topley granitic rocks in Tachek Creek. With the exception of the first hole which was abandoned in overburden the remaining holes intersected +0.10% copper over core lengths exceeding 30 metres including sections ranging up to 0.40% copper and 0.10% molybdenite.

Of the 32 percussion holes, only 26 are included in this compilation - holes 21-26, which intersected only low copper values, were drilled several hundred metres east of the present claim boundary. Grades encountered in the remaining percussion holes were variable with consistently better values in holes 14, 31 and 32 in the southeast claim area. Values in these holes were in the order of 0.20% copper and 0.06% molybdenite over much of the hole lengths - some samples yielded up to 0.62% copper and 0.11% molybdenite.

To the writer's knowledge, little or no work was done to determine precious metals values.

Three vertical diamond drill holes were completed by Perry, Knox and Kaufman, Inc. in 1973 to test IP anomalies between the Topley granite exposures in Tachek Creek and the highway. One of these holes was drilled south of the present claim while the other two (T-1, T-2 - Figure 4) intersected argillaceous siltstones containing up to 10% pyrite and minor pyrrhotite and chalcopyrite.

CONCLUSIONS AND RECOMMENDATIONS

The Gold Dust II mineral claim includes a porphyry copper-molybdenum mineralized system developed along the western margin of lower Jurassic Topley intrusions immediately south of Babine Lake. Previous percussion and diamond drilling indicates that the copper-molybdenum mineralization occurs over at least a 1 square kilometre area. No information regarding precious metals values in this previous drilling is available.

Sampling of limited bedrock exposures near the western margin of the area drilled yielded one gold value of 6.84 grams/tonne. This exposure is near the western margin of the Topley intrusions and additional work is warranted in this area.

Overburden depths of 30 - 40 metres precludes conventional soil sampling. A detailed Induced Polarization survey over the Topley granite - sediment and volcanic contact is recommended. Additional diamond drilling should consist of inclined holes in view of the fact that mineralization occurs principally on steeply dipping fractures.

COST STATEMENT

Wages

N.C. Carter - July 18, September 14-16, 1989- 4 days @ \$500/day	\$2,000.00
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Transportation

Travel expenses Victoria-Smithers (return)	\$338.25
Access to property - 512 km @ \$0.21/km	<u>\$107.52</u>
	\$445.77

Accomodation, Meals

September 13 - 16, 1989	\$207.37
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Geochemical Analyses

21 samples @ \$17.25/sample	\$362.25
1 fire assay	<u>\$8.50</u>
	\$370.75

Report Preparation

N.C. Carter - 2.5 days @ \$500/day	\$1,250.00
Word processing, drafting, duplicating	<u>\$246.11</u>
	\$1,496.11

TOTAL EXPENDITURE	\$4,520.00
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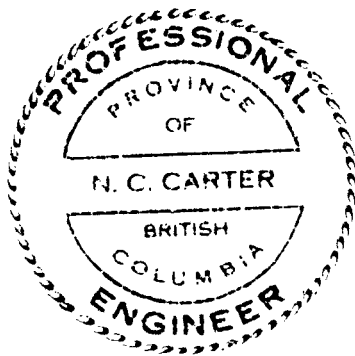
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AUTHOR'S QUALIFICATIONS

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. Geological mapping and sampling on the Gold Dust II mineral claim as described in the foregoing report was carried out by the undersigned in September of 1989.



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

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

APPENDIX I

COMP: N.C.CARTER
 PROJ: GOLD DUST PROPERTY
 ATTN: N.C.CARTER

MIN-EN LABS — ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

FILE NO: 9S-0227-RJ1
 DATE: SEP-19-89
 * TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM	K PPM	LI PPM	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	U PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM	AU PPB	
GD-89-12	.2	1970	16	1	16	.1	1	4200	.6	2	26	4920	550	1	560	130	2	60	5	140	4	1	8	1	1	8.5	14	1	1	2	269	6	
GD-89-13	.3	3150	5	1	55	.9	1	1580	.1	4	21	29520	1040	1	1500	193	2	710	1	210	9	1	4	1	1	58.0	57	1	1	1	73	10	
GD-89-14	.2	400	18	1	9	.1	1	630	.1	2	134	5270	190	1	360	75	2	70	5	30	4	1	1	1	1	2.5	9	1	1	2	364	12	
GD-89-15	1.4	6610	23	1	62	.5	8	6310	.1	11	6	32800	4420	3	4030	404	2	590	1	1070	16	1	4	1	1	18.6	72	1	2	1	92	1	
GD-89-16	1.9	1850	14	1	14	.6	6	175340	5.2	4	4	5070	420	2	38770	138	10	40	13	350	57	4	1	1	1	11.4	19	1	1	2	54	2	
GD-89-17	2.2	570	1	1	25	.8	8	167860	7.5	4	3	3400	230	1	69110	182	13	50	17	370	78	11	1	1	1	15.9	19	1	1	2	39	3	
GD-89-18	.9	190	29	1	6	.1	2	42780	2.1	2	3	2120	50	1	10190	55	4	10	7	90	19	1	1	1	1	4.6	6	1	1	2	183	3	
GD-89-19	.9	4830	17	1	20	.2	1	57850	.5	4	5	8500	650	7	3330	104	2	60	9	260	6	1	13	1	1	10.6	26	1	1	1	89	7	
GD-89-20	2.6	25450	1	1	20	1.0	18	13960	1.6	44	19	48500	150	14	31710	687	8	340	68	1760	44	1	13	1	1	131.3	84	1	3	3	139	2	
GD-89-21	3.2	26370	1	1	35	1.1	22	17200	2.0	45	26	48650	550	15	31050	1033	6	470	72	1730	45	1	19	1	1	154.3	94	1	4	3	132	1	

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

Assay Certificate

9S-0220-RA1

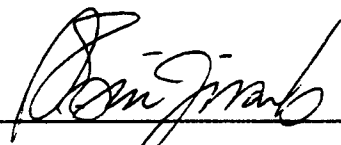
Company: NICK CARTER
Project: GOLD DUST PROPERTY
Attn: NICK CARTER

Date: SEP-19-89
Copy 1. NICK CARTER, VICTORIA, B.C.
2. NICK CARTER, C/O MIN-EN LABS.

We hereby certify the following Assay of 1 ROCK samples
submitted SEP-17-89 by NICK CARTER.

Sample Number	AU G/TONNE	AU OZ/TON
GD 89 07	6.84	.200

Certified by _____



MIN-EN LABORATORIES

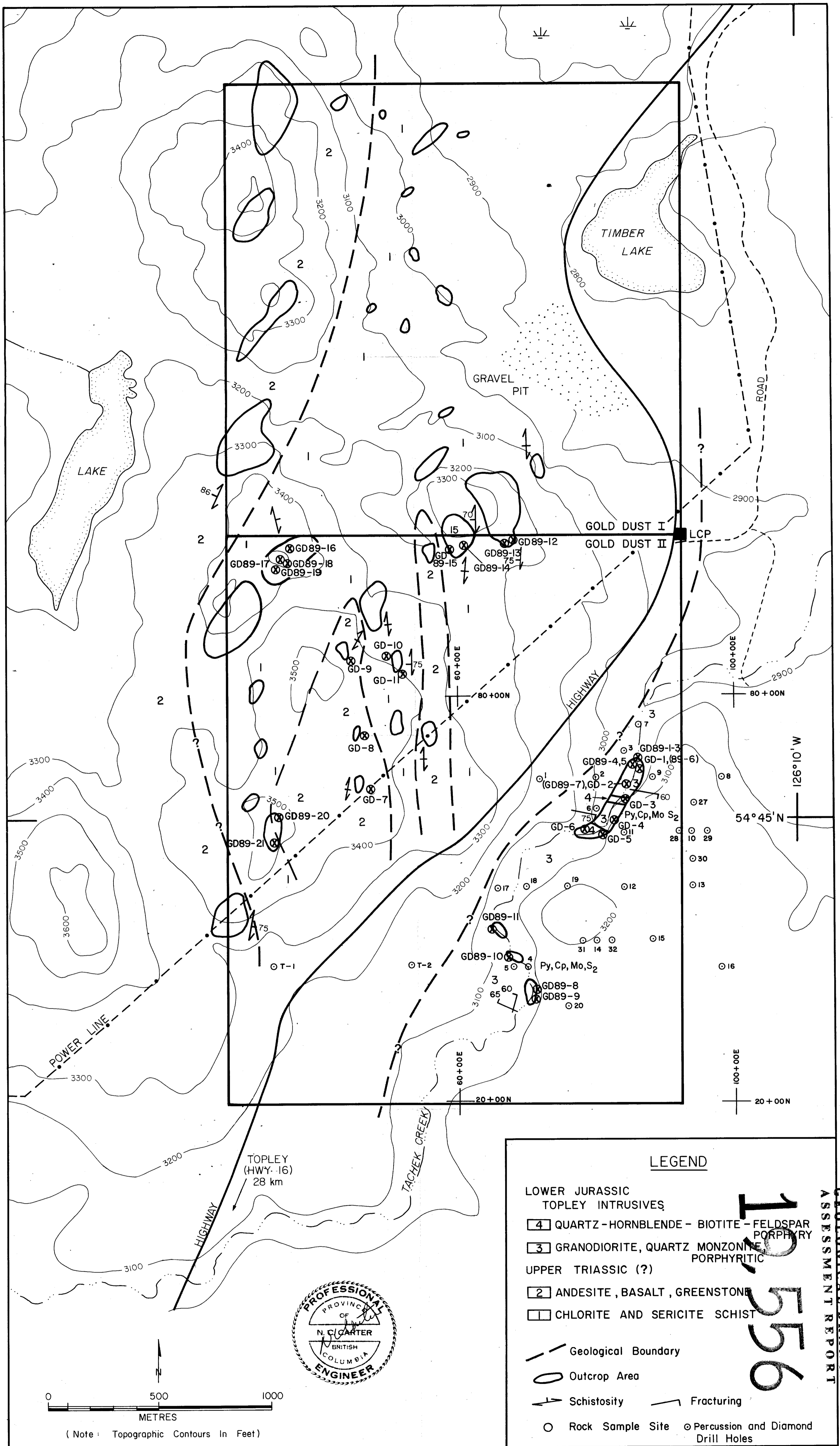


FIGURE 4 - GOLD DUST PROPERTY - GEOLOGY