

GEOLOGICAL REPORT

on the

RED 1 CLAIM

Babine Lake Area
Omineca Mining Division
British Columbia

**GEOLOGICAL BRANCH
ASSESSMENT REPORT****14,093**

NTS: 93L/16E
54°59'N, 126°07'W

OWNER: Gerard Auger

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

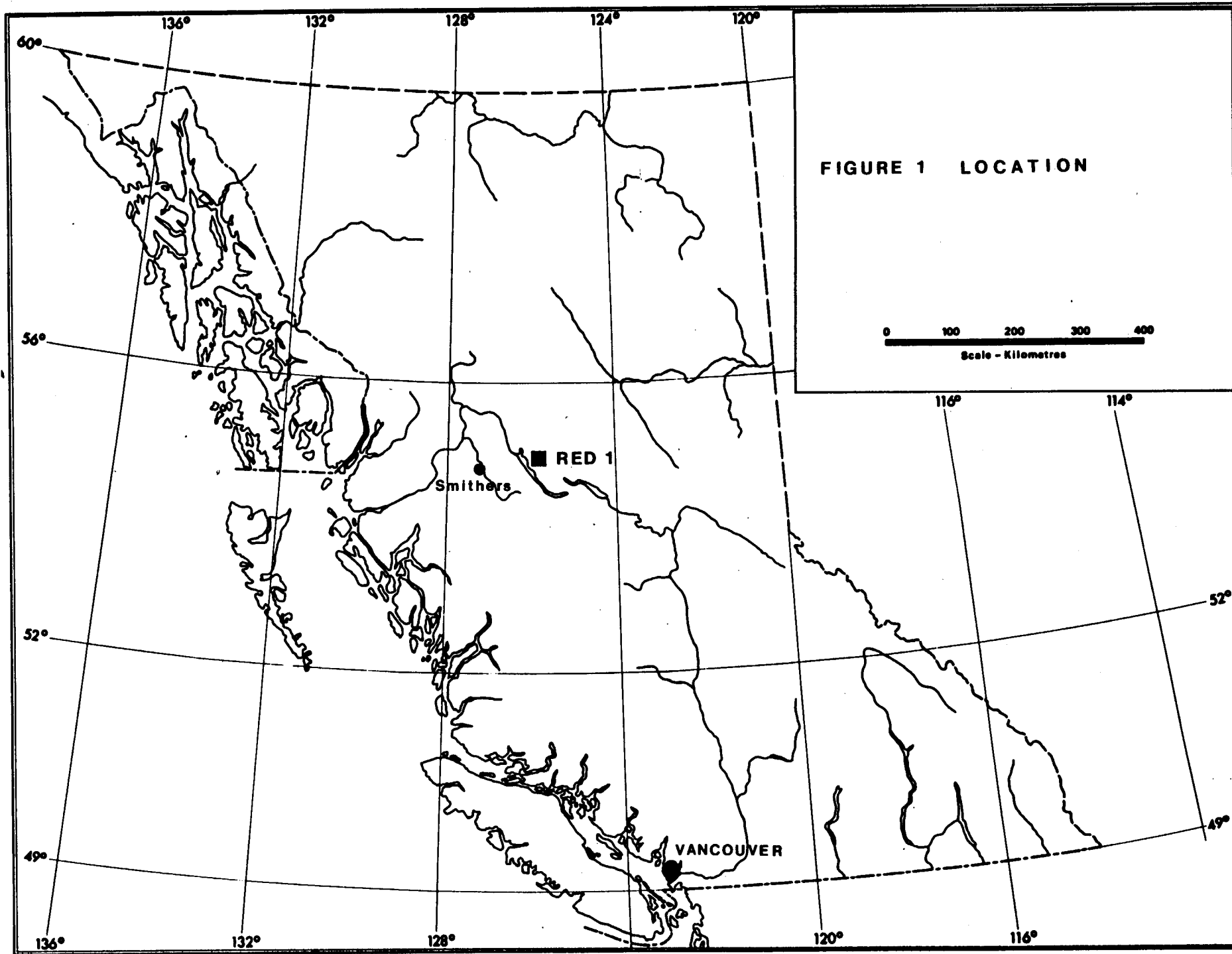
DATE: May 24, 1985

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INTRODUCTION

Location and Access

The RED 1 mineral claim is situated north of Hawthorn Bay on the east shore of Babine Lake 70 km east-northeast of Smithers in west-central British Columbia (Figure 1). Granisle mine is 5 km south of the claim (Figure 2). The geographic centre of the claim is at latitude 54°59' N and longitude 126°07' W in NTS map-area 93L/16E.

The claim is most easily reached by Northwood ferry which crosses Babine Lake just north of Topley Landing, 41 km north of Highway 16 (Figure 2). The claim is 17 road km north of the ferry landing on the east shore of Babine Lake.

Mineral Claim

The RED 1 modified grid mineral claim comprises 20 units and is owned by Gerard Auger, of Kamloops, B.C. The claim is shown on Figure 3 and details are as follows:

Claim Name	Units	Record Number	Record Date
RED 1	20	6248	May 30, 1984

History

Earliest work in the area of the present claim took place in the mid-1960's following recognition of the potential of porphyry copper mineralization at the Granisle and Bell deposits and elsewhere in the Babine Lake area.

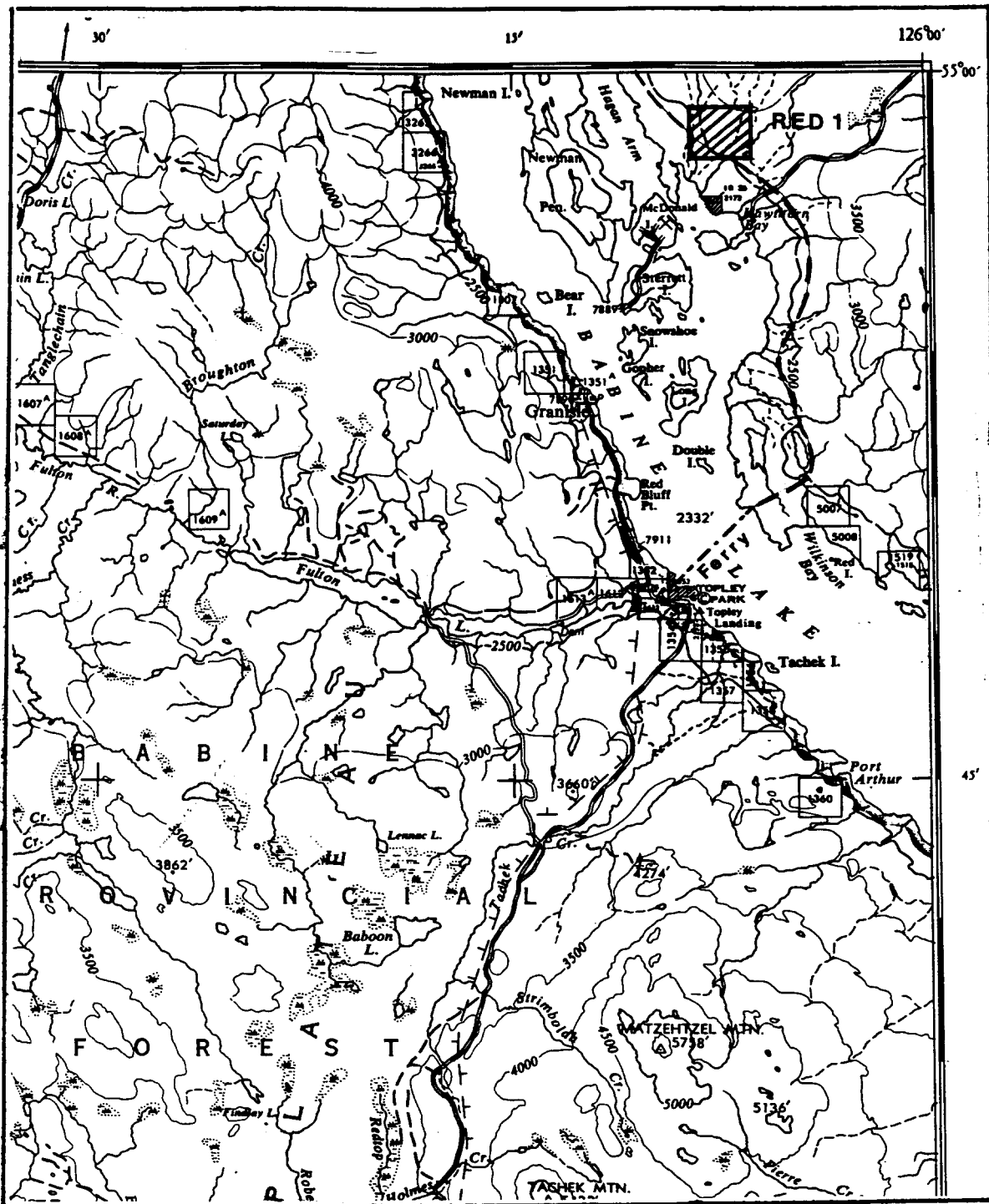


FIGURE 2- LOCATION - RED 1 CLAIM



The Granby Mining Company Ltd. held a number of claims which included part of the area of the present RED 1 claim in the mid-1960's. Work included prospecting, geophysics and limited diamond drilling in an area 1 km north of the RED 1 claim north boundary (Carter,1966).

Much of the present claim area was included in a larger block acquired by Bethex Explorations Ltd. in 1966. Work done that year included extensive Induced Polarization and magnetometer surveys, followed in 1967 by 9 diamond drill holes totalling 963 metres (Carter,1968).

The claims lapsed and were relocated in 1972 as the Hag claims (Canadian Superior Exploration Limited) and the R claims (Quintana Minerals Corporation). The present claim was covered more or less equally by the aforementioned claims. Canadian Superior conducted confirmatory IP surveys based on the earlier Bethex work and more extensive magnetometer and soil geochemical surveys. Quintana carried out some rock geochemistry.

Present Status

The RED 1 mineral claim was located by the present owner May 29,1984.

Work since that time, carried out by the author, has included re-logging and some sampling of available drill cores from the 1967 Bethex drilling and a re-interpretation

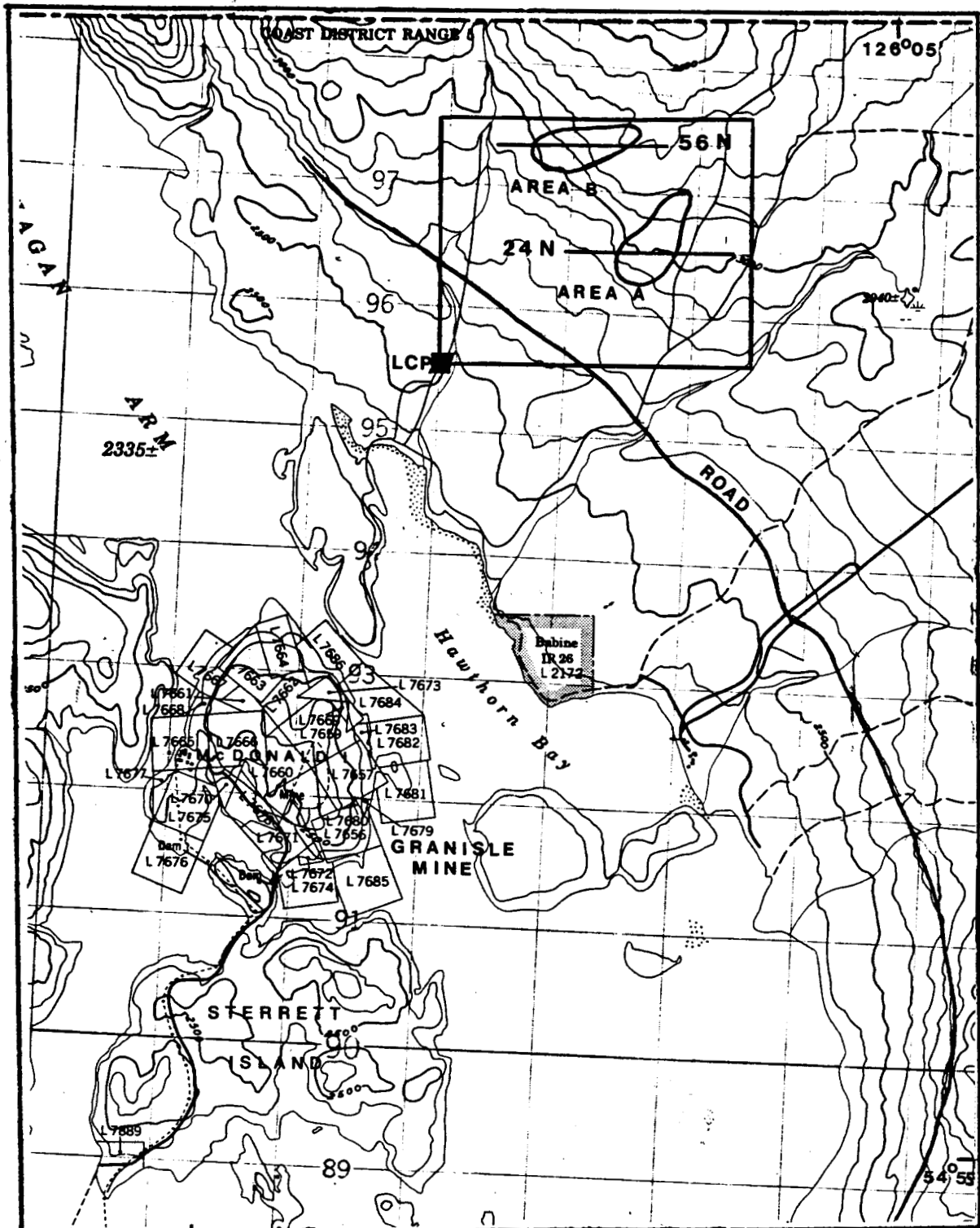


FIGURE 3 - RED 1 CLAIM



of available reports which are listed in the Selected References section.

Bedrock exposures in the area of the claim are virtually non-existent and drill cores and previous geophysical surveys provide the only information regarding the potential of the property.

GEOLOGY and MINERALIZATION

Physical Setting

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

The RED 1 claim is situated on a relatively gentle southwest facing slope above Babine Lake (Figure 3). Elevations range from 750 metres above sea level at the southwest corner of the claim to 1060 metres near the northern boundary. Part of the claim area has been logged.

Extensive overburden cover of gravel, sand and clay obscures bedrock except along the northern boundary of the claim. Previous drilling indicates depths of overburden of up to 21 metres in parts of the claim.

Regional Geologic Setting

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

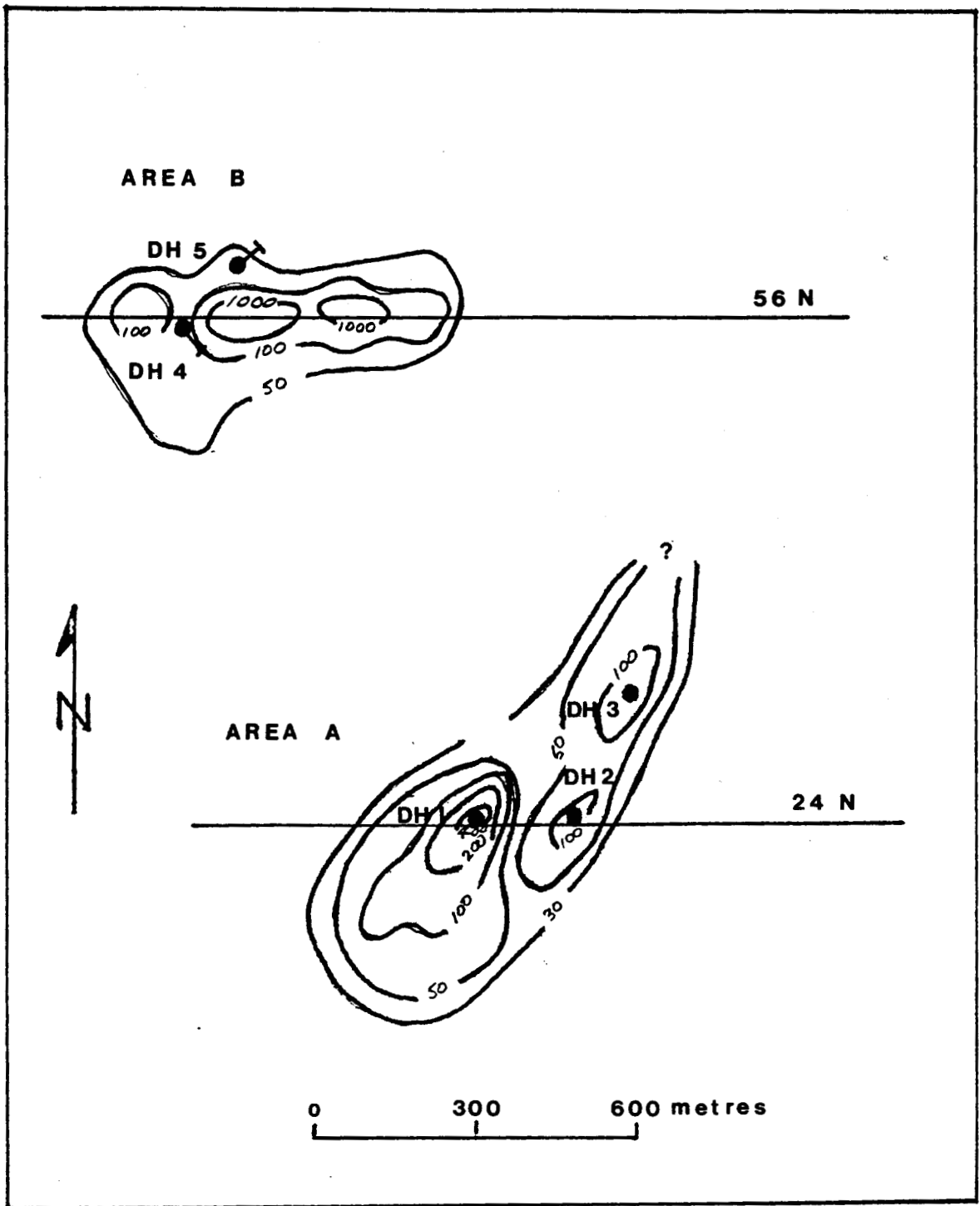
the most widespread in this area being volcanic and sedimentary rocks of the Jurassic Hazelton Group. These are intruded by plutonic rocks of various ages including Lower Jurassic Topley intrusions, Omineca intrusions of early Cretaceous age, late Cretaceous rhyolite and granodiorite porphyries and Babine 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. Copper-molybdenum mineralization is also known to occur in late phases of the Topley intrusions and in late Cretaceous granodiorite porphyries. Other deposit types include narrow veins with base and precious metals values, which commonly occur marginal to porphyry deposits, and disseminated copper mineralization in Hazelton Group volcanic rocks.

The only known example of massive sulfide mineralization is that seen in drill cores on the RED 1 claim.

Property Geology and Mineralization

Limited bedrock exposure and diamond drill core indicates the RED 1 claim to be underlain principally by a sequence of intercalated, well bedded dark grey tuffs and argillaceous sedimentary rocks which strike north to northeast and dip



**FIGURE 4 METAL FACTOR CONTOUR PLAN
DRILL HOLE LOCATIONS**

moderately northwest. This sequence is believed to be of lower Jurassic age and is the basal part of the Hazelton Group. This same sequence is known to include acid fragmental rocks several kilometres west (Carter,1973).

A medium-grained diorite intrusive, with lesser porphyritic phases, part of the Omineca intrusions cuts the layered sequence near the north boundary of the claim (Carter,1968). Outcrops of older Topley intrusions are known 5 kilometres southeast of the claim.

Soil geochemistry is of limited value because of the apparent extensive depth of overburden over much of the claim, and the presence of clay layers within the overburden profile. This problem is common in the Babine Lake area, and has been previously discussed by Levinson and Carter (1979). Canadian Superior analyzed soil samples for mercury and a weak anomaly of 320 ppb, against a background of 75 ppb, was detected within one of the IP anomalies.

An Induced Polarization survey, carried out by Bethex and subsequently confirmed by Canadian Superior, indicated two strong anomalies along lines 24N and 56N (Figure 3) and designated as areas 'A' and 'B' on Figure 4.

Area 'A', as shown on the Metal Factor contour plan (Figure 4), trends northeast parallelling the apparent strike of the rock sequence in this area. The anomaly is more than 900 metres long and 240 to 390 metres wide. An IP profile

on line 24N shows apparent metal factor values ranging from 30 to 820, frequency effect within the same interval from 2.9% to 7% and resistivity values of 9 to 61 ohm-feet. (Assessment Report 893).

Area 'B' (Figure 4) is a stronger anomaly trending east-west and measuring 600 by 360 metres. This anomaly was re-surveyed by Canadian Superior (Assessment Report 4189) in 1972, with resultant values similar to those found by the original Bethex survey (Assessment Report 893). An IP profile on line 56N shows metal factor values within the strongest part of the anomaly ranging from 90 to 7200, frequency effect in the 4.3% to 10.4% range and resistivity between 1 and 13 ohm-feet.

The eastern part of Area 'A' has a coincident magnetic high with values of 500 to 750 gammas above background.

Airborne magnetic features east of the present claim are due to the presence of Tertiary basalt remnants.

Area 'A' was tested by three vertical diamond drill holes, as shown on Figure 4. All holes intersected interbedded tuffs and graphitic sediments, containing sections of stringer and massive sulfides. Sulfide content varies from 20% to massive and consists principally of pyrrhotite and pyrite and some chalcopyrite. Some banding was noted and this appears to be conformable with layering in host rocks at 30° to core surfaces. (See Appendix 'A' for summary drill logs)

No assays from the original drilling are available. It is interesting to note that many of the sections of sulfides in holes 2 and 3 were not split. Drill holes 2 and 3 intersected a number of stringer and massive sulfide sections, ranging in width from 0.8 to 3 metres. Drill hole 1 intersected only one 1 metre section of sulfides near the bottom of the hole which was lost at 39 metres.

The author collected several samples for geochemical analysis. Results are as follows (results in parts per million, except for gold)

	Interval	Copper	Lead	Zinc	Silver	Gold (ppb)
DH 1	31.2 m	120	26	162	1.1	25
DH 2	41.2	30	25	26	1.6	15
	94.5	40	29	69	1.2	5
	103.0	52	16	48	0.6	5
	129.4	33	14	56	0.6	5
	143.6	26	25	20	1.0	15
DH 3	26.0	98	40	28	0.9	5
	34.8	28	20	23	0.6	5

Best results from this limited sampling are in DH 1, which was lost at 39 metres. Copper and zinc values are definitely anomalous and there is a slight gold expression.

Assuming the host sequence is dipping northwest, this hole would appear to be in the upper, or hangingwall section of the mineralized zone.

Area 'B' was tested by two holes (Figure 4). DH 4 was drilled southeast at -45° to a depth of 114 metres and intersected interbedded argillaceous siltstone and greywacke with some

graphitic sections. Minor pyrite was noted. DH 5, drilled northeast at -45° to a depth of 79.7 metres, intersected diorite intrusive into the same sedimentary sequence as in DH 4. Disseminated and fracture filling pyrite and pyrrhotite were noted in the graphitic sections.

Other mineralization known in the area of the claim includes a 0.3 metre wide quartz-carbonate vein with galena, sphalerite and chalcopyrite in greywacke exposed in a creek 1 km northeast of the northwest corner of the claim (Carter, 1966).

CONCLUSIONS and RECOMMENDATIONS

The RED 1 mineral claim covers an area of demonstrated massive sulfide potential. While limited sampling to date of the massive sulfide sections in drill cores yielded marginal results, it is evident that only small parts of the two strong IP anomalies have been tested.

All three drill holes in Area 'A' intersected massive sulfides; two of the holes contain a number of sulfide sections over appreciable core lengths.

Area 'B' has not been adequately tested, and is a particularly strong anomaly.

Both areas should be further assessed by magnetic and electromagnetic surveys along grids established normal to the long direction of each, prior to additional diamond drilling.

SELECTED REFERENCES

- British Columbia Department of Mines and Petroleum Resources:
Geology, Exploration and Mining in British Columbia 1972:
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- Levinson, A.A. and Carter, N.C. (1979): Glacial Overburden
Sampling for Porphyry Copper Exploration, Babine Lake
Area, B.C., Western Miner, May 1979, p.19
- Rainboth, W. and Brace, G. (1972): Geophysical-Geochemical
Report on the Hag 'A' and 'B' Groups of Claims, Omineca
Mining Division, B.C. Ministry of Energy Mines and
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- Suzuki, T. and Yokayama, T. (1967): IP and Magnetometer Survey
of the Trek Claims, Omineca Mining Division, B.C.,
B.C. Ministry of Energy Mines and Petroleum Resources
Assessment Report 393

COST STATEMENT

Wages

N.C. Carter	\$300/day	September 20,22 October 4,10	3.5 days	<u>\$1050.00</u>
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Transportation

Vehicle	2692 km @ \$0.18/km			<u>\$484.56</u>
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Ferry				<u>\$36.00</u>
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Accomodation,Meals

September 17 - 24				<u>\$264.97</u>
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Report Preparation

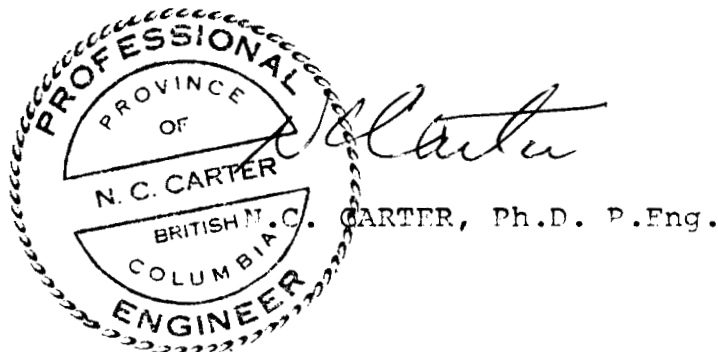
N.C. Carter - 1 day @\$300				<u>\$300.00</u>
Typing, drafting and reproduction				<u>\$95.00</u>

TOTAL EXPENDITURE				<u>\$2230.43</u>
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AUTHOR'S QUALIFICATIONS

I, NICHOLAS C. CARTER of 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 over the past 24 years.
4. Geological work on the RED 1 mineral claim, described in this report, was carried out in September and October, 1984.



APPENDIX 'A'

SUMMARY DRILL LOGS

Drill Hole 1

- 0 - 17.6 metres - Overburden
- 25.5 - Carbonaceous volcanic rock-graphitic slips, some pyrrhotite
- 27.9 - Grey andesite - 1 cm blebs pyrrhotite
- 33.3 - " " "
- 34.3 - Banded sulfides - pyrrhotite and pyrite @20° to core surface; minor chalcopyrite
- 39.4 - Dark volcanic tuff - sheared, graphitic slips, intensely sheared near end of section

End of Hole

Drill Hole 2

- 0 - 14.2 metres - Overburden
- 41.2 - Andesite - grey to black; numerous carbonate stringers and patches; some short sections of intercalated banded greywacke
- 42.0 - As previous with near massive pyrrhotite and pyrite
- 47.9 - Dark volcanic - numerous carbonate stringers and graphitic slips
- 77.6 - grey to black andesite; abundant carbonate; shearing not as intense as previous section. Fragmental character; pronounced down section with closely packed small fragments
- 79.4 - As previous with stringers and disseminations of pyrite and pyrrhotite.
- 93.3 - Dark fragmental andesite - some stringers of pyrite @ 84.8
- 94.5 - Massive to stringer sulfides - mainly pyrrhotite with some pyrite; bounded by graphitic shears
- 100.6- Graphitic sediments
- 103.0- 20% to near massive pyrite and pyrrhotite - some banding parallel to core
- 103.8- Basic dyke - very fine grained - no sulfides
- 106.6- 20% pyrrhotite and pyrite in argillaceous sedimentary rock; pre-mineral shearing - graphitic slips - parallel to core; post-mineral shearing normal to core

Drill Hole 2 (Continued)

- 120.0- Black graphitic sedimentary rock - intense shearing
- 122.1- 10% to near massive sulfide - pyrrhotite and pyrite
- 123.6- Black graphitic sediment
- 129.4- Dark andesite tuff with 20% pyrite and pyrrhotite;
0.5 cm fragments
- 134.8- Dark andesite tuff -
- 137.3- Near massive pyrrhotite with some pyrite
- 139.7- 10-20% pyrrhotite in dark tuff or sediment - sulfides
cut by hairline carbonate fractures with some pyrite
- 142.7- Dark tuff
- 143.6- Near massive pyrrhotite cut by pyrite stringers
- 146.7- Dark tuff - numerous 2mm carbonate stringers
- 152.1- Dark tuff - occasional pyrrhotite lenses

End of Hole

Drill Hole 3

0 - 20 metres - Overburden

- 24.5 - Gray to black andesite tuff
- 26.1 - 10% to massive sulfide - mainly pyrrhotite with some
pyrite
- 31.5 - Gray to black andesite tuff - occasional blebs of
pyrrhotite
- 35.2 - Massive banded sulfides - pyrrhotite and pyrite -
Sharp upper contact @ 40° - no alteration; Lower
contact gradational with some bleaching
- 40.6 - Gray andesite tuff - gray to black 4 mm fragments;
- 54.5 - Greywacke - sedimentary layering - graded bedding
@ 40°; sulfides in plane of bedding with near massive
sections; banded sulfides @ 53.6
- 73.6 - Andesite tuff and breccia with abundant carbonate;
some sedimentary interbeds up to 0.6 metres
- 73.9 - Greywacke - coarse grained - sharp contact with
volcanics
- 136.4- Gray to black andesite tuff - occasional banded
sulfides in section; interbedded greywacke with
layering @ 40°; fragmental texture in volcanics
locally prominent; Abundant carbonate as stringers
and 1mm amygdules

End of Hole

Drill Hole 4

0 - 20.9 metres - Overburden

- 34.2 - Green to gray andesite tuff - numerous carbonate stringers
- 43.0 - Greywacke or tuff - densely packed angular 1-2 mm rock fragments; grades to fine grained rock with prominent 4 mm banding @ 40°; lenses of pyrite
- 47.3 - Dark gray argillaceous siltstone with some banded sandy layers
- 59.1 - Argillaceous siltstone - abundant carbonate stringers
- 63.6 - Argillaceous siltstone - banded; sheared and brecciated
- 68.2 - Argillaceous siltstone - prominent banding near end of section @ 40°. Minor interbedded volcanic tuff
- 73.9 - Alternating greywacke and argillaceous siltstone
- 74.8 - Argillaceous siltstone with bands of pyrrhotite
- 76.4 - Graphitic lenses
- 82.1 - Alternating siltstone and greywacke - 4mm banding @ 30°
- 93.9 - Massive greywacke
- 90.3 - Alternating sandy and argillaceous siltstone - some greywacke; minor brecciation and some pyrrhotite
- 91.5 - Conglomerate - 4mm to 1 cm pebbles - poorly sorted; gradational to greywacke
- 98.5 - Greywacke
- 114.2 - Argillaceous siltstone - light to dark grey; abundant carbonate

End of Hole

Drill Hole 5

0 - 2.4 metres - Overburden

- 19.4 - Diorite - medium grained white feldspar and chloritized hornblende - massive
- 20.6 - Hornblende-feldspar-porphyry - gradational with previous
- 55.2 - Alternating siltstone and greywacke - minor 1mm sulfide blebs
- 63.3 - Dark tuff - banded - graphitic slips; carbonate-pyrite veinlets to 2 mm
- 68.2 - Grey tuff - banding @ 90°
- 77.9 - Graphitic sediment - intense shearing, minor pyrite stringers
- 79.7 - Alternating argillaceous siltstone and banded greywacke

End of Hole

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TELEX: 04-352828

GEOCHEMICAL ANALYSIS CERTIFICATE

COMPANY: NICK CARTER
PROJECT:
ATTENTION: NICK CARTER

FILE: 4-1092
DATE: OCTOBER 1/84
TYPE: ROCK GEOCHEM

We hereby certify that the following are the results of the geochemical analysis made on 8 samples submitted.

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	AG PPM	AU FPB
38824	120	26	162	1.1	25
25	30	25	26	1.6	15
26	40	29	69	1.2	5
27	52	16	48	0.6	5
28	33	14	56	0.6	5
29	26	25	20	1.0	15
30	98	40	28	0.9	5
38831	28	20	23	0.6	5

APPENDIX 'B'

Certified by

