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1987 ASSESSMENT REPORT ON  
 THE HAGAS PROPERTY FOR  
 PROGOLD RESOURCES LTD.

PART I

OMENICA MINING DIVISION  
 BRITISH COLUMBIA

16,872

PART 1 OF 2  
 GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

LATITUDE: 54°09'N

LONGITUDE: 127°01'W

NTS 93L3E

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JANUARY 8, 1988

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## SUMMARY

The Hagas property is composed of 15 contiguous mineral claims totalling 95 units in the Omenica Mining Division. The claims are situated approximately 32 kilometres southwest of Houston, B.C.

The claim group is underlain by Lower Jurassic Hazelton group volcanics and Eocene Buck Creek volcanics which have been intruded by an Eocene alkaline Gabbro. The geology of the claim group thus closely resembles that on the nearby Equity Silver Mines property where silver-copper ore bodies have been mined since 1979. Pre-production reserves were quoted at 30.8 million tons, 3.4 oz/ton silver, 0.03 oz/ton Au.

A series of geochemical and geophysical surveys have been done on the Hagas property since 1970 in a search for an Equity Silver type ore body. Four short diamond drill holes have also been drilled. Silver, copper values were encountered in pyrite in one of the drill holes and further copper, silver values were located in a quartz stringer uncovered by trenching. Tetrahedrite bearing float is apparently present on the southwestern part of the claim group.

During the summer of 1987, Cooke Geological Consultants Ltd. of Vancouver, B.C. initiated an exploration program of line cutting, induced polarization-resistivity surveys, trenching and geological mapping. A number of encouraging anomalies were delineated and are discussed in the following assessment report.

## INTRODUCTION

During July, August and September of 1987, the author supervised an exploration program on the Hagas property on behalf of Cooke Geological Consultants Ltd. The work entailed approximately 20 kilometres of linecutting, geological mapping and 19.55 kilometres of induced polarization-resistivity survey. The geophysical survey was subcontracted to Pacific Geophysical of Vancouver, B.C. In addition, a program of backhoe trenching was done on previously located geochemical targets and along those areas where prospecting had indicated the presence of mineralization.

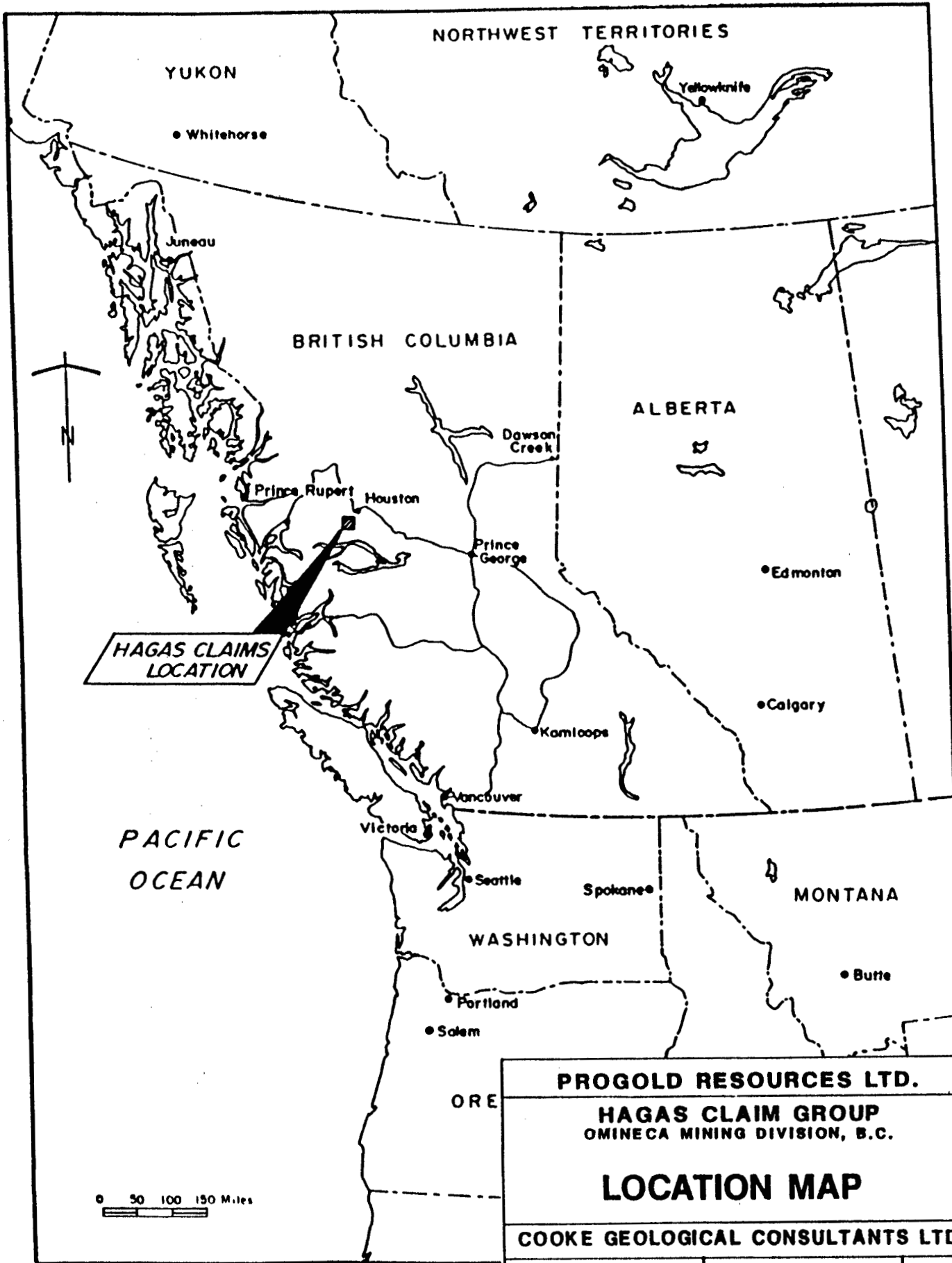
This report documents the 1987 exploration program in accordance with assessment work requirements.

## PROPERTY, LOCATION, TOPOGRAPHY & CLIMATE

The Hagas Property which Frogold Resources hold under option from Baril Development Ltd. is located within the Omineca Mining Division in the central interior of British Columbia, approximately 32 km (20 miles) southwest of Houston, B.C. Geodetic coordinates are 54°09'N and 127°01'W, N.T.S. 93-L-3E.

The property is easily accessible from Houston via the Morice River Road to Mile 26 (km 41.6) and then via a good logging road for 3 kilometres. The Hagas Property is entered just beyond Frypan Lake. For much of the year a two wheel-drive vehicle can be used but during spring or winter, four wheel-drive may be necessary.

Topographically, the property consists of rounded hills and broad open valley with one major flat swampy area in the centre of the claim group. Approximately 30% of the property has been logged off and the remainder is covered by moderate stands of mature spruce and fir. Relief is moderate and ranges from a low elevation of 830m (2700 feet) ASL on the northern edge of the claim group to a high point of 1160m (2800 feet) in the south-central part of the claims. Claim details are as follows:



**HAGAS CLAIMS  
LOCATION**

<b>PROGOLD RESOURCES LTD.</b>		
<b>HAGAS CLAIM GROUP</b> OMINECA MINING DIVISION, B.C.		
<b>LOCATION MAP</b>		
<b>COOKE GEOLOGICAL CONSULTANTS LTD.</b>		
N.T.S. 93 L / 3E	SCALE: AS SHOWN	FIG.
DATE: SEPT. 1987	DRAWN: C.S./dw	1

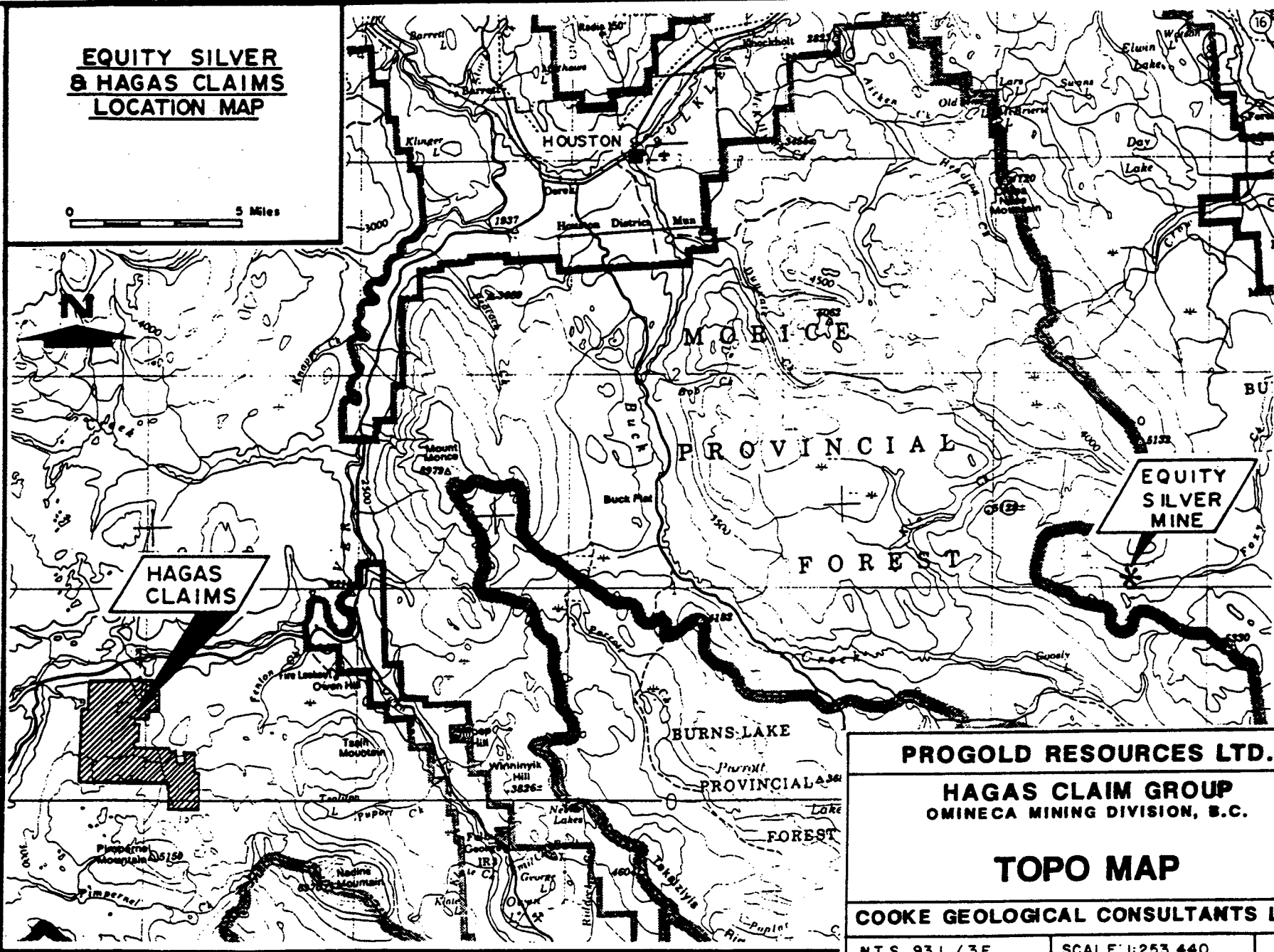
<u>Claim Name</u>	<u>Units</u>	<u>Record Number</u>	<u>Record Date</u>	<u>Expiry Date</u>
Hagas 1	1	108688	17 Apr 72	1989
Hag 2 (2Ex1S)	2	5548	13 Jul 83	1988
Hagas 3	1	108690	17 Apr 72	1989
Hagas 4	1	108691	17 Apr 72	1989
Hagas 5	1	108692	17 Apr 72	1989
Hagas 76 (2Ex2N)	4	507	22 Nov 76	1988
Hagas 77 (1Sx4S)	4	564	14 Apr 77	1989
Hagas 78 (6Sx3W)	18	7804	22 Aug 86	1988
Hagas 79 (1Nx3W)	3	1161	12 May 78	1989
Hagas 80 (2Ex4N)	8	1162	12 May 78	1988
Hagas 81FR	1	1163	12 May 78	1988
Hagas 85 (3Ex6S)	18	2073	19 Oct 79	1987
HEM (4Ex3S)	12	826	26 Oct 77	1987
Frost (3Nx2W)	6	6735	17 Oct 84	1988
Frost II (2Nx5E)	15	8690	18 Aug 87	1988
	95 units			

#### HISTORY OF THE PROPERTY

The area of the central interior plateau around Smithers and Houston was the subject of extensive porphyry-copper and molybdenum searches during the 1960's. The large regional programmes carried out by major porphyry-copper producing companies, such as Anaconda and Kennecot, resulted in the discovery of several porphyry-copper-molybdenum deposits in the area south and southwest of Houston between Ootsa and Morice Lakes. It also resulted in discovery of a silver ore body near Sam Goosley lake which was brought into production in 1979 as Equity Silver Mines.

**EQUITY SILVER  
& HAGAS CLAIMS  
LOCATION MAP**

0 5 Miles



**PROGOLD RESOURCES LTD.**

**HAGAS CLAIM GROUP**  
OMINECA MINING DIVISION, B.C.

**TOPO MAP**

**COOKE GEOLOGICAL CONSULTANTS LTD.**

N.T.S. 93 L / 3E

SCALE: 1:253,440

FIG.

DATE: SEPT. 1987

DRAWN: C.S./dw

2

Recognition of the size and grade of the Equity ore body in the early 1970's (preproduction reserves were quoted in 1979 at 30.8 M tons grading 3.4 oz/ton Ag, 0.03 oz/ton Au) lead to extensive exploration activity in the general areas south and west of Houston. Exploration was particularly intense in those areas where gabbroic stocks cutting the Jurassic Hazelton volcanics were present.

In 1970 Anaconda conducted regional geochemical surveys in the general area of the Hagas claims and located arsenic, zinc and mercury anomalies along the swamp in the center of the claim group.

During 1971, Dr. B.N. Church of the B.C. Department of Mines mapped the area and described a 0.5 km diameter basic intrusive south of Morice River, which is included in the Hagas claims. The stock was identified as being chemically similar to the Goosley basic intrusive.

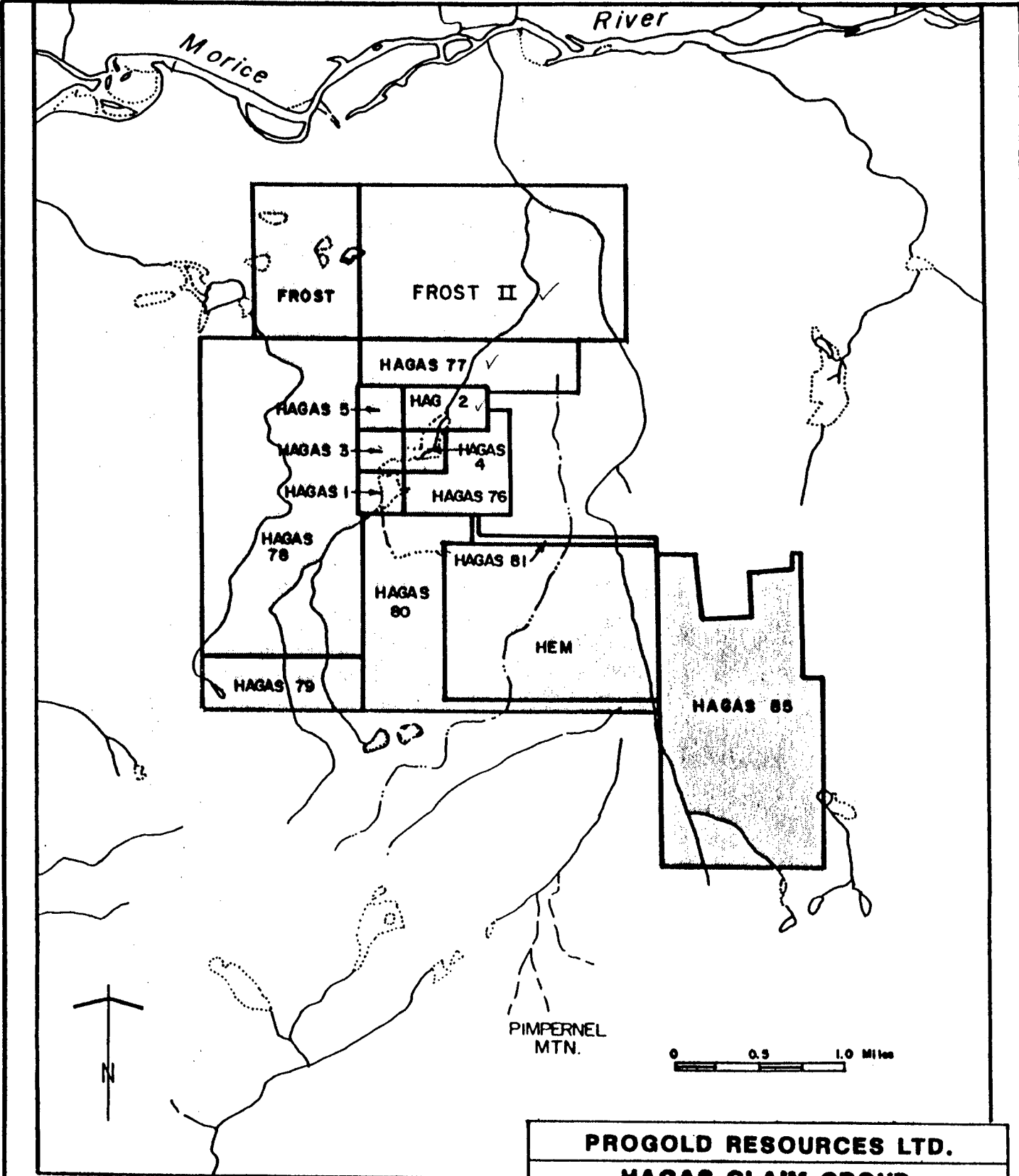
In 1972, Perry, Knox, Kaufman & Associates optioned the ground from prospectors who had staked on the basis of Dr. Church's mapping. Field work by P.K.K. confirmed the earlier geochemical anomalies of arsenic-zinc, but mercury was not confirmed due to analytical difficulties. A Turam EM survey by Scintrex located a 1,000 metre strike length north-easterly trending, steeply dipping conductor.

In 1973, two 90m 60° dip diamond holes were drilled from locations on the east side of the swamp to test the conductor. The drilling failed to intersect conductive material.

By 1977, the Hagas property was held by Aquitaine Company of Canada Limited. They re-interpreted the 1973 Turam results and recognized that the conductive body probably dips to the north-west and thus the 1973 drill holes by Perry Knox Kaufman had been drilled in the wrong direction. Aquitaine relogged the core and found that Hole 73-1 had intersected a highly altered zone with 1-2% sulphides in fractured, fine grained tuffs.

In March 1977, Aquitaine commissioned a Max-Min II survey on 3, 100 metre spaced NW-SE lines, running across the area of the original Turam conductor. This survey located a moderately conductive anomaly striking north-easterly and dipping to the north-west.





<b>PROGOLD RESOURCES LTD.</b>		
<b>HAGAS CLAIM GROUP</b> OMINECA MINING DIVISION, B.C.		
<b>CLAIM MAP</b>		
<b>COOKE GEOLOGICAL CONSULTANTS LTD.</b>		
N.T.S. 93 L / 3E	SCALE : 1:50,000 approx.	FIG.
DATE: SEPT. 1987	DRAWN: C.S. / dw	3

In October, 1977 the Scintrex airborne HEM 801 system was flown across the property and Aquitaine also drilled the Turam conductor from the north-west. Hole 77-1 (154.6m) intersected both massive and fracture filling pyrite with an aggregate thickness of 8 metres over a 31 metre core length. Several sections of the pyrite were assayed. The most significant intersection being 99-101 feet which assayed 0.36 oz/ton Ag, trace Au, 0.17% As and 0.005% Cu. Hole 77-2 (154.2m) which was drilled on the eastern side of the property penetrated a conductor in overburden and encountered no mineralization.

Aquitaine staked the HEM claim at this time to cover airborne geophysical anomalies south of the Hagas group. Kenting Surveys carried out a programme of Max-Min II geophysics on three lines, 1000SW, 1000NE and 00 over the HEM claims. Aquitaine subsequently dropped their option on the Hagas ground but in May 1978 they staked the Fry & Pan claims west and north of the Hagas to cover airborne geophysical conductors indicated by the HEM 801, October 1977 survey. They carried out programmes of soil geochemical sampling on these claims and in August 1978 Max-Min EM and magnetic surveys located a good deep seated conductor on the Fry claim.

In February 1979, Aquitaine drilled the Fry 79-1 (182.9m) hole, which encountered a 6 metre wide fault zone which is possibly the explanation for the geophysical conductor. The drill hole intersected a few pyritic stringers. A sample of galena assayed trace gold, 0.66 oz/ton Ag, 0.005% Cu.

In 1979, the claim group was optioned by the Catre-Ben Joint Venture.

In April 1980, this group commissioned an Aerodat airborne EM survey over the claim group which interpreted by Excalibur International Consultants who highlighted six conductors. These appear to be on trend to the south-west of the 1973 Turam anomaly and on the northern flank of the gabbroic stock. In August 1980, Max-Min and magnetometer surveys were done on the property by Peter E. Walcott and Associates in order to evaluate the six conductors located by the airborne Aerodat EM survey. Walcott suggested that some of the conductors located by the airborne geophysics were due to conductive material in the glacial overburden. In addition, the Catre-Ben Joint Venture commissioned Holt Engineering to carry out programmes of geochemical sampling and reconnaissance geological mapping plus trenching during the summer of 1980.

This programme located one quartz stringer in outcrop from which a sample assayed 2.03% Cu, 0.12 oz/ton Ag and 0.002 oz/ton Au. The trenches encountered strong chlorite, epidote alteration, but mineralization was generally rare to absent. Geochemical soil sampling located zinc and copper anomalies but other than the limited trenching programme the Catre-Ben Joint Venture did not follow up the programmes of geophysics and geochemistry.

In July 1983 part of the claim group was re-staked by Zastavnikovich as the Hag 2 claims. He conducted programmes of geochemical stream sediment sampling and sporadic outcrop rock chip sampling. These were analyzed for gold, silver, lead, zinc, arsenic and antimony.

By 1984, the property was controlled by Petrostone Resources who collected 167 heavy mineral soil samples, 144 regular geochemical soil samples and 20 rock samples. Their work apparently located coincident, multi-element geochemical anomalies in the B & C soil horizons and indicated good correlation of C horizon anomalies with known EM conductors and drill hole rock anomalies.

In January, 1985, M Vulimiri summarized the history of exploration results on the property and recommended extensions of geochemical work, further airborne geophysics and diamond drilling. Also during that year, Zastavnikovich, on behalf of Petrostone Resources collected 20 further geochemical soil samples as follow up on gold anomalies located by previous surveys. Heavy mineral analysis of 47 core samples from drill hole 77-1 indicated that the intermediate volcanics in the upper part of the hole are highly enriched with respect to arsenic, mercury, zinc and manganese.

In June, 1986, Zastavnikovich carried out programmes of geochemical soil sampling on the Hag 2 claim.

In August, 1986, a further 120 soil samples were collected and analyzed by heavy mineral separation techniques. Anomalous values correlated well with known EM conductors and fault structures.

In summer 1987, Cooke Geological cut a north-east/south-west trending baseline across the central part of the Hagas claim group and ran NW/SE 100 metre spaced lines. Pacific Geophysical carried out an induced polarization survey across this grid. In addition, a programme of backhoe trenching was done partly on previously located geochemical targets and also on those areas where previous prospecting had indicated presence of mineralization.

## REGIONAL GEOLOGY

The Smithers-Houston area of central B.C. is situated in the central interior plateau, physiographic division of the Cordillera. The region consists predominantly of rolling country, showing gentle to moderate relief with low rounded hills interspersed by flat bottomed valleys which are generally filled with variable thicknesses of glacial debris. Outcrop is generally scarce and can be misleading as the softer, more recessive units are sometimes completely unrepresented in outcrop.

The geology of the area is shown on Geological Survey of Canada Map 971A (Smithers-Ft. St. James) and Geological Survey Open File, Smithers, B.C. 351. The geology of the area immediately east of the Hagas claims which contains the Equity Silver and the Silver Queen deposits near Owen Lake is shown on the B.C.D.M. Preliminary Map No. 11 by B.N. Church, May 1973. The oldest rocks in the region forming what may be referred as the basement belong to the Lower to Middle Jurassic Hazelton group which in turn is subdivided into the Sinemurian and lower Pliensbachian Telkwa formation which consists of red, maroon, grey-green breccias, tuffs and flows of basaltic to andesitic composition. This in turn is overlain by middle Toarcian Nilkitkwa formation which consists mostly of red to brick red fine grained tuffs and breccias. This is in turn overlain by the upper Nilkitkwa formation consisting of dark grey shale and andesitic to rhyolitic tuff and minor greywacke and these are in turn overlain by the upper part of the Hazelton group which is the Smithers formation of lower Bajocian to lower Callovian age and consists of grey-brown to greenish grey or grey greywackes, sandstone, siltstone, shale, tuff, glauconitic sandstone and minor conglomerate. The Hazelton has been extensively faulted. The major block faults strike NW-SE.

The Hazelton group which is mostly volcanic is considered to be of middle to lower Jurassic age and is in turn overlain by the Middle and Upper Jurassic mostly sedimentary Bowser Lake group, by the volcanic and sedimentary lower Cretaceous Skeena group and the later Tertiary volcanic Endako and Dotsa Lake groups.

Unfortunately in outcrop the Tertiary volcanics can be easily confused with some of the Jurassic units making field mapping difficult. The early Jurassic Topley intrusions cut the lower part of the Hazelton group and a variety of intermediate to acidic plutons of late Cretaceous to Eocene age intrude most older units throughout the area.

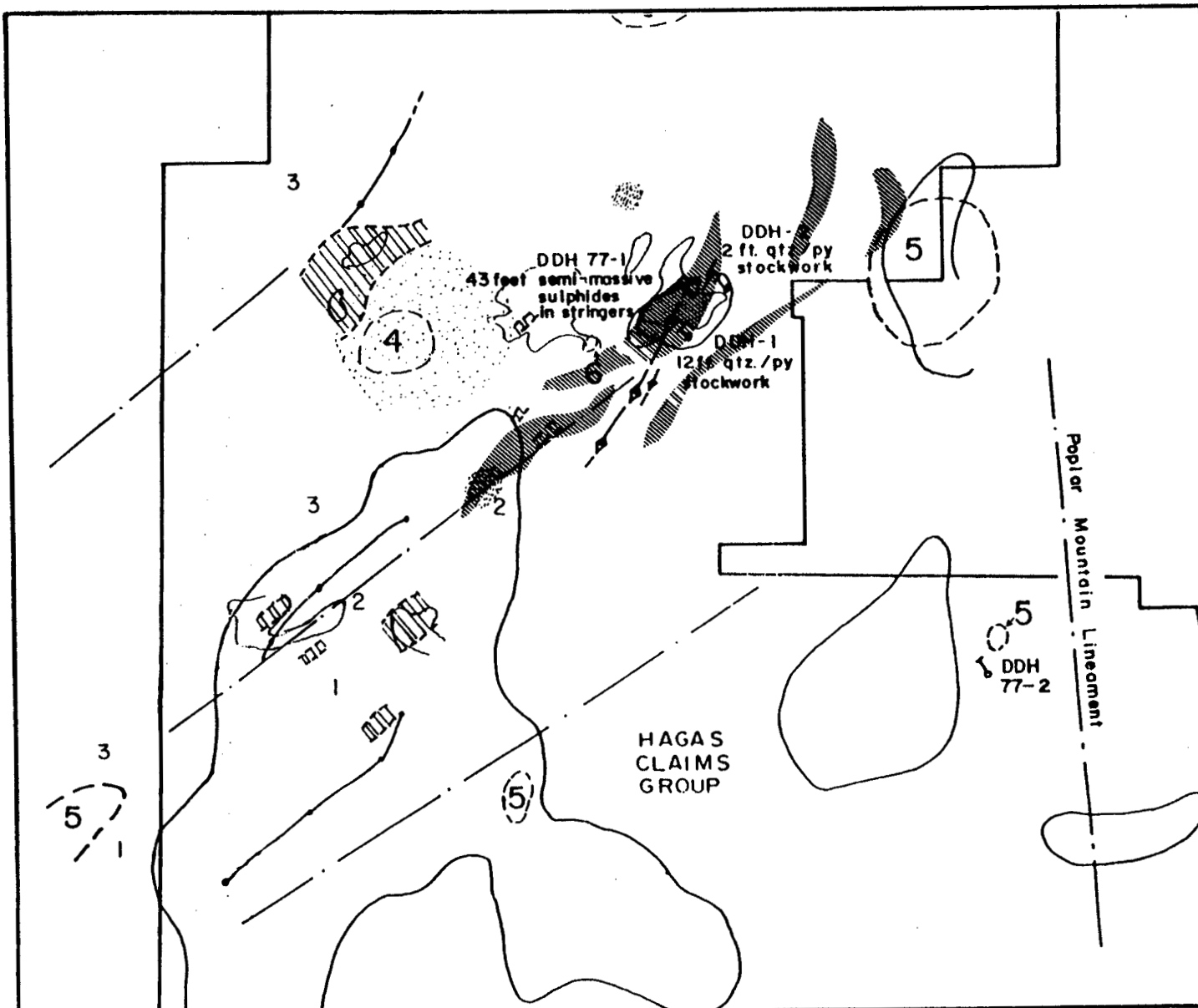
Structurally, the area is dominated by a multitude of steep normal faults. Few contacts between map units are unfaulted and these are mainly intrusive or contacts between younger map units. Folding is common only in a few sedimentary units and is spatially and genetically related to the Eocene thrust faults.

In the Goosley Lake area, shown on Church's BCDM Preliminary Map 11, a series of lower Jurassic acid to intermediate lavas and pyroclastics is overlain unconformably by flat lying Eocene volcanic rocks of the Goosley Lake and Buck Creek formations. The Goosley Lake volcanics consist mainly of biotite-pyroxene plagioclase trachy-andesitic lavas and thick sills or flows. The Buck Creek volcanics are predominantly flows, mostly aphanitic andesite, some dacites and basalts. The assemblage has been intruded by syeno-monzonite alkalic gabbro stocks referred to as the Parrot Lake and Goosley Lake intrusions. These are of Eocene age and are probably coeval with volcanics.

#### PROPERTY GEOLOGY

Geological mapping in 1987 consisted mainly of follow up work detailing that of Salat (1978) and Holt (1980). Figure 4B is a revision of Vulimiri's 1985 compilation of the property.

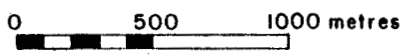
Rock outcrop is generally scarce in the central and northern part of the property but is more abundant at higher elevations to the south and west. Most overburden consists of dense glacial till containing up to 15% rounded boulders. Although the till is extensive, it is often shallow because in many cases logging road construction has exposed bedrock. The oldest rocks exposed on the property are the lower Jurassic Hazelton group which underlies most of the central and northern part of the property and are mostly volcanics. H. Salat of Aquitaine divided them into two successive volcanic assemblages. At the base, a series of green andesite breccias and pyroclastics, outcrop over the entire southwestern corner of the claim group and these show a strong pervasive epidotization associated with chlorite, calcite and quartz. Salat interpreted this as regional metamorphic alteration. The top of this unit is marked by dark green fragmental volcanic rocks interlayered with red brown argillite containing green flattened fragments, similar to volcanic material seen in the underlying flows.



- 6 Rhyolite Flow
  - 5 Buck Creek Volcanics
  - 4 Gabbroic Stock
- HAZELTON GROUP
- 3 Coarse pyroclastics
  - 2 Altered andesite and dacite flows
  - 1 Maroon pyroclastics and andesites
- Alteration Zone: rusty qtz.-carbonate - ankerite, minor malachite
  - Epidote Alteration
  - Anomalous IP Zone (Cooke, 1987)

- Airborne Geophysical Conductor
- Ground Turam Anomaly
- Airborne Magnetometer >58 000 gammas
- Multi-Element Soil/Heavy Mineral Anomaly

- Zn. Anomalies
- Inferred Geological Contact
- Diamond Drill Hole
- Airphoto Linear Property Boundary



<b>PROGOLD RESOURCES LTD.</b>		
<b>HAGAS CLAIM GROUP</b> OMINECA MINING DIVISION, B.C.		
<b>PROPERTY GEOLOGY</b>		
<b>COOKE GEOLOGICAL CONSULTANTS LTD.</b>		
N.T.S. 93 L / 3 E	SCALE: 1:28,393 approx.	FIG.
DATE: SEPT. 1987	DRAWN: C.S. / dw	4 a

Overlying this predominantly dark green volcanic breccia and pyroclastic assemblage are a series of bedded maroon and brown andesitic flows, lapilli tuffs and andesitic pyroclastics which outcrop in nearly horizontal horizons in the northern part of the property. These units also show the same epidote alteration. Aquitaine interpreted these units as sub-aerially deposited and thin sections and other studies identified tephra, welded tuffs, hematized flow tops and numerous Vesicles, etc. The underlying unit was interpreted as of a more subaqueous depositional nature.

Unconformably overlying the Hazelton group volcanics are a series of brown weathering aphanitic hornblende andesites of the Buck Creek volcanic group. These outcrop in the eastern and southern parts of the property and form conspicuous rounded knolls emerging from the generally flat lying landscape.

In the north-eastern part of the Hagas 78 claim a small gabbroic stock intrudes the Hazelton volcanics. It is composed of green coarse grained gabbro with well developed plagioclase laths and poikilitic augite. Several small dykes of very fine grained diorite cut through the property. These generally strike in an NW-SE direction. The gabbro intrusive is believed to be of Eocene age and of similar composition to that occurring at the Equity Silver Mine property.

#### ECONOMIC MINERALIZATION

Due to the sparse distribution of outcrop mineralization surface mineralization is uncommon. Detailed mapping by Holt (1980) did encounter one minor occurrence of disseminated chalcopryrite and native copper in an andesitic flow at 32+50N, 22+20E on the Catre-Ben grid [Figure 4B]. In 1987, the trenches were re-opened and assays confirmed the presence of anomalous copper and silver values (Appendix II).

<u>Sample</u>	<u>Trench</u>	<u>Silver (ppm)</u>	<u>Copper (ppm)</u>
JRHP87-9	7	2.2	7461
JRHP87-9A	7	1.3	228
JRHP87-9B	7	.8	523

An additional 6 trenches were completed in August of 1987. Trench 1 exposed bedrock in an area of pervasive ankertin alteration. Assays indicated elevated Arsenic, Copper, Lead and Zinc values (Appendix II).

Trenches 2 through 5 were sited on geochemical anomalies delineated in previous programmes. All four trenches failed to expose bedrock, bottoming in a clay hard pan. Geochemical analysis of the trench sections appears to indicate a glacial origin for the previously reported geochemical anomalies and not a bedrock source.

Vulimiri 1985 mentions the presence of sulphide mineralization in float in the southwestern part of the claim group. These he identified as breccia hosted chalcopyrite sphalerite, and tetrahedrite stringers within a fine grained tuff. In prospecting the area, the author was, however, unable to confirm the occurrences.

Drill hole 1977-1 by Aquitaine (Salat, 1978) intersected both massive and fracture filling pyrite over 8 metres. This hole was targeted at a geophysical anomaly near 1987 grid station 3100N 900E. Two other holes drilled in 1973 failed to intersect mineralization. Salat reported values of up to 0.36 oz/ton Ag, 17% As and .005% Cu. Additional assaying of the mineralized sections by the author indicate anomalous arsenic copper and zinc values [Appendix I].

#### GEOPHYSICAL SURVEYS

In summer, 1987, Cooke Geological Consultants Ltd. contracted Pacific Geophysical Ltd. to carry out an I.P.-Resistivity survey over an anomalous zone delineated during previous exploration programmes. Five zones of anomalous IP-Resistivity effect were interpreted from the data and are included in a full geophysical report in Part II of this report.



## CONCLUSIONS

1. The Hagas claims are underlain by a series of Jurassic Hazelton volcanics, overlain by Eocene Buck Creek volcanics which have been intruded by an Eocene alkaline gabbro. Thus, the geology of the claim group closely resembles that at Equity Silver which has produced silver, copper and gold since 1979 when pre-production reserves were 30.8m tons grading 3.4 oz/ton Ag and 0.03 oz/ton Au.
2. Geophysical surveys over the property during the past 20 years have indicated Turam conductors, airborne E.M. conductors and recently I.P. conductivity highs and resistivity lows - all trending approximately NE/SW across the swampy area in the middle of the claim group.
3. Trenching by Catre-Ben Joint Venture in 1980 exposed a 20cm quartz stringer in altered andesite which assayed as high as 2.03% Cu, 0.12 oz/ton Ag and 0.002 oz/ton Au. Further trenching of this zone by Cooke Geological in 1987 also located high copper values.
4. Due to depths of overburden further trenching is of limited usefulness - especially in the swampy area where most of the geophysical targets are situated.

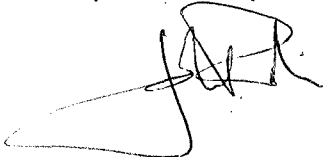
RECOMMENDATIONS

In order to test geochemical values in the basal till and top few metres of bedrock in the area of the I.P. and Turam targets a programme of rotary drilling using a track mounted drill is recommended.

Fences of 50m spaced vertical holes, which should not exceed 30m (150 ft. approx.) in depth should be drilled along the 1987 grid lines across the I.P. targets. The fences can be spaced at 200m (i.e. on alternate lines). The basal till and upper bedrock would be sampled at 2m intervals. These samples would be analyzed by geochemical methods for arsenic, antimony, silver, lead, copper and zinc.

Should this Phase I programme successfully locate mineralization in bedrock, a Phase II programme consisting of diamond drilling is recommended.

Respectfully submitted,



John E. Robins, B.Sc.  
Cooke Geological Consultants Ltd.  
January 5, 1988

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	Geochemical Assessment Report on Hag 2 claim	Oct 1986

STATEMENT OF QUALIFICATIONS

I, John Robins, of 107 - 325 Howe Street, Vancouver, British Columbia, V6C 1Z7 do hereby certify that:

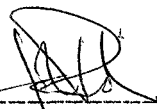
I am a graduate of the University of British Columbia with a Bachelor of Science degree in geology.

I have worked in the mining industry since 1979 in Canada and the United States.

I am an associate of Cooke Geological Consultants Ltd. with offices at 107 - 325 Howe Street, Vancouver, British Columbia.

I am an Associate Member of the Geological Association of Canada and a member of the Society of Mining Engineers.

The information in this report is based on fieldwork supervised by the author during the summer of 1987 and upon a review of the available literature.



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John R. Robins, B.Sc.  
Geologist  
Cooke Geological Consultants Ltd.

January 8, 1988

APPENDIX I  
COST STATEMENT

COST STATEMENT

Geologist Jul 14-17, Aug 14; 5 days @ \$300/day	\$1,500.00
Geologist Aug 13-26, Sep 8; 14.5 days @ \$200/day	2,900.00
Transportation & Fuel Jul 14 - Aug 25; Air Transportation, Truck Rental, Fuel	5,168.75
Food & Accomodation July 14 - Aug 25	2,595.01
Equipment Rental	1,335.11
Supplies	15.00
Assays & Analysis 33 samples @ \$15.00	495.00
Linecutting 20 km @ \$350/km (Bill Chase & Associates, White Rock, B.C.)	7,000.00
Contract Services I.P.-Resistivity Survey Pacific Geophysics Ltd. (See Part II for cost breakdown)	23,512.50
Drafting & Reproduction	724.38
Office & Miscellaneous	4,977.10
TOTAL	<u>\$50,222.85</u>
Less: Assessment application	<u>(36,700.00)</u>
Portable Assessment Credit	\$13,522.85

APPENDIX II

ASSAYS



COMPANY: COOKE GEOLOGICAL CONSULTANTS

MIN-EN LABS ICP REPORT

(ACT:F31) PAGE 1 OF 1

PROJECT NO: P687HF

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 7-1179

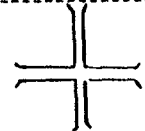
ATTENTION: B. COOKE

(604)980-5814 OR (604)988-4524

\* TYPE ROCK GEOCHEM \*

DATE: AUGUST 27, 1987

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB	
JRHP-5A	1.2	877	105	65	55	733	4	TRENCH 1 5M CHIP
JRHP-5B	1.2	147	16	42	21	240	7	TRENCH 1 5M CHIP
JRHP-5C	1.1	2	51	37	18	919	4	TRENCH 1 5M CHIP
JRHP-5D	1.0	10	17	41	10	364	2	TRENCH 1 5M CHIP
JRHP-9	2.2	4	7461	27	6	144	5	TRENCH 7 GRAB MALACHITE, RUSTY RUBBLE VOLCANICS
JRHP-9A	1.3	26	228	11	6	178	5	TRENCH 7 GRAB ANKERITE, MALACHITE RUSTY RUBBLE VOLCANICS
JRHP-9B	.8	39	523	19	1	85	6	TRENCH 7 10M CHIP
JRHP-15	1.9	14	2143	6	2	9	8	10CM QUARTZ VEIN MALACHITE + EPIDOTE
DH73-1-175-177	.7	557	44	13	11	210	3	DH73-1 175'-177' ALTERED VOLCANICS DISSEMINATED SULPHIDES
DH73-1-206-208	.9	21	11	16	1	229	7	DH73-1 206'-208'
DH73-1-243-248	.5	705	13	12	15	21	2	DH73-1 243'-248'
DH73-1-248-253	.5	859	38	11	30	48	1	DH73-1 248'-253'
DH73-1-253-256	.5	289	55	10	9	55	5	DH73-1 253'-256'
DH73-1-268-268.5	1.0	690	48	28	16	400	2	DH73-1 268'-268.5'
DH73-1-275-276	.8	178	531	37	49	213	2	DH73-1 275'-276'
DH73-1-303	1.0	11	49	59	3	241	3	DH73-1 303' END OF HOLE



PROJECT NO: PG 87 HP

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 7-1170SC

ATTENTION: BRAD COOKE

(604)980-5814 OR (604)988-4524

\* TYPE SOIL GEOCHEM \*

DATE: AUGUST 29, 1987

(VALUES IN PPM)	AG	AS	CU	PB	SB	ZN	AU-PPB	
TR2 0-50cm	.5	5	10	26	3	90	5	SAMPLE NUMBERS INDICATE TRENCH AND VERTICAL SAMPLE INTERVAL
TR2 0-50cm	.5	7	10	18	4	85	5	
TR2 50-100 cm	.6	7	16	21	6	92	5	
TR2 100-150 cm	1.0	5	44	28	7	172	5	
TR2 150-250 cm	1.1	16	33	32	5	160	5	
TR2 250-350 cm	1.1	19	33	21	5	90	5	
TR2 250-350 cm	.9	15	30	12	4	92	5	
TR3 0-50 cm	.8	1	16	27	6	96	5	
TR3 50-100 cm	1.3	20	36	58	10	233	5	
TR3 100-150 cm	1.2	14	40	52	8	222	5	
TR3 100-150 cm	1.2	23	41	62	7	264	5	
TR3 150-250 cm	1.2	8	37	33	5	146	5	
TR6 0-50 cm	.6	5	25	19	4	65	5	
TR6 50-100 cm	.8	15	32	16	5	90	10	
TR6 100-200 cm	.7	10	30	22	4	90	5	
TR6 200-300 cm	.9	6	34	20	4	100	5	
TR6 300-400 cm	.8	3	31	15	4	82	5	

APPENDIX III  
ANALYTICAL PROCEDURES

## **MIN-EN Laboratories Ltd.**

*Specialists in Mineral Environments*

Corner 15th Street and Bewicke  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

### **GOLD GEOCHEMICAL ANALYSIS BY MIN-EN LABORATORIES LTD.**

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pretreated with  $\text{HNO}_3$  and  $\text{HClO}_4$  mixture.

After pretreatments the samples are digested with Agua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 0.005 ppm (5ppb).

**MIN-EN Laboratories Ltd.***Specialists in Mineral Environments*

Corner 15th Street and Bewicke  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C.  
CANADA V7M 1T2

**ANALYTICAL PROCEDURE REPORT FOR ASSESSMENT  
WORK - 26 ELEMENT ICP**

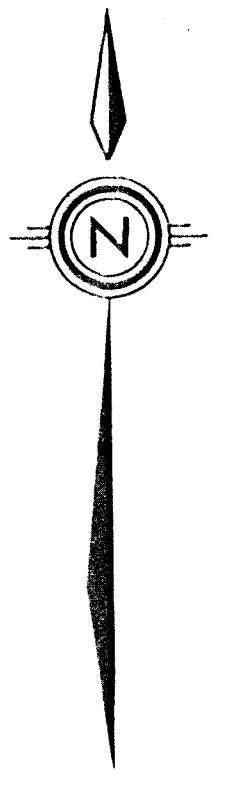
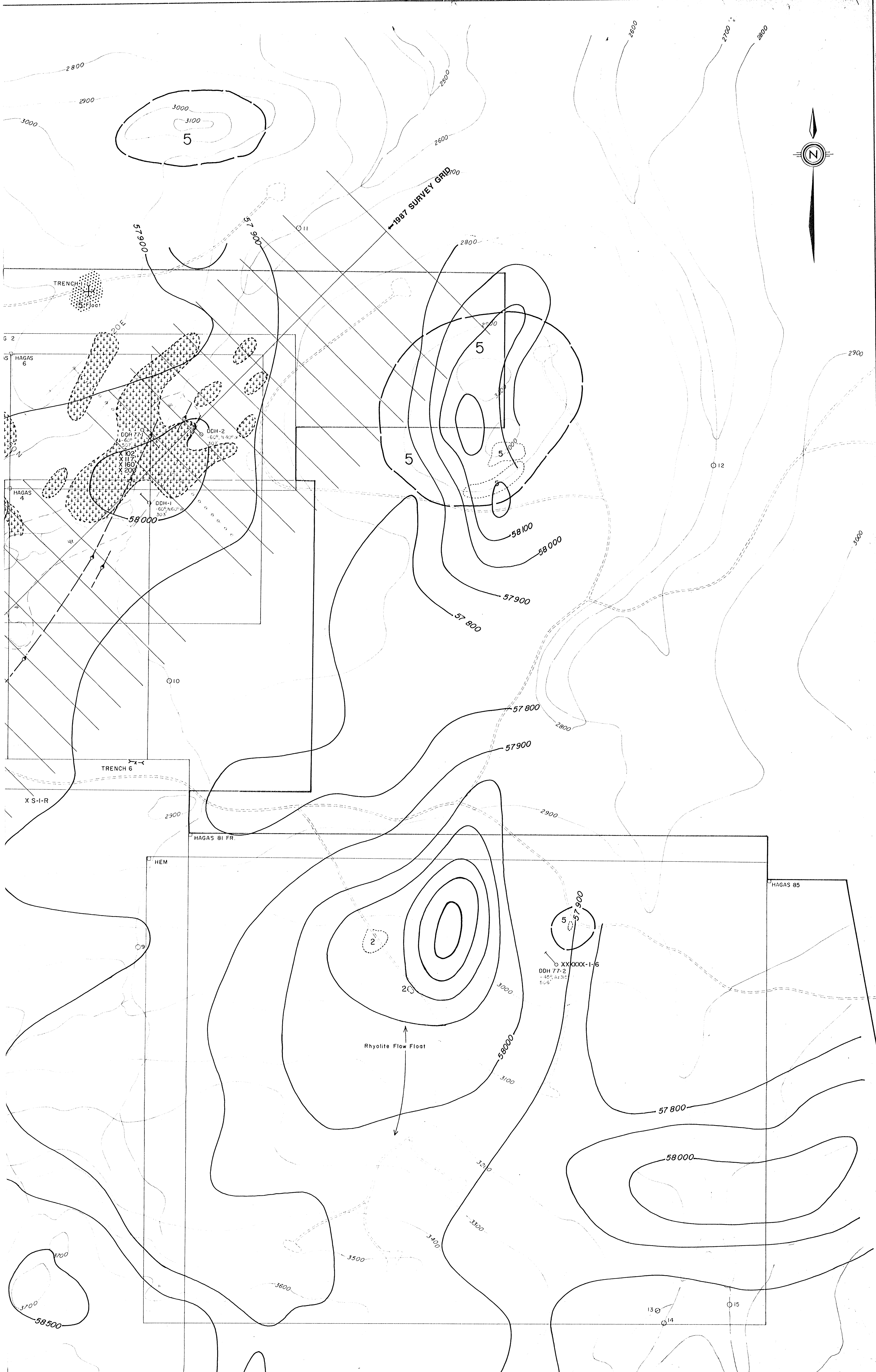
Ag, Al, As, B, Bi, Ca, Cd, Co, Cu, Fe, K, Mg, Mn, Mo,  
Na, Ni, P, Pb, Sb, Sr, Th, U, V, Zn

Samples are processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO<sub>3</sub> and HClO<sub>4</sub> mixture.

After cooling samples are diluted to standard volume. The solutions are analysed by Computer operated Jarrell Ash 9000ICP. Inductively coupled Plasma Analyser. Reports are formatted by routing computer dotline print out.



**LEGEND**

- 15 Silt sample location & №.
- Airborne geophysical conductor
- 1980 control grid outline
- Turam anomaly
- Swamp
- Lake
- Creek
- Road
- Claim post
- Dip & strike
- Outcrop
- Contact
- Interpreted contact

- BUCK CREEK VOLCANICS**
- 5 Fresh, fine grained brownish weathering green andesite
- 4 Grabbro stock
- HAZELTON GROUP**
- 3 Mainly coarse pyroclastic rocks
- 2 Primarily altered andesite & dacitic flows
- 1 Mainly maroon pyroclastics & andesites
- Zn anomalies
- Magnetometer contour in gammas

- Alteration Zone: Rusty Quartz-Carbonate - Ankerite, Minor Malachite
- Epidote Alteration

Part 1 of 2  
**GEOLOGICAL BRANCH**  
**ASSESSMENT REPORT**

**16,872**

Contours at 100 metres intervals

**PROGOLD RESOURCES LTD.**  
**HAGAS CLAIM GROUP**  
**GEOCHEMISTRY, GEOPHYSICS & GEOLOGY**

NADINA MTN. AREA, OMINECA M.D. B.C.  
 SCALE 1:5000

0 100 200 300 400 500 METRES

NETS 93/L/3E DATE SEPT 1987  
 COOPER GEOLOGICAL CONSULTANTS LTD. FIGURE NO. 4b

AFTER: P.T., M.V. & J.B., 1985

