

86-973-15489

HEAVY MINERALS GEOCHEMICAL ASSESSMENT REPORT

On The

APEX GROUP CLAIMS

OMINECA M.D.
93L/8W

Latitude 54° 26' N

Longitude 126° 26' W

for Owner/Operator

Baril Developments Limited

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

15,489

Vancouver, B.C.
December, 1986

S. Zastavnikovich
Geochemist/Consultant

FILMED

TABLE OF CONTENTS

| | Page |
|--|------|
| 1. Index Map (Fig. 1) | 1 |
| 2. Claim Map (Fig. 2) | 2 |
| 3. Introduction & Description | 3 |
| 4. General Geology & Physiography..... | 4 |
| 5. Geochemical Survey | 5 |
| Total -80 Mesh Geochemistry | 6 |
| Heavy Minerals Soil Geochemistry | 7 |
| 6. Conclusions | 9 |

APPENDICES

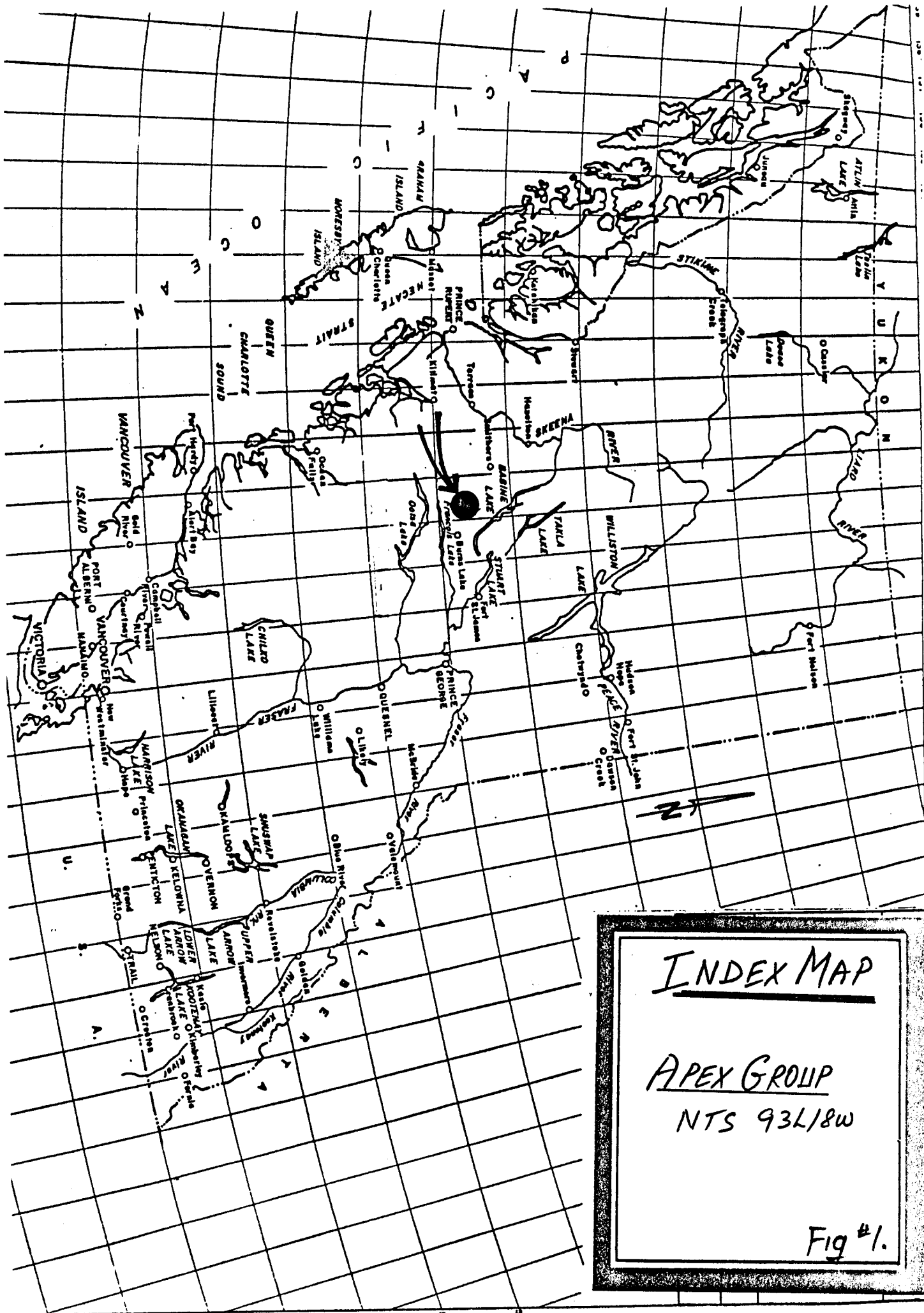
Appendix I. Statement of Expenses

Appendix II. Statement of Qualifications

Appendix III. Analytical Procedure & Heavy Minerals Processing

MAPS

1. Scale 1:6,250 Geochemical Map, with topography
and claim outlines, sample location numbers
and analytical results for Apex Group Claims
(Fig. 3)in pocket



INDEX MAP

APEX GROUP

NTS 93L18W

Fig #1.

Bulke

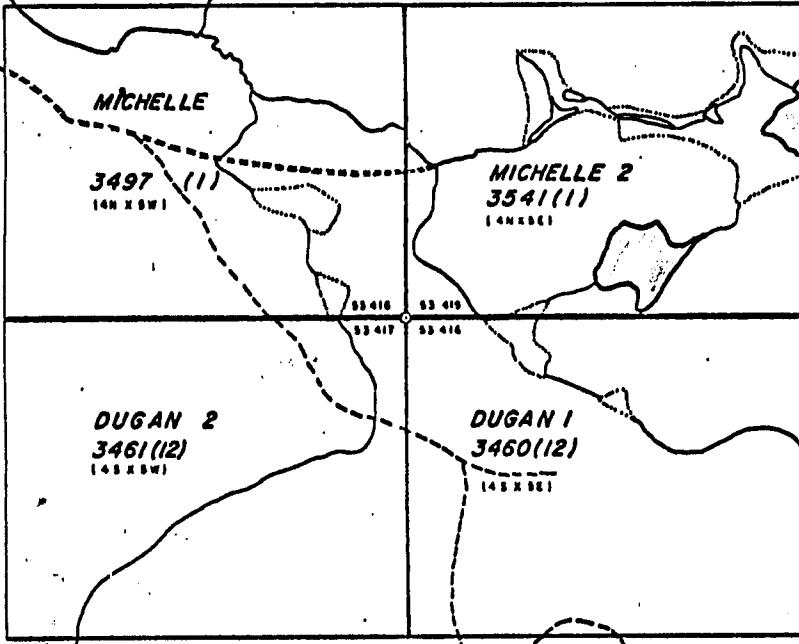
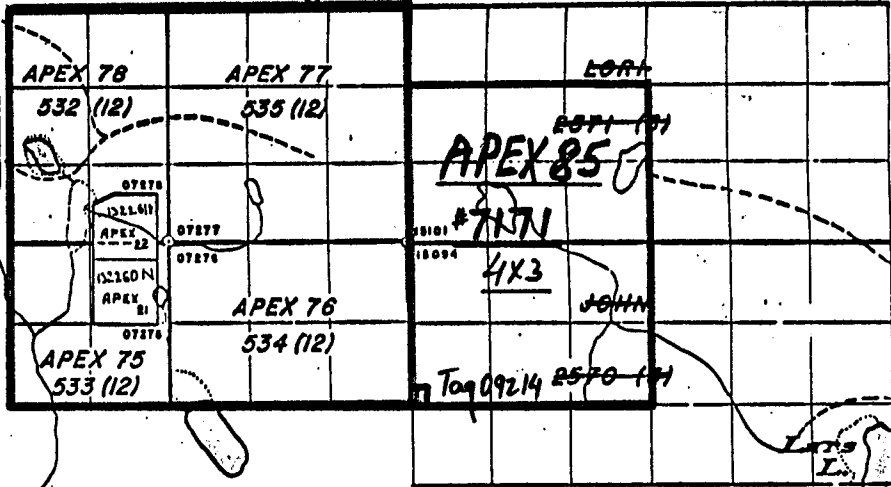
1:50,000

NTS 93L18W

N
W
C
H
A
K
O

Aitken

Cr.



| | |
|----------------------|----------------------|
| HEADING 7 3539(1) | HEADING 8 3540(1) |
| HEADING 5 3537(1) | HEADING 6 3538(1) |
| HEADING 3 3535(1) | HEADING 4 3536(1) |
| HEADING 1 3533(1) | HEADING 2 3534(1) |

TO WEST SEE MAP 93L7E

CLAIM MAP
APEX GROUP CLAIMS
 Omineca N.D.
 Fig #2.

GEOCHEMICAL ASSESSMENT REPORT ON THE APEX CLAIM GROUP

Omineca M.D., Central B.C.

INTRODUCTION & DESCRIPTION

The APEX group of mineral claims, containing 39 units and owned by Baril Developments Ltd., consists of the Apex75 (4 units), Apex76 (6 units), Apex77 (9 units), Apex78 (6 units), Apex21+22 (1 unit each), and Apex85 (12 units). The claim group is located 13 km northeast of Houston, in the Omineca Mining Division, N.T.S. 93L/8W.

The Apex 85 claim was staked in July 1985, while the rest of the claims in the group were staked in the early to mid seventies, at which time some prospecting, mapping, soil sampling and magnetometer work was done (see Assesment Report #05288 Nov'74, by J. McAndrew). In 1977 the Apex claims were optioned by Conwest Exploration Co. Ltd., who conducted geophysical Induced Polarization and Resistivity surveys on the property (Assmnt.Rep. #6427). A central resistivity high was identified trending north-south through the middle of claims, with attendant I.P. probable-category anomalies on its flanks. Following stream sediment, rock and soil sampling survey in 1985 (Assesment Report, Sept'86), in October the writer collected 54 large 2kg samples of the B and C-horizon soils at 20m intervals along a north-south intersection between two previously sampled areas, as outlined on the geochemical sample location map (Fig. 3, in pocket), in order to investigate the usefulness of analyzing the Heavy Minerals fraction to help in geochemical evaluation of the mineralization potential of the Apex property. For comparison, the total -80 Mesh fraction of the soil samples was analyzed as well.

Access to the claim group is from Houston via Hwy 16 for 8km east to Knockholt landing, then 6km south on Atkiens Ck road, and 4km east on the old homestead roads to the western edge of the property. An old east-west logging trail traverses through the middle of the property.

GENERAL GEOLOGY & PHYSIOGRAPHY

According to the most recent geological mapping that includes the claim area, done at a scale of 1:125,000 by B.N. Church of the BCDM, "Geology of the Buck Creek Area", Map #11-1973, the Apex group claims are underlain by the early and middle Mesozoic Hazelton Group volcanic rocks, ranging from basic to intermediate to acid lavas and pyroclastics. On the map, a pair of northeast and northwest lineaments intersect in the extreme southwestern corner of the property. Surface prospecting located a small outcrop of gabbro approximately in the middle of the Apex76 claim.

The mesozoic volcanics on the property were mapped as similar to the volcanics hosting the Equity Silver Mine, located 30km south-east. The gabbro intrusive present on Apex claims may well belong to the Eocene Goosly Lake intrusions, as mapped by Church at the Equity Mine property.

The Apex group claims lie on the south slope of a 1,265m high hill south of Gilmore Lake, and almost reach the Aitken Creek valley at the 800m elevation. The total relief on the property is 300m, trending between the cliffy prominences in the north to the beaver-dammed boggy swamps in the south. The area in between is forested with pine and fir trees, and mantled in thick glacial cover.

GEOCHEMICAL SURVEY

Large 2kg-size samples of the B and C-horizon soils were collected by the writer this Fall on the Apex property at 30 - 50 cm depths using a grubhoe and a shovel in order to obtain sufficient material for processing by heavy liquids for Heavy Minerals analysis. A total of 51 soil samples was collected along a north-south intersection in the west-central claims region, as shown on the large scale sample location map, Fig. 3, at 20m intervals in a deeply overburdened area in hope of utilizing the heavy minerals to overcome the masking effect of deep glacial surficial cover in areas of possible bedrock mineralization. An old 3m deep overburden pit located near the sampled line was utilized for depth-profile orientation study by collecting three additional samples at 1m depth intervals.

The -80 Mesh material from the large soil samples was processed at the Min-En Laboratory in N.Vancouver by heavy liquid separation methods to obtain the -80 Mesh heavy minerals. The -80 Mesh H.M. fraction was analyzed for 30 trace and minor elements by ICP, plus mercury, total barium, and geochemical fire-gold, using standard geochemical methods described together with the heavy minerals processing procedure in Appendix III at the back of the report. The regular -80 Mesh fraction was analyzed as well for identical elements to provide comparison to the H.M. values, and continuity from the last year's soil sampling (Assessment Report, Sept.'86). Complete analytical results are directly inscribed on the geochemical 1:6,250 scale sample location map, Fig. 3 in pocket, as well as being enclosed at the back of the report.

At strongly anomalous sites the ICP multi-element analytical results indicate a high degree of correlation between the total -80 Mesh and the heavy mineral fractions. At sites of subtle element enrichment, however, there is much less correlation in analytical values. For gold, the total -80 Mesh fraction has proven to be almost barren, while the H.M. minerals contained one value of 36,000 ppb Au, another one 1,000 ppb Au, and several more between 20 and 200 Au.

Good coincidence of anomalous gold and several of the trace elements occurs for all but the highest gold value of 36,000 ppb located at the northern end of the sample line. This is the area of a strong single-element zinc anomaly in the total -80 Mesh fraction however, whose significance and extent can only be determined by extending the sampling to the north. Likewise, the south-eastern end of the sampled line ends with multi-trace element anomalies in both fractions, necessitating as well future extension of the sampled line southwesterly.

Total -80 Mesh Soil Geochemistry - -----

Despite the thick glacial cover, subtle yet distinguishable multi trace elements anomalies occur in the total -80 Mesh fraction at several intervals along the sampled line. At 1.4S to 1.6S enrichments of arsenic, berrilium, bismuth, cadmium, copper, antimony and mercury occur while at 5.6S to 6.25S elevated values in barium, cadmium, copper, nickel and zinc are present. From 9.4S to 10.0 at the end of the line a stronger anomaly in arsenic, barium, cadmium, copper and zinc needs to be followed up, while at the opposite

end of the line from 0.0S to 0.6S a strong single-element zinc anomaly needs investigating further uphill. This is the only trace element anomaly not confirmed in the heavy minerals, therefore it is likely hydromorphic in nature and its source may well lie at some distance uphill from the northern end of the sampled line. Only negligible gold values of less than 10 ppb were obtained in this fraction.

Heavy Minerals Soil Geochemistry-

The -80 Mesh heavy minerals soil separates contained a single extremely high gold value of 36,000 ppb Au, or just over 1 oz/ton, in the uppermost sample at 0.0S. As the analytical results on Fig. 3 indicate, the next best value was 1,000 ppb Au at 4.4S, with eight more values ranging from 20 to 200 ppb Au present. The presence of these significant gold values, in contrast to the total -80 Mesh analysis, indicates the need for heavy minerals preconcentration of the soil samples prior to analysis for gold. Because there is no corresponding trace elements anomaly in the heavies, the single extremely high gold value is likely due to glacial placering, and may be only coincidental with the total-fraction single-element zinc anomaly in the same area. The rest of the anomalous gold values are associated with trace element enrichments in the heavy minerals.

Except for the zinc anomaly at 0.0S to 1.0S, all the rest of trace elemental enrichments in the total-80 Mesh size are confirmed and amplified in the heavy mineral fraction, as illustrated by the analytical values in Fig. 3. Additional multi trace element anomalies in the heavies occur at 0.4S

in Ba, Cd, Sb; from 3.2S to 3.4S in As, Be, Cd, Sb, and Hg; at 3.8S to 4.8S in Ag, As, Be, Cd, Cu, Pb, Sb, Zn and Hg. Strongest values in the heavies occur at 7.6S in all of the trace elements and most of the minor elements, which suggests proximity to mineralized bedrock, or a mineralizing fracture or shear zone.

The three pit samples taken at 1m, 2m, and 3m, depths did not carry any gold in either fraction. Because the trace elements were also non-anomalous, no meaningful relationships could be established from the analytical values beyond consistent increase in barium values with depth in the heavy minerals fraction.

CONCLUSIONS

1. Despite the thick overburden cover, several multi trace element anomalies in soils have been located in both the total and the heavy minerals -80 mesh fractions along the sampled line.
2. The total -80 mesh fraction is adequate for ICP trace element analysis, while heavy mineral pre-concentration is needed prior to geochemical analysis for gold.
3. Two of the trace element anomalies, particularly in the heavy minerals fraction, located at 5.4-6.0S and at 9.4S to the end of the line at 10.0S, coincide with I.P. anomalies from earlier Assessment Reports, and need to be followed up.
4. Additional sampling at both ends of the sampled line, as well as on neighbouring soil lines, is needed to determine the extent of the soil anomalies identified in this survey.

APPENDICES

| | | |
|----------|-----|-----------------------------|
| APPENDIX | 1 | Statement of Expenditures |
| APPENDIX | 11 | Statement of Qualifications |
| APPENDIX | 111 | Analytical Procedures |

APPENDIX I.

STATEMENT OF EXPENDITURES

(Apex Group Claims)

Geochemistry

| | | |
|------------------|---|--------|
| Salaries- | S. Zastavnikovich, geochemist Oct. 17-19, 2 days @ \$250/day | 500.00 |
| Food- | 2 man-days @ \$25/day | 50.00 |
| Travel- | Motel & camp equip., 2 nights | 55.00 |
| | Vehicle, 4x4 truck, 2 days @ \$35/day | 70.00 |
| | Gas(\$60.00) & Mileage (820km @ 10c) | 142.00 |
| Field Supplies- | Sample bags, toprofil, flagging, | 40.00 |
| Sample Delivery- | | 30.00 |
| | | ----- |
| | | 887.00 |

Analysis

| | |
|---|----------|
| 108 soils, Heavy Liquid preprocessing @ 20.00/sample | 2,160.00 |
| 54 soils for 30 element ICP, Hg, Au, total Ba & prep., @ 23.60/sample | 1,274.40 |
| 54 soils, Heavy Minerals, for 30 element ICP, Hg, Au, total Ba, @ 22.75 per sample | 1,228.50 |
| | ----- |
| | 4,662.90 |

Report Preparation

| | |
|---|--------|
| Writing, drafting, filing, 2 1/2 days @ \$200 | 500.00 |
| Report typing | 80.00 |
| Maps reproduction and report duplication | 65.00 |
| Recording trip, 85km @ 20c & parking | 20.00 |
| | ----- |
| | 665.00 |

Total Expenditures 6,214.90

APPENDIX II

STATEMENT OF QUALIFICATIONS

I.- Sam Zastavnikovich, do hereby certify that:

1. I am a graduate of the University of Alberta with the Degree of B. Ed. in Physical Sciences, 1969.
2. I have been a practicing exploration geochemist with Falconbridge Ltd. of Toronto and Vancouver for thirteen continuous years as:

1969-1975: Field geochemist, international.
1975-1979: Project geologist-geochemist, B. C.
1979-1982: Exploration geochemist, worldwide, where I was engaged in all aspects of geochemical exploration, including research and development of improved sampling techniques, and advanced geochemical interpretation, as well as the writing of final, budget, and assessment reports.
3. I am a voting member of the Association of Exploration Geochemists.
4. I am a consulting geochemist with offices at 5063 - 56th. St., Delta, B. C.

S. Zastavnikovich,
Expl. Geochemist

APPENDIX III.

Analytical Procedure - The samples were analyzed by Min-En Laboratories Ltd. of 705 West 15th St., N.Vanc, as follows:

The stream sediments were oven-dried in their original water-resistant kraft paper bags at 95°C and screened to obtain the minus 80 mesh fraction for analysis. The rock samples were crushed and pulverized in a ceramic-plated pulverizer.

A suitable weight of 5.0 or 10.0 grams is pretreated with HNO_3 and HClO_4 mixture.

After pretreatment the samples are digested with Aqua Regia solution, then taken up with 25% HCl to suitable volume and aliquot used for the 26 element ICP trace element analysis.

From the major remaining portion of the sample, Gold is preconcentrated by standard fire assay methods, then extracted with Methyl Iso-Butyl Ketone and analyzed by Atomic Absorption.

For Mercury analysis, 1 gram of sieved material is sintered at 90°C for 4 hours, then digested in HNO_3 and HCl acids mixture, and analyzed by the Hatch and Ott flameless AA method.

*MIN-EN Laboratories Ltd.**Specialists in Mineral Environments*Corner 15th Street and Bewicke
705 WEST 15TH STREET
NORTH VANCOUVER, B.C.
CANADA V7M 1T2ASSESSMENT REPORT FOR:HEAVY MINERAL SAMPLING AND CONCENTRATIONS

A large sample is collected from stream sediments or soils big enough to yield a minimum of 0.5 kg of the desired minus fraction. After sieving through any of the sieve mesh sizes they are adapted for the survey. After sieving the samples, the minus fraction is grinded to -80 mesh.

Then 0.4 kg of sample is weighed into a suitable centrifuge containers. The prepared concentrations of liquids are added to obtain a 3.1 specific gravity flotation.

The heavy fractions are then washed cleaned and dried. After drying the samples they are separated. The sink float Heavy Minerals are separated into Magnetic and Non Magnetic fractions and both fractions are weighed. The percent of the Magnetic and non Magnetic fractions are calculated and reported with the analytical data.

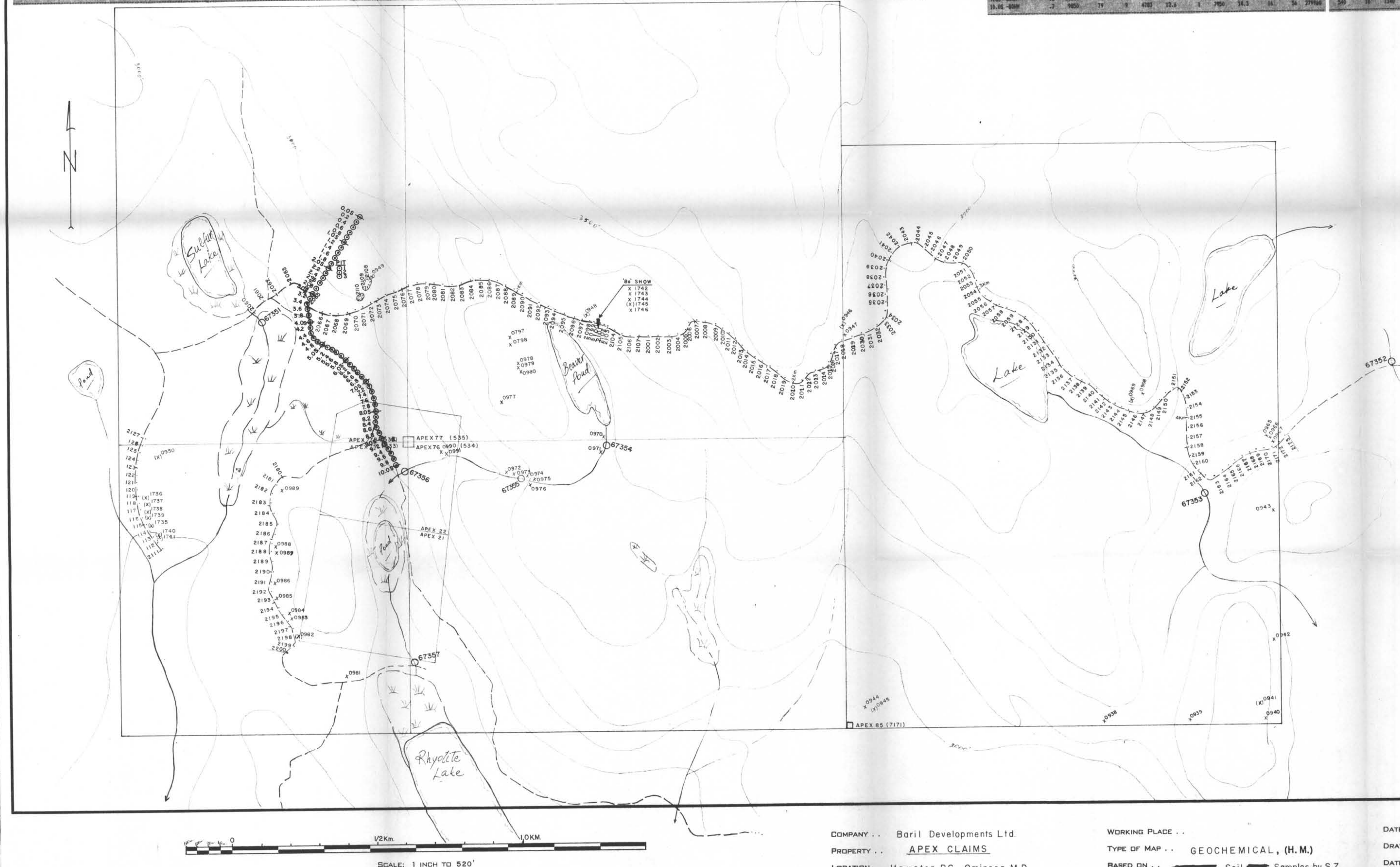
The analysis are than carried out in the usual analytical manner by I.C.P. or A.A. method.

HEAVY MINERALS!

| Sample No. | As | Cd | Cu | Pb | Hg | Ag | Au | Ni | Sr | Zn | Co | Mn | Cr | Fe | Mg | Ca | Na | K | Total |
|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|--------|--------|---------|
| 1181 | 1.20 | 0.02 | 1.50 | 0.10 | 0.01 | 0.05 | 0.01 | 1.50 | 2.00 | 5.00 | 10.00 | 20.00 | 50.00 | 100.00 | 200.00 | 400.00 | 600.00 | 800.00 | 1000.00 |

| Sample No. | As | Cd | Cu | Pb | Hg | Ag | Au | Ni | Sr | Zn | Co | Mn | Cr | Fe | Mg | Ca | Na | K | Total |
|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|--------|--------|---------|
| 1182 | 1.25 | 0.02 | 1.55 | 0.11 | 0.01 | 0.05 | 0.01 | 1.55 | 2.10 | 5.10 | 10.10 | 20.10 | 50.10 | 100.10 | 200.10 | 400.10 | 600.10 | 800.10 | 1000.10 |

MAP REF. NO.



H.M.

| Sample No. | As | Cd | Cu | Pb | Hg | Ag | Au | Ni | Sr | Zn | Co | Mn | Cr | Fe | Mg | Ca | Na | K | Total |
|------------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|--------|--------|---------|
| 67351 | 1.20 | 0.02 | 1.50 | 0.10 | 0.01 | 0.05 | 0.01 | 1.50 | 2.00 | 5.00 | 10.00 | 20.00 | 50.00 | 100.00 | 200.00 | 400.00 | 600.00 | 800.00 | 1000.00 |

- LEGEND
- 2143 - Soil Sample No.
 - - HEAVY MINERALS
 - 67351 - Stream Sediment No.
 - X 0967 - Rock Sample No.
 - (X) - Float
 - Elevation Contour, feet
 - Road track

GEOLOGICAL BRANCH ASSESSMENT REPORT

15,489

COMPANY .. Baril Developments Ltd.
 PROPERTY .. APEX CLAIMS
 LOCATION .. Houston, BC, Omineca M.D.

WORKING PLACE ..
 TYPE OF MAP .. GEOCHEMICAL, (H.M.)
 BASED ON .. Soil, [redacted] Samples by S.Z.

DATE .. [redacted], '86
 DRAWN BY .. S. Zastavnikovich
 DATE OF WORK .. [redacted], 1986.