

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,903

ASSESSMENT REPORT

Geochemical and Geological Surveys

on the

Gooch #1 - 4

Mineral Claims

Omenica Mining District

NTS 93L/7W

LAT: 54°25'W LONG: 126°26'W

Operator: SMD Mining Co. Ltd.

Owner: SMD Mining Co. Ltd.

**Diane Howe
October 1982**

(i)

SUMMARY

Jailbird Prospect (Gooch Claims) - Summary

The Gooch 1-4 claims are located in an area of gentle to moderate topography 8 kilometres west of Houston and 60 kilometres south of Smithers in west-central British Columbia (Figure 1).

Previous work in the area involved programs of geological, geochemical and geophysical surveys and diamond drilling to test for copper-molybdenum mineralization. The group is presently held by SMD Mining Co. Ltd. of Vancouver who are examining the area as a potential host for bulk-tonnage epithermal precious metal deposits.

Field work in 1982 consisted of: A soil geochemical survey of 320 soil, silt and rock samples analyzed for Au, Ag, Cu, Mo, Pb, Zn, As and Sb; and geological mapping at a scale of 1:5,000 over most of the property.

Oldest rocks on the property are Lower Jurassic volcanoclastic and sedimentary rocks belonging to the Hazelton Group. Locally, these rocks have been intruded by a quartz-feldspar porphyritic "plug".

An advanced argillic alteration zone has been defined, and appears to envelop the porphyry intrusive. A well developed quartz-stockwork with fine-grained molybdenite mineralization is associated with the argillic alteration. Pyrite is widespread throughout the altered zone and occurs in veinlets and disseminations.

A strong soil geochemical anomaly with coincident high gold, silver, arsenic and molybdenum values (1300 metres x 1000 metres) is concentrated within the zone of inferred argillic alteration.

TABLE OF CONTENTS

| | <u>Page</u> |
|-----------------------------|-------------|
| SUMMARY | i |
| TABLE OF CONTENTS | ii |
| LIST OF MAPS | iii |
| Introduction | 1 |
| Claims Status | 2 |
| History | 2 |
| Geology | 3 |
| Geochemistry | 4 |
| Soil and Silt | 5 |
| Recommendations | 6 |
| STATEMENT OF EXPENDITURES | iv |
| STATEMENT OF QUALIFICATIONS | v |

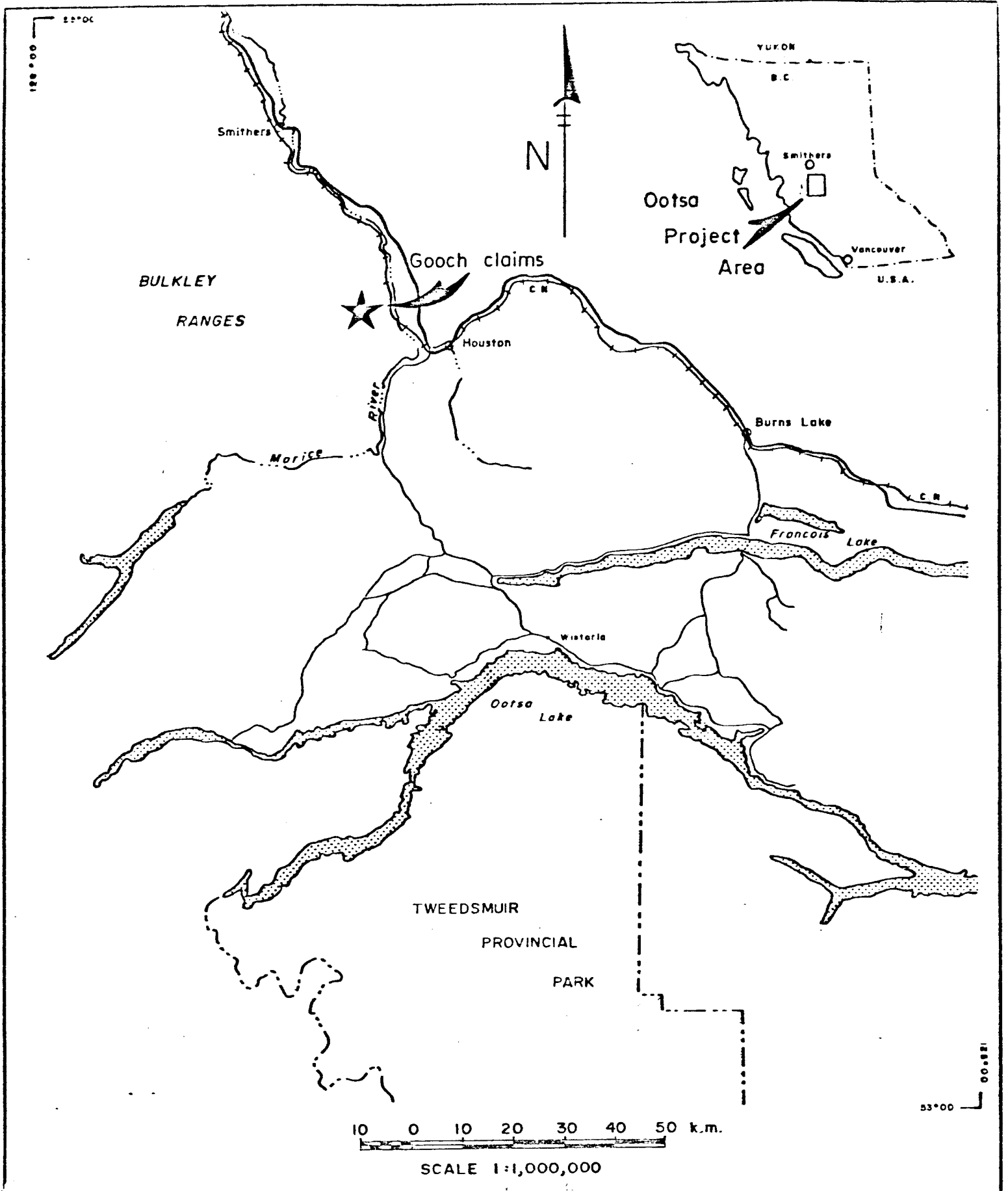
LIST OF MAPS

Fig. 1 Property Location Map

Fig. 2 Claim Disposition Map

Fig. 3 Regional Geology Map

| | |
|--|-----------|
| Geology and Rock Geochemistry | in pocket |
| Gold and Silver Soil and Silt Geochemistry | in pocket |
| Lead and Zinc Soil and Silt Geochemistry | in pocket |
| Copper and Molybdenum Soil and Silt Geochemistry | in pocket |
| Arsenic and Antimony Soil and Silt Geochemistry | in pocket |
| Sample Location Map | in pocket |



SMD MINING CO. LTD.
LOCATION MAP
 Gooch claims FIG. 1

Introduction

The Gooch 1-4 claims are centered at $54^{\circ} 25'N$ latitude and $126^{\circ} 54'W$ longitude on NTS map sheet 93 L/7W and is located 60 kilometres south of the city of Smithers, a modern mining community of approximately 7000 (Fig. 2).

Easiest access to the claims is via the Morice River - Telkwa forestry trunk road which exits off Yellowhead #16 Highway at Quick, 33 kilometres south of Smithers. Final access is by a four-wheel drive road which leaves the forestry road 25 km south of Quick.

An alternative route is near Houston where the Morice River -Telkwa road joins the Owen-Morice River forestry road 8 kilometres south of Houston.

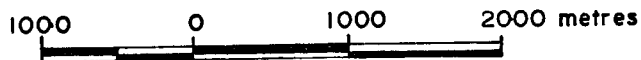
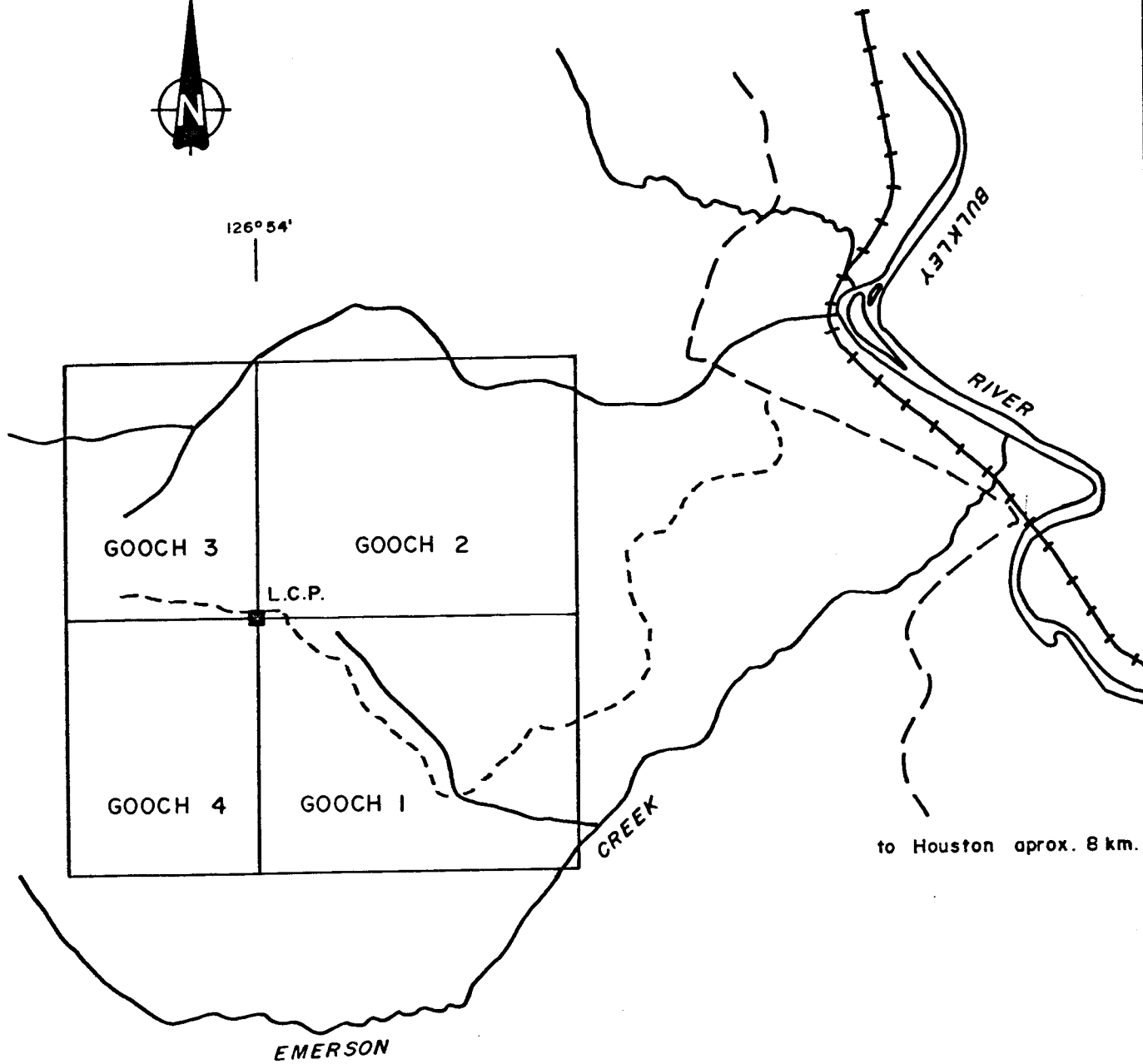
Physiographically the Gooch claims are located on the east side of the Telkwa Ranges within the Hazelton Mountains of west-central British Columbia. There is very little relief on the property which lies at 950 metres ASL.

Logged out or burned deadfall cover 25% of the claims area otherwise the property has thick forest coverage and/or is swamp covered.



126° 54'

54° 25'



SMD MINING CO. LTD.

CLAIMS DISPOSITION
MAP

PROJECT

FIG. 2

Claims Status

| <u>Claim Name</u> | <u>Units</u> | <u>Record No.</u> | <u>Record Date</u> | <u>Expiry Date</u> |
|-------------------|--------------|-------------------|--------------------|--------------------|
| Gooch #1 | 20 | 4614 | June 28, 1982 | June 28, 1983 |
| Gooch #2 | 20 | 4615 | June 28, 1982 | June 28, 1983 |
| Gooch #3 | 12 | 4676 | Aug 4, 1982 | Aug 4, 1983 |
| Gooch #4 | <u>12</u> | 4677 | Aug 4, 1982 | Aug 4, 1983 |
| | 64 | | | |

History

Earliest recorded activity in the Gooch area was in 1966 when W.H. Smith of Telkwa B.C. staked the Lybdenum 1-3 claims and optioned them to Amax of Vancouver, who subsequently staked the Barr 1-42 claims immediately to the west. During the summers of 1966-68 Amax, as operators, conducted geological mapping, geochemical surveys for copper and molybdenum, 7 miles of I.P. work, approximately 4000 linear feet of trenching and diamond drilling totalling 3079 feet. Amax subsequently dropped the options giving both the Barr and Lybdenum claims back to Smith.

In 1969 Fortune Channel Mines staked the claims (Ba, Lb, Cu, Mag, Jane) around the Barr and Lybdenum claims.

Fortune Channel conducted geochemical and magnetometer surveys covering a total of 31.5 line miles between 1969 and 1971.

After 1971 it is believed all claims were allowed to lapse. There is no recorded activity between 1972 and 1976.

In 1977, K.W. Livingstone staked the Jailbird and Jailbird 2 claims to cover ground once held by the Barr and Lybdenum claims.

Work conducted in 1977 included a rock geochemical survey of the trenches. Samples were analyzed for Cu, Mo, Pb, Zn, Sn, W.

There has been no further work done until SMD Mining restaked the property as the Gooch claims in June 1982.

Geology

Bedrock exposure is sparse and largely confined to stream gulleys and old trenches. Glacial alluvium masks a great deal of the claim area. Geological mapping at a scale of 1:5,000 was conducted over selected areas of the property using a topographic map for control.

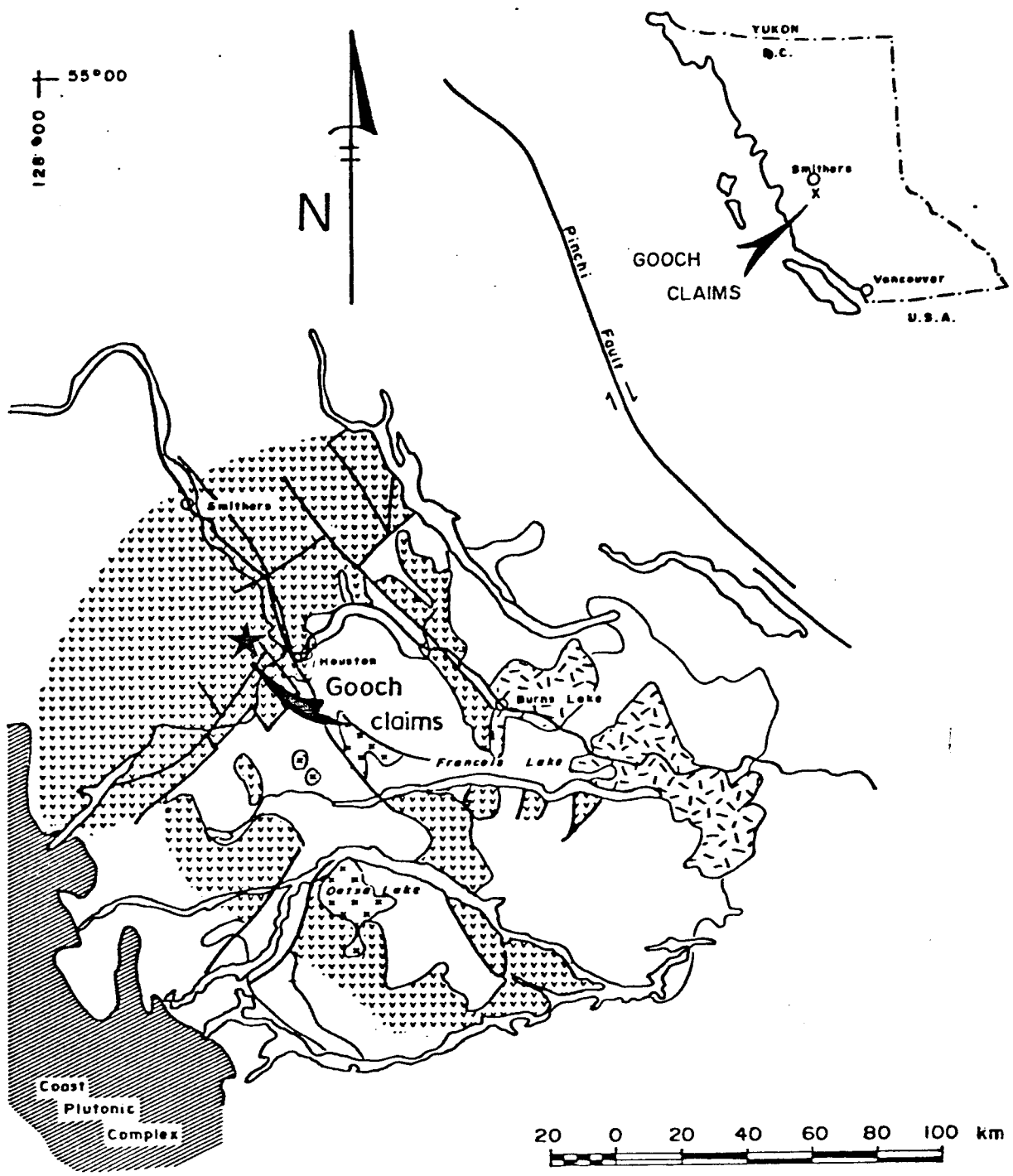
The oldest rocks on the claim group are Early Jurassic, dominantly andesitic to dacitic pyroclastics, epiclastics, flows and sedimentary rocks belonging to the Telkwa formation of the Hazelton Group (Fig. 3).

Green and purple weathering volcanic breccias and lapilli-tuff are common. An interbedded succession of greywacke, tuffaceous siltstone and shales have been mapped in the northwest corner of the claim block. Generally strike is north-northeast and dips are low at 35° - 15° east.

Intrusive to the volcanic pile is an intensely argillized quartz-feldspar, porphyritic "plug". Surrounding, and believed extrusive equivalents to the quartz-feldspar porphyry are flow-banded rhyolites, rhyolitic crystal-tuffs and a porphyritic quartz-eye rhyolite which could represent the outer phase of the intrusive.



An advanced argillic alteration zone envelops the intrusive and its extrusive equivalents. Argillic alteration is recognized by the presence of quartz, and clay replacement of feldspars.

A quartz stockwork with veins and veinlets up to 0.5 cm wide is directly associated with the alteration. Small grains of molybdenite have been recognized within the veins in some hand samples. Pyritic





LEGEND

TERTIARY

-  Ootsa Lake Group
-  Granodiorte , monzonite

JURASSIC

-  Hazelton Group
-  Granodiorte , monzonite , quartz diorte

20 0 20 40 60 80 100 km
 SCALE 1:2,000,000

| |
|--|
| SMD MINING CO. LTD. |
| REGIONAL GEOLOGY |
| Gooch claims |
| PROJECT FIG. 3 |

mineralization is widespread throughout the argillic zone. Pyrite was not noted in the volcanic host rocks. A local breccia pipe (?) occurs on the north side of the quartz-feldspar porphyry.

Geochemistry

A total of 320 soil, silt and rock geochemical samples were collected on the Gooch #1-4 claims.

Soil samples were collected on flagged lines 200 metres apart at 100 metre stations. Between lines 2+00W and 14+00W, lines were spaced at 100 metres.

Rock chips were collected from trench sites and from various rock outcrops within the claim area.

All samples were analyzed for Au, Ag, Pb, Zn, Cu, Mo, As and Sb by Acme Analytical Laboratories of Vancouver. All samples were sieved to - 80 mesh then pulverized to 100% -200 mesh. Analysis was by I.C.P. except for gold where A.A. methods were employed.

Threshold levels were selected as follows:

| | <u>Soil & Silt</u> (ppm) | <u>Rock</u> (ppm) | <u>Range</u> (for rock) |
|------------|------------------------------|-------------------|-------------------------|
| Gold | 30 (ppb) | 25 (ppb) | 5-95 |
| Silver | 1.2 | 1.0 | 0.1-12.8 |
| Lead | 100 | 25 | 9-52 |
| Zinc | 200 | 75 | 9-180 |
| Copper | 50 | 51 | 2-381 |
| Molybdenum | 5 | 5 | (1-125) |
| Arsenic | 35 | 20 | (2-190) |
| Antimony | 5 | 5 | (2-13) |

Soil and Silt

Gold

Values in general are low. Anomalous samples vary between 35 and 180 ppb, and probably average about 90 ppb. An irregular shaped 200 metre x 400 metre anomalous zone encompasses the area of trenching. One scattered high value occurs 500 metres to the west in close proximity to an altered rhyolitic crystal tuff outcrop. Anomalous gold values appear to have a bedrock affinity and may only reflect bedrock highs (i.e., thin overburden).

Silver

An encouraging irregular shaped, east-west trending silver anomaly occurs between lines 6+00W to 22+00W. Anomalous values range from 1.2 to 5.0 ppm with average around 2.5 ppm. Over the trenched area, an overlapping NW-SE-trending anomaly occurs associated with the gold. There are a few scattered high values occurring elsewhere on the grid.

Copper

High copper values are sporadic and clusters of anomalous values are scattered across the grid. Anomalous values range from 40 to 100 ppm with the average near 55 ppm.

Molybdenum

High molybdenum values occur only within the zone of inferred argillic alteration. Anomalous values range from 5 to 24 ppm with the average value near 10 ppm. High molybdenum values are coincident with gold and silver and show a partial association with copper values.

Arsenic and Antimony

High arsenic values (35 ppm) show a tendency to cluster around anomalous gold values generally coincident with the silver anomaly. Several anomalous values occur scattered across the grid.

There are no striking antimony anomalies. A few scattered anomalous samples that do occur are located within the silver anomaly.

Recommendations

Results of the 1982 field geochemistry program are sufficiently encouraging to recommend further work.

Backhoe trenching and more complete rock litho-geochemistry should be done to delineate or extend areas of interest as a prelude to a percussion drilling program.

It is also recommended that at least two deep diamond drill holes involving 1000+ metres be drilled to test for deep porphyry molybdenite mineralization.

STATEMENT OF EXPENDITURES

Itemized Cost Statement - Gooch Claims

Salaries

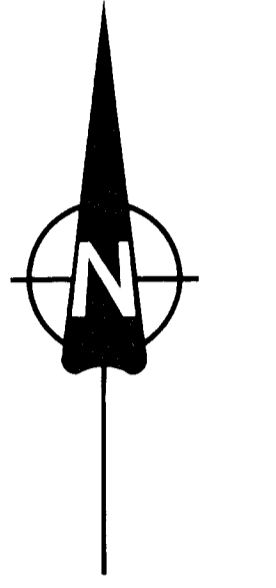
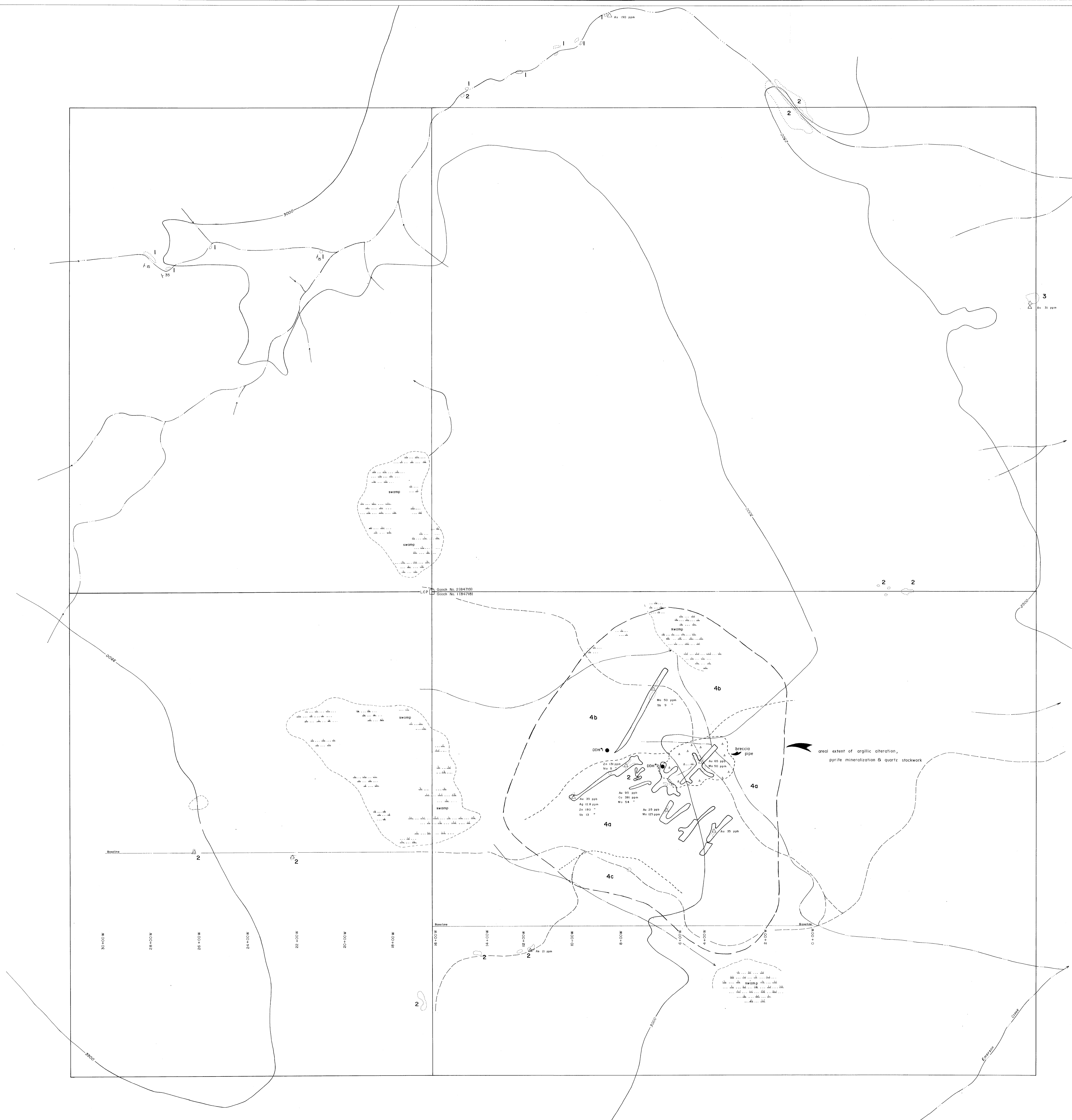
| | | | |
|---|----------------------|---------------|--------------------|
| R. Cann, Project Geologist, July 31 - Aug. 5 | 6 days @ \$200/day | \$ 1,200.00 | |
| D. Howe, Geologist June 6 - June 10 | 5 days @ \$95.00/day | 475.00 | |
| A. Young, Jr. Assistant June 6 - June 10 | 5 days @ \$68.00/day | 340.00 | |
| D. O'Neil, Sr. Assistant June 7 - June 10 | 4 days @ \$76.00/day | 304.00 | |
| Mark Baker July 28 - Aug. 4 | 8 days @ \$51.00/day | 408.00 | |
| Charles Dodsworth July 28 - Aug. 4 | 8 days @ \$58.00/day | <u>464.00</u> | \$ 3,191.00 |
| Geochemistry (analysis, preparation and shipping) 320 samples @ \$10.12/sample (Au, Ag, Pb, Zn, Cu, Mo, As, Sb, Ba, Bi, Ma) | | | \$ 3,237.00 |
| Motel, Room & Board (Midway Inn, Houston) June 6 - June 10 | | \$ 622.82 | |
| July 28 - Aug. 5 | | <u>545.18</u> | \$ 1,168.00 |
| Tuck Rental - June 6 - June 10 | @ \$1,250/mo. | \$ 250.00 | |
| - July 28 - Aug. 5 | @ \$900/mo. | <u>240.00</u> | \$ 490.00 |
| Gas | | | \$ 150.00 |
| Drafting & Materials | | | \$ 200.00 |
| Report Writing - 2 days @ \$95.00 | | | <u>\$ 190.00</u> |
| Total | | | <u>\$ 8,626.00</u> |

STATEMENT OF QUALIFICATIONS

I, Diane J. Howe, of Vancouver, British Columbia, hereby certify:

- 1) That I am a geologist residing at 3926 Valley Drive, Vancouver, British Columbia.
- 2) That I am a graduate of the University of British Columbia with a B.Sc. Degree in Geology, 1980.
- 3) That I have practiced my profession since graduation.
- 4) That I personally supervised and carried out the work on the Gooch #1-4 claim group.

Diane Howe
Oct. 28, 1982



LEGEND

- 4a Quartz - feldspar porphyritic "plug"
 - 4b Flow-banded, quartz-eye rhyolite
 - 4c Related rhyolitic crystal tuff
 - 3 Unaltered, cream coloured siliceous rhyolite
 - 2 Andesitic pyroclastics and epiclastic flows
 - 1 Black friable shale, interbedded greywacke & siltstone
-
- △ Rock sample location and results
 - Contours (feet)
 - ~ Creek
 - ... Swamp
 - Claim post and boundary
 - Road
 - Trench
 - DDH # 1 Diamond drill hole (approx location)

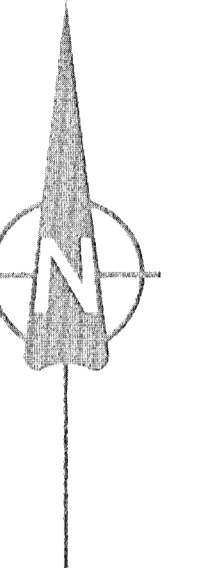
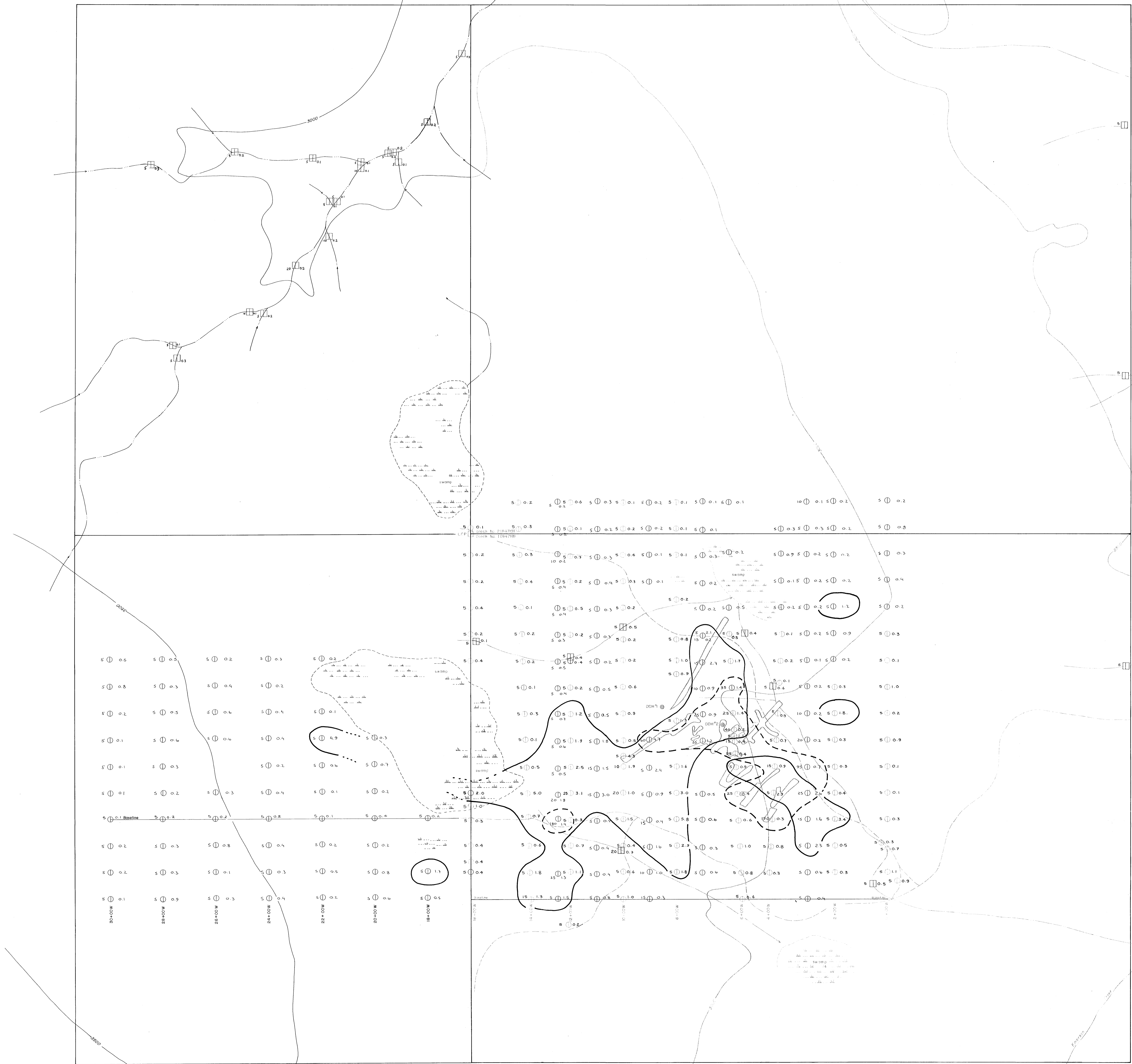
SCALE 1:5000
 0 100 200 300 metres

**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

10,903
 SMD MINING CO. LTD.

**GEOLOGY
 & ROCK GEOCHEMISTRY**

| | |
|-----------------|--|
| PROJECT/015A | PROJECT (JAILBIRD PROSPECT) GOOCH CLAIMS |
| NTS 93L/7 | DISPOSITION |
| WORK BY DJH/RMC | SCALE 1:5000 |
| DRAWN | DATE JULY 92 Map 4c |



LEGEND

- ppb Au (Au) ppm Ag (Ag) Soil sample location and results
- Silt sample location and results
- Contours (feet)
- Creek
- Swamp
- Claim post and boundary
- Road
- Trench
- DH# Diamond drill hole (approx. location)
- Au anomaly
- Ag anomaly

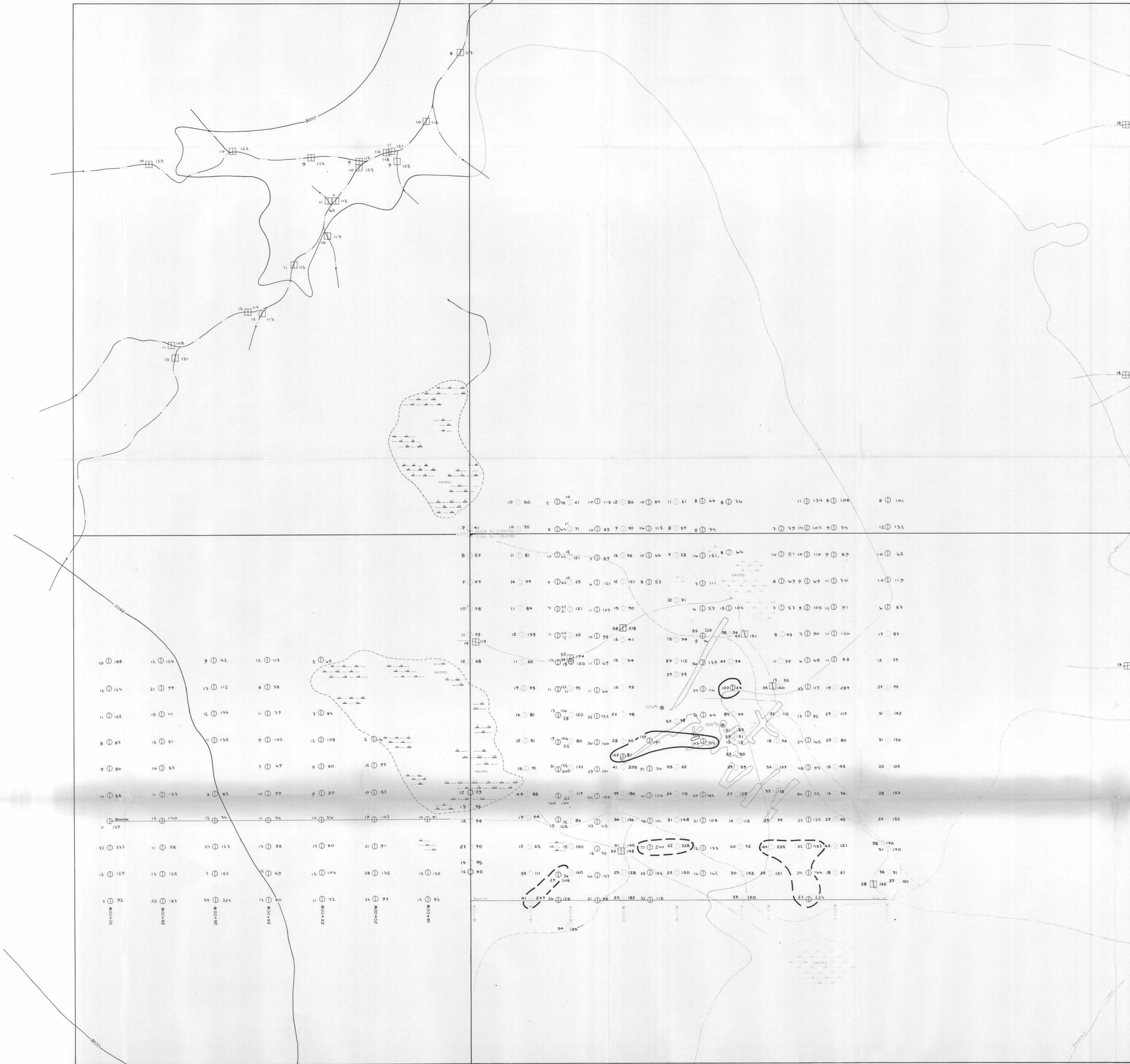
SCALE 1:5000

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,903
MINING CO. LTD.

**GOLD & SILVER
SOIL & SILT GEOCHEMISTRY**

| | |
|----------|--|
| PROJECT | OUTSA PROJECT (JALIBIRO PROSPECT) GOOCH CLAIMS |
| DATE | 93 L / 7 |
| WORK BY | DJH / BMC |
| SCALE | 1:5000 |
| DRAWN BY | SG |
| DATE | JULY 92 |
| MAP NO. | Map 4b |



LEGEND

- ppm Pb □ ppm Zn Soil sample location and results
- Silt sample location and results
- Contours (feet)
- Creek
- Swamp
- Claim post and boundary
- Road
- Trench
- Diamond drill hole (approx. location)
- Pb anomaly
- Zn anomaly

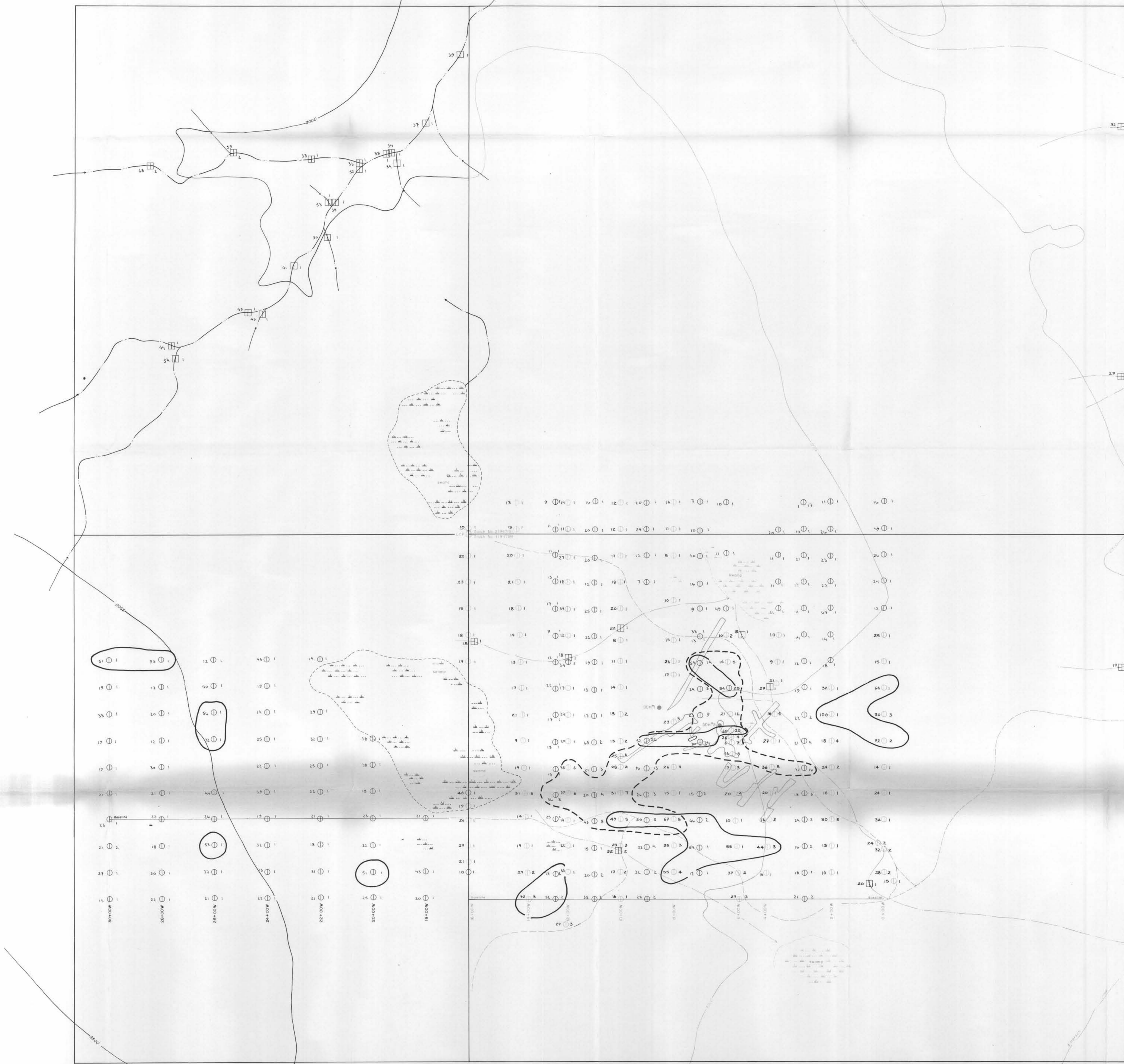
SCALE 1:5000

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,903
 MINING CO. LTD.

LEAD & ZINC
SOIL & SILT GEOCHEMISTRY

PROJECT: DOTS-A PROJECT (JAILBIRD PROSPECT) GOOCH CLAIMS
 DATE: 93 L / 7
 WORK BY: DJH / RMC
 DRAWN BY: SS
 SCALE: 1:5000
 DATE: JULY 82
 MAP: 4c



- LEGEND**
- ppm Cu (○) ppm Mo (□) Soil sample location and results
 - Silt sample location and results
 - Contours (feet)
 - Creek
 - Swamp
 - Claim post and boundary
 - Road
 - Trench
 - Diamond drill hole (approx. location)
 - Cu anomaly
 - Mo anomaly

SCALE 1:5000

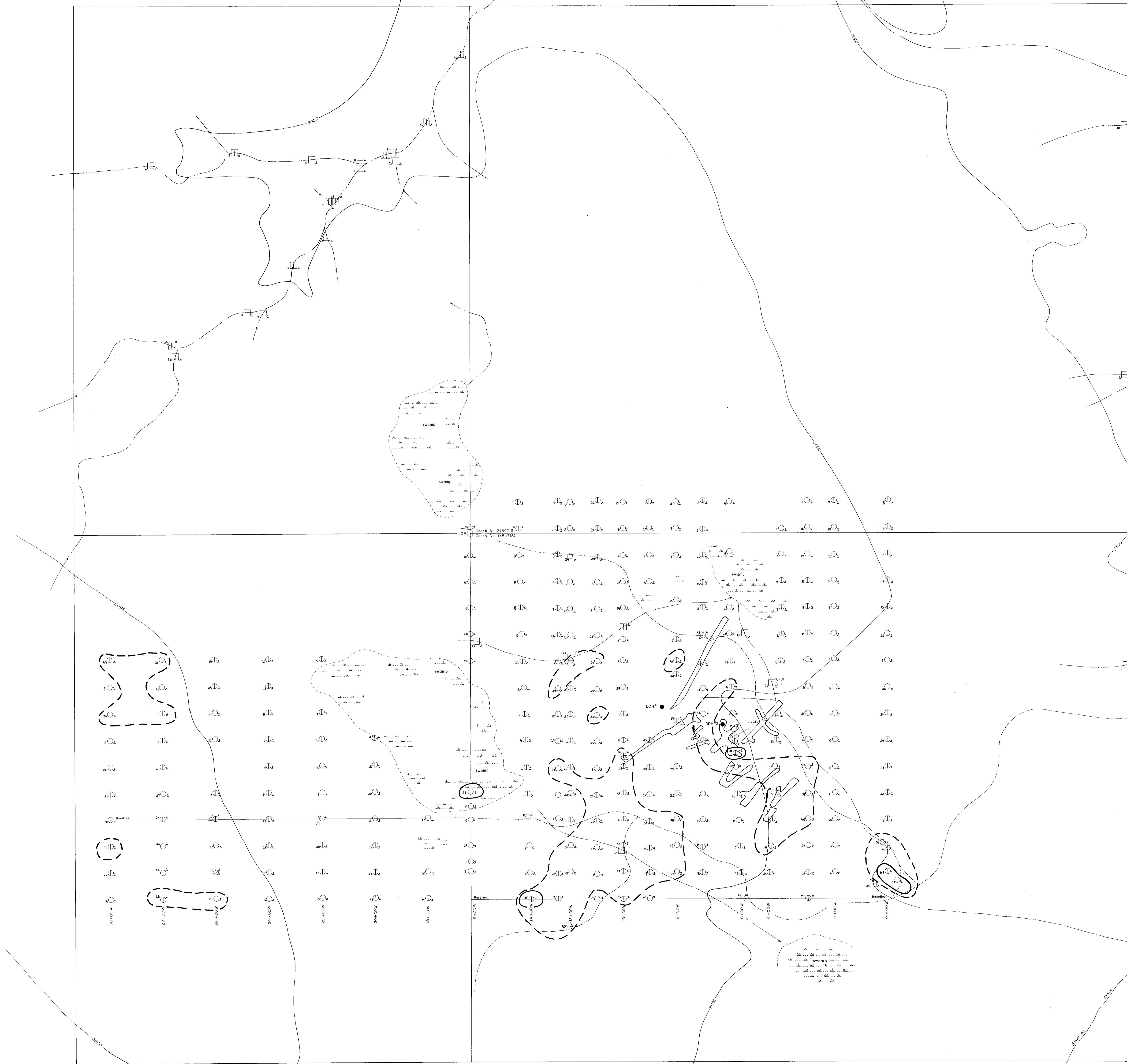
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,903

MINING CO. LTD.

**COPPER & MOLYBDENUM
SOIL & SILT GEOCHEMISTRY**

| | |
|---|---------------|
| PROJECT: OUSA PROJECT (JALBIRD PROSPECT) GOODH CLAIMS | DISPOSITION: |
| DATE: 95 L / 7 | SCALE: 1:5000 |
| DRAWN BY: DJM / RMC | DATE: JULY 82 |
| DRAWN: 80 | Map 4c |



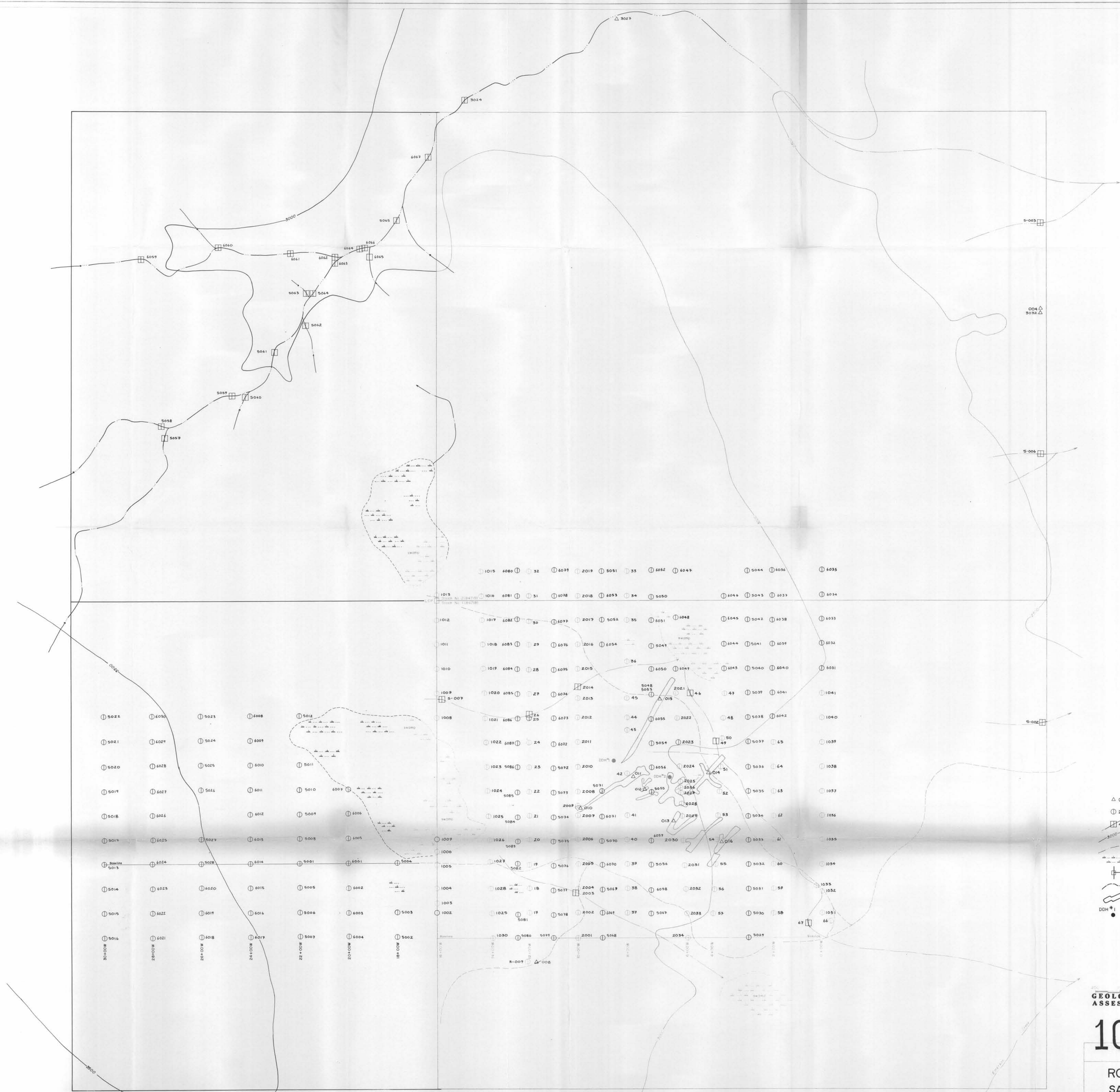
LEGEND

- ppm As ppm Sb Soil sample location and results
- Silt sample location and results
- Contours (feet)
- Creek
- Swamp
- Claim post and boundary
- Road
- Trench
- Diamond drill hole (approx. location)
- As anomaly
- Sb anomaly

SCALE 1:5000
 0 100 200 300 metres

10,903
 SMD MINING CO. LTD.
 ARSENIC & ANTIMONY
 SOIL & SILT GEOCHEMISTRY

| | |
|-------------|--|
| PROJECT | DOTSA PROJECT (JAILBIRD PROSPECT) GOOCH CLAIMS |
| NTS | 93L/7 |
| DISPOSITION | |
| WORK BY | DJH / BMC |
| SCALE | 1:5000 |
| DATE | July 82 |
| Map | 4c |



- LEGEND**
- △ O10 Rock sample location and number
 - ⊙ 2033 Soil sample location and number
 - ⊙ 46 Silt sample location and results
 - Contours (feet)
 - Creek
 - Swamp
 - Claim post and boundary
 - Road
 - Trench
 - ⊙ DH# Diamond drill hole (approx. location)

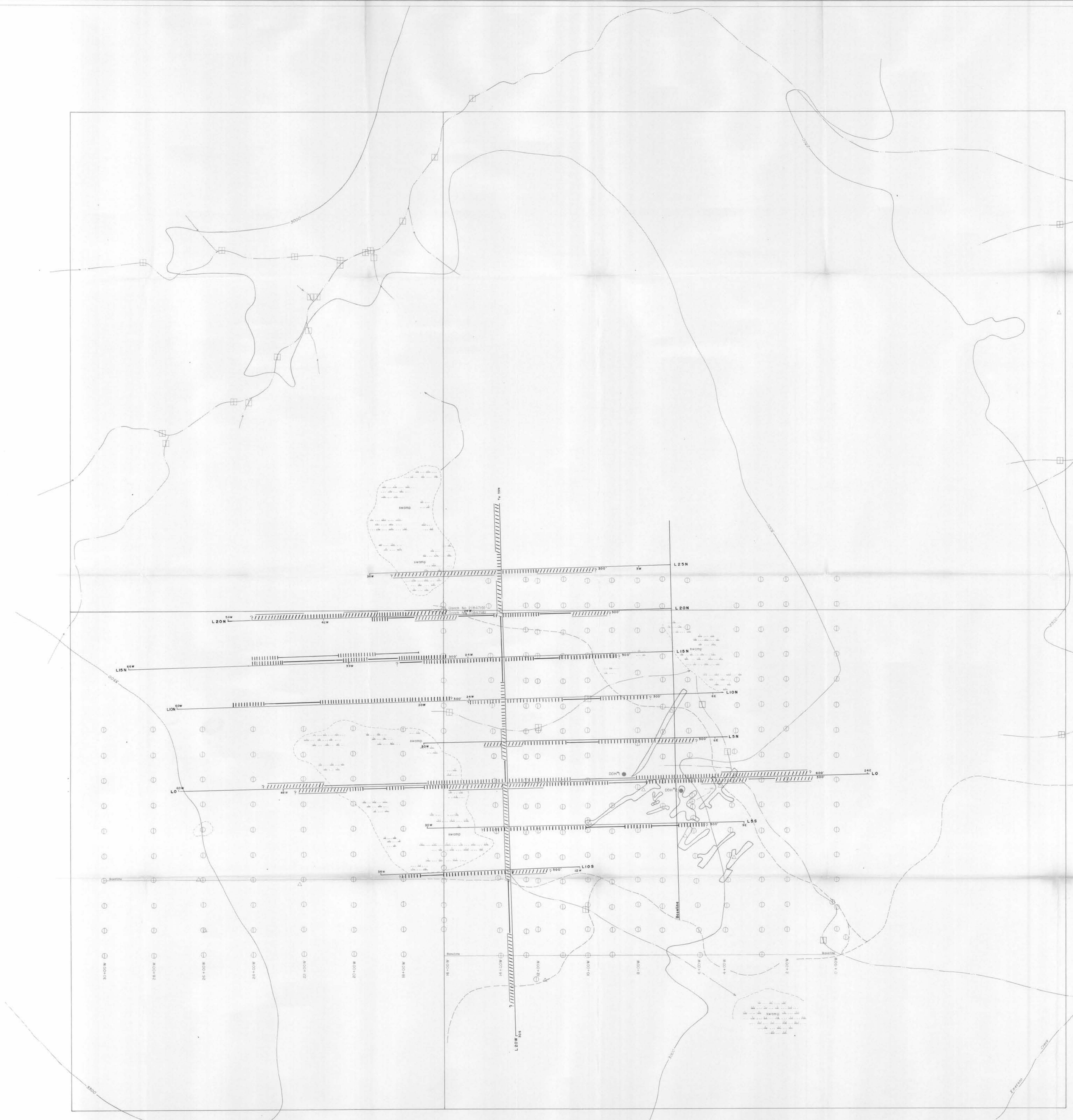
SCALE 1:5000

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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MINING CO. LTD.

**ROCK, SOIL & SILT
SAMPLE LOCATIONS**

| | |
|---------|--|
| PROJECT | GOTSA PROJECT (JAILBIRD PROSPECT) GOOCH CLAIMS |
| NO. | 93 L / 7 |
| DATE | JULY 82 |
| SCALE | 1:5000 |
| MAP NO. | Map 41 |



- LEGEND**
- ||||| 1967 IP Survey
 - ||||| 1966 IP Survey
 - Surface projection of anomalous zones
 - Definite
 - Probable
 - Possible
 - Number at the end of anomaly indicates spread used
(taken from assessment report # 869, Amax Exploration)
 - △ Rock sample location
 - Soil sample location
 - Silt sample location
 - Contours (feet)
 - Creek
 - Swamp
 - Claim post and boundary
 - Road
 - Trench
 - DH # Diamond drill hole (approx. location)

SCALE 1:5000
0 100 200 300 metres

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,903
SMD MINING CO. LTD.

INDUCED POTENTIAL SURVEY
(McPhar frequency domain 1.P unit)

| | |
|-----------------|---|
| PROJECT 00254 | PROJECT (JALBIRD PROSPECT) GOOCH CLAIMS |
| DATE 23/7/77 | DIPICATOR |
| WORK BY DJW/RMC | SCALE 1:5000 |
| DRAWN DDN | DATE JULY 82 Map 4g |