4619

Geological and geochemical surveys on the DAVE group of claims, situated north of Thane Creek, Omineca Mining Division, British Columbia, N.T.S. 94C, Fort Grahame, Latitude 56°07', Longitude 125°23', owned by and on behalf of Pechiney Development Ltd.

Field work between the 16th of July and the 28th of July 1973



Report by

J.P. Guelpa
Geologist
J. P. Guelpa

September 27, 1973


DAVE
Germansen Landing
SMITHERS
FORT ST. JAMES
30 miles
GENERAL SITUATION
of
DAVE mineral claims
4619-M1
WILLISTON LAKE
(Max. Storage Level)
TAKLA LAKE
BABINE LAKE
STUART LAKE
FRASER LAKE
OOTSA LAKE
EUTSUK LAKE
TWEEDSMUIR PARK
NASS RANGES
BULKLEY RANGES
TAHTSA RANGES
HAZELTON
TELKWA
HOUSTON
BURNS LAKE
FRANCOIS LAKE
Bella Coola
Manson Creek
Takla Landing
Topley
Tchentlo L.
Trembleur L.
Chuchi Lakes

## TABLE OF CONTENTS

## 1. LOCATION AND ACCESS

The Dave group of claims is situated 8 miles NNW of Uslika Lake on the north shore of Thane Creek which is a tributary of the Osilinka River.

Access is by helicopter from Germansen Landing (26 miles to the south).

## 2. CLAIMS

The Dave group is made up of 18 contiguous full-sized claims which are recorded as follows:

| Claim Name | Record No. |
|---|---|
| DAVE 1 | 116 490 |
| DAVE 2 | 116 491 |
| DAVE 3 | 116 492 |
| DAVE 4 | 116 493 |
| DAVE 5 | 116 494 |
| DAVE 6 | 116 495 |
| DAVE 7 | 116 496 |
| DAVE 8 | 116 497 |
| DAVE 9 | 116 498 |
| DAVE 10 | 116 499 |

| Claim Name | Record No. |
|---|---|
| DAVE 11 | 116 500 |
| DAVE 12 | 116 501 |
| DAVE 13 | 116 502 |
| DAVE 14 | 116 503 |
| DAVE 15 | 116 504 |
| DAVE 16 | 116 505 |
| DAVE 17 | 116 506 |
| DAVE 18 | 116 507 |

## 3. TOPOGRAPHY

The main topography feature of the property is a ridge that extends across it between the 6000'and 5500'elevation. On both sides there is a steep grade. Maximum relief is 1200'.

The ridge is above the timber line; it is cut by deep gulleys which form 2 sets: one is orientated NW and the other NE. These two sets are believed to reflect two conjugated tectonic directions. Most of the property below the ridge is timbered.

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4. WORK DONE

During the 1973 season a preliminary exploration program was undertaken to test favourable silt results obtained during the previous year (Cu, Mo values in sediments). The work was completed between July 16, 1973 and July 28, 1973 by a crew of two men: Jen Paul Guelpa, Geologist, and David Hopper, soil sampler. This program consisted of geological mapping and soil sampling.

A control grid was established and flagged using a compass and a topofil "Chaix" which allows easy and accurate measurements of distances. Line spacing was chosen to be 400 feet. Initially a 200 foot spacing was chosen between sample sites. As the work progressed, it was found that the mineralization occurred along linear structures and a 100 foot spacing was chosen in some cases.

340 soil samples were collected with an auger from the B horizon. In most cases there was no difficulty in reaching this horizon. The samples were sent to Min-En Laboratories, 705 West 15th Street, North Vancouver, and analysed for Mo, Cu, Zn, and Mn. An Mn analysis was requested to allow a better interpretation of other results which otherwise could be misleading.

In order to evaluate the gossans found while mapping, rock samples were analysed for Mo, Cu, Pb, Zn, Ag and Au. 22 specimens were sent to the above mentioned laboratory.

Samples were analysed by atomic absorption after extraction by "hot aqua regia".

## 5. RESULTS

### 5.1. Geology (see map # 1)

Although the property lies across the Hogem batholith - Takla volcanics contact, this contact cannot be seen,

Petrography - Thin sections have been made from rock specimens by Vancouver Petrographics. However, we did not have time to study them as yet and we will only give a macroscopic description of facies. A microscopic study is nevertheless necessary and will be undertaken during the winter months.

The Hogem batholith consists here of two petrographic facies. The older facies is a medium grained,hornblende-biotite, grey quartz monzonite. The younger facies is a fine grained (aplitic), hornblende-biotite, pink quartz monzonite; it occurs in dykes but also in puffs showing gradual and irregular contacts with the older facies. This younger facies, undoubtedly, represents an outward manifestation of the same magma.

A quartz-feldspar biotite porphyry dyke has been found but not its contacts. This porphyry is remarkably massive.

Several diobase dykes have also been found marking one of the two dominant tectonic directions (N30°W). These dykes show some evidence of fracturing.

The Takla volcanics consist of andesitic tuffs and flows, generally amygdaloidal and characterized by the presence of hornblende crystals which are commonly fresh and unbroken.

## Alterations

Generally the quartz monzonite, either coarse or fine grained, is fresh and massive. There is no pervasive alteration nor any penetrative fracturing.

However, the following can be reported:

a) Epidote and secondary K feldspar are found along fissures and slickensides, the average direction of which is N3o°W. A few pyrite specks sometimes accompany them.

b) The mafic minerals are chloritized or, sometimes, replaced by a fine grained variety of hematite. This alteration is more widespread than the epidote but it is also controlled by tectonic directions. The difference is that chloritization and hematitization occur on a wider fringe on either side of linear structures (faults, shear zones).

## Mineralizations

All mineralized occurrences are controlled by one of the two tectonic directions which are NW and NE. The predominant direction, in terms of mineralization, seems to be the NW one. It is marked by either narrow gossans (1 to 8 feet wide), by epidote-quartz veining or by diabase dykes.

The NE direction is marked only by gossans and mylonite so far.

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The gossans are dark brown, have a vuggy structure and contain abundant limonite. They sometimes show a crude quartz-specularite veining. Pyrite is present but is less common than specularite. Some of the gossans do not have any visible copper mineralization; in those which do have some copper mineralization, it consists of chalcopyrite pods surrounded by limonite and of chalcopyrite specks within quartz veinlets. In a few instances chalcopyrite forms a narrow edge along the quartz veinlets. Malachite staining helps much in locating mineralized gossans.

The most important mineralization is associated with quartz epidote veining. Quartz epidote veins range from 1/4 inch to one foot in thickness. Chalcopyrite is disseminated within the quartz or the epidote. Where the epidotization has extended outwards, a few inches within the host rock, specks of chalcopyrite are also found disseminated within this alteration fringe.

## Rock Geochemistry

All gossans and a few epidote veins were samples. Grab samples, the size of a lemon, were collected. When-ever possible, the immediate wall rocks of the gossans were also sampled to have an idea of the rock contamination.

Results

| Nature of Specimen | Number | Mo ppm | Cu ppm | Pb ppm | Zn ppm | Ag ppm | Au ppm |
|---|---|---|---|---|---|---|---|
| Gossan | 1 | 6 | 440 | 81 | 1280 | 3.3 | .06 |
| Wall rock | 2 | 2 | 112 | 9 | 58 | 0.7 | .06 |
| Epidote vein | 4 | 9 | 4900 | 148 | 405 | 1.9 | .02 |
| Wall rock | 5 | 4 | 64 | 34 | 335 | 1.5 | .01 |
| Gossan | 7 | 10 | 590 | 55 | 153 | 2.1 | .08 |
| Wall rock | 6 | 3 | 95 | 43 | 171 | 1.4 | .01 |
| Wall rock | 8 | 2 | 139 | 11 | 59 | 1.1 | .06 |
| Epidote vein | 11 | 2 | 725 | 31 | 450 | 2.0 | .05 |
| Wall rock | 12 | 3 | 160 | 20 | 136 | 1.2 | .06 |
| Gossan | 13 | 10 | 152 | 175 | 1120 | 2.6 | .06 |
| Same gossan | 14 | 13 | 36 | 97 | 515 | 2.7 | .10 |
| Wall rock | 15 | 3 | 63 | 14 | 44 | 0.6 | .09 |
| Gossan | 16 | 20 | 415 | 27 | 495 | 2.0 | .12 |
| Same gossan | 17 | 4 | 1310 | 106 | 515 | 2.5 | .08 |
| Wall rock | 18 | 5 | 97 | 110 | 91 | 0.8 | .18 |
| Gossan | 19 | 3 | 230 | 24 | 71 | 1.0 | .06 |
| Diabase dyke | 20 | 10 | 45 | 25 | 655 | 1.9 | .09 |
| Gossan | 21 | 47 | 620 | 165 | 510 | 2.8 | .37 |
| Gossan | 22 | 2 | 310 | 33 | 111 | 0.8 | .12 |
| Diabase dyke | 23 | 5 | 113 | 36 | 123 | 1.5 | .09 |
| Gossan | 24 | 68 | 55000 | 355 | 675 | 5.4 | .15 |
| Wall rock | 25 | 2 | 335 | 10 | 60 | 1.2 | .01 |

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Comments

All of the gossans carry anomalous copper values, even those where no mineralization is visible. This suggests that sulfide leaching has been important; however, to what extent the absence of copper minerals in some gossans can be attributed to leaching processes remains to be determined.

The gossan wall rocks show only a weak contamination which corroborates the essentially linear nature of the mineralization.

Although no sphalerite has been positively identified in the field, rock analysis reveals the presence of anomalous zinc values in most of those specimens which carry anomalous copper values (150 - 1280 ppm). Mo is also slightly anomalous in the same specimens.

Some specimens also carry slightly anomalous lead,silver and gold values.

The analysis of two diabase dykes shows that they contain slightly anomalous copper and zinc values.

5.2. Geochemical Survey (see map # 2)

In interpreting the geochemical survey two facts should be kept in mind:

1) The steep grade prevalent on either side of the ridge which is certainly responsible for a secondary geochemical dispersion (slope anomalies)

2) The interference of high manganese values. When studying the results it is clear that manganese values over 1200 ppm may cause (although it is not systematic) a noticeable increase of the Mo, Cu and Zn soil contents (false anomalies).

The following remarks must be made: the most consistent results are Cu values; however, no high level anomaly can be outlined; most of the high values ( $>$ 300 ppm) result from the interference of manganese values.

An interpretation of the geochemical survey is given on map # 2.

The copper anomalous zones outlined are consistent with the presence of linear sources of either NW or NE trend. In this case we think they are caused by the linear structure which crop out along the ridge and which extend underneath the soil cover in the lower part of the property. Similar structures, still to be found, are probably also responsible for some of the anomalies.

There is no ground on which to substantiate the hypothesis of a different kind of mineralization.

## 6. CONCLUSION - RECOMMENDATIONS

The general geological and tectonic setting along with detailed field observations and analytic results, particularly the paragenesis in presence, indicate that we are dealing with a tectonically controlled periplutonic mineralization. This kind of mineralization is not likely to produce large tonnage ore bodies; however, it is possible that small tonnage but high grade orebodies might come within the economic standards.

We suggest that the next step to assess the mineralizations discovered be a program of shallow light drilling using mobile equipment to test the linear gossans below the oxydation zone.

Respectfully submitted,
J.P. Guelpa, Geologist

## APPENDIX I

### Personnel Certificates

GUELPA, Jean Paul: Geologist, Graduate of University of Lyon/France in 1966. Since graduation engaged in mineral exploration in Quebec with the Department of Natural Resources and since 1969 in B.C. with Mokta Canada Ltd. and at present with Pechiney Development Ltd.

HOPPER, David: 20 years old, High School student. Has worked previously with Canadian Superior Explorations in 1971 and with Pechiney Development Ltd. in 1972 as soil sampler

# APPENDIX II

## Cost Breakdown

### Geological Survey

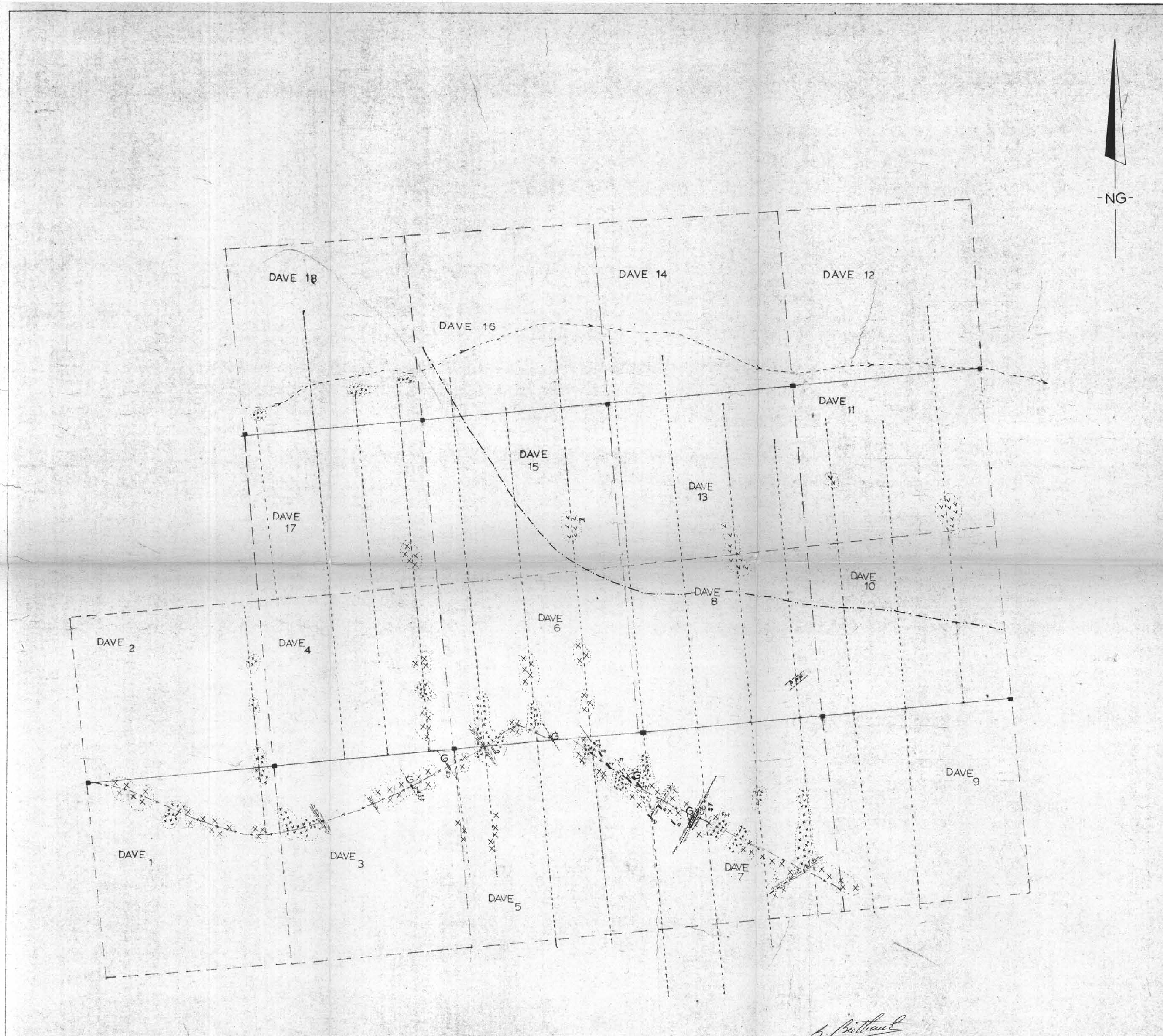
| | | |
|---|---|---|
| Geologist's salary (Jean Paul Guelpa) field and office 14 days @ $50 | $ 750 | |
| Thin and polished sections by Vancouver Petrographics | 80 | |
| Drafting and typing | 150 | $ 930.00 |

### Geochemical Survey

| | | |
|---|---|---|
| Sampler salary (David Hopper) 12 days @ $15 | $ 180 | |
| Analysis | | |
| 340 soil samples @ $2.65 | 901 | |
| 22 rock samples @ $2.65 | 58 | $ 1,139.00 |
| T o t a l | | $ 2,069.00 |

$2,069 to apply to the DAVE group of claims for one year assessment.

J.P. Guelpa




To accompany geological and geochemical report by Jean Paul Guelpa geologist September 27, 1973 J. P. Guelpa

PECHINEY DEVELOPMENT LTD — MAP N°1

# DAVE CLAIMS

## GEOLOGY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4619 MAP #2

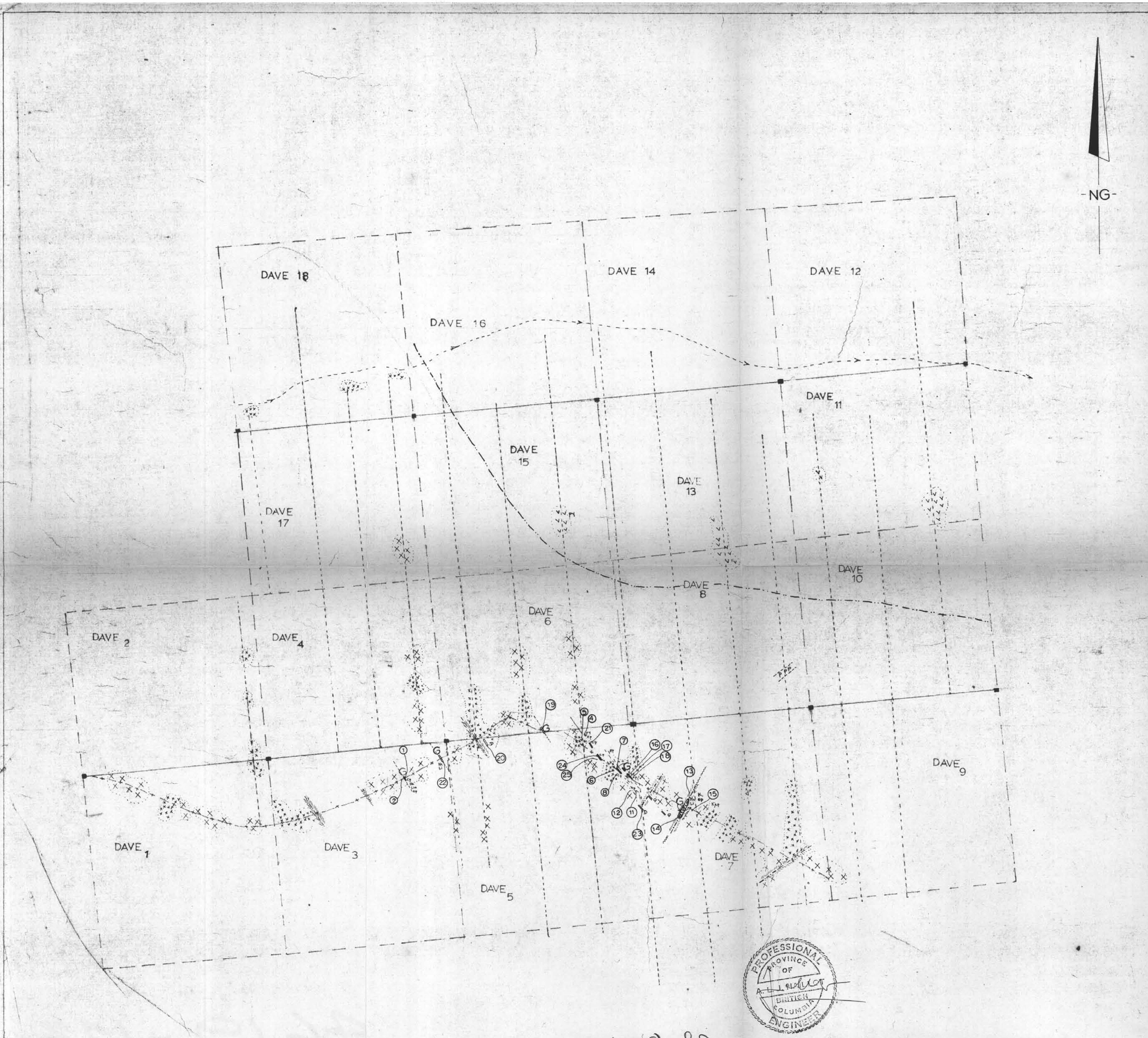
SCALE: 1" = 500'

SEPT 1972

## LEGEND

- DIABASE DYKE
- PORPHYRY DYKE
- PINK FINE GRAINED QUARTZ-MONZONITE
- XX GREY COARSE GRAINED QUARTZ-MONZONITE
- vv ANDESITIC TUFFS AND FLOWS
- MINERALIZED GOSSAN Ma, Cp.
- UNMINERALIZED GOSSAN He, Li, Q
- SLIKENSIDES
- MYLONITE
- Cp CHALCOPYRITE — He SPECULARITE — Li LIMONITE
- Q QUARTZ VEINLETS — Ep EPIDOTE — Py PYRITE
- INFERRED GEOLOGICAL CONTACT
- PROMINENT NEGATIVE TOPOGRAPHIC FEATURE (GULLEY)
- RIDGE
- FLAGGED CONTROL LINE
- CLAIM POST
- LOCATION LINE

4619 - M2




To accompany geological and Geochemical report by Jean Paul Guelpa geologist November 22 1973 J.P. Guelpa

PECHINEY DEVELOPMENT LTD

MAP N°1 bis

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4619 MAP #3

# DAVE CLAIMS

## GEOLOGY

LOCATION OF ROCK SPECIMENS

FOR

ROCK GEOCHEMISTRY

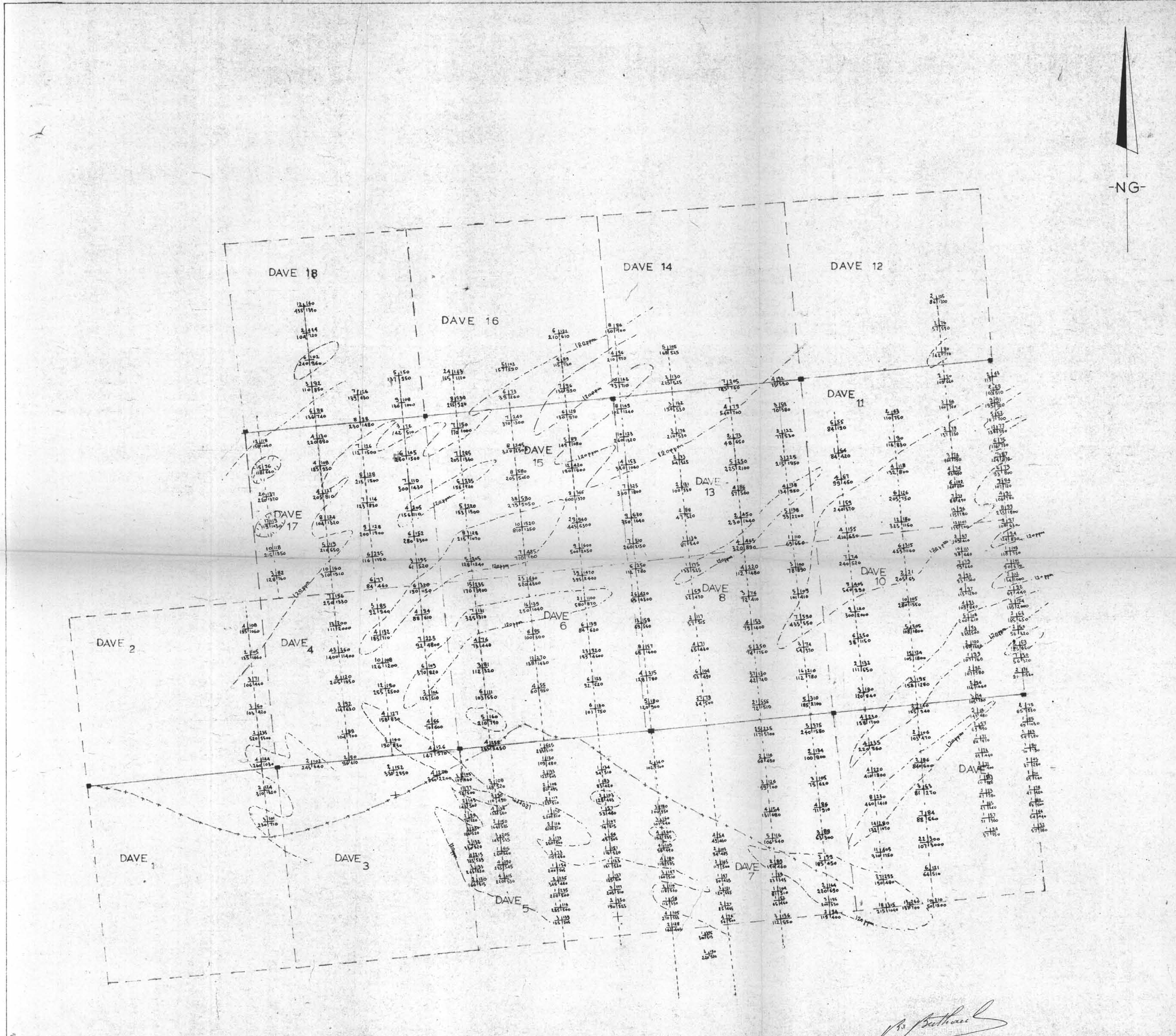
SCALE: 1" = 500'

NOV. 1973

## LEGEND

- DIABASE DYKE
- PORPHYRY DYKE
- PINK FINE GRAINED QUARTZ-MONZONITE
- GREY COARSE GRAINED QUARTZ-MONZONITE
- ANDESITIC TUFFS AND FLOWS
- MINERALIZED GOSSAN Ma, Cp.
- UNMINERALIZED GOSSAN He, Li, Q
- SLIKENSIDES
- MYLONITE
- Cp CHALCOPYRITE — He SPECULARITE — Li LIMONITE
- Q QUARTZ VEINLETS — Ep EPIDOTE — Py PYRITE
- INFERRED GEOLOGICAL CONTACT
- PROMINENT NEGATIVE TOPOGRAPHIC FEATURE (GULLEY)
- RIDGE
- FLAGGED CONTROL LINE
- CLAIM POST
- LOCATION LINE

4619 - M3




To accompany geological and geochemical report by Jean Paul Guelpa, geologist September 27, 1973

J. P. Guelpa

PECHINEY DEVELOPMENT LTD

MAP No. 2

# DAVE CLAIMS

# SOIL GEOCHEMISTRY

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4619 MAP #4

SCALE: 1" = 500'

SEPT 1973

## LEGEND

Mo | Zn / Cu | Mn — Metal values in ppm

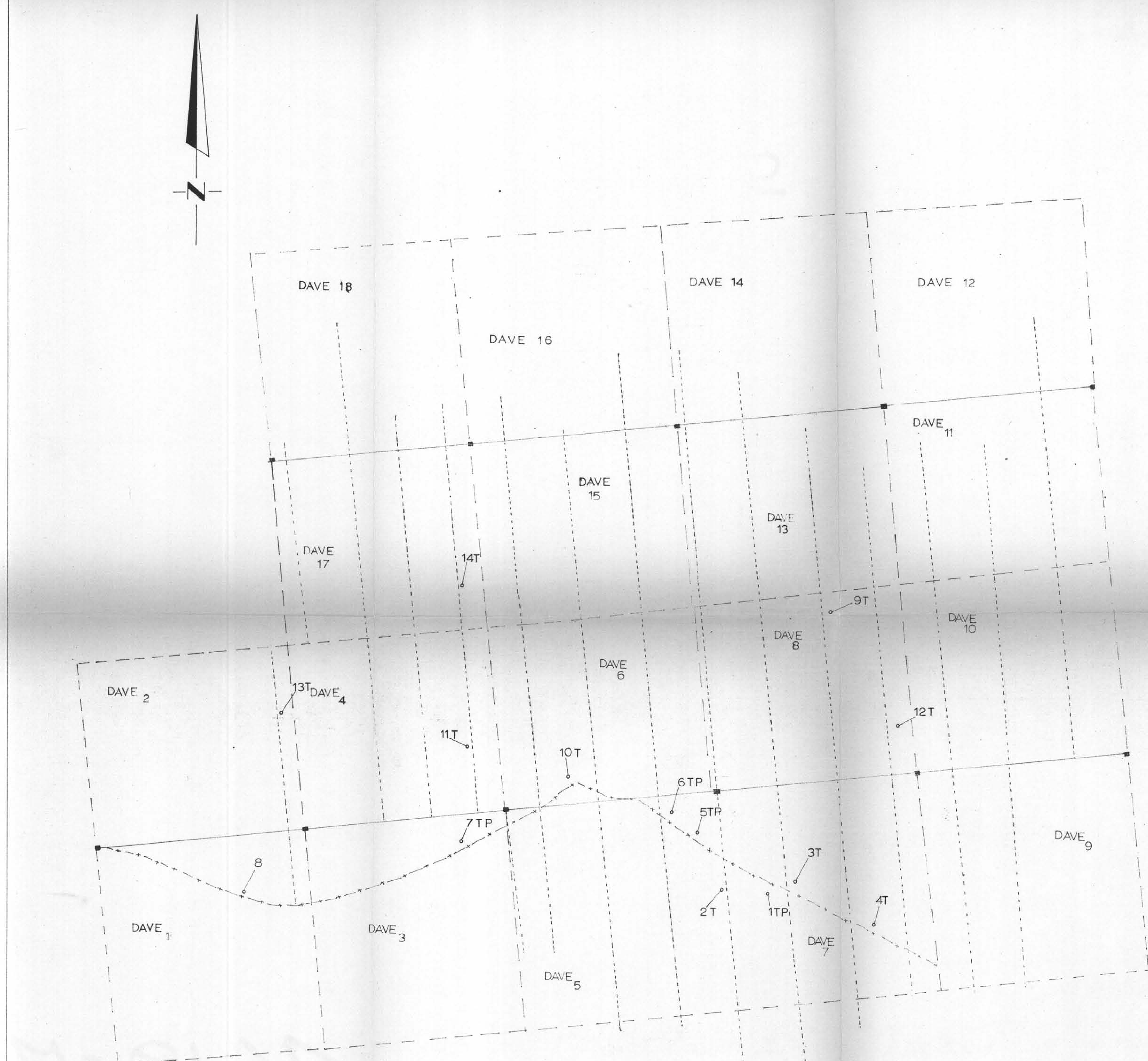
Anomalous Copper zones. Cu > 120 ppm, disregarding values associated with high manganese values (> 1200 ppm)

Geochemical low

Claim post

Location line

4619-M4




PECHINEY DEVELOPMENT LTD

MAP No 3

# DAVE CLAIMS

## LOCATION OF ROCK SAMPLES

## FOR PETROGRAPHIC STUDIES

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4619 MAP #5

SCALE 1" = 500'

## LEGEND

| | |
|---|---|
| T | Thin section only |
| TP | Polished and thin section.(specimens with mineralization) |

4619-M5

To accompany geological and geochemical report by Jean Paul Guelpa, Geologist, November 15 1973

J.P. Guelpa