


# GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL

# REPORT

# ON

# CAT 1-64 CLAIMS

## BLIND CREEK AREA, ANVIL DISTRICT, YUKON

105-K-7

66°15'N

133°00'W

GORDON D. HOUSE, B.A.

June 8th, 1976 to

September 10th, 1976




010 60

Office Of The Supervising Mining Recorder
DEC - 1 1976
WHITEHORSE
Yukon Territory

This report has been examined by the Geological Evaluation Unit and is recommended to the Mining Recorder to be considered as representative work in the amount of $ 39,903-12

W D Lindsay
Professional Geologist or
~~Professional Engineer~~

Considered as representation work under Section 8 of the Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

for Commissioner of Yukon Territory

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## INTRODUCTION

The Cat 1 to 64 claims, optioned to Preussag Canada Limited by Afrex Gas and Oil Limited, are located on Blind Creek in the Anvil District of eastern Yukon Territory.

During the summer field season, between June and September 10, 1976, a program of line-cutting, a magnetometer survey, geological mapping, geochemical soil sampling and a Turam electromagnetic survey were carried out.

LIST OF CLAIMS

The claims are located in the Whitehorse Mining District, and are recorded at the Mining Recorders Office in Whitehorse.

Expiry date on all the claims is November 28th, 1976 and the recorded owner is Norex Development Ltd. (NPL) of Whitehorse, Yukon.

Work was performed on these claims for Preussag Canada Limited.

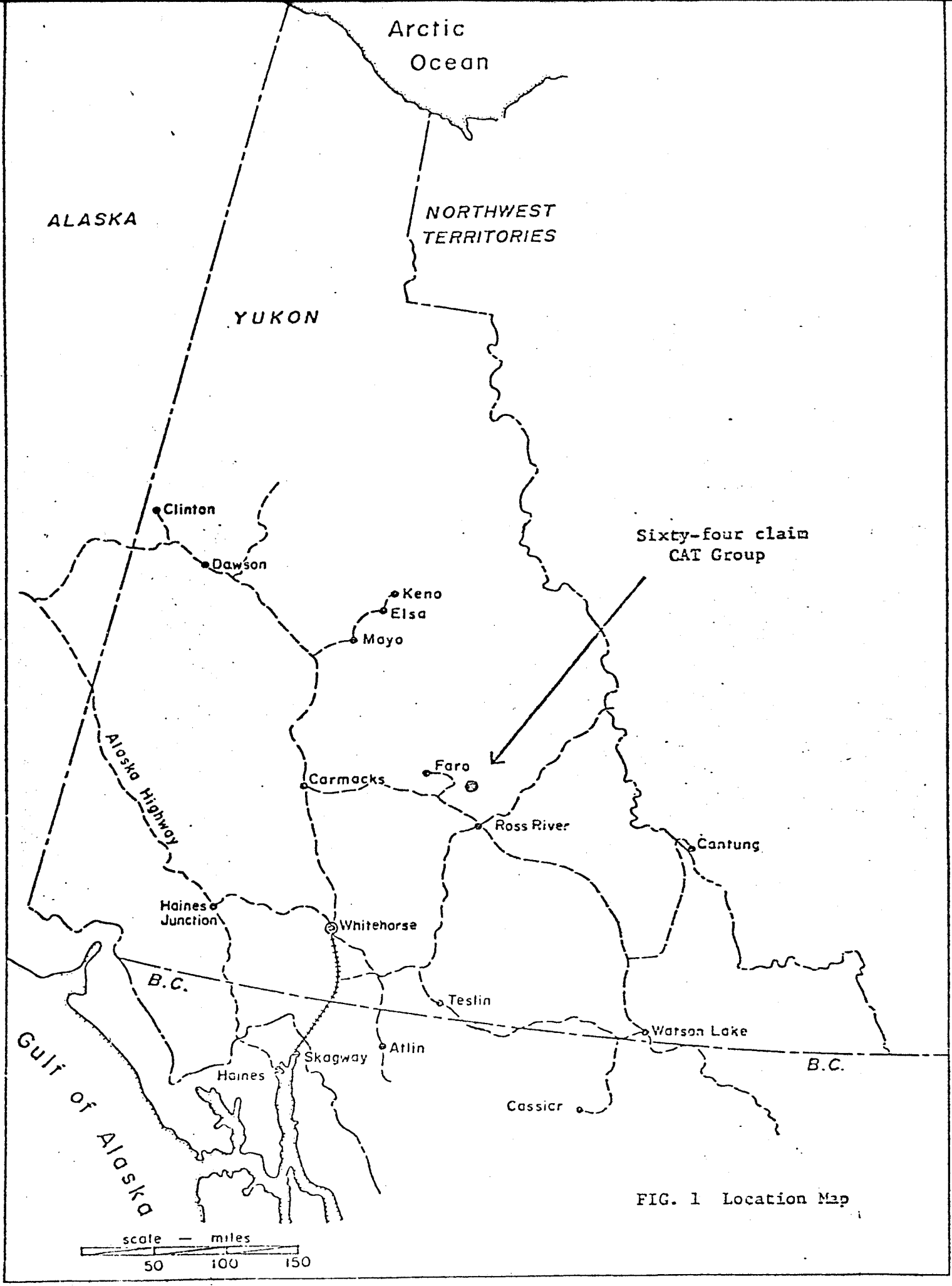



FIG. 1 Location Map

# LIST OF CLAIMS

| CLAIM NAME AND NUMBER | GRANT NUMBER | RECORDED OWNER |
|---|---|---|
| CAT NO. 1 | Y80454 | Norex Developments Ltd. |
| CAT NO. 2 | Y80455 | Norex Developments Ltd. |
| CAT NO. 3 | Y80456 | Norex Developments Ltd. |
| CAT NO. 4 | Y80457 | Norex Developments Ltd. |
| CAT NO. 5 | Y80458 | Norex Developments Ltd. |
| CAT NO. 6 | Y80459 | Norex Developments Ltd. |
| CAT NO. 7 | Y80460 | Norex Developments Ltd. |
| CAT NO. 8 | Y80461 | Norex Developments Ltd. |
| CAT NO. 9 | Y80462 | Norex Developments Ltd. |
| CAT NO. 10 | Y80463 | Norex Developments Ltd. |
| CAT NO. 11 | Y80464 | Norex Developments Ltd. |
| CAT NO. 12 | Y80465 | Norex Developments Ltd. |
| CAT NO. 13 | Y80466 | Norex Developments Ltd. |
| CAT NO. 14 | Y80467 | Norex Developments Ltd. |
| CAT NO. 15 | Y80468 | Norex Developments Ltd. |
| CAT NO. 16 | Y80469 | Norex Developments Ltd. |
| CAT NO. 17 | Y80470 | Norex Developments Ltd. |
| CAT NO. 18 | Y80471 | Norex Developments Ltd. |
| CAT NO. 19 | Y80472 | Norex Developments Ltd. |
| CAT NO. 20 | Y80473 | Norex Developments Ltd. |
| CAT NO. 21 | Y80474 | Norex Developments Ltd. |
| CAT NO. 22 | Y80475 | Norex Developments Ltd. |
| CAT NO. 23 | Y80476 | Norex Developments Ltd. |
| CAT NO. 24 | Y80477 | Norex Developments Ltd. |
| CAT NO. 25 | Y80478 | Norex Developments Ltd. |
| CAT NO. 26 | Y80479 | Norex Developments Ltd. |
| CAT NO. 27 | Y80480 | Norex Developments Ltd. |
| CAT NO. 28 | Y80481 | Norex Developments Ltd. |
| CAT NO. 29 | Y80482 | Norex Developments Ltd. |
| CAT NO. 30 | Y80483 | Norex Developments Ltd. |
| CAT NO. 31 | Y80484 | Norex Developments Ltd. |
| CAT NO. 32 | Y80485 | Norex Developments Ltd. |
| CAT NO. 33 | Y80486 | Norex Developments Ltd. |
| CAT NO. 34 | Y80487 | Norex Development Limited (NPL) |
| CAT NO. 35 | Y80488 | Norex Development Limited (NPL) |
| CAT NO. 36 | Y80489 | Norex Development Limited (NPL) |
| CAT NO. 37 | Y80490 | Norex Development Limited (NPL) |
| CAT NO. 38 | Y80491 | Norex Development Limited (NPL) |
| CAT NO. 39 | Y80492 | Norex Development Limited (NPL) |
| CAT NO. 40 | Y80493 | Norex Development Limited (NPL) |
| CAT NO. 41 | Y80494 | Norex Development Limited (NPL) |
| CAT NO. 42 | Y80495 | Norex Development Limited (NPL) |
| CAT NO. 43 | Y80496 | Norex Development Limited (NPL) |
| CAT NO. 44 | Y80497 | Norex Development Limited (NPL) |
| CAT NO. 45 | Y80498 | Norex Development Limited (NPL) |
| CAT NO. 46 | Y80499 | Norex Development Limited (NPL) |

## LIST OF CLAIMS

| CLAIM NAME AND NUMBER | GRANT NUMBER | RECORDED OWNER |
|---|---|---|
| CAT NO. 47 | Y80500 | Norex Development Limited (NPL) |
| CAT NO. 48 | Y80501 | Norex Development Limited (NPL) |
| CAT NO. 49 | Y80502 | Norex Development Limited (NPL) |
| CAT NO. 50 | Y80503 | Norex Development Limited (NPL) |
| CAT NO. 51 | Y80504 | Norex Development Limited |
| CAT NO. 52 | Y80505 | Norex Development Limited |
| CAT NO. 53 | Y80506 | Norex Development Limited |
| CAT NO. 54 | Y80507 | Norex Development Limited (NPL) |
| CAT NO. 55 | Y80508 | Norex Development Limited (NPL) |
| CAT NO. 56 | Y80509 | Norex Development Limited (NPL) |
| CAT NO. 57 | Y80510 | Norex Development Limited (NPL) |
| CAT NO. 58 | Y80511 | Norex Development Limited (NPL) |
| CAT NO. 59 | Y80512 | Norex Development Limited (NPL) |
| CAT NO. 60 | Y80513 | Norex Development Limited (NPL) |
| CAT NO. 61 | Y80514 | Norex Development Limited (NPL) |
| CAT NO. 62 | Y80515 | Norex Development Limited (NPL) |
| CAT NO. 63 | Y80516 | Norex Development Limited (NPL) |
| CAT NO. 64 | Y80517 | Norex Development Limited (NPL) |

## PROPERTY, LOCATION AND ACCESS

The Cat claims consisting of 64 contiguous claims, grant numbers Y80454 to Y80517 inclusive, are located on Blind Creek in the Anvil District of Yukon Territory, in the Whitehorse Mining District. The claim block covers both sides of Blind Creek about 9 miles above its confluence with Pelly River, from the creek at about 2,750 feet elevation to about 4,500 feet elevation on the west.

Vegetation is typical of the region, ranging from scrubby black spruce on the swampy area near the creek to stands of spruce on the side hills with open jack pine cover on the steeper hills. Alder and Arctic black birch form thick undergrowth in places, black birch bushes occur above timberline at 4200 feet elevation.

Access to the property is on foot or by helicopter during the summer months, but an old winter road dating to 1965 could be utilized for tracked vehicles in the winter months once the ground is frozen. The nearest center of population is Faro, located about 12 miles to the west. Faro is serviced by an all-weather road maintained year round, an access road runs to the Grum deposit located about 8 miles west of the claims.

HISTORY

During the 1964-65 staking rush in the Anvil District, the area of the present Cat claims had been covered by claims recorded as the LUK claims. Airborne magnetic and electromagnetic surveys were carried out in 1966. A limited program of line-cutting and ground magnetic surveying was carried out the same year. Reconnaissance geochemical soil samples were taken at 400 foot intervals along claims location lines. No further work was carried out due to inconclusive results.

The ground was staked in 1974 for Norex Developments Ltd. (NPL) of Whitehorse, Yukon, and a limited program of line-cutting and trenching was carried out in 1975. In 1975 the claims were optioned to Afrex Gas and Oil Ltd., who re-optioned the claims to Preussag Canada Limited.

WORK PERFORMED TO DATE

During the period of June 10 to September 10, 1976 a program of line-cutting, soil sampling, magnetometer surveying, Turam electromagnetic surveying and geological mapping was carried out on the Cat claims as follows:

Line-cutting

Line-cutting on the Cat claims was contracted by Eastern Associates Reg'd of Whitehorse, Yukon Territory, who cut and picketed a grid totalling 58.81 line miles on the property in the period of June 26 to August 11, 1976.

A base line trending 045° True, was cut through the centre of the 64 claim block, tied by chain and compass to the claim posts No. 1 - Cat 31, 32 and No. 2 Post - Cat 29, 30. The base line was cut out using chainsaw and axes and picketed at 100 foot intervals for a total distance of 11,500 feet. Cross lines were turned off at 500 foot intervals, cut by axe and machette, chained and picketed for 6,000 feet to the northwest and 5,500 feet to the southeast.

Tie lines for control were cut at the end of the cross lines, bearing 045° True. Control cross lines were cut using axe and chainsaw at L.30N. L60N. L115N from the base line to the northwest and southeast - turned at right angles to the base line. All lines were chained, slope corrections applied, and picketed at 100 foot intervals.

Magnetometer Survey

A magnetometer survey was carried out over the cut line grid, during the period of July 3 to August 28, 1976, for a total of 58.81 miles.

Two McPhar M-700 Fluxgate magnetometers, serial numbers 70119 and 71161, were used for the surveys. A Rustrak recorder, serial number N98221, was connected to one of the magnetometers at the base station near the camp. A reading of 500 gammas was selected as datum for the magnetometer survey. The base station magnetometer and recorder were set daily at this value, the traverse magnetometer was set at this value at the base station daily. Readings were taken at 100 foot intervals on the base line, tie lines and all cross lines.

Corrections for diurnal variations in the geomagnetic field were applied to the readings as required from the daily recorder tapes and the results plotted on a scale of 1":400' (Figure 4 in pocket).

Soil Sampling

Soil sampling was contracted by Paul Dupras of Burnaby, B. C. who carried out the sampling over the periods of July 16 to 22 and August 9 to 20, 1976. An orientation sampling program was carried out by the writer prior to the contractors sampling. A total of seven test pits were dug or blasted to various depths. Samples were taken from the different soil horizons, tagged, and sent to Chemex Labs Ltd. of North Vancouver, B. C. for analysis for copper, lead and zinc. The results from the test profiling indicated the relatively immature B horizon, immediately

underlying the ubiquitous volcanic ash horizon was the most suitable for sampling.

Frozen ground was a problem in June and early July, the waterlogged volcanic ash horizon remained frozen until well into July. In the muskeg and swampy areas of the claims where there is a thick moss cover, the ground remains frozen most of the year.

The contractor took soil samples at 200 foot intervals on all cut-lines over the Cat claims grid.

A short handled mattock was used to dig down to the sampling horizon, samples of approximately 200 grams were taken and put in Kraft paper sample bags, carefully marked with the sample station location. The samples were air dried for several days and shipped to Chemex Labs. Ltd. of North Vancouver, B. C., for analysis for copper, lead and zinc. Laboratory procedures for handling, preparation and analysis are as follows:

Sample Preparation

1. Samples are sorted numerically or in grid sequence and recorded on lab work sheets.
2. Soil and silt materials are air dried at 80°C. Drying time 12 - 16 hours.
3. Screen samples and retain all -80 mesh material.
4. -80 mesh fraction is stored in powder seal coin envelopes for analysis and also for later dry storage.

Sample Digestion, Chemical Preparation and Analyses

1. For analyses of Cu, Mo, Pb, Zn, Co, Ni, Cd, Ag - a 0.5 gm sample of -80 mesh material is weighed into 22 x 175 mm test tubes. Detection limits 1 ppm or less.
2. Add 3 mls 70% $HClO_4$ and 2 mls conc. $HNO_3$ to sample. Slowly heat to 203°C. Digestion time 2 - 3 hours.
3. Add demineralized water to 25 ml volume, mix thoroughly, settle and analyze samples by standard atomic absorption procedures.

The results were statistically analyzed to determine background, threshold and anomalous values for the three elements. Results were plotted on a scale of 1":400' and contoured for the statistically derived values, (Figures 5, 6, 7 in pocket).

Turam Electromagnetic Survey

The Turam electromagnetic survey was contracted by Peter Walcott and Associates who carried out the survey over 52.27 line-miles of cross lines. The methods of operations and results are described in the accompanying report by Mr. Peter Walcott.

Geological Mapping

Geological mapping, utilizing air photographs and 1:50,000 NTS sheet compilations, was carried out over the claim group in conjunction with the magnetometer survey and claim mapping. Float prospecting was carried out in the early part of the field season, and traverses were made utilizing the cut line grid for control towards the end of the field season. Results of the geological mapping were plotted on a scale of 1":400', (Figure 3).

## DISCUSSION OF RESULTS

### Magnetometer Survey

Corrected magnetometer readings were plotted at a scale of 1":400', (Figure 4), and contoured at 300, 400, 500, 600, 800, and 1,000 gamma intervals. The resulting plan indicates a moderate ridge of 600 plus gamma values trending northeasterly across the southwest portion of the claim block from around 35W on L0+00. The ridge of 600+ values is broken up and patchy around L.45N at the Base line but continues through to the northeast edge of the claim block around 15S on L.155N.

The main area of anomalous magnetic values shown by the survey occurs in the northern and western area of the claim block, extending from L.45N10W to 50W, to L.95N 5W to 30W and L.95N 35W to 60W. Values in excess of 1000+ gamma occur at L.70N 58W to 61W and across to L.75N 56W to 59W. This ridge or zone of anomalous values has a peculiar magnetic low feature centered on L.70N around 30W, vaguely suggestive of a dipole condition.

The linear anomalous conditions trending roughly easterly from L.70N 55W to L.95N 10W, approximates the contact between the biotite schist unit and the stratigraphically higher chlorite phyllite unit.

### Geochemical Soil Sampling

Results from the analysis of soil samples for copper, lead and zinc were plotted on a scale of 1":400', (Figure 5, 6, 7), and contoured at the statistically derived background, threshold and anomalous values for each element.

Values generally for the three elements are lower than expected, with the result that the statistically anomalous values are low. The deep overburden of the region and the fairly extensive areas of muskeg on the valley bottom are responsible for the lower than expected values.

Areas anomalous in copper values are restricted to the steeper ridge tops in the west corner of the claim group. Small areas of anomalous copper values occur in the north central area and on the east side of Blind Creek, believed to be due to float boulders of intrusive which contain minor chalcopyrite mineralization.

Anomalous lead values occur on the northwest end of the claim group mainly on the higher sidehills above the valley bottom. The main areas of anomalous values in lead are centered around L.45N 50W to L.65N 55W, on a steep sidehill of scattered outcrop of chlorite phyllite, graphitic in part, with an associated zinc anomaly. A small lead anomaly centered on L.70N 38W to L.75N 40W is associated with float boulders of silicified biotite schist with galena bearing quartz veins. The lead anomaly in the north corner of the claim block, open to the north, is believed to be associated with similar minor galena bearing quartz veins.

Anomalous zinc values are more widespread than the lead anomalies, but are coincident in the west central part of the claim block in the area of L.45N 50W to L.65N 55W. Small areas of anomalous zinc values on the east side of Blind Creek are isolated, occur on muskeg or in swampy areas and are believed due to concentration from seepage waters by organic complexes.

Geology

Glacial and glaciofluvial material covers most of the claims area to varying depths except on the higher ridges and steep sidehills on the west side of Blind Creek. Float mapping and prospecting were utilized in the interpretation of the geology.

The claim block is underlain by the Anvil series of schists and phyllites, the Anvil batholith outcrops 2 miles to the northeast at the head of Camp Creek. Mapping showed the contact between the biotite schist unit and the chlorite phyllite unit trends easterly across the northern part of the claims from L.50N 50W to L.70N 35W.

The outcrop of biotite schist in the northern quarter of the claim block is broken by several north-south trending fault zones, while in the area of grid coordinates L.85N 35W float of siliceous biotite schist with galena bearing quartz veins was noted. Small lead and zinc geochemical anomalies are associated with this float mineralization.

Within the chlorite phyllite unit are horizons of quartz-graphite-chlorite phyllite, which are associated with or host the zinc-lead deposits at Grum, Vangorda and Swim. Float of graphite-chlorite phyllite was noted at several locations in the western part of the claim block.

A major normal fault zone is believed to trend along the valley of Blind Creek, with downthrow to the east. The only faulting seen on the claims is in the northern part, where outcrop of biotite schist is broken by a series of 025° trending faults. The creek flowing through the western part of the claims, Camp Creek, is believed to

be the locus of a fault zone, indicated by the displacement and disruption of the ridge of magnetic anomalies trending east across the centre of the claim block.

Turam Electromagnetic Survey

The results of the Turam electromagnetic survey are discussed in the accompanying report by Peter Walcott & Associates.

## CONCLUSION AND RECOMMENDATIONS

The results of the work performed during the 1976 field season indicate an area of interest in the west central part of the claim group, where coincident lead and zinc anomalous conditions occur within the chlorite phyllite unit of the Anvil series, roughly parallel to the contact with the biotite schist unit.

The Turam electromagnetic survey indicates conductive conditions in the same area.

A gravity survey over the area of interest, with at least 4,000 feet of follow-up diamond drilling is recommended.

CAT 1
Y80454

CAT 3
Y80456

CAT 5
Y80458

CAT 7
Y80460

CAT 9
Y80462

CAT 11
Y80464

CAT 13
Y80466

CAT 15
Y80468

CAT 2
Y80455

CAT 4
Y80457

CAT 6
Y80459

CAT 8
Y80461

CAT 10
Y80463

CAT 12
Y80465

CAT 14
Y80467

CAT 16
Y80469

CAT 32
Y80485

CAT 30
Y80483

CAT 28
Y80481

CAT 26
Y80479

CAT 24
Y80477

CAT 22
Y80475

CAT 20
Y80473

CAT 18
Y80471

CAT 31
Y80484

CAT 29
Y80487

CAT 27
Y80480

CAT 25
Y80478

CAT 23
Y80476

CAT 21
Y80474

CAT 19
Y80472

CAT 17
Y80470

CAT 33
Y80486

CAT 35
Y80488

CAT 37
Y80490

CAT 39
Y80492

CAT 41
Y80494

CAT 43
Y80496

CAT 45
Y80498

CAT 47
Y80500

KIT 36

CAT 34
Y80487

CAT 36
Y80489

CAT 38
Y80491

CAT 40
Y80493

CAT 42
Y80495

CAT 44
Y80497

CAT 46
Y80499

CAT 48
Y80501

CAT 64
Y80517

CAT 62
Y80515

CAT 60
Y80513

CAT 58
Y80511

CAT 56
Y80509

CAT 54
Y80507

CAT 52
Y80505

CAT 50
Y80503

CAT 63
Y80516

CAT 61
Y80514

CAT 59
Y80512

CAT 57
Y80510

CAT 55
Y80508

CAT 53
Y80506

CAT 51
Y80504

CAT 49
Y80502

KIT 67

KIT 68

PREUSSAG CANADA LIMITED
CAT CLAIMS AFREX PROJECT
ANVIL AREA, YUKON TERRITORY
Cat Claims

FIGURE 2

NTS 105 - K - 7

38 (Chlorite sericite phyllite, quartz graphite phyllite)

Qtz. vein in biotite schist

(Float) Quartz chlorite phyllite

Chlorite phyllite float

Chlorite phyllite

(Float)
Chlorite – Sericite Phyllite
with Quartz Graphite Phyllite
Rounder Boulders Granodiorite

(Float) Boulders of intrusive Chlorite – Graphite phyllite

(float) Chlorite graphite phyllite

Chlorite phyllite

Float boulders intrusive granodiorite

Float Chlorite phyllite

Quartz biotite schist

Biotite schist

Greenstone float

Quartz biotite schist

Chlorite – Sericite Graphite phyllite Phyllitic greenstone

Float chlorite phyllite

Quartz – Chlorite graphite phyllite, greenstone

Chlorite phyllite (float)

Float Chlorite – Sericite Phyllite – Quartz veining, disseminated hematite

Chloritic greenstone subcrop

Float Granodiorite & Chlorite – sericite phyllite

(float) Biotite schist

Quartz – Veins with galena

Quartz muscovite

Biotite schist

Float biotite schist

BIOTITE SCHIST

CHLORITE SERICITE PHYLLITE

(float) Chlorite phyllite

Cut bank with float boulders of granodiorite

Float boulders of granodiorite

Float boulders of intrusive granodiorite

Float boulders of granodiorite & volcanics greenstone

Boulders intrusive granodiorite

## LEGEND

CRETACEOUS
- INTRUSIVE GRANODIORITE, USUALLY AS FLOAT BOULDERS

CAMBRIAN
- CHLORITE - SERICITE PHYLLITE
- QUARTZ - GRAPHITE PHYLLITE WITHIN CHLORITIC PHYLLITE
- BIOTITE SCHIST, QUARTZ RICH IN PART

- FOLIATION, VERTICAL, DIP
- JOINTS, VERTICAL, DIP
- FAULT, DIP WHERE KNOWN
- GEOLOGICAL CONTACT
- ENCLOSES AREA OF FLOAT
- ENCLOSES AREA OF OUTCROP
- CUT LINE GRID

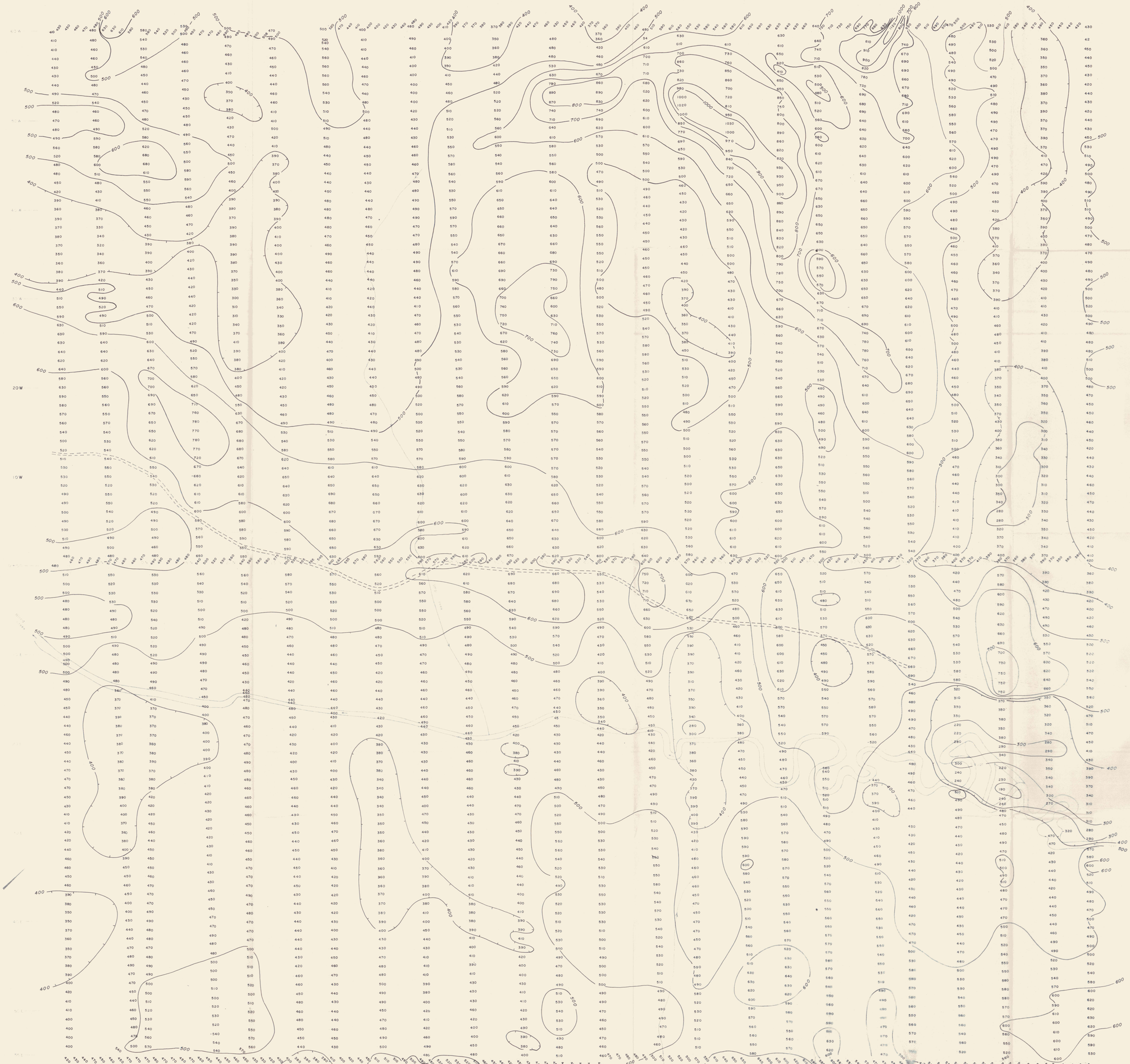
# PREUSSAG CANADA LIMITED
## CAT CLAIMS AFREX PROJECT
## ANVIL AREA, YUKON TERRITORY
Cat Claims

# GEOLOGY

FIGURE 3

NTS 105 – K – 7

DRAWN BY C. I. FURY




PREUSSAG CANADA LIMITED
CAT CLAIMS AFREX PROJECT
ANVIL AREA, YUKON TERRITORY
Cat Claims

# MAGNETOMETER SURVEY

FIGURE 4

NTS 105 - K - 7

DRAWN BY: C.L. CORY




LEGEND

28 / 12 / 60 GEOCHEMICAL ANALYSES IN PARTS PER MILLION FOR COPPER / LEAD / ZINC

N.S. NO SAMPLE TAKEN

PERMAFROST GROUND PERMANENTLY FROZEN, UNABLE TO TAKE SOIL SAMPLE

PREUSSAG CANADA LIMITED

CAT CLAIMS AFREX PROJECT

ANVIL AREA, YUKON TERRITORY

Cat Claims

# COPPER IN PPM

BACKGROUND 20 PPM

THRESHOLD 30 PPM

ANOMALOUS 45 PPM

FIGURE 5

NTS 105 - K - 7

LEGEND

28/12/60 GEOCHEMICAL ANALYSES IN PARTS PER MILLION FOR COPPER / LEAD / ZINC

N.S. NO SAMPLE TAKEN

PERMAFROST GROUND PERMANENTLY FROZEN, UNABLE TO TAKE SOIL SAMPLE

PREUSSAG CANADA LIMITED

CAT CLAIMS AFREX PROJECT

ANVIL AREA, YUKON TERRITORY

Cat Claims

# LEAD IN PPM

BACKGROUND 15 PPM

THRESHOLD 25 PPM

ANOMALOUS 34 PPM

FIGURE 6

DATE NOVEMBER 1975 SCALE 1" = 400' DRG. NO.

DRAWN BY S.D. HOOF CHKD. BY

SAMPLE MISSING

PERMAFROST

FROZEN

U - WATER SPRING

SAMPLE MISSING

PERMAFROST

PERMAFROST

PERMAFROST




LEGEND

28 / 12 / 60 GEOCHEMICAL ANALYSES IN PARTS PER MILLION FOR COPPER / LEAD / ZINC

N.S. NO SAMPLE TAKEN

PERMAFROST GROUND PERMANENTLY FROZEN; UNABLE TO TAKE SOIL SAMPLE

PREUSSAG CANADA LIMITED

CAT CLAIMS AFREX PROJECT

ANVIL AREA, YUKON TERRITORY

Cat Claims

# ZINC IN PPM

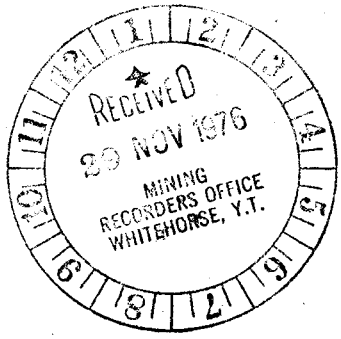
BACKGROUND 70 PPM

THRESHOLD 105 PPM

ANOMALOUS 145 PPM

FIGURE 7

NTS 105 - K - 7




A REPORT

ON

# A TURAM ELECTROMAGNETIC SURVEY

Blind Creek Area, Whitehorse M.D.

Yukon Territory




FOR

BOLIDEN - PREUSSAG EXPLORATION

Toronto, Ontario

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

NOVEMBER 1976

010-52

Office Of The Supervising Mining Recorder
DEC - 1 1976
WHITEHORSE
Yukon Territory

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$_____

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Commissioner of Yukon Territory

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APPENDIX


| | |
|---|---|
| COST OF SURVEY ..... | i |
| PERSONNEL EMPLOYED ON SURVEY ..... | ii |
| CERTIFICATION ..... | iii |
| LOCATION MAP ..... | |
| CLAIM & GRID MAP ..... | |


ACCOMPANYING MAP - Scale 1" = 500' — MAP POCKET


PROFILES OF FIELD STRENGTH & PHASE DIFFERENCE .. W-224-1

## INTRODUCTION

Between August 14th and September 7th, 1976, Peter E. Walcott and Associates Limited carried out a Turam electromagnetic survey over the Cat claim group, located in the Anvil area of the Yukon Territory, optioned by Boliden-Preussag Exploration.

The survey was carried out on N 45° W handcut lines 500 feet apart that were turned off from N 45° E baseline, and chained and picketed at 100 foot intervals. The quality of these lines was not up to proper geophysical standards.

Measurements of field strength and phase difference were made every 100 feet along the lines with a S.E. 71 electromagnetic unit operating at a frequency of 400 Hz and using a coil separation of 100 feet.

The data are presented in profile form on an idealized grid map, Map No. W-224-1, that accompanies this report.

## PROPERTY, LOCATION AND ACCESS.

The property is located in the Whitehorse Mining Division and consists of the following claims:

| Claim Name | Record Number | Expiry Date |
|---|---|---|
| CAT 1 - 64 | 80454 - 517 | November 28th, 1976 |

The claims are situated straddling Blind Creek some 9 miles above its confluence with the Pelly River.

Access is obtainable from Faro, some 8 miles to the south-west, either by helicopter or by a disused winter road that traverses the property and joins the old Blind Creek road some 5 miles further south. During this survey access was obtained by means of helicopter.

## PREVIOUS WORK

Previous work on the property consisted of airborne magnetic and electromagnetic surveying, ground magnetic and electromagnetic investigation, geochemical soil sampling and prospecting.

For a further description and the results of the above the reader is referred to a report by Gordon D. House of Boliden-Preussag Exploration.

PURPOSE

As the Vangorda, Champ, Firth, etc. sulphide deposits are associated with graphitic horizons within underlying biotite muscovite phyllites, and as on the basis of present geological knowledge the same and/or similar belt of rocks was thought to underlie the respective claim groups the purpose of the survey was to locate the presence of electromagnetic conductors, the causative sources of most of which could be attributable to the above mentioned graphitic horizons, and which could be screened on the basis of gravity, magnetic and geological investigations as to their association with economic sulphide mineralization.

GEOLOGY

The reader is referred to the previously mentioned report by Gordon D. House.

SURVEY SPECIFICATIONS

The basic principle of any electromagnetic survey is that when conductors are subjected to primary alternating fields secondary magnetic fields are induced in them. Measurements of these secondary fields give indications as to the size, shape and conductivity of conductors. In the absence of conductors no secondary fields are obtained.

The electromagnetic survey was carried out using a S.E. 71 electromagnetic unit. The primary field was set up by closed inductive loops laid on the ground. Two receiver coils connected by a lightweight shielded cable to a compensator amplifier are used to measure the distortions in the electromagnetic field. The quantities measured are:

1. the ratio of the field strengths at each coil and

2. the phase difference in the fields at the two coils.

Large rectangular loops of 4000' by 3000' were used on the survey with the loops always on the assumed footwall side of the formations.

Readings were taken every 100 feet along the picket lines perpendicular to the long side of the loops with a 100 foot coil separation and using a frequency of 400 Hz.

In one place an additional smaller loop had to be laid as the signal strength diminished rapidly in an area of multiple conductors.

In all some 52.3 miles of surveying were completed using this method.

## DISCUSSION OF RESULTS

At a first glance it is readily discernible that there are two areas showing increased distortions of the energizing primary field.

These areas could be one and the same offset by movement along the Blind Creek fault.

Further discussion is not warranted at this time until the writer has seen and studied the results of the magnetometer survey carried out by Boliden-Preussag, and more importantly the results of other work carried out by himself in the same area.

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Between August 14th and September 7th, 1976, Peter E. Walcott & Associates Limited carried out a Turam electromagnetic survey over a property for Boliden-Preussag Exploration.

The property, the CAT claims, is located in the Blind Creek Valley of the Anvil area, Yukon Territory.

The survey indicated two areas of apparent distortions of the primary field that should be further studied.

The writer therefore concludes that the results of this work should be closely compared with that of similar work in the same area as well as with the known and interpolated geology before any recommendations be made for further work.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.

November 1976

# APPENDIX

COST OF SURVEY

Peter E. Walcott & Associates Ltd. undertook the survey on a mileage basis. Mobilization costs, split with other clients in the area, were extra so that the total cost of services provided was $12,992.50.

PERSONNEL EMPLOYED ON SURVEY

| Name | Occupation | Address | Dates |
|---|---|---|---|
| Peter E. Walcott | Geophysicist | Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. | Aug. 31st, Sept. 6th, Nov. 18, 19 & 23rd, 1976 |
| G. MacMillan | Geophysical Operator | " " | Nov. 9th, 10th & 23rd, 1976 |
| D. Blasko | " | " " | Aug. 14 - 23rd, 76 |
| T. Kirby | " | " " | Aug. 14 - Sept. 7th, 1976 |
| J. Flanegan | " | " " | Aug. 14 - Aug. 30th, 1976 |
| P. Charlie | " | " " | Aug. 29th - Sept. 7th 1976 |
| S. Scurvey | Helper | " " | Aug. 14th - 23rd, 1976 |
| A. Grenier | " | " " | " |
| J. Charlie | " | " " | Aug. 14th - 25th, 76 |
| L. Tommy | " | " " | " |
| G. Scurvey | " | " " | Aug. 28th - Sept. 7, 1976 |
| W. Sam | " | " " | Aug. 28th - Sept. 7, 1976 |
| J. Walcott | Typing | " " | Nov. 24th, 1976 |

CERTIFICATION

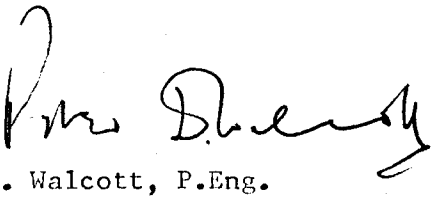
I, Peter E. Walcott of the Municipality of Coquitlam, British Columbia, hereby certify that:

1. I am a Graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.

2. I have been practising my profession for the last thirteen years.

3. I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.

4. I hold no interest, direct or indirect, in the securities or properties of Boliden-Preussag Exploration, nor do I expect to receive any.



Peter E. Walcott, P.Eng.

Vancouver, B.C.

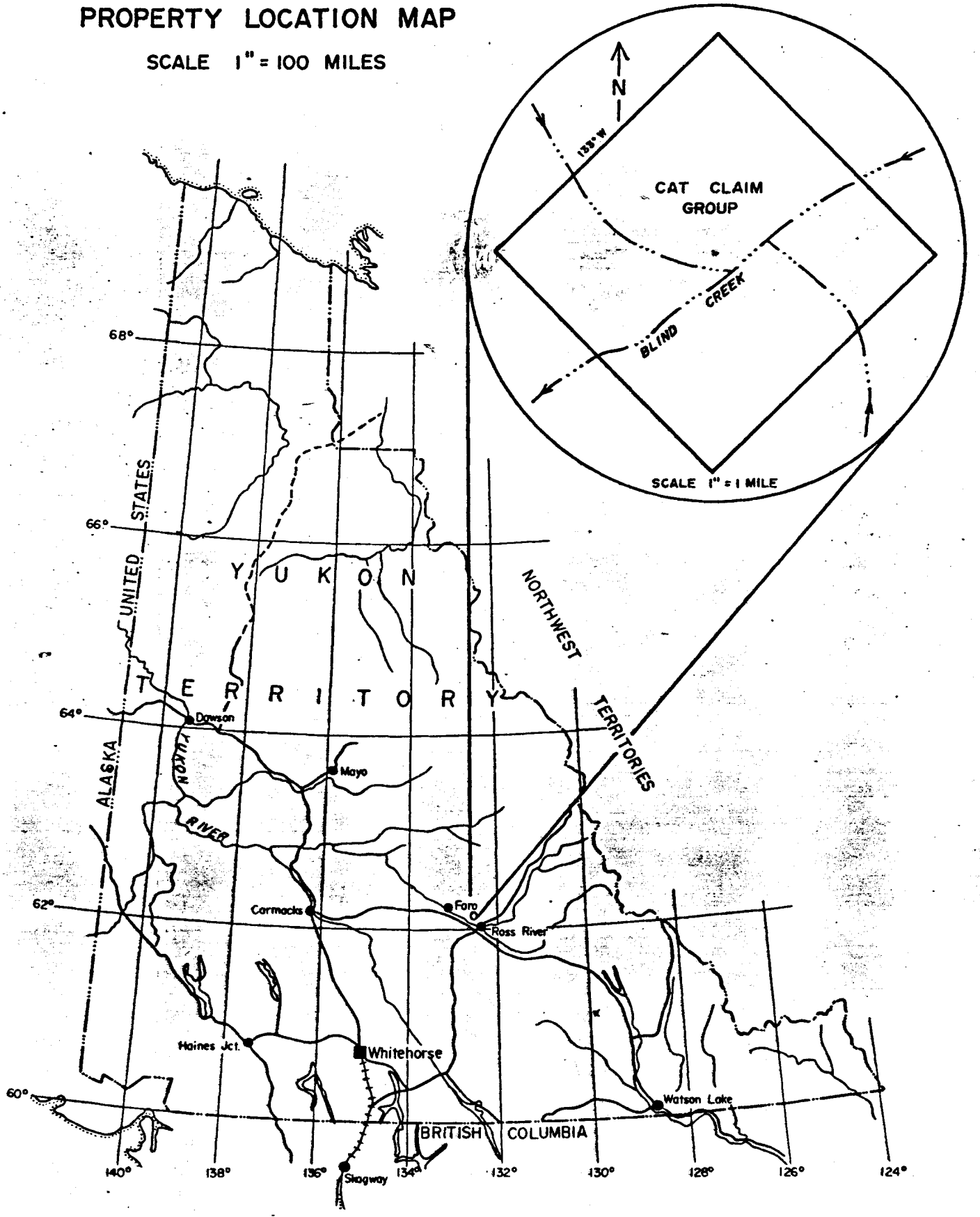
November 1976

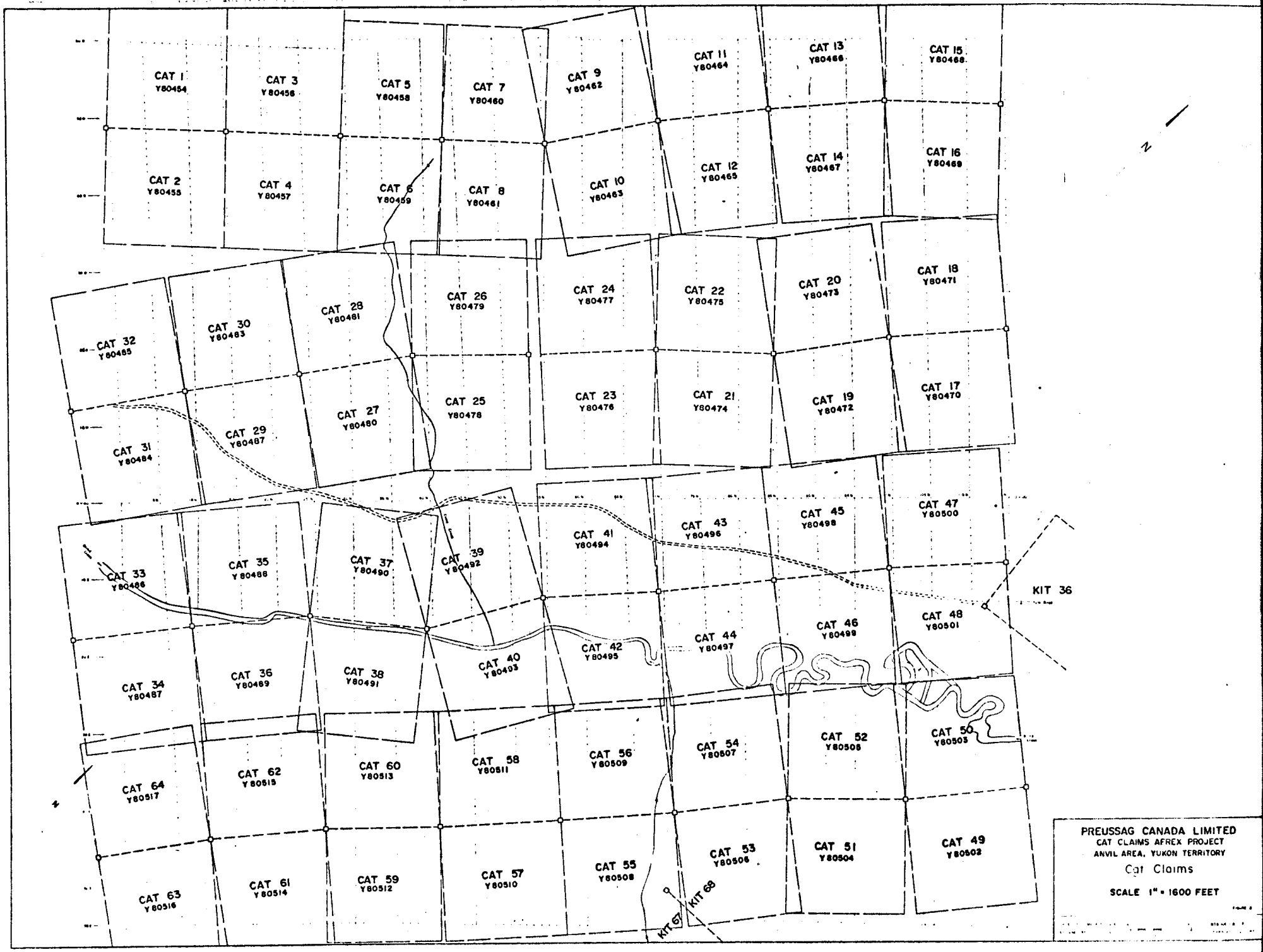
# BOLIDEN - PREUSSAG EXPLORATION

## CAT CLAIMS ; BLIND CREEK AREA ; YUKON

### PROPERTY LOCATION MAP

SCALE 1" = 100 MILES



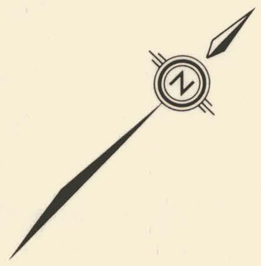

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CAT 6 Y80459
CAT 8 Y80461
CAT 10 Y80463
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CAT 53 Y80506
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CAT 49 Y80502
KIT 67
KIT 68
PREUSSAG CANADA LIMITED
CAT CLAIMS AFREX PROJECT
ANVIL AREA, YUKON TERRITORY
Cat Claims
SCALE 1" = 1600 FEET

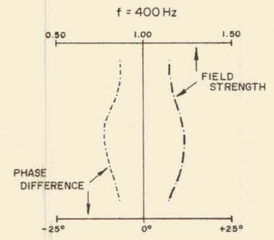
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60-W 55-W 50-W 45-W 40-W 35-W 30-W 25-W 20-W 15-W 10-W 5-W — BASE-LINE — 5-E 10-E 15-E 20-E 25-E 30-E 35-E 40-E 45-E 50-E 55-E

BLIND CREEK

BLIND CREEK








# BOLIDEN - PREUSSAG EXPLORATION

CAT CLAIMS ; BLIND CREEK AREA ; YUKON

S.E. 71

## TURAM ELECTROMAGNETIC SURVEY

PROFILES OF FIELD STRENGTH & PHASE DIFFERENCE

SCALE : 1" = 500 FEET

500 250 0 500 1000 1500

MAP No. W-224-1
To ACCOMPANY A REPORT BY
PETER E. WALCOTT , P.Eng., DATED - NOV. 1976

PETER E. WALCOTT & ASSOC. LTD.
AUG - SEPT - 1976