

# ARCHER, CATHRO

& ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

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## ASSESSMENT REPORT

describing

## PROSPECTING AND GEOCHEMICAL SURVEYS

on the

### HP 1-31 CLAIMS

YB46381-YB46400, YB47301-YB47311

Latitude: 62°28' 44", Longitude: 129°12' 12"

NTS: 1051/06

in the

Watson Lake Mining District  
Yukon Territory

Owned by: W4 Joint Venture

Operated by: Archer, Cathro & Associates (1981) Limited

Hugh Copland B.Sc., P.Geol  
February 1995

093276



This report has been examined by  
the Geological Evaluation Unit  
under Section 53 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ 3100.

*M. Burke*

Regional Manager, Exploration and  
Geological Services for Commissioner  
of Yukon Territory.

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## SUMMARY AND RECOMMENDATIONS

The HP claims of W4 Joint Venture are located in the Howards Pass area along the Northwest Territories border in east-central Yukon. The nearest permanent communities are Ross River (175 km west) and Watson Lake (260 km south). A 50 km all-weather access road was constructed to the adjacent XY property of Placer Dome Canada Inc. and USX, a subsidiary of US Steel Corp. in 1977. An airstrip is also present on the XY property.

The Howards Pass deposits of Placer Dome-US Steel are saucer-shaped stratiform zinc and lead sulphide deposits up to 50 m thick that individually extend several kilometres along strike in Lower Silurian Duo Lake Formation shales within a distinctive siliceous and calcareous mudstone unit known as the Active Member. At least three deposits, the XY, Anniv and OP are known and geochemical evidence suggests that additional deposits remain to be discovered. Indicated geological reserves (mostly in the XY Deposit) of at least 113 million tonnes grading 5.4% zinc and 2.1% lead with about 16 g/t silver have been outlined. In addition, inferred reserves in excess of 360 million tonnes of a similar grade are projected for areas of wide-spaced drilling. The ultimate tonnage is probably much larger (some news releases estimate up to one billion tonnes) since all three deposits are open at depth and along strike and only the XY Deposit has received a concerted exploration effort.

The XY Deposit is folded into a northerly-plunging syncline. Much of the deposit lies beneath a ridge which parallels the fold axis such that only the southerly, easterly and westerly margins are exposed at surface. Dimensions of the deposit, as defined to date, are 7.5 km in a northwest-southeast direction with a width of 2.5 km across the structure or about 5 km wide if

the deposit is unfolded. Average true thickness of the mineralization is 18 m. Open pit grades at XY are about 7.5% combined zinc-lead with 16 g/t silver.

Relatively deep drilling in 1976 returned spectacular results from what is probably a higher grade core of the deposit near the keel of the syncline. Hole 76-66 intersected 10.7 m of 20.0% zinc and 16.1% lead at a depth of 242 m while Hole 76-80 intersected 7.6 m grading 25.0% zinc and 23.1% lead at a depth of 329 m. A higher grade core of eight million tonnes grading 10.6% zinc and 5.5% lead is reported to exist within the XY Deposit although only preliminary exploration for this type of mineralization has been carried out. The increase in zinc-lead ratios from about 2.5:1 to 1 to 1:1, which accompanies an overall increase in grade from the margins of the deposit to the core, suggests a transition from near-surface "distal" to "vent-proximal" mineralization at depth in the high grade core. Silver values were not released for the two higher grade intersections but they are expected to be much greater than the 16 g/t average for distal facies mineralization which makes up the bulk of the established reserves.

The HP property received soil sampling, bulldozer trenching and a short diamond drill program in the mid 1970's. No further work has been carried out since that time. The claims were restaked, an initial compilation of existing data on the area completed and an examination of the property was conducted in 1994.

The basic geometry of the XY Deposit indicates that a portion of it, possibly including part of the higher grade core, underlies the southern part of the HP property. The limited work done on the HP claims to date has identified a mineralized horizon that is probably a distal part of

the XY Deposit. The 1.5 km long linear soil anomaly on the property that reflects this horizon was tested by only four short holes. Grade of the XY Deposit increases significantly with depth toward a vent-proximal zone in the keel of the syncline and potential for thicker intervals of high grade zinc-lead mineralization is similarly high across the fold axis on the HP claims.

A detailed compilation of the XY Deposit, HP claims and surrounding ground should be completed from publically available data. Sloughed-in bulldozer trenches across the soil geochemical anomaly at the HP claims should be reopened and new trenches cut at regular intervals along strike with a small portable backhoe. Following accurate location of the mineralized zone, a second phase of exploration consisting of a series of relatively short diamond drill holes along strike should be completed. The backhoe should be used to recontour and rehabilitate trenches and drill sites before demobilization. Deep holes which will test for higher grade mineralization toward the keel of the syncline should be deferred into a second phase later in 1995 or in 1996.

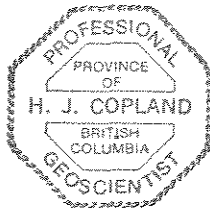
A budget for the recommended initial exploration program follows.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



H. Copland, B.Sc., P. Geo.



**HP CLAIMS**  
**PROPOSED 1995 BUDGET**

The following budget assumes a forty day trenching program with a portable excavator. A thirty day, 1500 m diamond drill program will commence ten days after the start of the trenching program. Drill moves will be carried out with the excavator although the drill may have to be ferried the 5 km distance to and from the Howards Pass airstrip by helicopter. The crew will camp on the property with supplies ferried by ATV along existing bulldozer trails from the airstrip.

|   |                  |
|---|------------------|
| Diamond Drilling - 1500 m @ \$100/m .....                     | \$150,000        |
| Labour .....  | 46,000           |
| Excavator - 400 hrs @ \$75/hr, fuel included .....            | 30,000           |
| Field Costs - 300 mandays @ \$70/day .....                    | 21,000           |
| Helicopter - 16 hrs @ \$1000/hr, fuel included .....          | 16,000           |
| Fixed Wing Support .....                                      | 10,000           |
| Assays .....  | 5,000            |
| Drafting/Office .....   | 4,000            |
| All Terrain Vehicle - 40 days @ \$75/day, fuel included ..... | 3,000            |
| Freight/Travel .....  | 3,000            |
| Truck Rental .....  | 1,000            |
| Management .....  | <u>15,000</u>    |
| Sub-Total .....   | \$305,000        |
| Plus 7% GST .....   | <u>21,350</u>    |
| Total .....   | <u>\$326,350</u> |

## INTRODUCTION

The HP 1-31 claims are located in the Howards Pass area along the Yukon side of the Yukon/Northwest Territories border. This area contains extensive sedimentary exhalative lead-zinc-silver deposits. The HP claims were staked to cover ground adjacent to the XY Deposit of Placer Dome Canada Inc. and USX, a subsidiary of US Steel Corp. In 1994 a program of prospecting and geochemical sampling was carried out to confirm that the claim block covers the potential stratigraphic and structural continuation of the XY zinc-lead deposit. The property is 100% owned by W4 Joint Venture, a private prospecting syndicate. The 1994 work was conducted by Archer, Cathro & Associates (1981) Limited.

## LOCATION AND ACCESS

The HP claims are located at the headwaters of Don Creek along the Yukon-Northwest Territories border (Figure 1). In 1977 an all-weather access road was built to the XY Deposit from Flat Lakes, 50 km to the southeast. The condition of this road and the stream crossings have deteriorated since that time. The nearest permanent communities are Watson Lake, Yukon, 260 km to the south and Ross River, Yukon, 175 km to the west. A good airstrip exists on the XY claims 2 km west of the property with numerous old cat trails emanating from that point including one which extends to the area of exploration interest on the HP claims. In 1994 access was via helicopter from Macmillan Pass, a distance of 95 km to the north.

Figure 1

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

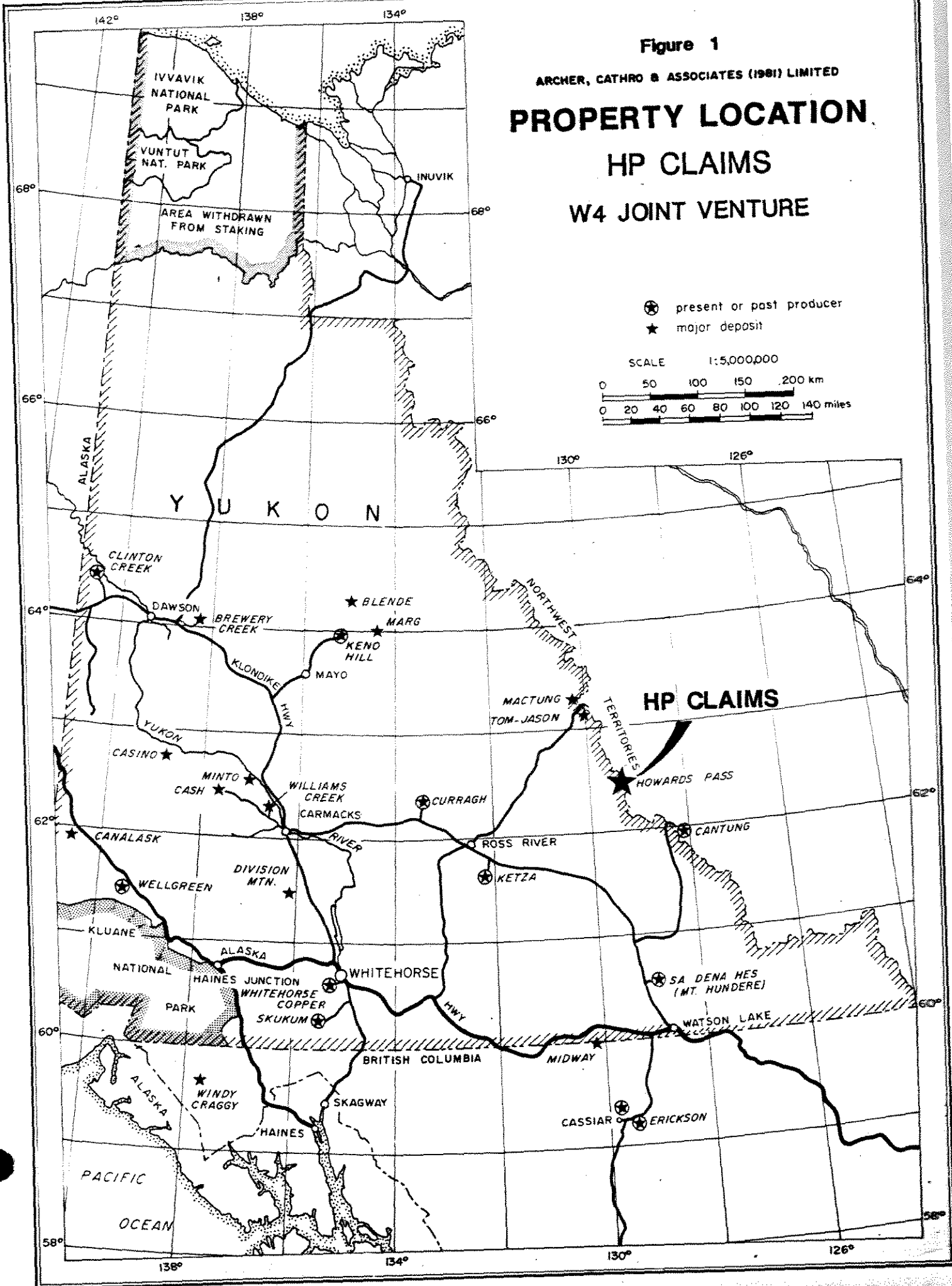
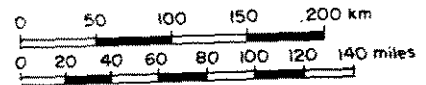
# PROPERTY LOCATION

## HP CLAIMS

### W4 JOINT VENTURE

- ⊙ present or past producer
- ★ major deposit

SCALE 1:5,000,000



### TOPOGRAPHY AND VEGETATION

The property is located in the headwaters of Don Creek within the Logan (Selwyn) Mountain Range. Mountains in this area are characterized by steep sides with rounded tops due to the recessive nature of most of the underlying units. Elevations range up to 1920 m along the southwestern edge of the property with a minimum of 1600 m along the southerly-draining tributary of Don Creek. The property is entirely above treeline. Typical alpine grasses and mosses occupy the flat areas and moderate slopes. Steep mountain slopes are covered by talus.

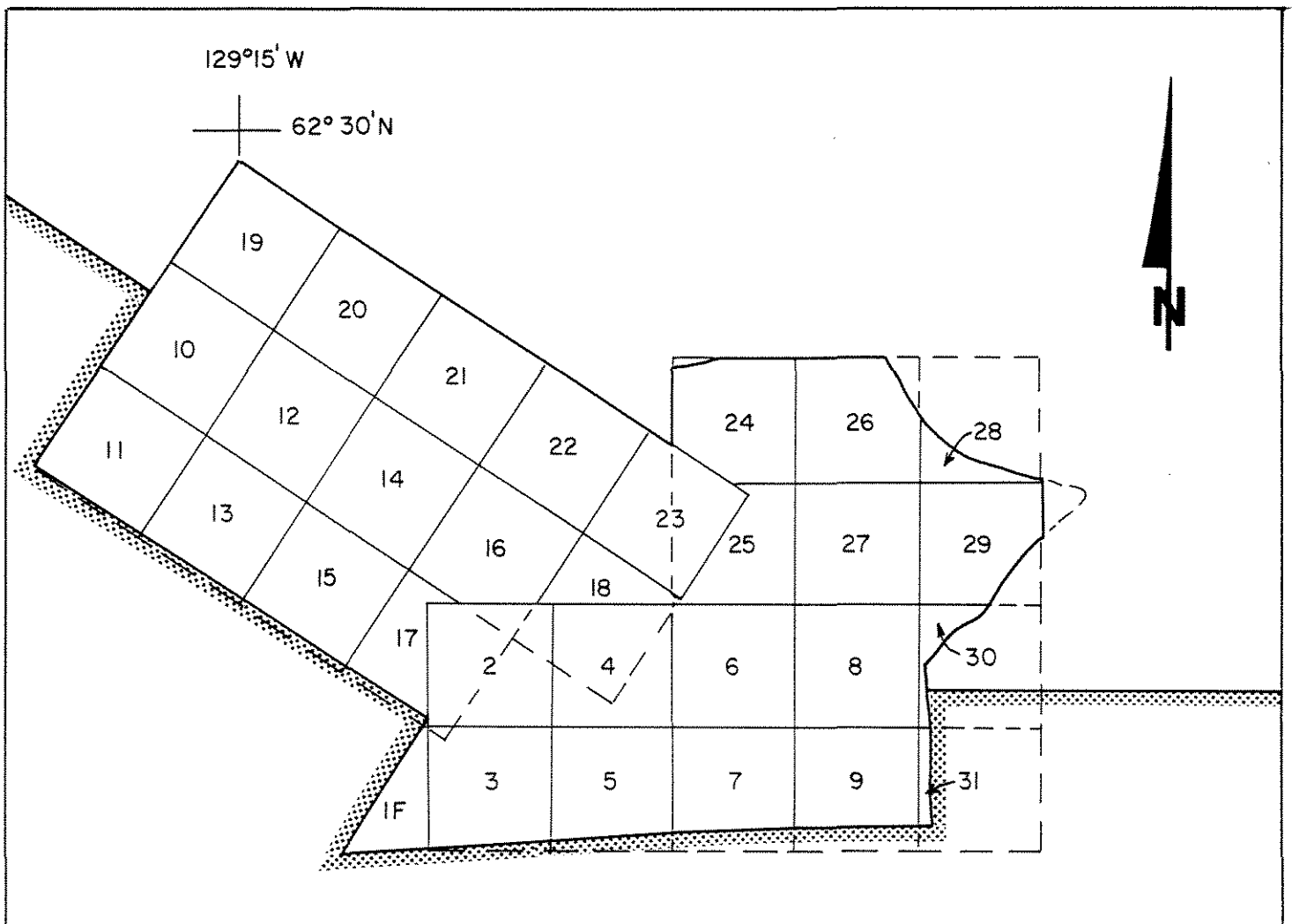
### PROPERTY

The HP property consists of thirty full and one fractional claim (Figure 2) as outlined below:

| <u>Claim Name</u> | <u>Grant Nos.</u> | <u>Expiry Date*</u> |
|-------------------|-------------------|---------------------|
| HP 1 Fr           | YB46381           | February 21, 1996   |
| HP 2-20           | YB46382-46400     | February 21, 1996   |
| HP 21-31          | YB47301-47311     | February 21, 1996   |

\*Expiry date assumes 1994 assessment credits are accepted.

Claims are all within the Watson Lake Mining District.



Placer Dome - US Steel XY Property

Figure 2

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

**CLAIM LOCATION**

HP CLAIMS

W4 JOINT VENTURE

SCALE 1:25,000



## HISTORY

The extent of the deposits at Howards Pass was recognized in 1972 after four years of reconnaissance mapping and sampling by Canex Aerial Exploration Ltd., a predecessor company of Placer Dome Canada Inc. The ground now covered by the HP claims was originally staked as the PAS claims in October 1972 by Dynasty Explorations Limited. Dynasty conducted a program of mapping and soil geochemistry in 1973 followed by trenching and diamond drilling (4 holes, 506 m) in 1974. Canex Placer began an extensive exploration program on the XY Deposit in 1972 which continued to 1977. Exploration along strike to the northwest by Placer discovered two other significant deposits (Anniv and OP) within the same stratigraphy. An adit was driven into the XY Deposit in 1980 and 1981 and underground diamond drilling was carried out in 1981. Aside from some environmental work no further exploration has been conducted in the Howards Pass area since 1981.

1994 PROGRAM

Compilation of the Dynasty Exploration soil sample data and geology was carried out in spring 1994. Results of this work suggest that the same stratigraphic horizon which hosts the XY Deposit is present on the current HP claims and that the band of mineralized shale found in the 1974 drilling is probably an actual extension of the XY Deposit. In August 1994 one day was spent on the HP claims to confirm the geology and to gather orientation stream sediment samples on and around the property. An attempt was also made to relate the location of the present claims with respect to the old Dynasty grid. The following personnel were involved in the program:

|              |                   |                   |
|--------------|-------------------|-------------------|
| Hugh Copland | Project Geologist | Whitehorse, Yukon |
| David Munro  | Geologist         | Montreal, Quebec  |

Helicopter support was provided by Trans North Air of Whitehorse, Yukon.

## GEOLOGY

### Regional Geology

The Howards Pass area is part of Selwyn Basin, a Lower Cambrian to Middle Devonian epicratonic rift that formed along the northwest margin of the ancestral North American continent. The basin is an elongate northwest-trending depositional trough which stretches from the Yukon-Alaska border to northeast British Columbia where it is known as the Kechika Trough. It is bounded on the east by Late Proterozoic to Devonian carbonate rocks of Mackenzie Platform and on the west by Late Proterozoic to Upper Triassic shelf and platformal carbonates of Cassiar Platform.

Selwyn Basin consists of a basement of an Upper Proterozoic to Lower Cambrian sequence of shale, sandstone, clastics, and limestones (Vampire Formation) which were derived primarily from igneous and metamorphic sources in the North American craton (Table 1). Overlying this unit in the Howards Pass area are massive to wavy banded limestones of the Upper Cambrian to Lower Ordovician Rabbitkettle Formation. These are, in turn, overlain by the Ordovician to Silurian Road River Group which ranges upward from pyritic and calcareous mudstone, cherty mudstone, phosphatic chert, and bioturbated mudstone. The Devonian to Mississippian Earn Group overlies the Road River Group. This is divided into a lower siliceous shale and chert unit (Portrait Lake Formation) and an upper fine and coarse clastic unit (Prevost Formation).

Extensional tectonism and rifting in the Howards Pass region is believed to have been initiated in Middle Ordovician times. This is marked by the transition from shallow water

**TABLE I**  
**TABLE OF FORMATIONS**  
(Gordey & Anderson from GSC Memoir 428)

**PALEOZOIC**

**DEVONIAN AND MISSISSIPPIAN**

*EARN GROUP*

*UPPER DEVONIAN TO MID-MISSISSIPPIAN*

PREVOST FORMATION: brown weathering shale, minor chert-quartz sandstone (DMP)

*LOWER TO UPPER DEVONIAN*

PORTRAIT LAKE FORMATION: black, gun-blue and bluish-white weathering, black siliceous shale; thin- to medium-bedded black chert (DP)

**ORDOVICIAN AND SILURIAN**

*ROAD RIVER GROUP*

*UPPER SILURIAN*

STEEL FORMATION: orange weathering, resistant, thick-bedded, dolomitic, silty grey burrowed mudstone with locally abundant small pyrite cubes (SS)

*LOWER ORDOVICIAN TO MIDDLE SILURIAN*

DUO LAKE FORMATION: black, gun-blue, or silvery-white weathering, recessive black shale and minor thin interbeds of fine crystalline black limestone and black chert (OSD)

ACTIVE MEMBER: argillaceous cherty limestone and calcareous mudstone, laminated to massive galena, sphalerite and rare pyrite (OSDA)

**CAMBRIAN AND ORDOVICIAN**

*UPPER CAMBRIAN AND LOWER ORDOVICIAN*

RABBITKETTLE FORMATION: white to buff weathering, laminated or thin-bedded, fine crystalline, locally nodular, blue-grey limestone; local volcanic tuff (EOR)

**PROTEROZOIC AND PALEOZOIC**

*UPPER PROTEROZOIC AND LOWER CAMBRIAN*

VAMPIRE FORMATION: dark brown to rust weathering, thin- to thick-bedded, greenish grey shale, siltstone, and very fine grained quartz sandstone (PEV)

deposition of the Rabbitkettle Formation limestone to the basinal environment of Duo Lake Formation shales. Active tectonism in Selwyn Basin continued throughout the Paleozoic. Basin rocks are generally folded along a northwest-trending axis that plunges to the northwest. The units have undergone lower greenschist metamorphism during extension related to the Antler Orogeny.

### Economic Geology

The Howards Pass deposits of Placer Dome-US Steel are saucer-shaped stratiform zinc and lead sulphide deposits up to 50 m thick that individually extend several kilometres along strike in Lower Silurian Duo Lake Formation shales within a distinctive siliceous and calcareous mudstone known as the Active Member. At least three deposits, the XY, Anniv and OP, are known and geochemical evidence suggests that additional deposits remain to be discovered. Indicated geological reserves (mostly in the XY Deposit) of at least 113 million tonnes grading 5.4% zinc and 2.1% lead with about 16 g/t silver have been outlined. In addition, inferred reserves in excess of 360 million tonnes of a similar grade are projected for the area of wide spaced drilling. The ultimate tonnage is probably much larger (some news releases estimate up to one billion tonnes) since all three deposits are open at depth and along strike and only the XY Deposit has received a concerted exploration effort.

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Relatively deep drilling in 1976 returned spectacular results from what is probably a higher grade core of the deposit within the keel of the syncline. Hole 76-66 intersected 10.7 m of 20.0% zinc and 16.1% lead at a depth of 242 m while Hole 76-80 intersected 7.6 m grading 25.0% zinc and 23.1% lead at a depth of 329 m. A higher grade core of eight million tonnes grading 10.6% zinc and 5.5% lead is reported to exist within the XY Deposit. The increase in zinc-lead ratios from about 2.5:1 to 1 to 1:1, which accompanies an overall increase in grade from the margins of the deposit to the core, suggests a transition from near-surface "distal" to "vent-proximal" mineralization at depth in the high grade core. Silver values were not released for the two higher grade intersections but they are expected to be much greater than the 16 g/t average for distal facies mineralization.

The **Anniv Zone** is less well defined and only 64 holes totalling approximately 12,500 m were drilled within the 4 km long, 350 m wide area of known mineralization. Thickness ranges up to 45 m with an average of 12 m. This zone appears to be less deformed than the XY Deposit although grade and character are reported to be similar. The Anniv Zone remains open along strike in both directions and at depth where high grade mineralization similar to the core area of the XY Deposit has apparently been encountered by some of the deeper drill holes.

Stratigraphy, geochemistry and surface showings of the **OP Zone** are the same as the other two areas and suggest a 1.6 km strike length of mineralization. Nine short holes were drilled in 1976 and 1978 and, although no results were released, grade and character of mineralization are believed to be similar to the XY Deposit.

### Property Geology

The units underlying the HP claims are relatively tightly folded and repeat the stratigraphy hosting the XY Deposit (Figure 3). The axis of the syncline that encloses the majority of the XY Deposit lies along the southern boundary of the HP property. Although the relatively recessive Active Member was not specifically located during the day spent on the property, sloughed trenches located in the proper stratigraphic position on the claims coincide with the location of the mineralized horizon as mapped by Dynasty. Soil surveys conducted by Dynasty returned multi-element geochemical anomalies coincident with the location of the Active Member in the trenches and suggest at least a 1.5 km strike length for the mineralization.

Four shallow holes were drilled along the length of the soil anomaly in 1974. All holes intercepted base metal mineralization. Trace amounts of zinc (<1%) were detected over several metres in each hole. Two holes intersected significant mineralization: Hole 74-1 intersected 0.79% lead and 2.24% zinc over 9 m between 36.5 and 45.5 m depth, Hole 74-2 intersected 0.80% lead and 2.88% zinc over 6 m between 64 and 70 m depth. Mineralization is described as very fine-grained pyrite and galena in siliceous limy bands and dark grey finely laminated siliceous mudstone.

## GEOCHEMISTRY

### Procedure

Two silt samples (T13279, T13280) were collected along the geological traverse line across the property (Figure 4). The samples were taken from two shallow streams approximately 1.5 m wide underlain primarily by black shales. The sediments were collected by hand from active stream material and placed in standard kraft bags. The samples were shipped to Chemex Labs for preparation and analysis. Samples were sieved to -80 mesh, digested in Aqua-Regia and analyzed for 32 elements by Induced Coupled Plasma (ICP) technique.

### Results

Complete results for the silts are shown in Appendix II. The streams which both drain the area of soil geochemistry show anomalous values for zinc (1125, 1150 ppm). Lead values (46, 36 ppm) and copper (57, 58 ppm) are not particularly anomalous for Selwyn Basin. The low values compared to those of zinc reflect the lower mobility of those elements in this environment.

Dynasty soil results for zinc, lead, and copper are shown in Figures 5, 6 and 7, respectively. The results show a definite northwest-trending linear anomaly. At the time that the soil samples were collected it was noted that the anomalous values are related to a highly deformed, black, graphitic, calcareous shale with interbedded siliceous mudstones. This unit fits the description of the Active Member hosting the XY Deposit.

CONCLUSIONS

The HP claims have received only a relatively cursory examination in the past. The basic geometry of the XY Deposit indicates that a portion of it, including part of the higher grade core, underlies the southern part of the HP property. The limited work done on the HP claims to date has also identified a mineralized horizon that probably represents a distal portion of the XY Deposit. The long linear soil anomaly on the property that reflects this horizon was tested by only four short holes. Grade of the XY Deposit increases significantly with depth toward a vent-proximal zone in the keel of the syncline and potential for thicker intervals of high grade zinc-lead mineralization is similarly high at depth on the HP claims across the syncline axis.

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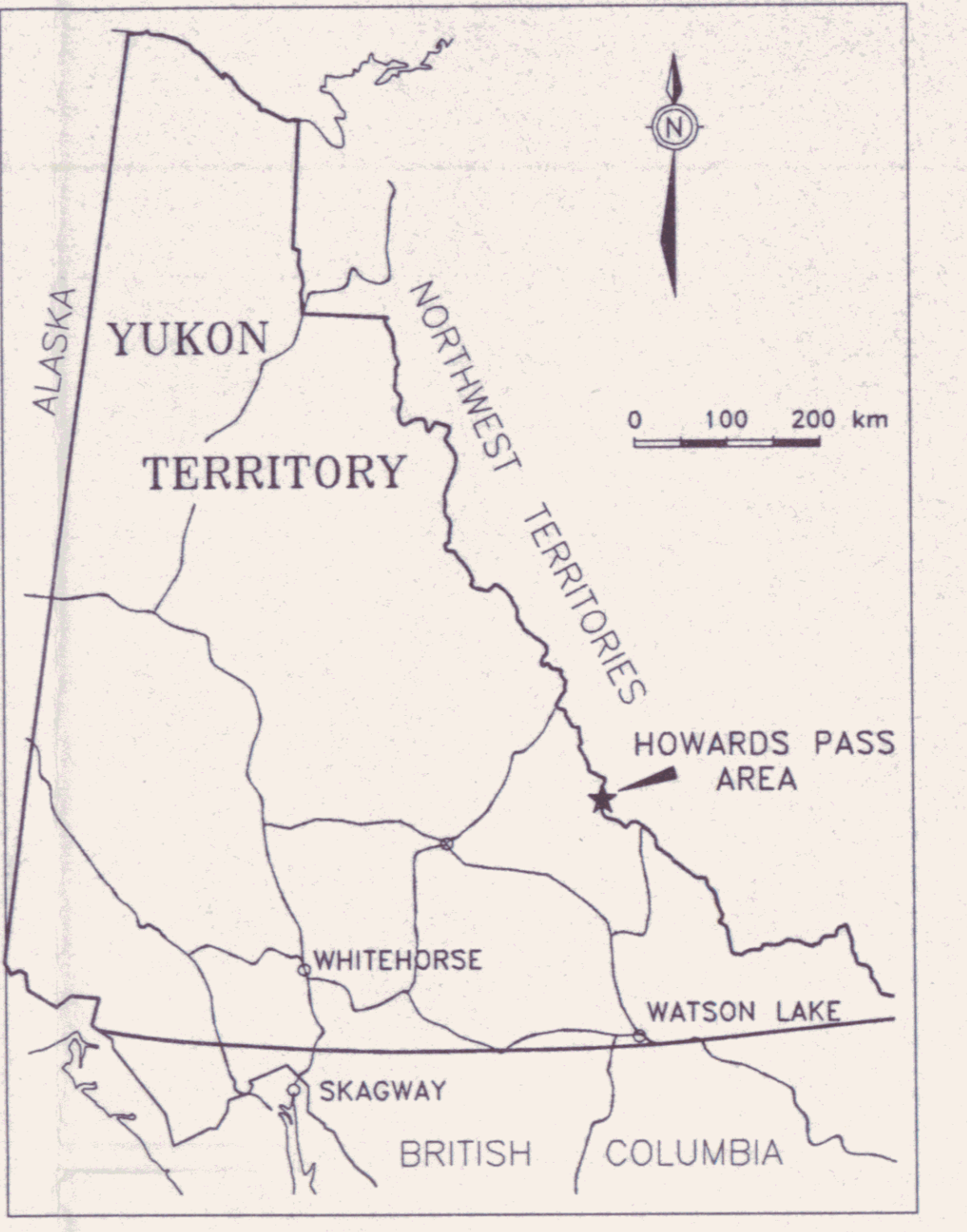
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- LEGEND**
- PALEOZOIC**
- DEVONIAN AND MISSISSIPPIAN**
- EARN GROUP**
- DMP** UPPER DEVONIAN TO MID-MISSISSIPPIAN  
*PREVOST FORMATION*: brown weathering shale, minor chert-quartz sandstone
  - DP** LOWER TO UPPER DEVONIAN  
*PORTLAND LAKE FORMATION*: black, gun-blue and bluish-white weathering, block siliceous shale, thin- to medium-bedded black chert
- ORDOVICIAN AND SILURIAN**
- ROAD RIVER GROUP**
- SS** UPPER SILURIAN  
*STEEL FORMATION*: orange weathering, resistant, thick-bedded, dolomitic, silty grey burrowed mudstone with locally abundant small pyrite cubes
  - OSD** LOWER ORDOVICIAN TO MIDDLE SILURIAN  
*DUO LAKE FORMATION*: black, gun-blue, or silvery-white weathering recessive black shale and minor thin interbeds of fine crystalline black limestone and black chert
  - ACTIVE MEMBER**: argillaceous cherty limestone and calcareous mudstone, laminated to massive, golenite, sphalerite and rare pyrite
- CAMBRIAN AND ORDOVICIAN**
- COR** UPPER CAMBRIAN AND LOWER ORDOVICIAN  
*BARRETTVILLE FORMATION*: white to buff weathering, laminated or thin-bedded fine crystalline, locally nodular, blue-grey limestone, local volcanic tuff

- SYMBOLS**
- SYNCLINE
  - ANTICLINE
  - NORMAL FAULT (symbol on down thrown side)
  - STRIKE-SLIP FAULT
  - APPROXIMATE LITHOLOGICAL CONTACT

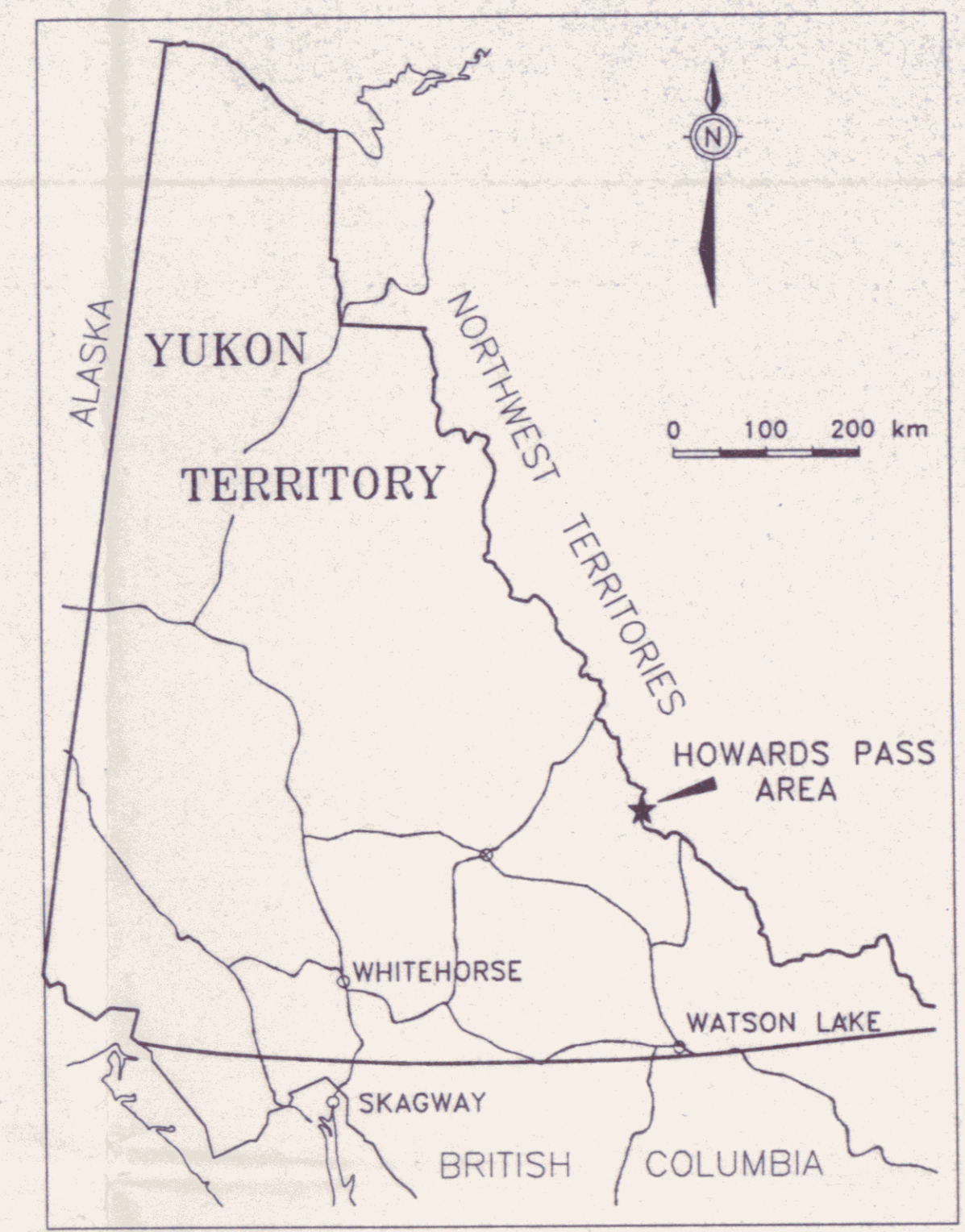
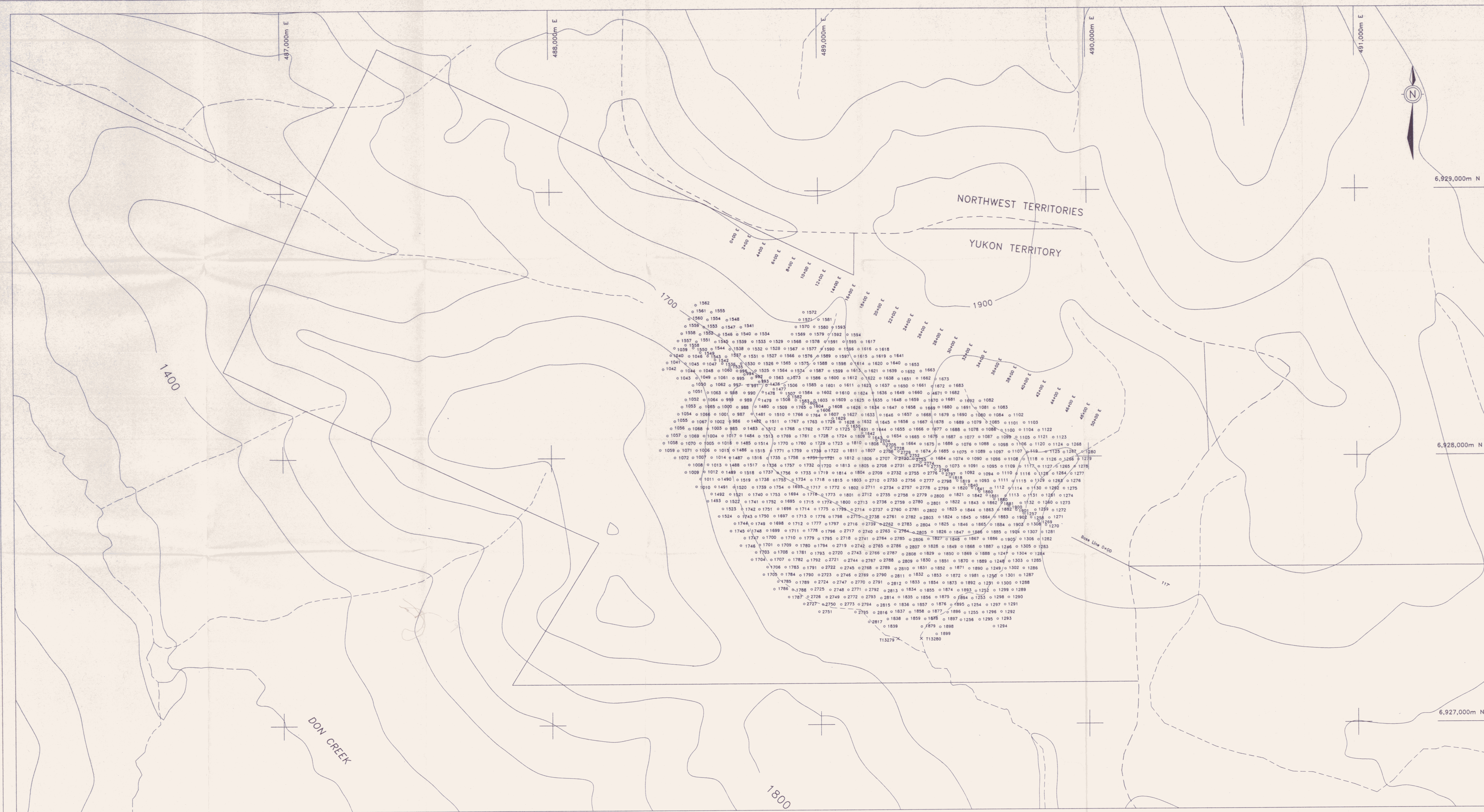
Figure 3  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED 093270

**GEOLOGY**  
 HOWARDS PASS AREA  
 W4 JOINT VENTURE  
 HP CLAIMS DWG ①

Scale 1:5000

0 50 100 200 300 400 500 700 Metres

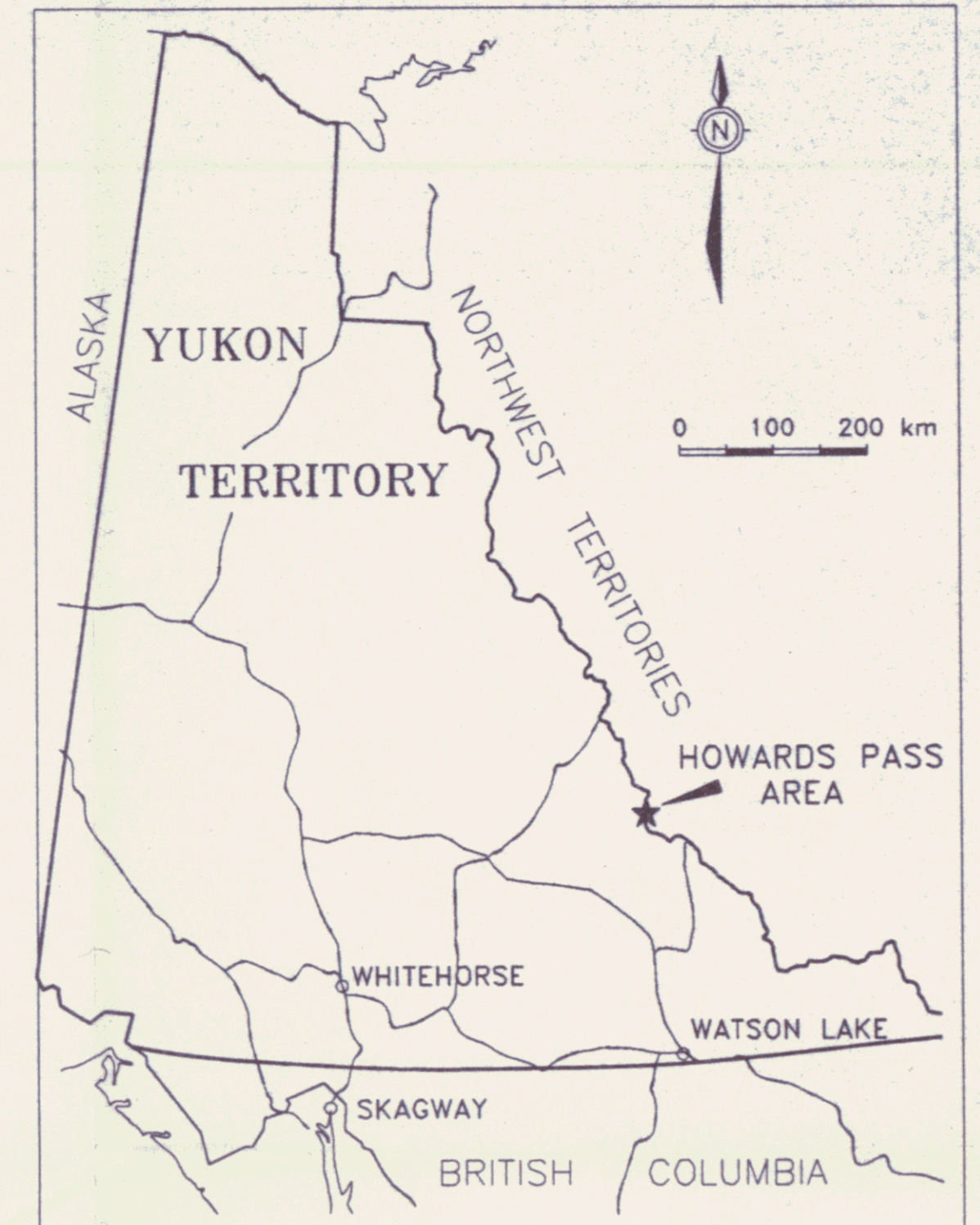
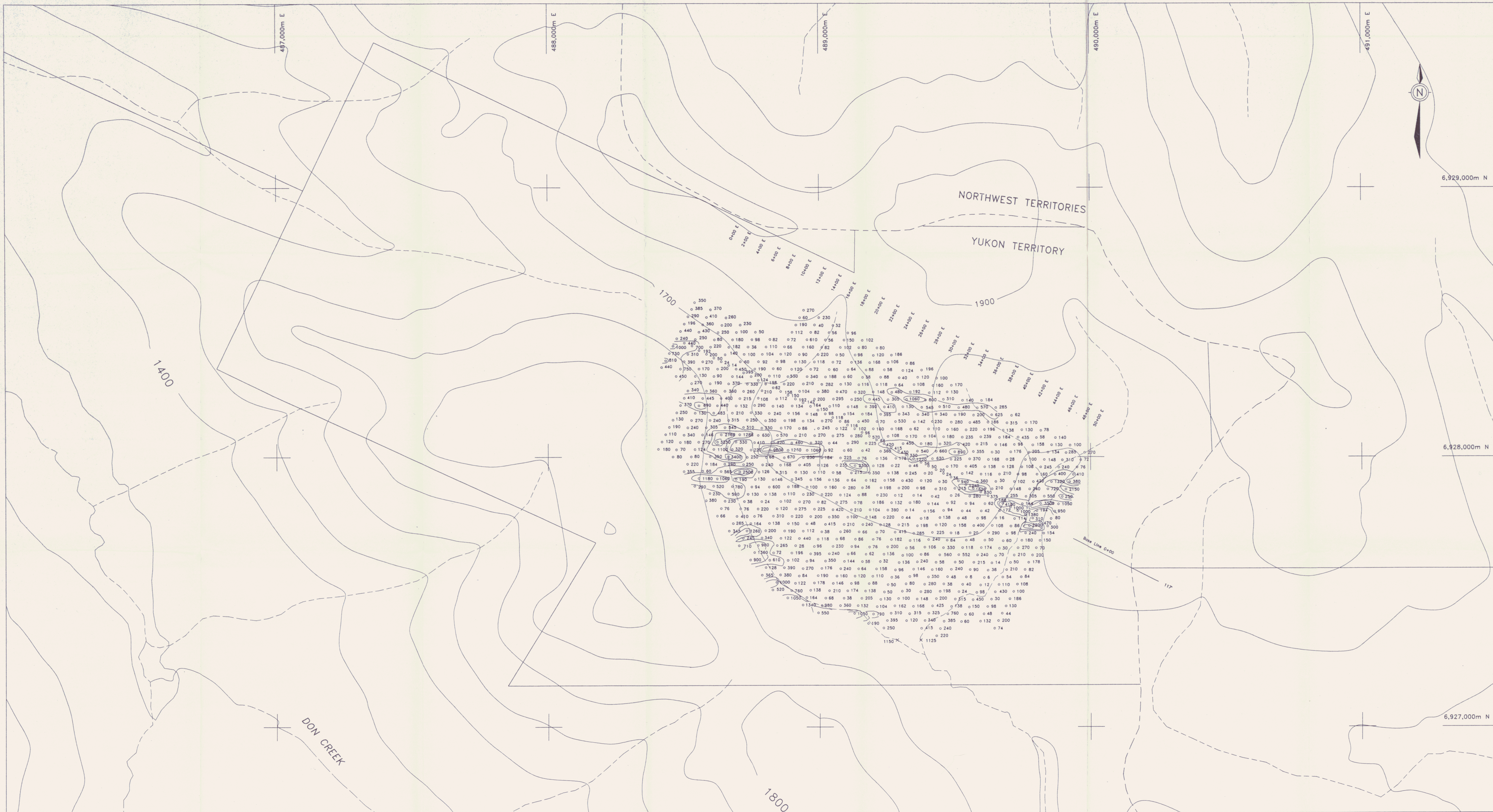
Feb/95



- 1973 Soil sample with sample number
- × 1994 Silt sample with sample number

Figure 4  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED **0932-6**  
**SAMPLE LOCATION**  
 HOWARDS PASS AREA  
 W4 JOINT VENTURE  
 HP CLAIMS  
 Scale 1:5000  
 0 50 100 200 300 400 500 700 Metres  
 Feb/95

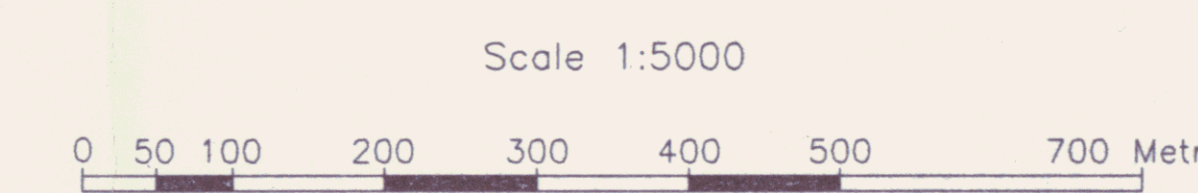
*Dwg 2*

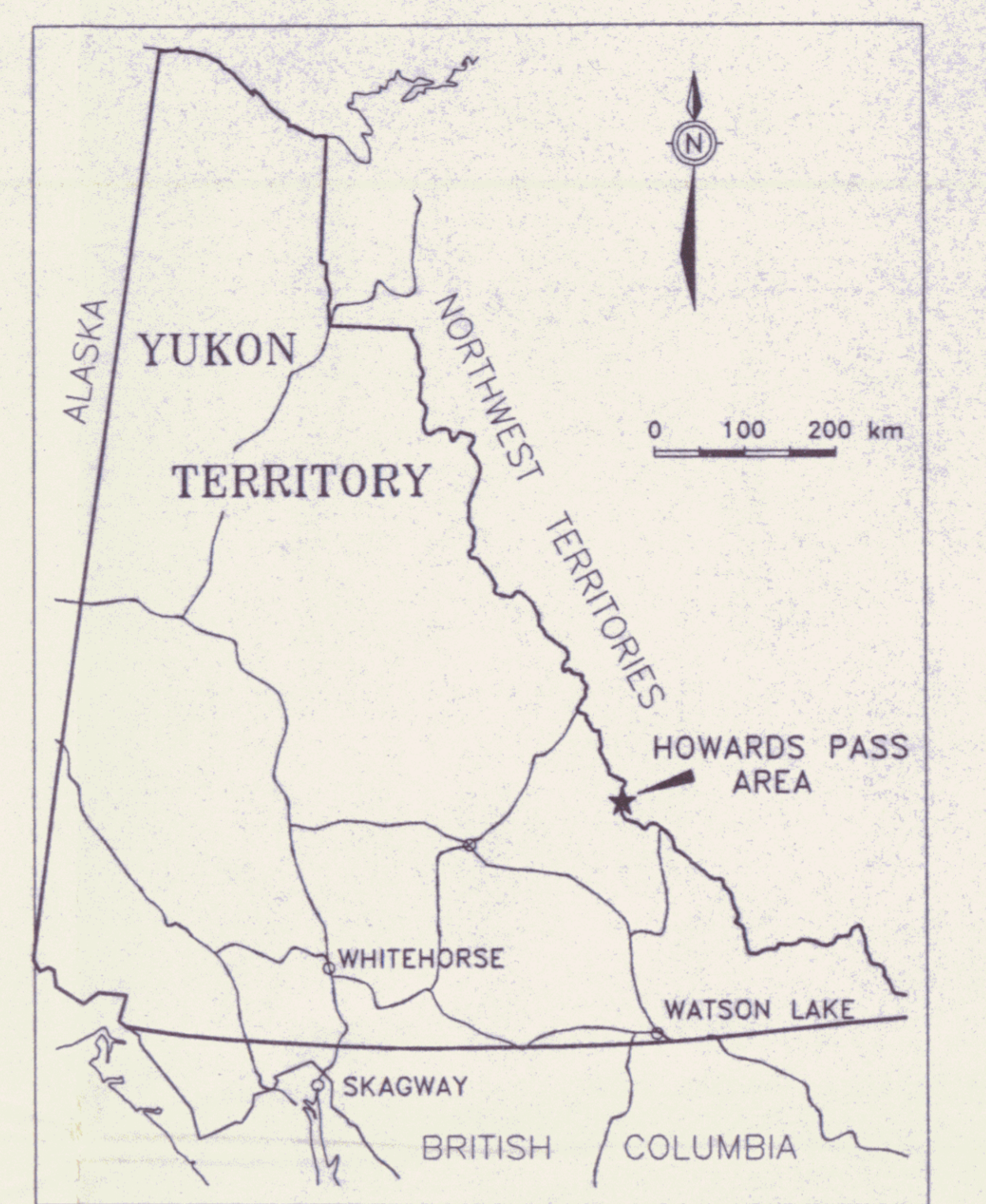
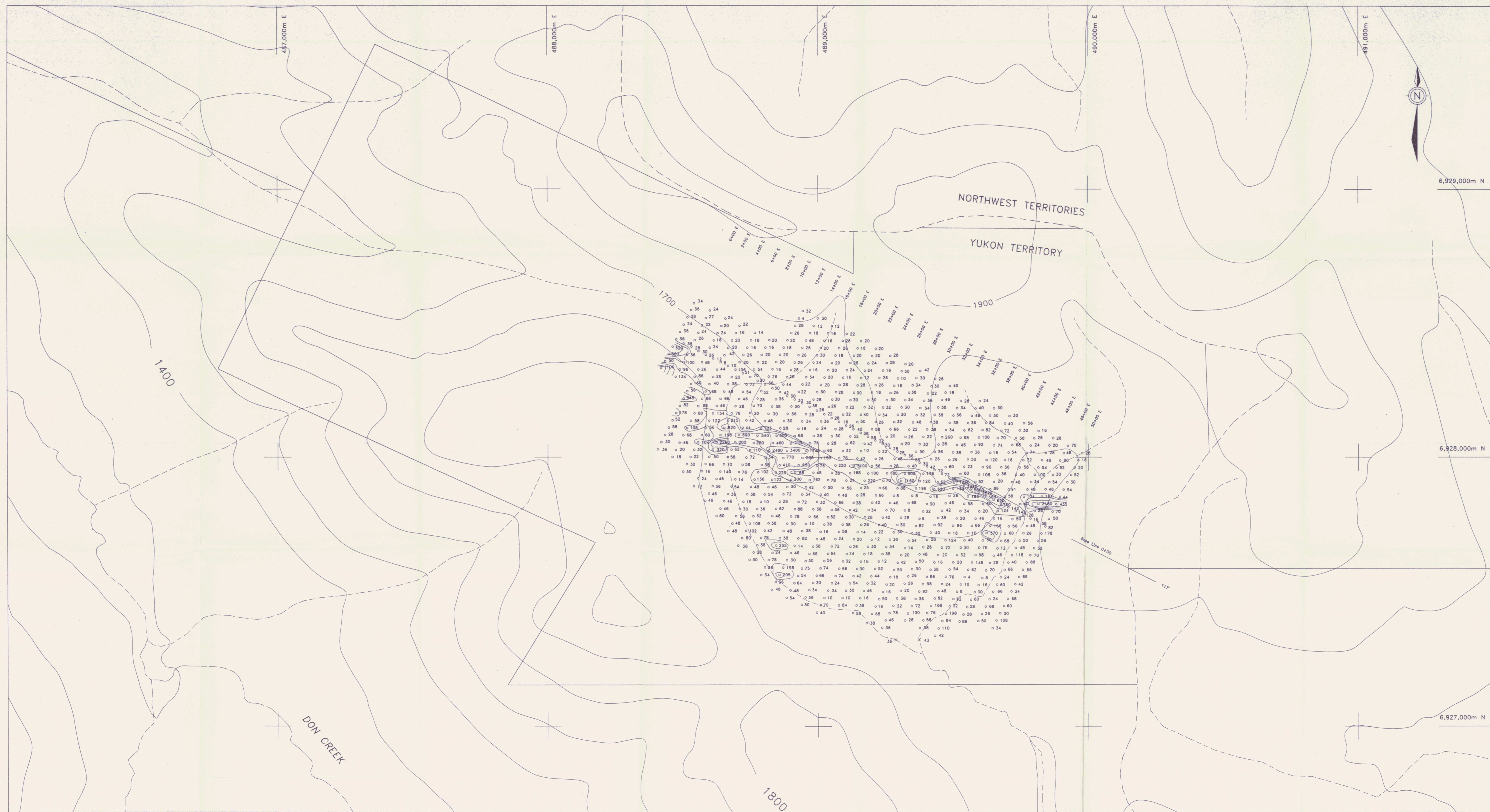


- ≥ 3200 ppm Zn
- ≥ 1600 < 3200 ppm Zn
- ≥ 800 < 1600 ppm Zn
- ≥ 400 < 800 ppm Zn
- 1973 Soil sample with Zn value in ppm
- × 1994 Silt sample with Zn value in ppm

093276

Figure 5  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**ZINC GEOCHEMISTRY**  
 HOWARDS PASS AREA  
 W4 JOINT VENTURE  
 HP CLAIMS



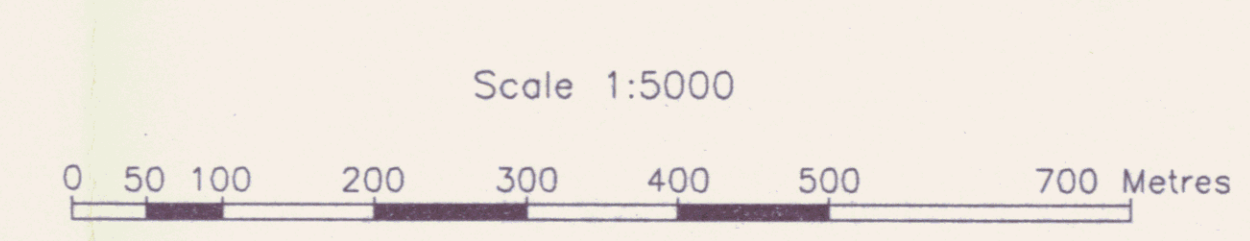


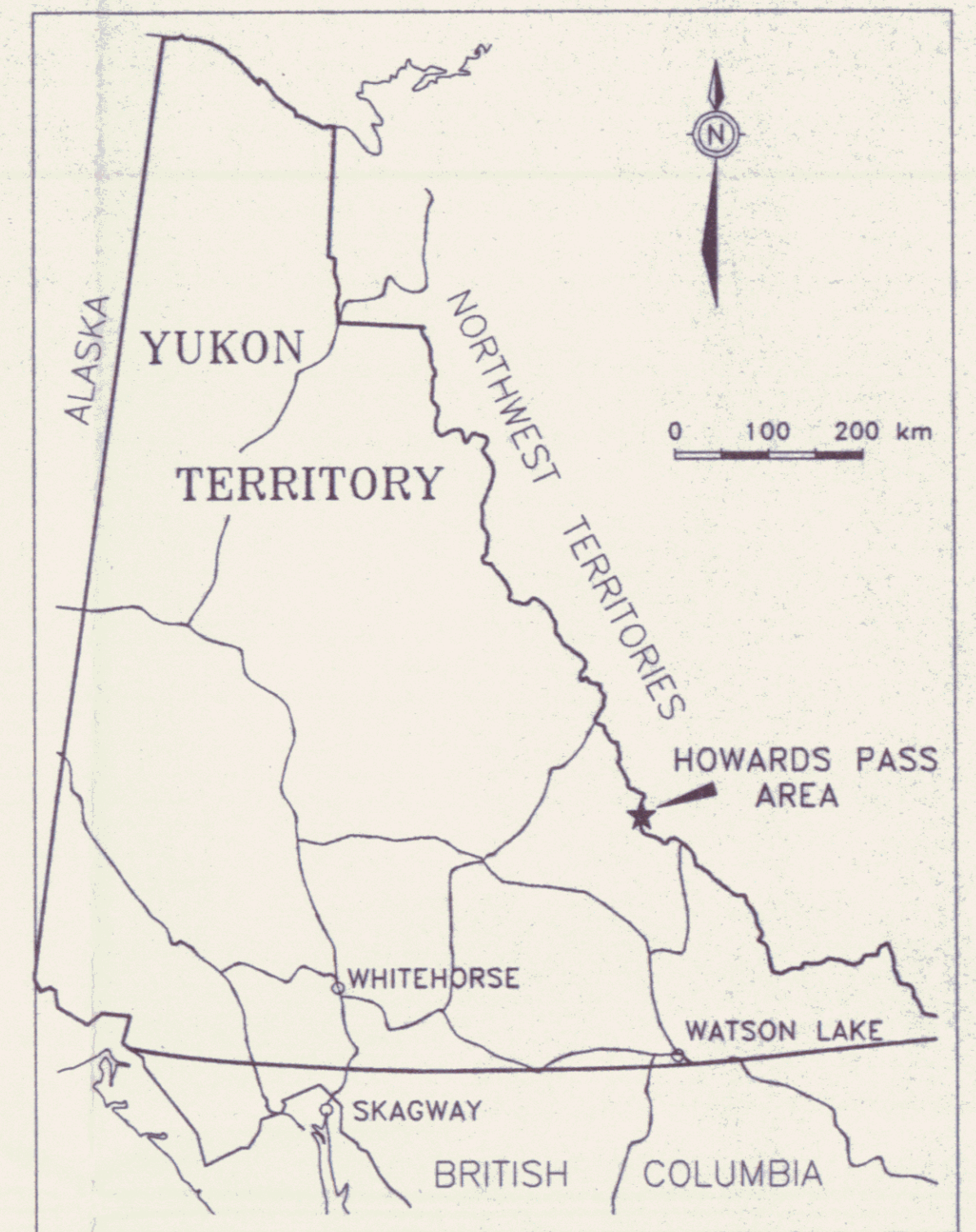
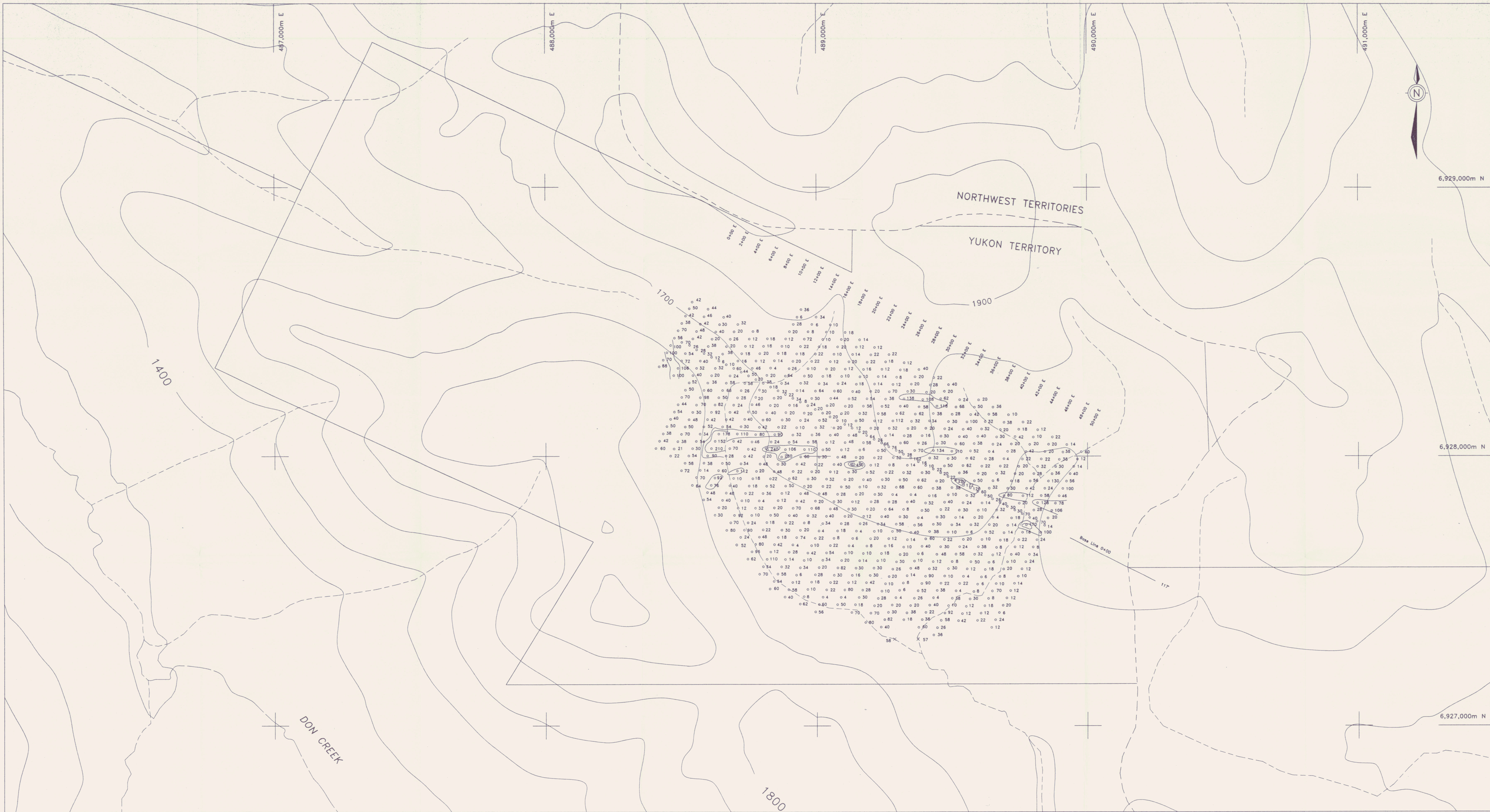
- $\geq 800$  ppm Pb
- $\geq 400 < 800$  ppm Pb
- $\geq 200 < 400$  ppm Pb
- $\geq 100 < 200$  ppm Pb

- 1973 Soil sample with Pb value in ppm
- 1994 Silt sample with Pb value in ppm

093276

Figure 6  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**LEAD GEOCHEMISTRY**  
 HOWARDS PASS AREA  
 W4 JOINT VENTURE  
 HP CLAIMS





- ≥ 300 ppm Cu
- ≥ 150 < 300 ppm Cu
- ≥ 75 ppm Cu

- 1973 Soil sample with Cu value in ppm
- x 1994 Silt sample with Cu value in ppm

093276

Figure 7  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**COPPER GEOCHEMISTRY**  
 HOWARDS PASS AREA  
 W4 JOINT VENTURE  
 HP CLAIMS

Scale 1:5000  
 0 50 100 200 300 400 500 700 Metres  
 Feb / 1995



**APPENDIX I**

**STATEMENT OF QUALIFICATIONS**

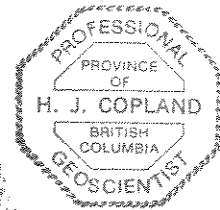
## STATEMENT OF QUALIFICATIONS

I, Hugh Copland, geologist, with business address in Whitehorse, Yukon Territory and residential address on the South Klondike Highway, Yukon Territory, do hereby certify that:

1. I graduated from the University of British Columbia in 1982 with a B.Sc. (Honours) in Geological Sciences.
2. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia in the Province of British Columbia (registration number 18664).
3. I have been actively involved as a geologist in mineral exploration in the Cordillera since 1982.
4. I have participated in the field work performed on the property reported herein.



Hugh Copland, B.Sc., P.Geo.



**APPENDIX II**  
**ANALYTICAL CERTIFICATES**



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

Client: ARCHER CATHRO & ASSOC. (1981) LTD.

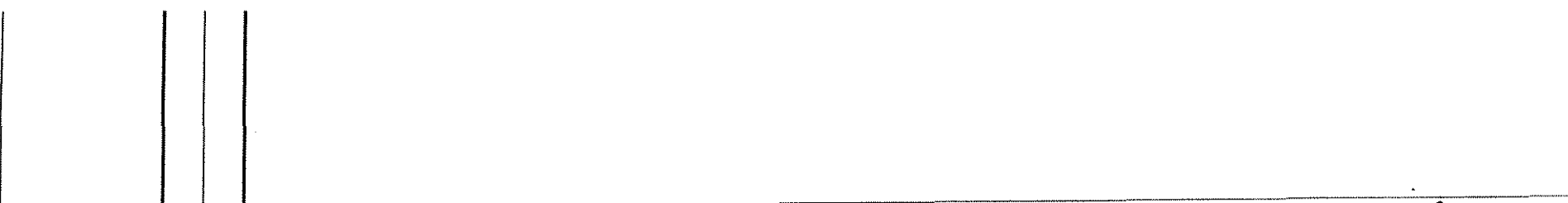
BOX 4127  
WHITEHORSE, YT  
Y1A 3S9

Project: NDUF-HP  
Comments:

Page Number: 1-A  
Total Pages: 1  
Certificate Date: 27-SEP-94  
Invoice No.: 19426432  
P.O. Number:  
Account: F

## CERTIFICATE OF ANALYSIS A9426432

| SAMPLE | PREP CODE |     | Ag  | Al   | As  | Ba   | Be    | Bi  | Ca   | Cd  | Co  | Cr  | Cu  | Fe   | Ga   | Hg  | K    | La  | Mg   | Mn  | Mo  |
|--------|-----------|-----|-----|------|-----|------|-------|-----|------|-----|-----|-----|-----|------|------|-----|------|-----|------|-----|-----|
|        |           |     | ppm | %    | ppm | ppm  | ppm   | ppm | %    | ppm | ppm | ppm | ppm | %    | ppm  | ppm | %    | ppm | %    | ppm | ppm |
| T13279 | 201       | 229 | 0.6 | 0.55 | 14  | 1390 | < 0.5 | < 2 | 0.45 | 7.0 | 10  | 15  | 58  | 2.68 | < 10 | < 1 | 0.18 | 10  | 0.27 | 225 | 10  |
| T13280 | 201       | 229 | 0.4 | 0.58 | 18  | 410  | < 0.5 | 2   | 1.16 | 5.5 | 11  | 14  | 57  | 2.72 | < 10 | < 1 | 0.19 | 20  | 0.52 | 290 | 18  |



CERTIFICATION: Hart Buchler



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers  
212 Brooksbank Ave., North Vancouver  
British Columbia, Canada V7J 2C1  
PHONE: 604-984-0221

ARCHER CATHRO & ASSOC. (1981) LTD.

BOX 4127  
WHITEHORSE, YT  
Y1A 3S9

Project: NDUF-HP  
Comments:

Page : 1-B  
Total Pages : 1  
Certificate Date: 27-SEP-94  
Invoice No. : 19426432  
P.O. Number :  
Account : F

## CERTIFICATE OF ANALYSIS

### A9426432

| SAMPLE | PREP CODE |     | Na     | Ni  | P    | Pb  | Sb  | Sc  | Sr  | Ti     | Tl   | U    | V   | W    | Zn   |
|--------|-----------|-----|--------|-----|------|-----|-----|-----|-----|--------|------|------|-----|------|------|
|        |           |     | %      | ppm | ppm  | ppm | ppm | ppm | ppm | %      | ppm  | ppm  | ppm | ppm  | ppm  |
| T13279 | 201       | 229 | < 0.01 | 86  | 1380 | 36  | 4   | 3   | 24  | < 0.01 | < 10 | < 10 | 45  | < 10 | 1150 |
| T13280 | 201       | 229 | < 0.01 | 88  | 2260 | 46  | 6   | 3   | 25  | 0.01   | < 10 | < 10 | 75  | < 10 | 1125 |

CERTIFICATION:

*Hart Buchler*

# ARCHER, CATHRO

& ASSOCIATES LIMITED

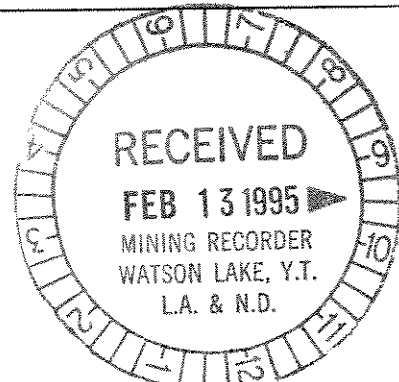
CONSULTING GEOLOGICAL ENGINEERS

093270

VANCOUVER, B.C. (604) 688-2568

Box 4127, WHITEHORSE, Y.T. Y1A 3S9 (403) 667-4415

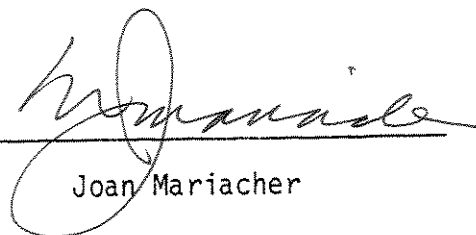
1016 - 510 WEST HASTINGS STREET  
VANCOUVER, B.C. V6B 1L8



## AFFIDAVIT

I, Joan Mariacher, of Vancouver, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the HP 1F, 2-31 mineral claims on Claim Sheet 105I/6 is accurate.

  
Joan Mariacher

Sworn before me at Vancouver, B.C.

this 9th day of

February, 1995.



Notary, Yukon Territory

Statement of Expenditures  
HP 1F, 2-31 Mineral Claims  
February 9, 1995

Labour

|  |              |            |
|--|--------------|------------|
| R. Carne (geologist) - 16 hours April, 1994<br>at \$42/hour  | \$ 719.04    |            |
| T. Becker (geologist) - 2 days April, 1994<br>at \$255/day   | 545.70       |            |
| H. Copland (geologist) - 1 day field August,<br>1994 + 3 days report prep February, 1995<br>at \$300/day | 1,284.00     |            |
| J. Mariacher - 1 hour April, 1994 at \$32/hour<br>+ 1 1/4 hours August-October, 1994 at \$37/hour        | <u>83.73</u> | \$2,632.47 |

Expenses

|   |               |                   |
|---|---------------|-------------------|
| 1 day field room and board at \$60/day              | 64.20         |                   |
| Trans North Air - 1.4 hours Bell 206B at \$600/hour | <u>898.80</u> | <u>963.00</u>     |
|   |               | <u>\$3,595.47</u> |



REMIT PAYMENT TO:  
**TRANS NORTH AIR**  
 TRANS NORTH TURBO AIR LTD.  
 AIRPORT HANGAR "C" • WHITEHORSE • YUKON • Y1A 3E4  
 TELEPHONE (403) 688-2177 FAX (403) 688-3420

|                                |          |                         |      |
|--------------------------------|----------|-------------------------|------|
| ACCOUNT NUMBER                 | ARC11CAT |                         |      |
| INVOICE NUMBER                 | 04274    |                         |      |
| INVOICE DATE                   | 31       | 08                      | 94   |
| A/C TYPE                       | Beilco B | AIRCRAFT REGISTRATION C | FPZE |
| FLIGHT DATE                    | 30       | 08                      | 94   |
| PURCHASE ORDER NO.<br>CONTRACT |          |                         |      |

CHARTERER  
**ARCER CATARO & ASSOC.**

Box 4127

BILLING ADDRESS  
 WHITEHORSE, Y.T. VIA 359

|                            |                |             |      |
|----------------------------|----------------|-------------|------|
| FUEL & OIL X<br>TNTA CUST. | TNTA FUEL USED | HRS./LITRES | FROM |
| X                          | 200 L          | —           | RR   |

| FROM         | HOURS | REMARKS - NO. OF PASS - FREIGHT Kg |
|--------------|-------|------------------------------------|
| MTN LAKE     |       |                                    |
| TO MAC PASS  |       | FERRY 400 18.18.00                 |
| WHITEHORSE   | 2.0   | 127.96                             |
|              |       | 195.96                             |
| MAC PASS     |       | 2 PAX MAPPING,                     |
| HOWARDS PASS |       | SAMPLING                           |
| JEFF LAKE    | 2.8   | W4JU- 840. N41-HP -                |
|              |       | 58.80 840                          |
|              |       | 58.80                              |
|              |       | 898.80 898.80                      |

| SUB  | GL  | AMOUNT  |               |          |              |
|------|-----|---------|---------------|----------|--------------|
| 7012 | 502 | 3360.00 | 5.6           | @ 600.00 | 3360.00      |
| 1600 | 131 | 148.00  |               | @        |              |
|      |     |         | HOLDING TIME: | @        | / HR.        |
| 0000 | 323 | 245.56  | FUEL 200 L    | @ 74.0   | LITRE 148.00 |
|      |     |         | FUEL          | @        | / LITRE      |

TERMS: PAYABLE UPON RECEIPT OF INVOICE.  
 2% INTEREST PER MONTH (24% PER ANNUM) WILL BE CHARGED ON ALL OUTSTANDING AMOUNTS OVER 30 DAYS. IF INTEREST IS NOT PAID, FUTURE FLIGHTS WILL BE ON A CASH BASIS.

X   
 CHARTERER'S SIGNATURE

CHARTERER'S NAME (PRINTED)

INITIALS   
 PILOT'S SIGNATURE

ENGINEER'S NAME  
 TBK Ken.

|                             |         |
|-----------------------------|---------|
| MEALS & LODGINGS            |         |
| OTHER                       |         |
| OTHER                       |         |
| <b>SUB TOTAL</b>            | 3508.00 |
| GOODS & SERVICES TAX        | 245.56  |
| REGISTRATION NO. R121483135 |         |

**TOTAL \$ 3753.56**

CARRIAGE SUBJECT TO TERMS OF PUBLISHED TARIFF.  
 TARIFF AVAILABLE TO PUBLIC VIEW AT TRANS NORTH OFFICE.  
**THIS IS YOUR ONLY INVOICE - PAY UPON RECEIPT**





**ARCHER, CATHRO & ASSOCIATES (1981) LIMITED**  
In Account With

Project —

W4 JV

Date —

AUGUST 31, 1994

| LABOUR                        |                               |            |                    |               |         |
|-------------------------------|-------------------------------|------------|--------------------|---------------|---------|
| Supervisory                   |                               |            |                    |               |         |
| Field                         | H. COLLARD - 1 DAY AT 300/day |            |                    | 300.00        |         |
| Secretarial                   |                               |            |                    |               |         |
| Accounting & Expediting       |                               |            |                    |               | 300.00  |
| <b>OTHER SERVICES</b>         |                               |            |                    |               |         |
| Room & Board In Whitehorse    |                               |            |                    |               |         |
| Field equipment from AC stock |                               |            |                    |               |         |
| Photocopies,                  | 14 copies at                  | 20¢        | /copy              | 3.50          |         |
| Rentals from AC               |                               |            |                    |               |         |
| Blueprinting,                 | sq.ft. Ozalid at              | ¢/ft, plus | sq.ft. Dilar at \$ | /ft.          |         |
| Drafting,                     | hrs at \$                     | /hr.       |                    |               | 3.50    |
| <b>EXPENSES</b>               |                               |            |                    |               |         |
| Petty Cash                    |                               |            |                    |               |         |
| Telephone                     |                               |            |                    |               |         |
| TRANS NORTH AIR               |                               |            |                    | 840.00        | 840.00  |
|                               |                               |            |                    |               | 1143.50 |
| <b>MANAGEMENT</b>             |                               |            |                    |               |         |
| GST (R100247667)              |                               |            |                    | 7% ON 1143.50 | 80.05   |
| E - GST Exempt                |                               |            |                    |               | 1223.55 |

