

**MICROFILMED**

PROSPECTUS

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REPORT ON THE  
BARB MINERAL CLAIMS  
for

TINTO GOLD CORPORATION

NTS 105 H/6

by

CHARLES K. IKONA

P. Eng.

March 18, 1983

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1.0 INTRODUCTION

The Barb Group of mineral claims cover an occurrence of sulphide mineralization now considered to be strata controlled. The deposit is located on the East shore of the East arm of Frances Lake in the Yukon Territory and was previously known as the Matt Berry Prospect.

Sovereign Metals Corporation ( N.P.L. ) is the recorded owner of an undivided 100% interest in the claims. Reference is made to an agreement by which Tinto Gold Corporation may acquire a major interest in the property.

This report is intended to summarize the available information on the property and recommends a continuing exploration and drill program for 1983.

The basis of this report is data made available by Sovereign Metals Corporation, on information obtained during a personal examination on June 12th, 1977, and on personal discussion with D. Yeager, Geologist, and T. C. Scott, Geologist of our firm, following their examination of the property in 1979 and 1980.

2.0 LIST OF CLAIMS

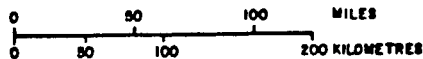
The claims subject to the Sovereign-Tinto Gold agreement are listed below:

| <u>Claim</u>  | <u>Recording No.</u> | <u>Expiry Date</u> |
|---------------|----------------------|--------------------|
| Barb 9        | YA 20216             | Feb.19,1992        |
| Barb 11 - 15  | YA 20234-38          | "                  |
| Barb 10       | YA 20217             | Feb.19,1993        |
| Barb 17-32    | YA 36636-51          | Feb.19,1989        |
| Barb 33-40    | YA 46975-82          | Feb.19,1986        |
| Barb 41-46    | YA 50321-26          | Feb. 19,1986       |
| Barb 48-51    | YA 54489-92          | Feb.19,1986        |
| Barb F501,502 | YA 54451-52          | Feb.19,1986        |

# TINTO GOLD CORPORATION BARB MINERAL CLAIMS

N.T.S. 105 H 6

## PROPERTY LOCATION MAP



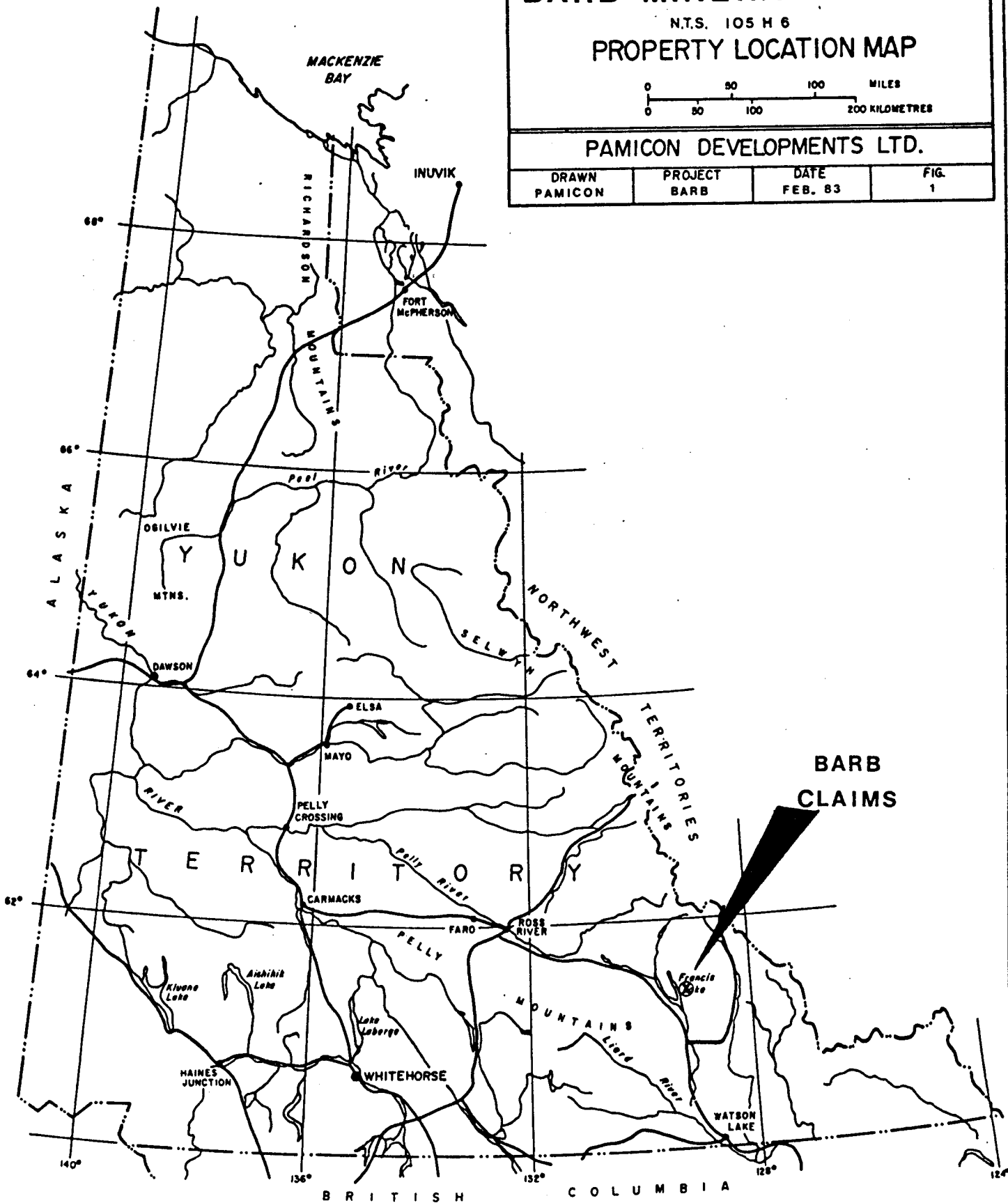
PAMICON DEVELOPMENTS LTD.

DRAWN  
PAMICON

PROJECT  
BARB

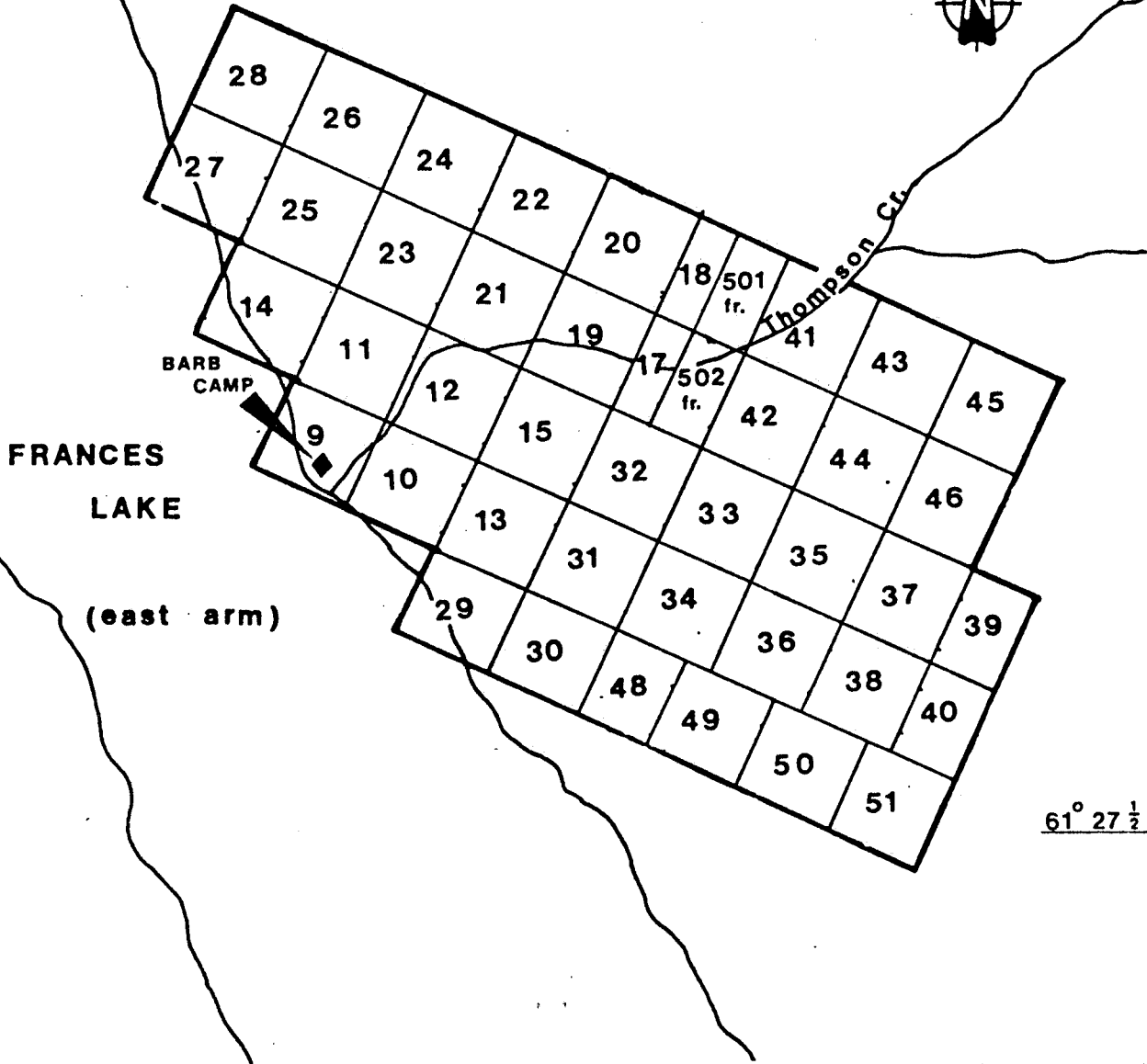
DATE  
FEB. 83

FIG.  
1



129° 25'

N.T.S. 105 H 11  
N.T.S. 105 H 6



61° 27 1/2'

|                                  |                        |                        |                  |
|----------------------------------|------------------------|------------------------|------------------|
| <b>TINTO GOLD CORPORATION</b>    |                        |                        |                  |
| <b>BARB MINERAL CLAIMS</b>       |                        |                        |                  |
| N.T.S. 105 H 6                   |                        |                        |                  |
| <b>CLAIM MAP</b>                 |                        |                        |                  |
| <b>PAMICON DEVELOPMENTS LTD.</b> |                        |                        |                  |
| <b>DRAWN</b><br>PAMICON          | <b>PROJECT</b><br>BARB | <b>DATE</b><br>FEB. 83 | <b>FIG.</b><br>2 |

### 3.0 LOCATION AND ACCESS

The Barb Claims are located on the East Shore of the East Arm of Frances Lake and centered on Thompson Creek. Approximate co-ordinates are Latitude  $61^{\circ} 27\frac{1}{2}'$  North and Longitude  $129^{\circ} 25'$  West. Elevations on the property range from 2540' ( Lake datum) to about 3000' A.S.L. along a gentle to moderate West facing slope. Thompson Creek has caused a steeply incised valley which cuts the area of interest.

Access to the property is by float plane from the village of Watson Lake some 100 miles to the South or by highway to Frances Lake and thence some 35 miles by boat to the site. Road access would require the construction of some 18 miles of highway to link with the Campbell Highway at a point North of Frances Lake.

During the Spring of 1979 a winter cat road was constructed into the property around the North end of Frances Lake from the Campbell Highway.

### 4.0 HISTORY

The original discovery of silver-lead-zinc was made on the claims in the late 1930's and was prospected for Cominco in 1943. The property was later hand trenched and sampled by Datlaska Mines Ltd. in the early 1960's. In 1966 Matt Berry Mines Ltd. was formed to develop the showing. A program of hand trenching and prospecting was undertaken in the vicinity of a mineralized outcrop in the Thompson Creek Canyon, followed by a drilling program of 2,120 feet. During July, 1968 an EM 16 Survey and a geochemical survey were conducted. From November, 1968 to May, 1969 an additional 4,200 feet were drilled. In June, 1969 a geophysical turam electromagnetic survey was conducted over about 500 acres which included the area previously drilled and surveyed. During late 1969 and early 1970 there was an additional 1,349 feet drilled.

4.0 HISTORY CONTINUED

Under a working agreement with Canadian Nickel Company Limited and Metallgesellschaft Canada Limited in 1970, an additional 1,282 feet of diamond drilling was done on the Northwesterly extension of the zone.

New Joburke Exploration held an option on the property in 1973 and in 1974 Cyprus Anvil Mining Corporation, under an option agreement completed a gravity survey over the area.

The property came open in the Spring of 1977 and was acquired by Sovereign.

In 1978, under an option agreement with New Frontier ( N.P.L.) a Pulse Electromagnetic Survey was conducted on the ground with indeterminate results.

The property reverted to Sovereign who conducted a caterpillar trenching program on the property in 1979.

Subsequent to this work the author prepared a report recommending a drill program to fill in and develop the area of existing drill indicated reserves and to moderately step out and expand upon these reserves. At this point, with the large increase in precious metals prices Cominco again became interested in the property and re-optioned the claims from Sovereign.

Cominco conducted some regional work and drilled 5 additional holes on large step outs to the north and west of the known mineralization. These holes were interpreted as intersecting the Matt Berry horizon but were of submarginal grade. Consequently Cominco allowed the option to lapse.

#### 4.0 HISTORY CONTINUED

In January 1983 Sovereign asked that Pamicon re-evaluate the property on the basis of the Cominco drilling. This report is prepared to reflect this evaluation.

#### 5.0 GEOLOGY

Over the past decade a belt of Cambrian-Mississippian sediments lying in a south east trending direction from the Anvil district in the central Yukon to well down into British Columbia has been the location for a number of important discoveries of Stratabound Lead-Zinc deposits. The most recent of these is Regional Resources Midway deposit presently being delineated by drilling.

The Matt Berry deposit of Sovereign - Tinto Gold occurs in a similar aged sedimentary package within this trend and possesses many similarities including apparent Lead - Zinc - Silver ratios and stratigraphic controls.

##### 5.2 Area Geology

The area has been mapped by the Geological Survey of Canada and is presented on Map 6-1966 Frances Lake N.T.S. 105 H at a scale of 1 inch to 4 miles and on Map 1948 A Department of Mines and Technical Surveys at a scale of 1 inch to 6,000 feet.

The geology in the region consists of a series of phyllites, quartz-sericite schists, hornfels and calcphyllites, of probable Devonian/Mississippian age.



## 5.2 Area Geology continued

To the East of Frances Lake these rocks define a North-Northwest trending syncline with a gently dipping Western limb. This has been intruded to the East by acid intrusives of possible cretaceous age.

Regional faulting in the area is extensive with major East/West striking faults dipping steeply to the North and showing horizontal movement, South section East. Less Pronounced is a possible set of North-west/Southeast trending faults which are presumed to be also steeply dipping.

## 5.3 Property Geology

### 5.3.1 Lithology

The Barb Group is underlain by two phyllitic units. A dark green to black phyllite conformably overlays a homogenous light grey, fine grained unit.

The overlying darker phyllites contain fine silt and cherty beds grading upwards into pelites. At or near the contact with the lighter unit; cherty - tuffaceous beds become more prevalent.

It is within this lower or contact zone of the darker phyllites that bedded massive sulphides are located. These appear to be intimately associated with cherty tuffaceous beds locally referred to as the Matt Berry horizon. Within the exposed surface trace of this zone the massive sulphide beds are laterally quite continuous.

Some quartz veining has been recognized on the group. These sometimes carry minor sulphide mineralization.

### 5.3.2. Mineralization

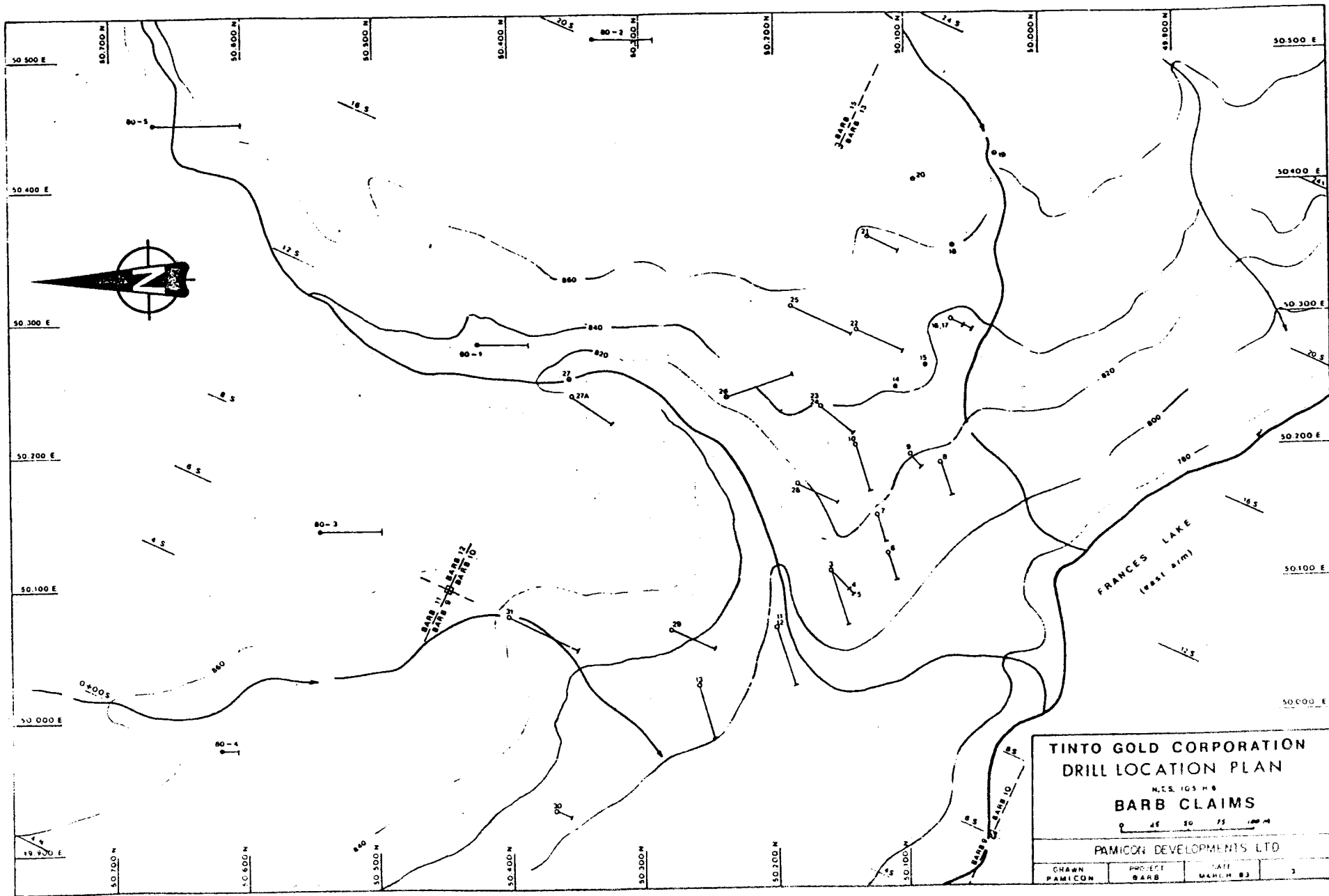
Trenching during the 1979 program has exposed the surface trace of the mineralized zones discontinuously for some 700 feet of strike length. Limitations on depth of trenching prevented the mineralization from being exposed continuously for this length.

Drill results and surface exposures of the mineralization indicate that the zone favourable for the occurrence of massive sulphides is some 30 to 40 feet in thickness. Lithologically this zone is located just above the green-black phyllite and light grey phyllite contact where the green-black phyllite is more cherty and tuffaceous. Within this zone are located a number of massive sulphide beds which have been affected by minor folds causing local changes in attitudes and thicknesses.

The best illustration of this is in trench number 3 where two mineralized zones are exposed, an upper thinly bedded sulphide zone and a lower massive sulphide zone, separated by some 15 feet.

The upper zone is composed of up to ten bands of massive galena and sphalerite ranging in thickness from 0.25 inch to 1.25 inch across a true thickness of 3.0 feet. Some individual sulphide bands may be traced laterally for up to 5 feet but the thinner ones were seen to pinch out completely within 1 or 2 feet. Regardless of the pinching and swelling of individual sulphide bands, the entire thinly banded zone was seen to be continuous, more or less as described above, along a strike length of 35 feet in trench 3.

The lower or massive sulphide zone is composed of two main sulphide bands occurring within a true thickness of approximately 9 feet. The lower band ranges in thickness from 8.0 to 12.0 inches while the maximum thickness of the upper bands is approximately 18.0 to 20.0 inches. Both bands split as well as pinch and swell, but despite the irregular nature of individual sulphide bands, this zone was continuous along a strike length of 40 feet in trench 3.



**TINTO GOLD CORPORATION**  
**DRILL LOCATION PLAN**  
 M.E.S. 105 H-8  
**BARB CLAIMS**  
 0 25 50 75 100 M  
**PAMICON DEVELOPMENTS LTD**  
 DRAWN PAMICON PROJECT BARB DATE MARCH 83 3

### 5.3.3. Structure

The Barb Group is located on the gently dipping Western limb of a North-Northwest trending syncline which locally exhibits extensive deformation within the units.

Interpretation of the pre - 1981 drilling indicated the mineralization existed within a horizon ( Matt Berry horizon ) striking E.S.E. and dipping moderately to the NNE. See Fig. 3 - Drill hole locations. On this basis Cominco in 1981 stepped out some 200 plus meters to the NNE to intersect the horizon in this direction. The Matt Berry horizon was intersected by these holes and showed poor mineralization and an apparent flattening of the general dip of the structure.

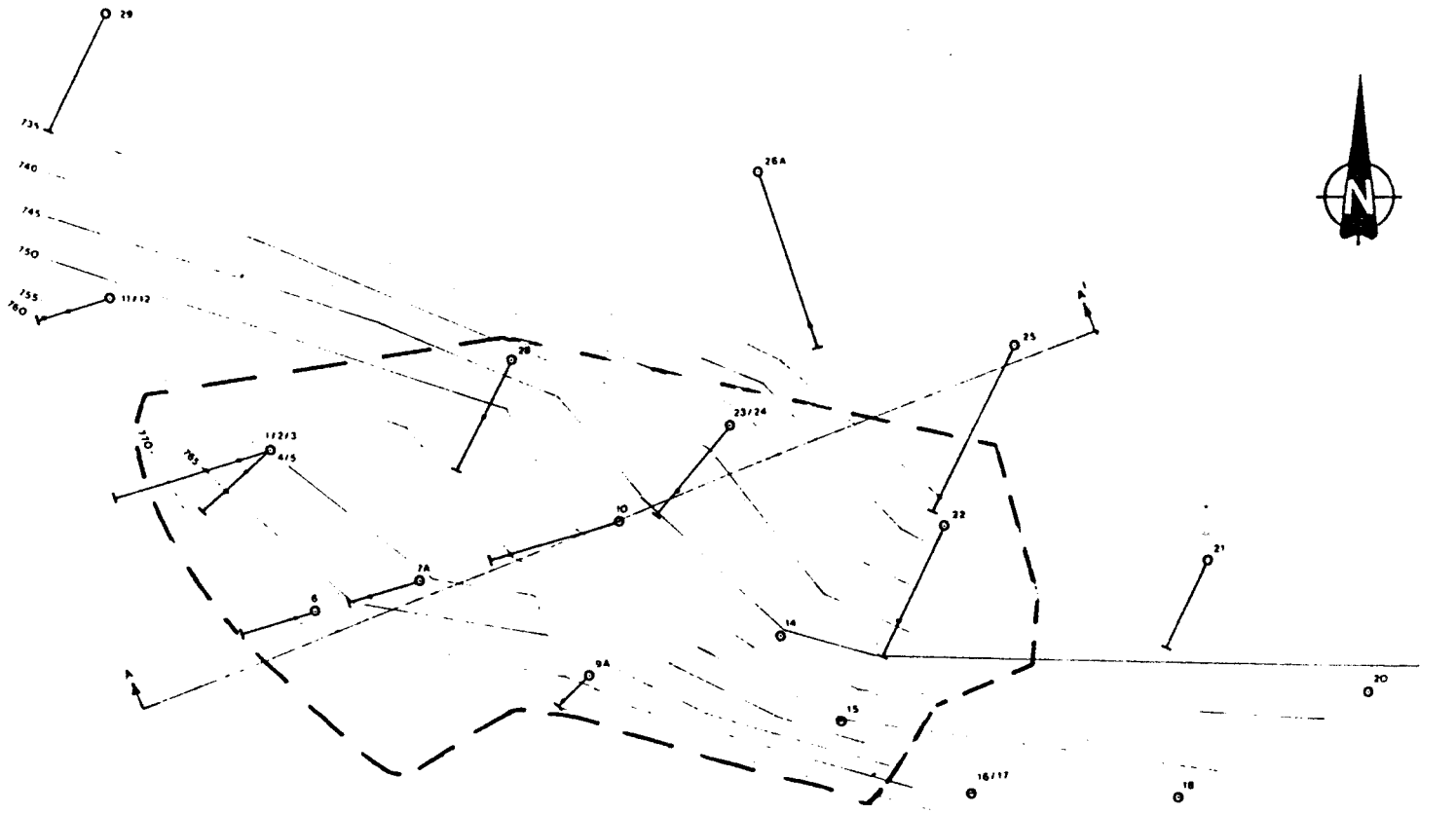
Based on this information a re-evaluation of the structure appears to indicate that the higher grade mineralization occurs within the steeper dipping part of the syncline which would give a E.S.E. - W.N.W. strike direction to the mineralization rather than the northerly step outs used by Cominco.

## 6.0 POTENTIAL RESERVES





In July 1977 the author prepared an ore reserve calculation for Sovereign Metals based on the existing information. The following table summarizes these reserves.

### SUMMARY OF TONNAGE AND GRADE ESTIMATES (1977)

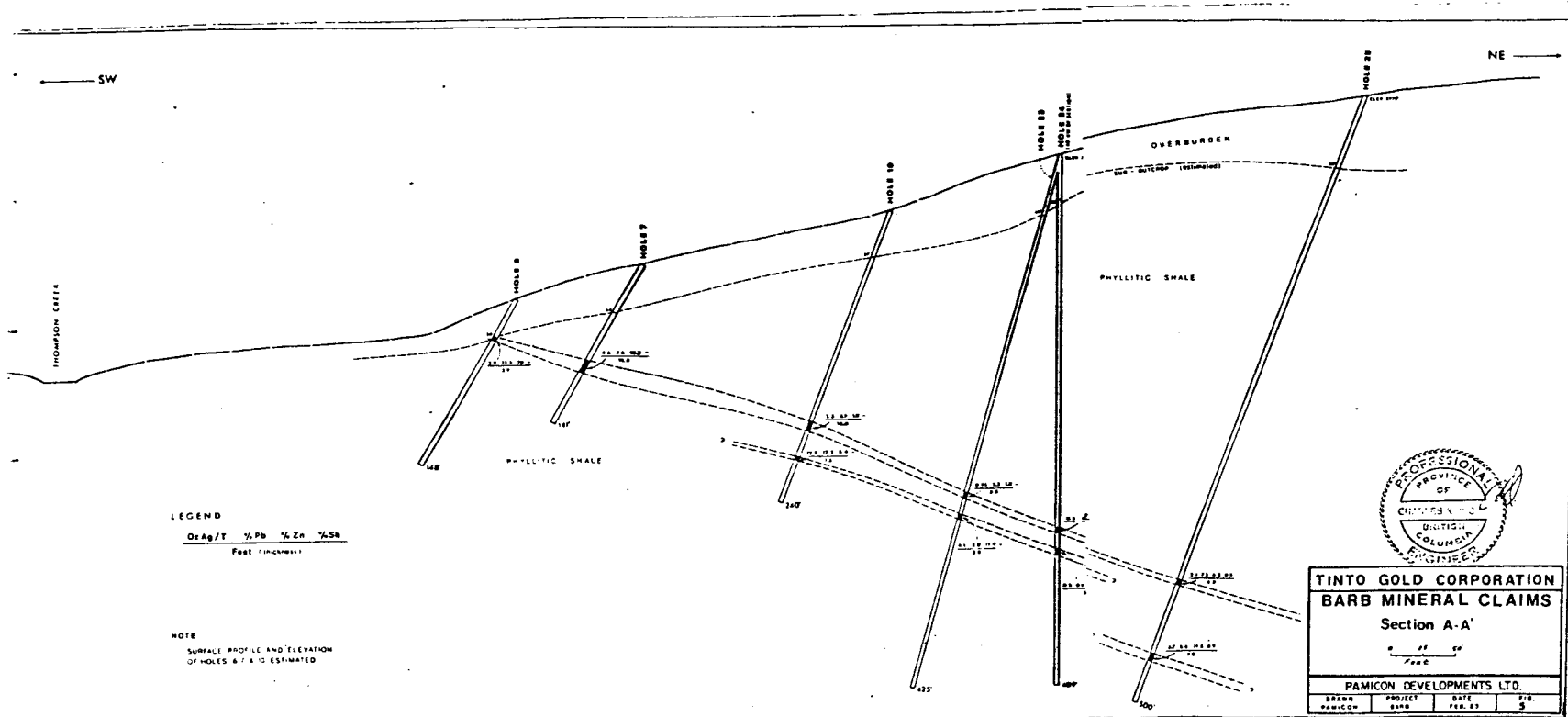
| <u>Tons</u>            | <u>Oz:<br/>Ag:/T</u> | <u>% Pb.</u> | <u>% Zn.</u> | <u>Classification</u> |
|------------------------|----------------------|--------------|--------------|-----------------------|
| Block 1 - 193,000      | 4.7                  | 8.9          | 8.0          | Drill indicated       |
| Block 2 - 138,000      | 2.0                  | 4.3          | 3.2          | Inferred              |
| Block 3 - 257,000      | 2.3                  | 5.0          | 2.9          | Inferred              |
| TOTAL - 588,000        | 3.0                  | 6.1          | 4.6          |                       |
| all<br>Classifications |                      |              |              |                       |



**LEGEND**

-  DIAMOND DRILL HOLE
-  SURFACE PROJECTION OF FOOTWALL INTERSECTION - MINERALIZED ZONE
-  CONTOURS - FOOTWALL OF MINERALIZED ZONE IN METERS
-  OUTLINE OF INDICATED RESERVES BLOCK 1

|                                      |         |                |   |
|--------------------------------------|---------|----------------|---|
| <b>TINTO GOLD CORPORATION</b>        |         |                |   |
| <b>PLANAR AREA<br/>RESERVE BLOCK</b> |         |                |   |
| 35 50 M                              |         |                |   |
| <b>PAMICON DEVELOPMENTS LTD</b>      |         |                |   |
| DRAWN<br>-C-                         | PROJECT | DATE<br>MAR 83 | 4 |



LEGEND

| Oz Ag/T          | % Pb | % Zn | % Sb |
|------------------|------|------|------|
| Foot (thickness) |      |      |      |

NOTE

SURFACE PROFILE AND ELEVATION OF HOLES 6 & 7 IS ESTIMATED



TINTO GOLD CORPORATION  
 BARB MINERAL CLAIMS  
 Section A-A'



|                           |         |         |      |
|---------------------------|---------|---------|------|
| PAMICON DEVELOPMENTS LTD. |         |         |      |
| BRAND                     | PROJECT | DATE    | FIB. |
| PAMICON                   | BARB    | FEB. 57 | 3    |

6.0 POTENTIAL RESERVE CONTINUED

While no information is available yet to negate these calculations, for the purposes of this report the author was asked to re-calculate reserves based only on the closer spaced results along the apparent axis of the mineralization.

A polygonal method of calculation was employed for the area outlined on Fig. 4 . Correction for all dip angles were made and all assays cut to a minimum of 6 feet of true thickness. Results are tabulized below with detailed calculations included in appendix 1. Fig. 4 & 5 present a planar area of reserve block and cross-section

TONNAGE AND GRADE ESTIMATE  
CORE AREA ONLY ( 1983)

| <u>Tonnes</u> | <u>oz.Ag/Tonne</u> | <u>% Pb</u> | <u>% Zn.</u> | <u>Classification</u> |
|---------------|--------------------|-------------|--------------|-----------------------|
| 200,644       | 4.2                | 7.9         | 7.2          | probable              |

Additional drilling and possibly some underground work will be required prior to these reserves being considered as "proven".

It should be noted that mineralized intersection in both strike directions were not included in these calculations due to spacing on these holes.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The deposit on the Barb Group has attributes typical of shale-hosted massive sulphide bodies. At present it contains probable reserves of 200,000 Tonnes of possible ore grade mineralization.

7.0 CONCLUSIONS AND RECOMMENDATIONS CONTINUED

There is an excellent possibility of substantially increasing these reserves in the open strike extensions of the mineralization and a good potential for some additional reserves down dip between the pre-1981 drilling and the Cominco drilling.

A 2 stage diamond drill program is recommended for the property.

The first stage of 1200 feet should be used for fill in drilling to confirm the reserve calculations. The second stage of an additional 3000 feet should be used to test the strike extensions and down dip potential of the zone.

8.0 RECOMMENDED BUDGETS

Stage 1

|   |              |
|---|--------------|
| 1200 feet diamond drilling @ \$40/ft. incl. | 48,000       |
| Wages                                       | 10,000       |
| Fixed Wing support                          | 5,000        |
| Helicopter Support                          | 5,000        |
| Assaying                                    | 500          |
| Support and camp costs                      | 3,500        |
| Engineering                                 | <u>3,000</u> |
|   | 75,000       |

Stage 11

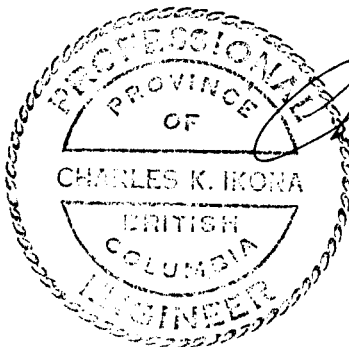
|   |         |
|---|---------|
| 3000 feet diamond drilling @ \$35/ft. incl. | 105,000 |
| Wages                                       | 15,000  |
| Fixed Wing Support                          | 7,000   |
| Helicopter Support                          | 8,000   |
| Camp and support costs                      | 10,000  |



8.0 RECOMMENDED BUDGETS CONTINUED

Stage 11 continued

|                           |                         |
|---------------------------|-------------------------|
| Assaying                  | 1,000                   |
| Engineering               | <u>4,000</u>            |
|                           | 150,000                 |
| Total Recommended program | <u><u>\$225,000</u></u> |



Respectfully submitted,

  
C. K. Ikona, P. Eng.

Grade & Tonnage Calculations BARB Claims

| Hole No. | Thickness T (m)<br>apparent(true)<br>* diluted | Assays       |              |              | Plan area of influence<br>reading x factor<br>= area A | Product Volume<br>A x T<br>cosine geo-logic dip | Product<br>(A x T ÷ cos dip) x V |           |           |
|----------|--|--------------|--------------|--------------|--|---|----------------------------------|-----------|-----------|
|          |  | Ag oz/T      | Pb %         | Zn %         |  |   | Ag                               | Pb        | Zn        |
| 1        | 0.61 ( 0.54)<br>* 1.83                         | 21.4<br>6.3  | 45.8<br>13.5 | 14.5<br>4.3  | 3.9 x 156.25<br>609.375                                | 1314.97   | 8297.45                          | 17765.22  | 5628.06   |
| 2        | 1.52 (1.52)<br>* 1.83                          | 7.9<br>6.6   | 16.3<br>13.6 | 13.0<br>10.8 | 1.4 x 156.25<br>218.750                                | 472.04  | 3115.04                          | 6419.74   | 5098.03   |
| 3        | 2.29 (1.94)                                    | 1.3          | 3.0          | 6.7          | 8.1 x t<br>1265.625                                    | 2895.25   | 3763.83                          | 8685.75   | 19398.19  |
| 4        | 0.91(0.91)<br>* 1.83                           | 4.7<br>2.3   | 12.1<br>6.1  | 2.5<br>1.2   | 1.0 x t<br>156.250                                     | 337.17  | 775.49                           | 2056.74   | 404.60    |
| 5        | 1.52 (1.35)<br>* 1.83                          | 1.8<br>1.3   | 6.5<br>4.8   | 4.8<br>3.5   | 3.5 x t<br>546.875                                     | 1180.10   | 1534.13                          | 5664.48   | 4130.35   |
| 6        | 0.91 (0.91)<br>* 1.83                          | 3.9<br>2.0   | 13.5<br>6.7  | 7.1<br>3.5   | 8.1 x t<br>1265.625                                    | 2862.85   | 5725.70                          | 19181.10  | 10019.98  |
| 7A       | 3.51(3.51)                                     | 4.6          | 7.6          | 13.3         | 12.3 x t<br>1921.875                                   | 8136.88   | 37429.65                         | 61840.29  | 108220.50 |
| 9A       | 1.37 (1.18)<br>* 1.83                          | 20.6<br>13.2 | 32.8<br>21.1 | 22.3<br>14.3 | 12.2 x t<br>1906.250                                   | 5543.18   | 73170.00                         | 116961.14 | 79267.50  |
| 10       | 3.05 (3.05)                                    | 2.6          | 5.5          | 2.6          | 11.5 x t<br>1796.875                                   | 6862.29   | 17841.95                         | 37742.60  | 17841.95  |
| 14       | 2.29 (1.62)<br>* 1.83                          | 7.2<br>6.4   | 15.1<br>13.3 | 11.6<br>10.2 | 12.5 x t<br>1953.125                                   | 5054.71   | 32350.14                         | 67227.63  | 51558.03  |
| 15       | 1.46 (0.75)<br>* 1.83                          | 2.9<br>1.2   | 5.9<br>2.4   | 5.4<br>2.2   | 8.7 x t<br>1359.375                                    | 4830.04   | 5796.05                          | 11592.10  | 10626.10  |
| 22       | 2.41 (2.16)                                    | 4.7          | 9.2          | 5.2          | 11.0 x t<br>1718.750                                   | 4919.11   | 23119.82                         | 45255.82  | 25579.38  |
| 23       | 1.16 (1.11)<br>* 1.83                          | 4.1<br>2.5   | 8.0<br>4.9   | 17.9<br>10.9 | 11.9 x t<br>1859.375                                   | 3969.65   | 9924.13                          | 19451.30  | 43269.21  |
| 24       | 1.19 (0.91)<br>* 1.83                          | 0.5<br>0.2   | 0.6<br>0.3   | 10.0<br>5.0  | 8.5 x t<br>1328.125                                    | 3172.75   | 634.75                           | 951.83    | 15863.76  |
| 25       | 1.28(1.21)<br>* 1.83                           | 2.1<br>1.4   | 7.4<br>4.9   | 6.2<br>4.1   | 11.0 x t<br>1718.750                                   | 4047.26   | 5666.17                          | 19831.58  | 16593.77  |
| 28       | 1.83 (1.83)                                    | 4.7          | 7.5          | 3.8          | 14.1 x t<br>2203.125                                   | 4655.43   | 21880.52                         | 34915.73  | 17690.63  |

Sum of Volume products = 60253.68 cubic metres

Sum of Assay x Volume products:

for Ag = 251025.04 units

for Pb = 475570.05 units

for Zn = 431190.04 units

Average Grades

= Sum of Volume x Assay products

Sum of Volume Products

for Ag =  $\frac{251025.04}{60253.68} = 4.2 \text{ oz./T}$

for Pb =  $\frac{475570.05}{60253.68} = 7.9 \%$

for Zn =  $\frac{431190.04}{60253.68} = 7.2 \%$

Average Specific Gravity of Zone

7.9 % Pb x  $\frac{100}{86.6} = 9.12\% \text{ galena x } 7.50 \text{ SG} = 68.400 \text{ units}$

7.2 % Zn x  $\frac{100}{67} = 10.75\% \text{ sphalerite x } 4.00 \text{ SG} = 43.000 \text{ units}$

80.13% shale x 2.76 SG = 221.159 units

100% 332.559 units

avg. SG = 3.33

Tonnage

60253.68 cubic metres x 3.33  $\frac{\text{tonne}}{\text{cu.m}}$  = 200,644.75 tonnes

x 1.1025  $\frac{\text{tons}}{\text{tonne}}$  = 221,210.84 tons

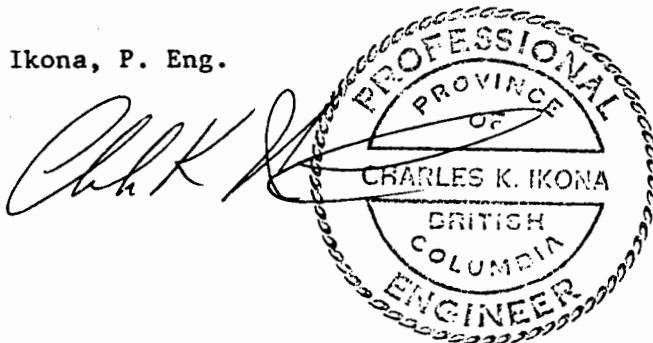
ENGINEER'S CERTIFICATE

I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody, in the Province of British Columbia, do hereby certify that:

1. I am a consulting Mining Engineer with offices at 208 -850 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia with a degree in Mining Engineering.
3. I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
4. This report is based on data supplied to me by Sovereign Metals Corporation ( N.P.L.); on a personal inspection of the property by myself on June 12th, 1977, and on discussions with T.C. Scott and D. Yeager, Geologists, on results of the 1979 program.
5. I have no interest in the property reported on or in the securities of Tinto Gold nor do I expect to acquire any such interest.
6. I consent to the use by Tinto Gold of this report in a Prospectus or Statement of Material Facts or any other such document as may be required by the Vancouver Stock Exchange or the office of the Superintendent of Brokers.

DATED at Vancouver, British Columbia, this 28<sup>th</sup> day of MARCH/53

Charles K. Ikona, P. Eng.



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