

Prospectus
August 19, 1981.

GEOLOGICAL REPORT

ON THE

TINTA HILL PROPERTY

WHITEHORSE MINING DIVISION, Y.T.

062086

FOR

SILVER TUSK MINES LTD.

AND

PANTHER MINES LTD.

115-1-7

BY

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FEBRUARY 21, 1981

VANCOUVER, B.C.

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5+00W	1" = 40'
0+00	1" = 40'
2+00E	1" = 40'
5+00E	1" = 50'
7+00E	1" = 40'
8+00E	1" = 40'
10+00E	1" = 40'
11+80E	1" = 40'
13+60E	1" = 40'
14+00E	1" = 40'
14+20E	1" = 40'
16+00E	1" = 40'
16+20E	1" = 40'
18+30E	1" = 40'
20+00E	1" = 40'
22+00E	1" = 40'
23+40E	1" = 40'
24+50E	1" = 40'
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NO. 1 ADIT SAMPLE LOCATION MAP	
PLAN OF NO. 1 ADIT	

GEOLOGICAL REPORT
ON THE
TINTA HILL PROPERTY
WHITEHORSE MINING DIVISION, Y.T.

PART A

SUMMARY

The Tinta Hill property consists of 48 located mineral claims located approximately 24 air miles northwest of Carmacks, Y.T. and is accessible by 41 miles of road. Eight of the claims are optioned from Canex-Placer Ltd. and the remaining 40 are held jointly by Silver Tusk Mines Ltd. and Panther Mines Ltd.

The topography is relatively gentle with elevation on the property ranging between 3300 and 4100 feet.

Water is available for all phases of exploration and development, and railroad facilities are available in Whitehorse.

The property was first discovered in 1930 and has since undergone intermittent exploration primarily for the precious metal content.

Exploration to date has consisted of trenching, sampling, the driving of a short adit, and diamond drilling.

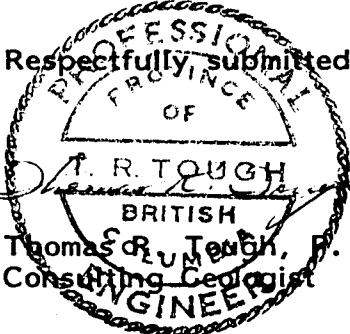
Canex Aerial Explorations Ltd. acquired the property and carried out geochemical and electromagnetic surveys. In 1968, Silgold Mines Ltd. optioned the property from Canex and cleaned out and sampled the existing trenches. In 1973 four B.Q. diamond drill holes were drilled by Exeter Mines Ltd. and a VLF-EM survey was carried out. Drilling was carried out during the field seasons of 1974 and 1976. In 1980, Silver Tusk Mines Ltd. and Panther Mines Ltd. drove 342 feet of cross-cut and 40 feet of drifting.

The property is underlain by a granodiorite which is highly altered in the vicinity of the shear zone which contains the known zones of mineralization. Galena, sphalerite, pyrite, chalcopyrite, tetrahedrite, azurite, and malachite occur in quartz veins and within the altered wall rocks.

CONCLUSIONS

1. From data compiled to date, 1,875 tons/vertical foot of drill indicated reserves grading 0.075 oz. Au/ton, 5.35 oz. Ag/ton, 4.71% Pb, 6.03% Zn, 0.37% Cu, and 0.049 Cd are estimated.
2. The potential for increasing reserves appears to be excellent as the zone is open to the northwest, the southeast and to depth. Additional sub-parallel and parallel zones located by the VLF-EM survey have been partially tested.
3. Underground development should be continued within the main zone of interest.
4. It is also recommended that Silver Tusk Mines Ltd. and Panther Mines Ltd. allocate the sum of \$402,500 to implement and execute Phase I of the recommended exploration program.

Respectfully submitted,



The seal is circular with a double-line border. The outer ring contains the text "PROFESSIONAL ENGINEER" at the top and "PROVINCE OF BRITISH COLUMBIA" at the bottom. In the center, the name "T. R. TOUGH" is written in a stylized font, with a signature over it. Below the name, it reads "BRITISH COLUMBIA" and "Consulting Geologist".

Thomas R. Tough, P. Eng.
Consulting Geologist

February 21, 1981

Vancouver, B.C.

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PART B

INTRODUCTION

The following report has been compiled from information obtained during numerous visits to the property by the writer in 1973, 1974, and 1975; from a study of past records of work carried out by previous and present owners; from a review of government publications; from the direction and supervision of a diamond drill program carried out in October and November 1973 and July and August 1974 and 1976.

PROPERTY

The property consists of 48 mineral claims held by location. They are as follows:

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
Tinta 1 - 4 incl.	Y10054-57 incl.	August 22, 1985
Tinta 5 - 8 incl.	Y20626-29 incl.	November 10, 1985
Tinta 9 - 12 incl.	Y48246-49 incl.	September 21, 1985
Tinta 21 - 24 incl.	Y48347-50 incl.	October 18, 1985
Tinta 13 - 20 incl.	Y48367-74 incl.	October 22, 1985
Tinta 25 - 32 incl.	Y48375-82 incl.	October 22, 1985
Tinta 33 - 40 incl.	YA59057-64 incl.	October 23, 1981
Tinta 49 - 56 incl.	YA52243-50 incl.	October 6, 1981

OWNERSHIP

The Tinta 1-8 claims are owned by Canex Placer Ltd. and Tinta 9-56 inclusive are owned jointly by Silver Tusk Mines Ltd. and Panther Mines Ltd.

LOCATION (62° 136° S.W.)

The Tinta Hill property lies on the southern flank of Granite Mountain, Whitehorse Mining Division, Y.T. approximately 24 air miles northwest of the Town of Carmacks on the Klondike Highway.

ACCESS

A good gravel road, the Crossing Creek road, heads west from Carmacks and at a point 34 miles from Carmacks a four-wheel drive road leads north into the Tinta Hill property, a distance of some seven miles. The various showings are accessible by road and trail.

TOPOGRAPHY

The topography is relatively gentle with elevations on the property varying from 3300 feet to 4100 feet. The hillsides are covered with scrub balsam and willow.

WATER

Merrice Creek and its tributaries have sufficient flowage for all phases of exploration, development and domestic use.

CLIMATE

Winters are relatively severe with moderate snowfall. Total annual precipitation is approximately 20 inches.

POWER

Diesel electric power would be necessary for the initial stages of development.

SUPPLIES

Most supplies may be obtained from Whitehorse. Good daily express services will enable purchasing locally unobtainable goods from major centers in the Yukon Territory or British Columbia.

TRANSPORTATION

Truck transportation to railhead in Whitehorse would be available.

HISTORY

According to Bostock (1936a, p.55; 1941, p.26) the vein was discovered in 1930 and explored by trenches and shallow shafts until 1932. Restaking took place in 1939 or 1940 and further exploration was carried out.

During the period between 1959-60 Conwest Exploration Company Limited acquired the prospect and carried out trenching and diamond drilling.

Canex Aerial Exploration Ltd. acquired the property in 1966 and carried out geochemical and electromagnetic surveys. In 1968 Silgold Mines Ltd. optioned the Tinta 1-8 claims from Canex Aerial Exploration Ltd., and cleaned out and sampled the existing trenches.

In 1973 Exeter Mines Ltd. drilled four B.Q. holes for a total of 1,126 feet. The company's name was changed to Tinta Hill Mines Ltd. and 20 diamond drill holes were drilled in 1974. Electromagnetic and geochemical surveying was also carried out. Two holes were drilled in 1976.

During the 1980 field season 342 feet of crosscut were driven at 032° from L15+40E; 3+40S at an elevation of some 3,880 feet above sea level. The vein was drifted on in two directions for a total of 40 feet.

GENERAL GEOLOGY

The N.E. flank of the Dawson Range is generally underlain by a basement complex of metamorphic Yukon Schists and an assemblage of highly differentiated

Jurassic or Cretaceous intrusives both overlain and underlain by basic and acid volcanics. The assemblage is cut by many bodies of younger quartz-porphyries and rhyolites. The Dawson Range was not glaciated during the last period of glaciation.

LOCAL GEOLOGY

Essentially the property is underlain by granodiorite and quartz diorite which is gneissic in places. On the north side of the main shear zone a band of amphibolite occurs.

The granodiorite is generally medium-grained, pink-grey, with chloritization of the mafic minerals. Quartz stringers are common and fractures are usually filled with chlorite or calcite.

Alteration is fairly intense in the vicinity of the main shear zone and consists of pink K-feldspar, clay minerals, sericite, green, brown and red chlorite, silicification and epidote.

MINERALIZATION

Mineralization is confined to a shear zone which strikes at 300° and has a near vertical dip. The shear reaches a width of ten feet or more. Quartz veins within the shear contain pyrite, galena, sphalerite, chalcopyrite, and tetrahedrite. Some cerrusite, anglesite and smithsonite probably occur as does azurite and malachite. Pyrite, chalcopyrite, azurite, and malachite occur within the wall rocks as veinlets and disseminations.

Exploration to date has helped to establish a well-defined mineralized shear zone over a length of some 11,500 feet and open at both ends. The average true thickness of the mineralized zone encountered in diamond drill holes is 5.35 feet. Samples from surface exposures suggest a variance of a few inches to approximately six feet. The old trenches are partially sloughed in and vein exposures are generally poor. Based on previous sampling, the surface exposures appear to have an average true thickness of about three feet.

A number of sloughed-in cuts and trenches were noted to the north of the main

shear zone and dump material suggested the presence of additional quartz veins which appear to parallel the main vein systems.

The trenching along the main shear zone generally follows the baseline and the following descriptions of the showings are related to the grid lines.

TRENCH NO. 1

Located at 2+00E the trench exposes a 5.5 foot section of rusty vein material with chalcopyrite, pyrite, tetrahedrite and malachite. A sample cut across the 5.5 foot width assayed 0.04 oz. Au/ton and 8.18 oz. Ag/ton. Other elements were not assayed. The vein strikes at 164°.

TRENCH NO. 2

The trench exposes rusty gouge material containing galena and malachite. A three-foot sample assayed 0.07 oz. Au/ton and 1.7 oz. Ag/ton.

TRENCH NO. 3 (7+00E)

This working consists of an old caved shaft. A select specimen of galena assayed 0.04 oz. Au/ton, 98.88 oz. Ag/ton, and 76.0% Pb.

TRENCH NO. 4 (8+00E) (Strike 170°)

A 4.8 foot zone of vuggy quartz and rusty gouge assayed 0.03 oz. Au/ton and 2.91 oz. Ag/ton.

TRENCH NO. 5 (10+00E)

Three quartz veins were noted fairly close together - two were two inches wide and one was two feet wide. An assay of one of the two inch veins assayed 0.03 oz. Au/ton and 1.8 oz. Ag/ton.

TRENCH NO. 6 (12+00E) (Strike 150°)

A section across 2.2 feet of rusty vein containing chalcopyrite, azurite, malachite and minor galena assayed 0.02 oz. Au/ton, 0.78 oz. Ag/ton, 0.06% Pb, and 1.53% Cu.

TRENCH NO. 7 (14+70E) (Strike 140°)

A 2.5 foot section containing vein, gouge and wallrock assayed 0.14 oz. Au/ton, 1.62 oz. Ag/ton, 2.50% Pb, and 0.70% Zn. Minerals present were azurite, malachite, and galena.

TRENCH NO. 8 (16+00E) (Strike 148°)

Quartz, gouge, and altered wallrock form a section five feet wide which contains galena, possibly cerrusite, and anglesite, and malachite. The section assayed 0.08 oz. Au/ton, 7.90 oz. Ag/ton, 14.5% Pb, and 0.42% Cu.

TRENCH NO. 9 (17+10E) (Strike 148°)

A zone of quartz and gouge containing pyrite, galena, chalcopryrite, bornite, and malachite, assayed 0.40 oz. Au/ton, 30.02 oz. Ag/ton, 32.9% Pb, 0.27% Zn, and 0.85% Cu across 3.9 feet.

TRENCH NO. 10 (18+00E) (Strike 140°)

2.7 feet of quartz vein and gouge assayed 0.74 oz. Au/ton, 14.25 oz. Ag/ton, 20.2% Pb, and 1.05% Cu - galena, tetrahedrite, and malachite were present.

TRENCH NO. 11 (20+00E) (Strike 150°)

A six inch vein containing galena and pyrite assayed 0.02 oz. Au/ton and 0.36 oz. Ag/ton.

TRENCH NO. 12 (22+00E) (Strike 145°)

2.7 feet of vein, gouge and wallrock assayed 0.16 oz. Au/ton, 24.76 oz. Ag/ton, 13.4% Pb, and 0.50% Cu. The section contains galena, sphalerite, chalcopryrite, azurite and malachite.

TRENCH NO. 13 (24+00E) (Strike 30°)

Selected specimens of gouge and sulphides over two feet assayed 0.03 oz. Au/ton, 7.51 oz. Ag/ton, 15.6% Pb, 20.6% Zn, and 0.05% Cu. Sulphides noted were galena, sphalerite, and pyrite.

TRENCH NO. 14 (16+00E) (2+00N)

Selected specimens of gouge and sulphides over five feet assayed 0.06 oz. Au/ton, 53.2 oz. Ag/ton, 12.60% Pb, 0.68% Zn, and 1.13% Cu.

TRENCH NO. 15 (18+00E) (12+50N)

Selected specimens of gouge and sulphides assayed 0.04 oz. Au/ton, 19.4 oz. Ag/ton, 20.00% Pb, 0.22% Zn, and 0.06% Cu.

GEOPHYSICAL SURVEYS

(1) AIRBORNE MAGNETOMETER SURVEY

The government airborne magnetometer survey map reveals a large magnetic anomaly covering Granite Mountain and its flanks. The Tinta claim group lies on the southern flank of Granite Mountain in an area where considerable distortion of the magnetic anomaly exists. The distortion trends in a northwesterly direction and could probably be reflecting the shear zones which contain the mineralized areas of interest on the property.

(2) VLF-EM SURVEY

Approximately six line miles of VLF-EM survey were run during the 1973 exploration season. The strongest crossovers were found to correlate with the exposed portion of the mineralized shear zone. Extensions along the strike of the zone were indicated over the length of the grid.

Approximately 28 line miles of VLF-EM survey were carried out during the 1974 exploration season. A Ronka E.M. 16 instrument was utilized.

The Tinta vein zone was extended over the length of the grid to L85E and L30W. The intensity of the readings are somewhat lower from the eastern limit of the drilling at L30E to L40E. However, they are significant from there. Similarly, lower readings occur from L2W to L5W but are anomalous to L30W. These two areas of low

readings are possibly reflected by a watercourse in the west, and a swampy area in the east, where considerable weathering, leaching, and oxidation has taken place.

A parallel anomalous zone extends from L25E to beyond the limits of the grid at L15W at this point, and approximately 1,100 feet north of the main zone. The zone has been trenched at L18E and a shear zone containing variable amounts of galena and sphalerite has been located.

These two zones are connected by a northerly striking zone which has been trenched, sampled, and drilled and which returned favourable assays.

A second sub-parallel anomalous zone extends from L75E to the limits of the grid at L00 and is from 1,600 to 3,200 feet north of the main zone.

An additional anomalous zone 1,800 feet to the north is indicated from a line run along the road north of the above zone.

An anomalous area suggesting two sub-parallel intersecting zones occurs 1,200 to 2,600 feet south of the Tinta Vein zone and extends beyond the eastern limit of the grid at L100E.

GEOCHEMICAL SURVEY

A total of 271 soil samples were collected over a grid area of 7,000 feet by 2,000 feet. The grid lines are 500 feet apart with sample stations at every 100 feet. The samples were assayed for silver, lead, copper and gold.

(i) SILVER

A number of slightly anomalous zones occur throughout the grid area, with higher values between L0+00E and L25+00E and between stations 1+00N to 10+00S. There is excellent correlations with high lead values within that area.

D.D.H. #60-2

Location: L16+20E 1+10S
Depth: 200'
Intersection: 150' - 157.6' = 7.6'

True Width
5.4'

Assay
0.078 oz. Au/ton; 5.19 oz. Ag/ton; 3.25% Pb;
5.01% Zn; 0.49% Cu; 0.02% Cd

D.D.H. #60-3

Location: L20+00E 1+25S
Depth: 277'
Intersection: 179.5' - 190.5' = 11.0'

True Width
7.5'

Assay
0.039 oz. Au/ton; 1.64 oz. Ag/ton; 1.76% Pb,
2.76% Zn; 0.08% Cu; 0.01% Cd

D.D.H. #60-4

Location: L8+00E 1+70S
Depth: 229'
Intersection: 84' - 95.2' = 11.2'

True Width
7.9'

Assay
0.039 oz. Au/ton; 0.98 oz. Ag/ton; 1.12% Pb;
6.02% Zn; 0.42% Cu; 0.05% Cd

Intersection: 161.0' - 169.0' = 8.0'

True Width
5.7'

Assay
0.182 oz. Au/ton; 2.81 oz. Ag/ton; 1.17% Pb,
2.57% Zn; 0.77% Cu; 0.03% Cd

D.D.H. #60-5

Location: L7+00E 3+30S
Depth: 432'
Intersection: 242' - 247' = 5.0'

True Width
3.5'

Assay
0.005 oz. Au/ton; 0.18 oz. Ag/ton; 1.10% Pb;
1.70% Zn; 0.01% Cu

D.D.H. #60-5 (continued)

Intersection: 410' - 413.5' = 3.5'

True Width
4.9'Assay
0.065 oz. Au/ton; 5.89 oz. Ag/ton;
4.85% Pb; 3.25% Zn; 0.38% Cu; 0.01% CdDIAMOND DRILLING (1973)

A total of 1,126 feet of B.Q. diamond drilling was drilled in four holes located between L10+00E and L14+20E. All holes were drilled with a dip of -45° and an azimuth of 032°.

D.D.H. #73-1

Location: L13+80E 1+70S
Depth: 236'
Intersection: 214.5' - 219' = 4.5'

Assay
0.42 oz. Au/ton; 4.30 oz. Ag/ton; 3.75% Pb,
8.10% Zn; 0.98% Cu; 0.05% Cd

Intersection: 219' - 221' = 2.0'

Assay
0.005 oz. Au/ton; 0.09 oz. Ag/ton; 0.35% Pb,
1.15% Zn, 0.03% Cu; 0.01% CdTrue Width
4.6'Assay
0.292 oz. Au/ton; 3.00 oz. Ag/ton; 2.70% Pb;
5.96% Zn; 0.62% Cu; 0.04% CdD.D.H. #73-2

Location: L11+80E 1+60S
Depth: 223'
Intersection: 204' - 209.5' = 5.5'

True Width
3.9'Assay
0.073 oz. Au/ton; 1.77 oz. Ag/ton; 1.57% Pb;
5.12% Zn; 0.47% Cu; 0.01% Cd

D.D.H. #73-3

Location: L10+00E 1+52W
 Depth: 202.3'
 Intersection: 169' - 174.7' = 5.7'

Assay
 0.03 oz. Au/ton; 2.20 oz. Ag/ton; 2.00% Pb,
 4.30% Zn; 0.35% Cu; 0.03% Cd

Intersection: 174.7' - 176.7' = 2.0'

Assay
 Tr Au/ton; 0.11 oz. Ag/ton; 0.25% Pb;
 0.55% Zn; 0.03% Cu; 0.01% Cd

True Width
 5.4'

Assay
 0.022 oz. Au/ton; 1.66 oz. Ag/ton; 1.55% Pb,
 3.33% Zn; 0.27% Cu; 0.024% Cd

D.D.H. #73-4

Location: L14+20E 2+80W
 Depth: 460'
 Intersection: 442.7' - 445' = 2.3'

Assay
 0.09 oz. Au/ton; 2.80 oz. Ag/ton; 3.40% Pb,
 10.10% Zn; 1.45% Cu; 0.08% Cd

DIAMOND DRILLING (1974)

D.D.H. #74-2

Location: L25+00E 1+25S Azimuth: 032°
 Depth: 155' Dip -45°
 Intersection: 64.5' - 72.5' = 8.0'

True Width
 5.7'

Assay
 0.09 oz. Au/ton; 14.50 oz. Ag/ton; 14.10% Pb;
 17.63% Zn; 0.18% Cu; 0.16% Cd

D.D.H. #74-3

Location: L5+00E 0+00 Azimuth: 212°
 Depth: 173' Dip -45°
 Intersection: 122' - 129' = 7'

True Width
 5.0'

Assay
 0.076 oz. Au/ton; 1.10 oz. Ag/ton; 0.24% Pb;
 1.59% Zn; 0.50% Cu; 0.024% Cd

D.D.H. #74-4

Location: L2+00E 0+20S Azimuth: 212°
Depth: 148' Dip -45°
Intersection: 114' - 118.2' = 4.2'

True Width
5.3'

Assay
0.031 oz Au/ton; 1.49 oz. Ag/ton; 0.15% Pb;
0.17% Zn; 0.95% Cu; 0.044% Cd

D.D.H. #74-5

Location: L0+00 0+20S Azimuth: 212°
Depth: 151' Dip -45°
Intersection: 122' - 127' = 5'

True Width
3.5'

Assay
0.02 oz. Au/ton; 0.39 oz. Ag/ton; 0.13% Pb;
0.15% Zn; 0.69% Cu; 0.01% Cd

D.D.H. #74-6

Location: L5+00W 0+80S Azimuth: 212°
Depth: 173' Dip -45°
Intersection: 77.5' - 80' = 4.5'

True Width
1.8'

Assay
0.02 oz. Au/ton; 1.06 oz. Ag/ton; 0.10% Pb;
< .05% Zn; 0.05% Cu

D.D.H. #74-7

Location: L10+00W 0+50S Azimuth: 212°
Depth: 166' Dip -45°
Intersection: 116.8' - 119.6' = 2.8'

True Width
2.0'

Assay
0.005 oz. Au/ton; 0.53 oz. Ag/ton; 0.10% Pb;
0.30% Zn; 0.04% Cu

D.D.H. #74-8

Location: L20+00E 13+85N Azimuth: 032°
Depth: 138' Dip -45°
Vein not intersected - collared on vein.

D.D.H. #74-8A

Location: 18+45E 11+25 N Azimuth: 032°
 Depth: 260' Dip -45°
 Intersection: 241' - 247' = 6'
True Width 4.2'
Assay
 0.01 oz. Au/ton; 0.02 oz. Ag/ton; <0.05% Pb;
 <.05% Zn; <.01% Cu; <.01% Cd

D.D.H. #74-9

Location: 13+70E 3+20N Azimuth: 212°
 Depth: 71' Dip -45°
 No intersection. Hole abandoned at 71' due to cave.

D.D.H. #74-9A

Location: 13+70E 3+30N Azimuth: 212°
 Depth: 161' Dip -45°
 Intersection: 127.2' - 134.6' = 5.4'
True Width 5.2'
Assay
 0.11 oz. Au/ton; 2.55 oz. Ag/ton; 1.05% Pb;
 1.82% Zn; 1.06% Cu; 0.02% Cd

D.D.H. #74-10

Location: 15+92E 2+45N Azimuth: 212°
 Depth: 421' Dip -45°
 Intersection: 100' - 109' = 9.0'
True Width 6.4'
Assay
 0.134 oz. Au/ton; 9.53 oz. Ag/ton; 3.49% Pb;
 2.15% Zn; 1.07% Cu; 0.02% Cd

D.D.H. #74-11

Location: L27+00E 2+10S Azimuth: 032°
 Depth: 220' Dip -45°
 Intersection: 80.5' - 84' = 3.5'
True Width 2.5'
Assay
 0.02 oz. Au/ton; 1.40 oz. Ag/ton; 1.15% Pb;
 2.00% Zn; 0.03% Cu; 0.015% Cd

D.D.H. #74-12

Location: L25+00E 1+25S Azimuth: 345°
 Depth: 155.5' Dip -45°
 Intersection: 123.5' - 135' = 11.5'
True Width 8.1'
Assay
 0.08 oz. Au/ton; 10.70 oz. Ag/ton; 11.25% Pb;
 21.30% Zn; 0.20% Cu; 0.19% Cd

D.D.H. #74-13

Location: L25+00E 1+25S Azimuth: 085°
 Depth: 149' Dip -45°
 Intersection: 79' - 84.8' = 5.8'

True Width
 4.1'

Assay
 0.015 oz. Au/ton; 1.45 oz. Ag/ton; 0.62% Pb;
 1.63% Zn; 0.04% Cu; 0.015% Cd

D.D.H. #74-14

Location: L23+40E 1+45S Azimuth: 032°
 Depth: 171' Dip -45°
 Intersection: 141.4' - 151.5' = 10.1'

True Width
 7.2'

Assay
 0.022 oz. Au/ton; 1.83 oz. Ag/ton; 2.49% Pb;
 4.01% Zn; 0.04% Cu; 0.14% Cd

Intersection: 156.5' - 161.5' = 5.0'

True Width
 3.5'

Assay
 0.03 oz. Au/ton; 0.73 oz. Ag/ton; 1.05% Pb;
 2.10% Zn; 0.03% Cu; 0.02% Cd

Intersection: 151.5' - 156.5' = 5.0'

True Width
 3.5'

Assay
 Tr Au; 0.72 oz. Ag/ton; 0.70% Pb; 1.20% Zn;
 0.01% Cu; 0.01% Cd

D.D.H. #74-15

Location: L35+00# 7+50N Azimuth: 212°
 Depth: 229' Dip -45°
 D.D.H. #74-15 was not on the main zone. No mineralization was intersected.

D.D.H. #74-16

Location: L24+50E 1+90S Azimuth: 032°
 Depth: 252' Dip -45°
 Intersection: 174.6' - 180.7' = 6.1'

True Width
 4.3'

Assay
 0.09 oz. Au/ton; 13.20 oz. Ag/ton; 8.20% Pb;
 8.80% Zn; 0.34% Cu; 0.14% Cd

Intersection: 180.7' - 184' = 3.3'

True Width
 2.3'

Assay
 0.02 oz. Au/ton; 1.70 oz. Ag/ton; 1.08% Pb;
 3.20% Zn; 0.08% Cu; 0.03% Cd

D.D.H. #74-17

Location: L30+00E 3+25S Azimuth: 032°
 Depth: 163.5' Dip -45°
 Intersection: 112.5' - 118.7' = 6.2'

True Width Assay
 4.0' 0.053 oz. Au/ton; 2.10 oz. Ag/ton; 2.39% Pb;
 3.29% Zn; 0.08% Cu; 0.03% Cd

Intersection: 134' - 140.2' = 6.2'

True Width Assay
 4.4' 0.03 oz. Au/ton; 0.41 oz. Ag/ton; 1.32% Pb;
 1.76% Zn; 0.02% Cu; 0.01% Cd

Intersection: 140.2' - 148.3' = 8.1'

True Width Assay
 5.7' 0.10 oz. Au/ton; 20.30 oz. Ag/ton; 23.03% Pb;
 13.00% Zn; 0.23% Cu; 0.11% Cd

D.D.H. #74-18

Location: L30+00E 3+25S Azimuth: 078°
 Depth: 221' Dip -45°
 Intersection: 129.3' - 131.7' = 2.4'

True Width Assay
 1.7' 0.06 oz. Au/ton; 1.50 oz. Ag/ton; 3.12% Pb;
 3.88% Zn; 0.10% Cu; 0.03% Cd

Intersection: 181' - 187' = 6.0'

True Width Assay
 4.2' 0.023 oz. Au/ton; 5.25 oz. Ag/ton; 4.86% Pb;
 4.35% Zn; 0.09% Cu; 0.023% Cd

D.D.H. #74-19

Location: L29+00E 3+25S Azimuth: 032°
 Depth: 192' Dip -45°
 Intersection: 144' - 157.3' = 13.3'

True Width Assay
 9.4' 0.010 oz. Au/ton; 3.16 oz. Ag/ton; 2.06% Pb;
 5.06% Zn; 0.07% Cu; 0.02% Cd

DIAMOND DRILLING (1976)

D.D.H. #76-1

Location:	L25+00E 3+75S	Azimuth: 032°
Depth:	416.5'	Dip -45°
Intersection:	396' - 399' = 3.0'	

<u>True Width</u>	<u>Assay</u>
2.20'	0.044 oz. Au/ton; 1.03 oz. Ag/ton; 0.56% Pb; 1.39% Zn; 0.05% Cu

Intersection: 399' - 405' = 6.0'

<u>True Width</u>	<u>Assay</u>
4.30'	0.010 oz. Au/ton; 2.76 oz. Ag/ton; 2.73% Pb; 7.18% Zn; 0.09% Cu; 0.05% Cd

1980 FIELD SEASON

During the 1980 field season, Silver Tusk Mines Ltd. and Panther Mines Ltd. drove a crosscut 342 feet to intersect the Tinta Vein and the vein was drifted on for some 40 feet along strike.

Samples were cut in the crosscut where mineralization was encountered and in the drift after each round taken along the vein.

The samples were taken by Martial Levasseur and the assays are tabulated on the following page.

<u>Sample No.</u>	<u>Width (Feet)</u>	<u>Au oz/T</u>	<u>Ag oz/T</u>	<u>Pb %</u>	<u>Zn %</u>	<u>Cu %</u>	<u>Remarks</u>
1303	1.0	0.020	0.12	1.26	2.17	-	Crosscut Veinlet
1304	1.0	0.024	0.40	2.56	4.08	-	Crosscut Veinlet
1305	1.0	0.002	0.34	0.20	0.48	-	Crosscut Veinlet
1306	14.0	0.17	0.84	1.54	1.38	0.38	Tinta Vein (includes #1307)
1307	7.0	0.32	3.76	2.89	4.64	0.69	Tinta Vein
1308	7.0	0.24	0.52	0.78	1.39	0.39	Tinta Vein
1309	4.0	0.28	1.70	2.02	5.77	0.86	Tinta Vein
1310	7.0	0.34	8.30	10.33	11.60	2.62	Tinta Vein
1311	-	0.036	0.40	0.81	1.05	0.13	Composite Sample
1312	-	0.13	0.82	3.08	2.09	0.24	Composite Sample
1313	7.0	0.23	1.54	2.64	5.56	0.70	Tinta Vein
1314	-	0.20	1.82	2.61	4.67	0.46	Composite Sample
1315	7.0	0.056	3.24	4.88	5.69	0.66	Tinta Vein
1316	-	0.074	1.62	3.78	5.85	0.67	Composite Sample
1317	7.0	0.20	12.64	9.93	11.85	0.40	Tinta Vein
1318	-	0.092	3.44	4.85	8.20	0.51	Composite Sample
1319	-	0.076	4.40	6.68	10.71	1.05	Composite Sample
1320	-	0.080	3.88	5.07	13.06	0.71	Composite Sample

The weighted average grade for the samples cut along the Tinta Vein is 0.249 oz. Au/ton; 3.80 oz. Ag/ton; 4.07% Pb; 6.42% Zn; and 0.89% Cu across an average width of 5.5 feet.

RESERVES

Tonnages were calculated using the true thickness of drill hole intersections. The weighted average grades of all assays influencing the area samples were utilized along with a tonnage factor of eleven cubic feet per ton. With the limited amount of diamond drilling and surface sampling carried out to date, the only categories that may be applied to the reserves are those of drill indicated and inferred reserves.

Drill indicated reserves were calculated utilizing only the area of the zone influenced by the diamond drilling. Inferred reserves were estimated by taking extensions beyond the drilled area where only surface information is available.

TONNAGE CALCULATIONS

Length of zone tested:	3,500 feet
Average true thickness of zone:	5.35 feet
Weighted average grade:	0.075 oz. Au/ton; 5.35 oz. Ag/ton; 4.71% Pb; 6.03% Zn; 0.37% Cu; 0.049% Cd

DRILL INDICATED RESERVES

$$\frac{3,500 \times 5.35 \times 1}{10} = 1,875 \text{ tons/vertical foot}$$

POTENTIAL RESERVES

The main Tinta Vein is open in three directions: along strike, and to depth. Drill Holes 74-5, 6, and 7 drilled on the western extension of the Tinta Vein were drilled in the upper leached portion of the vein and yielded low grade mineralization. Deeper drilling will be required to properly evaluate this section of the vein.

Geophysics has revealed the Tinta Vein zone extends over 11,500 feet, of which 3,500 feet have been drilled.

Two parallel geophysical anomalies to the north of and similar to the Tinta Vein anomaly suggest similar mineralized zones may be present.

Two drill holes on an anomaly connecting the Tinta Vein zone with an anomaly to the north revealed a mineralized zone comparable in width and tenor to the Tinta Vein zone.

Other sub-parallel conductors are indicated to the south of the main zone.

METALLURGICAL STUDY

A copy of a metallurgical report prepared by Bacon, Donaldson & Associates Ltd. is appended hereto.

EXPLORATION PROGRAM

The crosscut driven during the 1980 field season should be extended at 032° to intersect the vein encountered in Drill Holes 74-9A and 74-10. The vein should be drifted on to the northwest and southeast for some 300 feet in both directions.

The drifting on the main Tinta Vein done in 1980 should be extended for 300 feet to the northwest and 300 feet to the southeast.

A second crosscut should be driven some 400 feet at 032°. The portal should be collared in the vicinity of L25+00E; 4+50S at an elevation of 3800 feet. When the Tinta Vein is intersected, it should be drifted on for at least 900 feet to the northwest and 100 feet to the southeast.

ESTIMATE OF COSTS OF EXPLORATION AND DEVELOPMENT PROGRAM

PHASE I


Crosscutting	
200 feet @ \$250/ft. all inclusive	\$ 50,000
Drifting	
1200 feet @ \$250/ft. all inclusive	300,000
Contingencies at 15%	<u>52,500</u>
	<u>\$402,500</u>

PHASE II

Crosscutting	
400 feet @ \$250/ft. all inclusive	\$100,000
Drifting	
1000 feet @ \$250/ft. all inclusive	250,000
Contingencies at 15%	<u>52,500</u>
	<u>\$402,500</u>

It is estimated that Phase I of the recommended exploration and development program should take approximately 6 months to complete.

Respectfully submitted,



A circular professional seal for T. R. Tough, a Professional Engineer in the Province of British Columbia. The seal contains the text "PROFESSIONAL ENGINEER", "PROVINCE OF BRITISH COLUMBIA", and "T. R. TOUGH". A signature is written across the seal.

Thomas R. Tough, P. Eng.
Consulting Engineer

February 21, 1981
Vancouver, B.C.

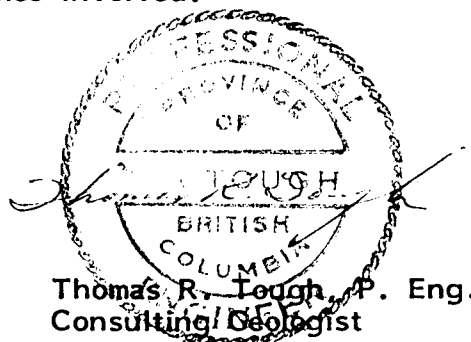
CERTIFICATE

I, Thomas R. Tough, of the City of Richmond, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist Engineer and an associate of T.R. Tough & Associates Ltd., with offices located at #708 - 850 West Hastings Street, Vancouver, B.C. V6C 1E1.

I further certify:

1. That I am a graduate of the University of British Columbia (1965) and hold a B. Sc. Degree in Geology.
2. I have been practising my profession for the past sixteen years.
3. I am registered with the Association of Professional Engineers of British Columbia.
4. This report is based on information obtained by the writer from personal examinations of the property in 1973, 1974, and from 1976, and the direct supervision and direction of diamond drill programs carried out during those years.
5. I do not own any direct or indirect interest in the property described herein, nor in the securities of Silver Tusk Mines Ltd. or Panther Mines Ltd., nor do I expect to receive any therein.
6. This report may be used in the current Statement of Material Facts or Prospectus of the companies involved.



The seal is circular with a double-line border. The outer ring contains the text 'PROFESSIONAL ENGINEER' at the top and 'BRITISH COLUMBIA' at the bottom. The inner circle contains 'PROVINCE OF' at the top and 'OF' at the bottom. In the center, the name 'THOMAS R. TOUGH' is written in a stylized font, with a signature-like flourish extending to the left. Below the seal, the text 'Thomas R. Tough, P. Eng. Consulting Geologist' is printed.

Thomas R. Tough, P. Eng.
Consulting Geologist

February 21, 1981

APPENDIX "A"

METALLURGICAL REPORT

T.R. Tough & Associates Ltd.
519 - 602 West Hastings Street,
Vancouver 2, B.C.

ATTENTION: Mr. T.R. Tough

Dear Sir:

Re: Tinta Hill Mines Metallurgy

We have carried out a series of flotation tests on core reject samples from the Tinta Hill Mines property in order to establish the concentrate grades and recoveries to be achieved.

The average calculated head grade of the material tested was:

7.58 % Lead
9.37 % Zinc
9.58 oz. per ton Silver

This calculated value is somewhat lower than the head assay but is a more reliable figure.

The best results were obtained in Test No. 4 as follows:

Lead Concentrate: 59.49 % Lead
 8.76 % Zinc
 73.65 oz. per ton Silver
 0.370 oz. per ton Gold
 4.37 % Iron
 1.37 % Copper

Recoveries: Lead - 94.5 %
 Zinc - 11.1 %
 Silver - 89.9 %

....2

Zinc Concentrate: 59.22 % Zinc
0.44 % Lead
2.06 oz. per ton Silver
0.032 oz. per ton Gold
2.49 % Iron
0.17 % Copper
0.45 % Cadmium

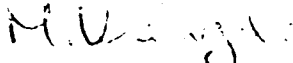
Recoveries: Zinc - 81.0 %
Lead - 0.8 %
Silver - 2.7 %

These results are likely very close to the optimum for this ore. Further addition of depressants could move some additional zinc from the lead to the zinc concentrate but the low value of zinc concentrate makes this pointless. The copper in this ore is a nuisance mineral since it has negligible value and could result in marketing problems for the lead concentrate. Cominco in general will not accept a lead concentrate with greater than 1 % Copper. Shipping to an alternate smelter such as Asarco results in a higher basic royalty.

If additional information is required we would be pleased to provide our services.

Yours respectfully,

BACON, DONALDSON & ASSOCIATES LTD.


M.J.A. Vreugde, P. Eng.

TEST NO. 1

This test was performed on a composite sample made up from grab samples. It was apparent during the test that while the sample had significant lead, there was little zinc present. The test products were not assayed and the test conditions were used as a starting point for testing with the core reject composite. The grab sample composite assayed as follows:

24.63 oz. per ton Silver

19.25 % Lead

1.41 % Zinc

TEST NO. 2

This test was performed on a composite sample of core rejects. The samples included in the composite were as follows:

16630	16632	16629
16640	16642	16643
16577	16583	16593
16594	16595	566

The composite sample assayed as follows:

7.75 % Lead

9.77 % Zinc

10.35 oz. per ton Silver

TEST PROCEDURE

<u>Stage</u>	<u>Time (Minutes)</u>	<u>Additions</u>
Grinding	5	3 lbs. per ton Na_2CO_3 0.3 lb. per ton NaCN 0.9 lb. per ton ZnSO_4
Conditioning	2	0.05 lb. per ton Z-11 0.05 lb. per ton DF 250
Lead Flotation	3½	-
Conditioning	5	1.5 lb. per ton CuSO_4 Lime to pH = 10. 0.05 lb. per ton Z-200 0.10 lb. per ton DF 250
Zinc Flotation	4	-

TEST PROCEDURE - Cont'd

<u>Stage</u>	<u>Time (Minutes)</u>	<u>Additions</u>
Lead Cleaning	4	Lime to pH = 10 0.05 lb. per ton NaCN 0.10 lb. per ton ZnSO ₄
Zinc Cleaning	5	Lime to pH = 10.5

Flotation Feed = 31.4 % minus 200 mesh

Although a lead-zinc separation was achieved in this test, it was apparent that some improvement could be made, particularly in the lead circuit. One problem that was encountered was that oxidation of some minerals in the rock results in a very low pH after grinding. Even the addition of 3 lbs. per ton Na₂CO₃ was insufficient to keep the pH at an acceptable level when using Vancouver tap water. It is likely that if the water at the minesite has even moderate hardness, additions of soda ash significantly below those required in the testwork will be adequate.

TEST NO. 3 - Cont'd

RESULTS

<u>Product</u>	<u>% Weight</u>	<u>% Lead</u>	<u>% Zinc</u>	<u>Oz/Ton Silver</u>	<u>Percent Recovery</u>		
					<u>Lead</u>	<u>Zinc</u>	<u>Silver</u>
Lead Conc.	11.7	58.46	10.72	69.19	89.2	13.5	86.0
2nd Cl. Tail	1.0	33.26	11.90	42.26	4.3	1.3	4.5
1st Cl. Tail	2.2	11.33	11.73	16.32	3.3	2.8	3.8
Zinc Conc.	10.8	0.39	59.80	2.03	0.5	69.3	2.3
2nd Cl. Tail	1.8	0.95	28.43	3.80	0.2	5.5	0.7
1st Cl. Tail	4.4	0.75	8.14	2.32	0.4	3.8	1.1
Rougher Tail	68.1	0.23	0.53	0.22	2.0	3.9	1.6
<hr/>							
Calc. Head	100.0	7.67	9.32	9.42			
<hr/>							

TEST NO. 3

PROCEDURE

<u>Stage</u>	<u>Time (Minutes)</u>	<u>Additions</u>
Grinding	6	5 lbs per ton Na_2CO_3 0.3 lb. per ton NaCN 0.9 lb. per ton ZnSO_4
Condition	2	0.05 lb. per ton Z-11 0.20 lb. per ton DF 250
Lead Flotation	5	
Condition	5	1.5 lbs. per ton CuSO_4 Lime to pH = 10 0.05 lb. per ton Z-200 0.20 lb. per ton DF 250
Zinc Flotation	6	
<hr/>		
Lead Cleaning	5	0.05 lb. per ton NaCN 0.10 lb. per ton ZnSO_4
Lead Recleaning	5	-
Zinc Cleaning	6	Lime to pH = 10.5
Zinc Recleaning	6	Lime to pH = 10.5

Flotation Feed = 34 % minus 200 mesh

TEST NO. 4PROCEDURE

<u>Stage</u>	<u>Time (Minutes)</u>	<u>Additions</u>
Grinding	6	5 lbs. per ton Na_2CO_3 0.4 lb. per ton NaCN 1.2 lb. per ton ZnSO_4
Conditioning	2	0.05 lb. per ton Z-11 0.05 lb. per ton SA 1012
Lead Flotation	5	-
Conditioning	5	1.5 lbs. per ton CuSO_4 Lime to pH = 10 0.05 lb. per ton Z-200 0.05 lb. per ton SA 1012
Zinc Flotation	5	-
<hr/>		
Lead Cleaning	5	0.05 lb. per ton NaCN 0.10 lb. per ton ZnSO_4
Lead Recleaning	6	-
Zinc Cleaning	5	Lime to pH = 10.5
Zinc Recleaning	5	Lime to pH = 10.5

TEST NO. 4 - Cont'dRESULTS

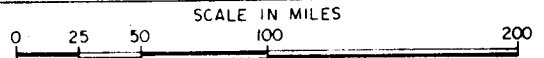
<u>Product</u>	<u>% Weight</u>	<u>% Lead</u>	<u>% Zinc</u>	<u>Oz/Ton Silver</u>	<u>Percent Recovery</u>		
					<u>Lead</u>	<u>Zinc</u>	<u>Silver</u>
Lead Conc.	11.9	59.49	8.76	73.65	94.5	11.1	89.9
2nd Cl. Tail	0.5	20.65	11.86	29.26	1.3	0.6	1.5
1st Cl. Tail	1.5	5.47	8.14	8.80	1.1	1.3	1.4
Zinc Conc.	12.9	0.44	59.22	2.06	0.8	81.0	2.7
2nd Cl. Tail	1.0	0.48	12.33	4.98	0.1	1.3	0.5
1st Cl. Tail	3.1	0.92	5.52	3.16	0.4	1.8	1.0
Rougher Tail	69.1	0.20	0.40	0.42	1.8	2.9	3.0
Head (Calc)	100.0	7.49	9.43	9.75			

T R TOUGH & ASSOCIATES LTD

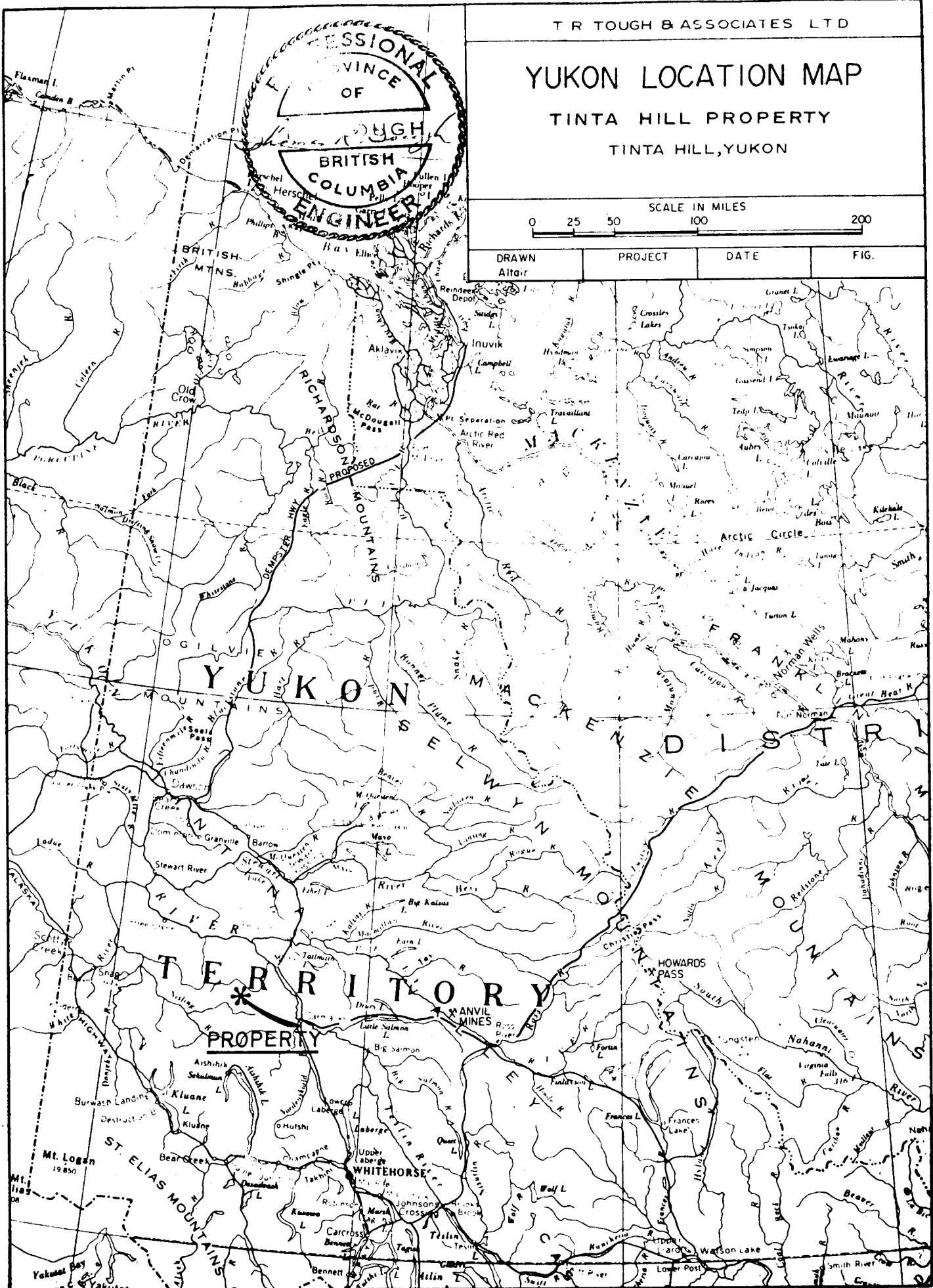
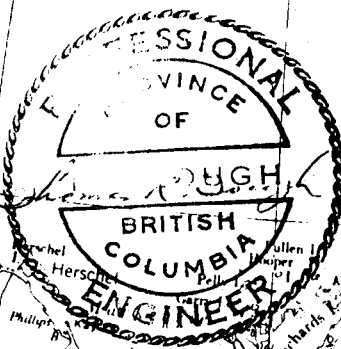
YUKON LOCATION MAP

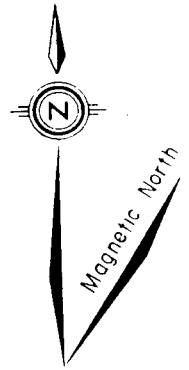
TINTA HILL PROPERTY

TINTA HILL, YUKON

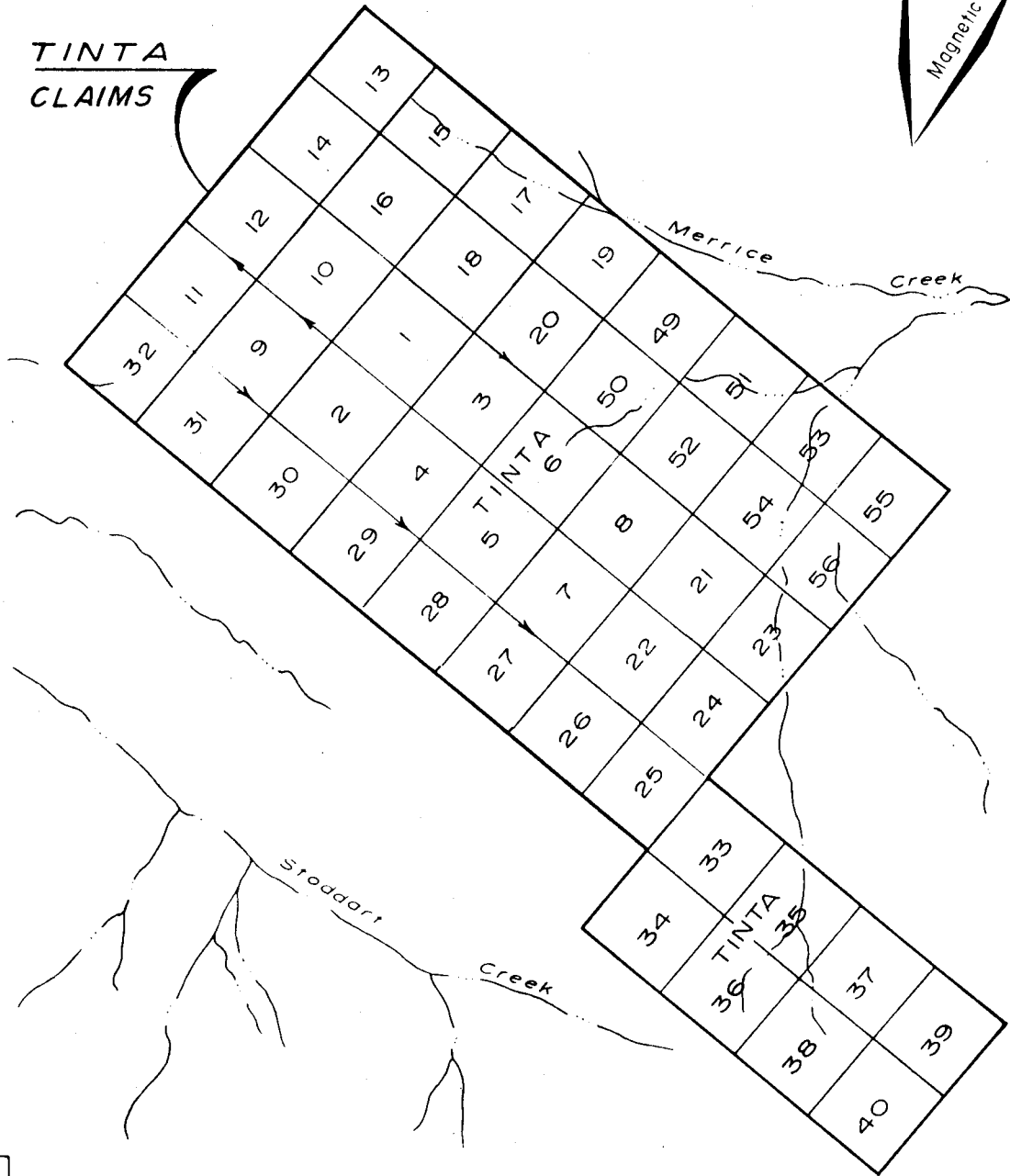


DRAWN Altair	PROJECT	DATE	FIG.
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TINTA CLAIMS



62°15'

137°00'

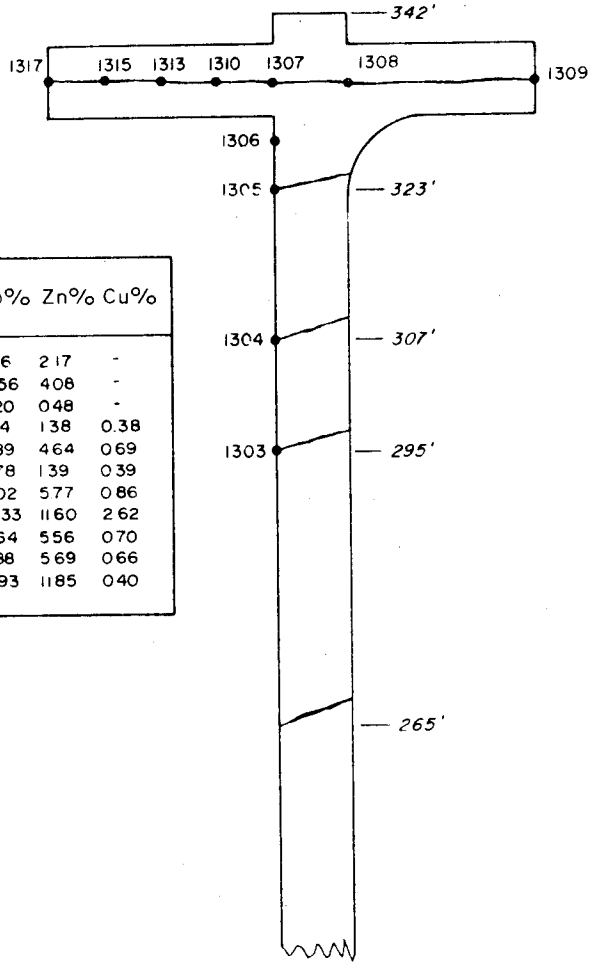


TR. TOUGH & ASSOCIATES LTD.

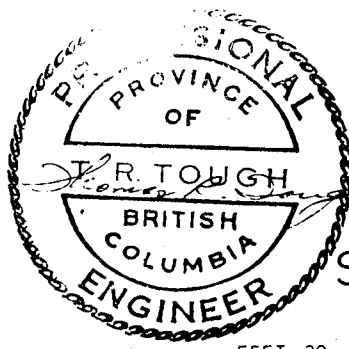
TINTA HILL PROPERTY CLAIM MAP

TINTA HILL, YUKON
SCALE

FEET 3000 1500 0 3000 FEET



Sample no	Width (feet)	Au oz/T	Ag oz/T	Pb%	Zn%	Cu%
1303	10	0.020	0.12	1.26	2.17	-
1304	10	0.024	0.40	2.56	4.08	-
1305	10	0.002	0.34	0.20	0.48	-
1306	140	0.17	0.84	1.54	1.38	0.38
1307	70	0.32	3.76	2.89	4.64	0.69
1308	70	0.24	0.52	0.78	1.39	0.39
1309	40	0.28	1.70	2.02	5.77	0.86
1310	70	0.34	8.30	10.33	11.60	2.62
1313	70	0.23	1.54	2.64	5.56	0.70
1315	70	0.056	3.24	4.88	5.69	0.66
1317	70	0.20	12.64	9.93	11.85	0.40



SILVER TUSK MINES LTD.

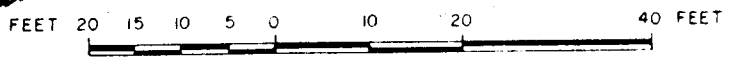
TINTA HILL PROPERTY

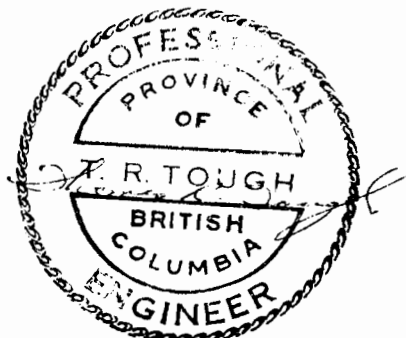
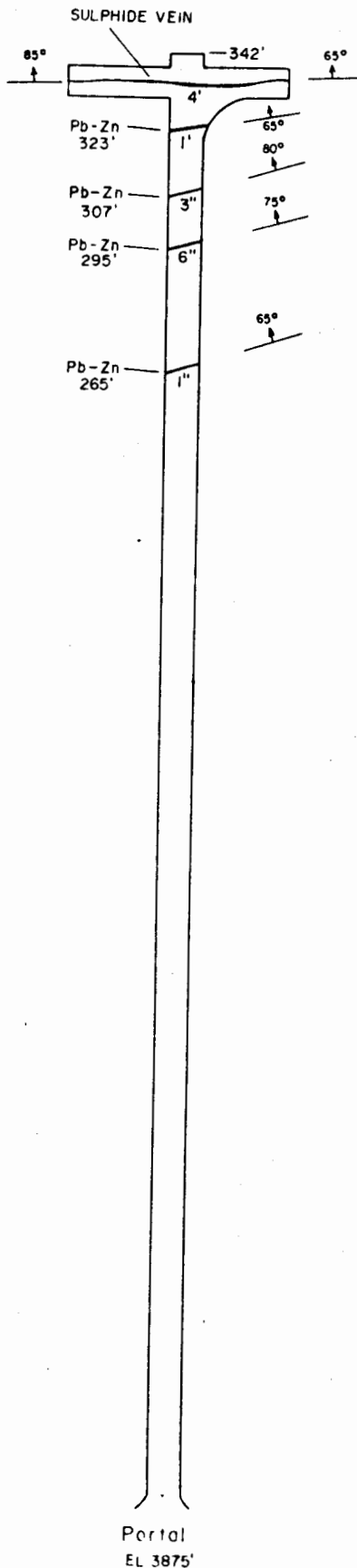
TINTA HILL, YUKON

No. 1 ADIT

SAMPLE LOCATION MAP

SCALE





SILVER TUSK MINES LTD.

TINTA HILL PROPERTY

TINTA HILL, YUKON

No. 1 ADIT

PLAN SHOWING VEINS

SCALE

