7201

ASSESSMENT REPORT

on the

BEAR PASS PROPERTY

IN THE SKEENA MINING DIVISION

Map Sheet 104A4 Lat. 56°7'N Long. 129°45'W

prepared for

TOURNIGAN MINING EXPLORATIONS LTD.
VANCOUVER, B.C.

by

Geoffrey Keyte
Consulting Geologist

December 1978

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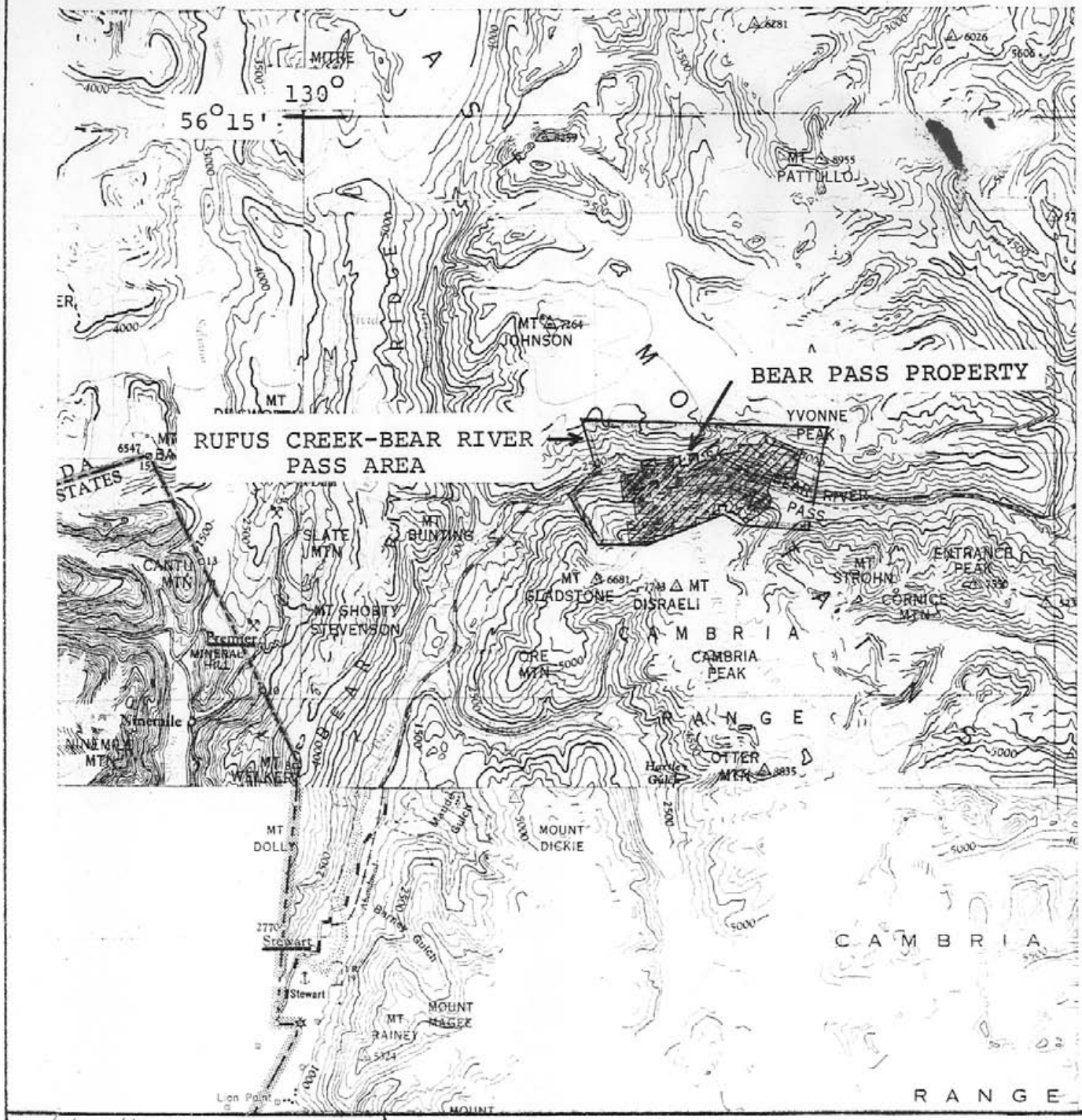

FIGURE 1

TOURNIGAN MINING EXPLORATIONS LTD.

LOCATION OF BEAR PASS PROPERTY AND RUFUS CREEK-BEAR RIVER PASS AREA

Scale 1:250,000
(1 inch equals 4 miles

INTRODUCTION

Location, Access, Topography, Climate

The Bear Pass property is located 28 kilometers north east of Stewart B.C. on the Stewart Cassiar Highway. The property lies immediately to the west of the Bear glacier.

The property lies on either side of the highway which runs east west in the floor of the valley nex to the westward flowing Bear River. The elevation ranges from 300 to 1700 meters (1,000 to 5,500 feet). The valley slopes are steep averaging 40°. The valley floor is carpeted up to 1000 meters (3,300 feet) with a thick growth of alder brush, spruce and devils club. Above this elevation the vegetation gradually gives way to cliffs and talus slopes. Above 1700 meters (5,500 feet) rock disappears beneath the ice fields.

The climate is extremely wet with heavy winter snowfall making the earliest access to the property in mid June or early July. The summer rainfall is variable but heavy, with many working days lost to cloud and rain. The property can be worked until the end of September or even later in dry years.

The highway lies to the north of the river and no bridges remain in the area of the property. Access to the southern half of the property is strictly by helicopter at present although the northern half is accessible by trail and helicopter.

Vancouver Island Helicopters have a jet ranger stationed in Stewart which is available for camp moves and day trips. This was used in 1978.

History of the Property

The George Enterprise property, including the Heather claims was acquired by Tournigan Mining Explorations Ltd. from the George Enterprise Mining Company in 1976. The George Gold Copper

property was purchased by Tournigan Mining Explorations Ltd. from the George Gold Copper Company in 1976. Both of these properties consist entirely of Crown grants. During 1976, 42 reverted Crown grants, adjacent to these properties, were acquired by Tournigan Mining Explorations Ltd. by reverted Crown grant acquisition. The Snowlake claims were staked in 1976.

The Red Top group of Crown grants and two of the Barite Crown grants were acquired by Tournigan Mining Explorations Ltd. in March 1977 from the Quickstad brothers of Seattle, Washington. The New York, Rufus and Argenta claim groups were acquired by reverted Crown grant, acquisition in the spring of 1978.

The location of claims as shown on the 1:5,000 maps has been derived from the original Crown grant survey information. The Snowlake claims were plotted by Dr. W.G. Smitheringale who staked them.

A very great deal of work had been done on the various properties before they were acquired by Tournigan. Work began as early as 1910 and reached a climax in the late 1920's and dropped off drastically after that. Many of the old reports on the properties are in the possession of Tournigan and these were used in 1978 to help locate the showings.

In 1976 Dr. W.G. Smitheringale conducted an exploration program on the property, as it then existed, on behalf of Tournigan, which included the following work. The George Enterprise property was mapped and the showings examined. Two short holes were drilled. Work was done on the George Gold Copper property including examination of the showings, trenching and two short drill holes. The New York showings were also examined.

The conclusions reached from this program was that the Bear Pass is a favourable environment for volcanogenic massive sulphide deposits.

The 1978 program was launched on the basis of this conclusion.

Summary

The Bear Pass property was examined in August and September 1978 with a view to assessing its potential as a host for a volcanogenic massive sulphide deposit.

General geological mapping was done in several areas of the property at 1:5,000. No mapping was done in the north east quadrant as this had been mapped by Smitheringale in 1976.

Thirty meters of trenching were completed on Red Top and 10 meters on New York. The showings on these two claims and on Superior and Enterprise claims were surveyed and mapped at 1:500 and were sampled in 1978.

All areas that were visited were also prospected with a view to locating the showings described in old reports. Not all of these showings were found.

GEOLOGICAL WORK COMPLETED IN 1978

Examination of Showings

Red Top

Forty meters of trenching were completed on the Red Top claim in 1978 with thirty meters at the base of the cliffs at the main showing, and 10 meters across the chert argillite unit further to the west. The area was mapped at 1:500, although the cliffs proved unclimbable. All mineralization that could be reached was sampled. The adit was also mapped.

The dominant rock types at Red Top are, as elsewhere in the Bear Pass, volcanic but although they vary greatly in type all present a monotonous grey green appearance. No continuity of individual units could be discovered at Red Top, the volcanic rocks are described under the section on general geology.

The cliffs at Red Top are however broken up by conspicuous patches of irregularly shaped rusty chert and argillite beds. This thin (5-10 meter) unit stands out quite clearly from the background yet despite this the structure is quite undecipherable. The beds are convoluted, faulting is definately present and isoclinal folding is suggested but the true nature of the structure is unknown.

A further complication is revealed by trenching at the main showing. Excellent mineralization is present between the two faults but the rock type is not a chert although its weathered rusty appearance is very similar to the chert, which the rest of the trench exposes and which is almost barren.

The rock type between the faults is strongly chloritized which together with the chalcopyrite and minor pyrite make it impossible to identify with certainty. However it is most probably a tuff. With the help of the exposures in the trench it is possible to recognize a slight difference in appearance between the tuff and the chert unit: the tuff being a little more rusty. It can also be deduced from this observation that the tuff in fact sits on the top of the chert unit to the west of the faults. This part of the tuff can be reached in two places and it is well mineralized at both places.

The known length of the Red Top showing has been extended from 11 meters to 50 meters by these observations. A further piece of information revealed by the trenching is that the chert beds although convoluted have a sheet dip moderately (35°) to the south. Previously it was supposed that dips at Red Top were northerly. However it cannot be assumed that the beds are the right way up, it is just as possible that they are locally overtuned.

The assays which are shown on the plan vary from 0.4 to 4.9% copper with 0.16 to 0.96 oz. silver and 0.005 to 0.014 oz. gold for the chalcopyrite bearing tuff.

Mineralization also occurs along the faults and in the adit. The chalcopyrite in the adit is present in a uniformly dipping chert bed 5 meters thick which dips south at 30°. The best metal values, assaying 0.8% copper with 0.20 oz. silver and 0.012 oz. gold, are in the top 1.6 meters of the unit. This is the part of the bed closest to the fault.

The relationship between the volcanic rocks in the adit and those at surface is at present unknown, further work might clarify this problem.

In conclusion it may be stated that the association of chalcopyrite, pyrite and chlorite closely associated with chert beds in a volcanic terrain is characteristic of volcanogenic mineralization. The absence of massive sulphides however makes this showing not typical. The future of this property depends on the extent of the mineralized tuff unit. It may be that a reexamination at a later time might unravel further the extremely complex geology at this showing. A drilling program could then be set up to test the conclusions reached.

Superior Mining Claim

Two days were spent prospecting for the showings described in old reports on the Superior mining claim. Almost all of the major showings were identified but some minor showings were not yet found. The showings were then surveyed in at 1:500 and described in detail and sampled. Much trenching has been done in the past on the Superior claim. No further trenching was done at this time as the geological relationships are very clear. The position of the adit was surveyed in but it was not mapped as no mineralization had been reported from it.

The country rock at the showings is monotonously similar everywhere. It is a medium green very fine grained andesite. It is largely featureless but with a few tiny feldspar phenocrysts. It is difficult to identify such fine grained rocks as lava with certainty because the extreme compaction has left both lavas and tuffs very hard and similar in appearance.

The mineralization on the Superior claim is in the form of veins which occur irregularly along fractures as infilling. The maximum width of the veins is 2.0 meters; in many places the fractures are closed with no infilling.

The entire system of veins appears to occur along two parallel fractures ($115^{\circ}/60^{\circ}$SW) with one small curved cross fracture joining them.

The fracture infilling consists of broken volcanic material, quartz, calcite, barite, galena, sphalerite, chalcopyrite and pyrite. The proportions vary greatly from place to place.

The assays show consistently good values in silver (1.3 oz. to 15.9 oz.) Other metals are variable lead being the most promising (1.4% - 50.0%) followed by zinc (0.7% - 15.0%) and copper (trace to 1.0%).

The future of this property depends on volume, at present it is limited in known extent. If further continuations can be located the property will become of greater interest.

New York

Three out of eight pre-existing trenches were blasted on the New York claim in 1978 to provide fresh exposures. All trenches were sampled but the fresh material provided a much clearer understanding of the geology. The trenches were surveyed and mapped at 1:500.

The geology at New York is relatively simple. The host rocks are dacites, rhyolites and tuffs. The mineralization occurs in heavily altered volcanics except for T7 where it occurs in a limestone unit which sits immediately beneath chert beds.

The dip throughout the New York claim group is gently northward. It deviates from this close to the small faults, three of which cut the showings. The throw of the small faults cannot be assessed on present evidence but the view of the New York claim group from across the valley on the north side shows that the harder and softer units are clearly continuous and are not broken up by marked faulting.

The mineralization on New York is dominantly pyrrhotite with minor chalcopyrite. The rocks in which it occurs are

heavily altered to chlorite and actinolite. Minor barite is also present. It is to be expected that the mineralized unit is 5-10 meters thick. Copper assays are shown on the map. Gold and silver assays are reported below.

T1	0.06%	Cu	0.12 oz. Ag	trace Au
T2	0.21%	Cu	0.26 oz. Ag	trace Au
T3	0.57%	Cu	0.10 oz. Ag	0.005 oz. Au
T4	0.18%	Cu	0.14 oz. Ag	0.003 oz. Au
T5	0.15%	Cu	0.10 oz. Ag	0.012 oz. Au
T6 above fault	0.19%	Cu	0.08 oz. Ag	trace Au
T6 below fault	0.13%	Cu	0.01 oz. Ag	trace Au
T7	0.30%	Cu	0.34 oz. Ag	0.054 oz. Au
T8	0.05%	Cu	0.08 oz. Ag	trace Au

The New York showings are undoubtedly volcanogenic in nature. The massive sulphide associated with heavy chlorization in volcanic terrain in an apparently bedded form is diagnostic. The assays are disappointingly low. Considerable further work would be useful, starting with picks and shovels to locate as much bedrock as possible followed by blasting. Although the assays are low, the geological environment is very promising and the property should be given a thorough examination.

Enterprise

Four days were spent on the Enterprise claim and on the adjacent claims Enterprise No.1 and Enterprise No.2. The area was prospected and with the help of old reports most of the major showings revealed in cuts and adits were located. The showings were thoroughly examined and sampled.
The cuts and adits were surveyed in at 1:500.

The host rocks were not mapped on this claim group as the area had already been fully mapped by Smitheringale in 1976 although at that time the showingswere not sampled.

The showings on the Enterprise claims vary in grade and in appearance. All are localized, with high grade mineralization being limited in extent. The showings occur almost exclusively along fractures of some kind but the exact nature varies greatly. Mineralization occurs as fault gouge on the one hand and elsewhere along joint planes or microfractures. Only grab samples were taken at some showings where representative samples would have been impractical.

The showings in the Frenchmans' tunnel occur as fault gouge where at least five faults intersect, the mineralization is chalcopyrite but silver and gold values are present. In the Enterprise tunnel mineralization occurs in two places, in one shear zone between the entrance of the tunnel and the crosscut and as in fillings in tiny fractures in a zone just beyond the crosscut. The mineralization in both cases is chalcopyrite associated with pyrite. In tunnel 'A' mineralization occurs in a vein and as veinlets. It is once again chalcopyrite but here it is associated with barite. At the most northerly showing at 1090 meters (3,600 feet) elevation chalcopyrite occurs in a shatter zone where three fracture sets meet. The best mineralization has actually been blasted from the cliff and the grab sample was taken from this blasted material.

None of the showings examined on the Enterprise claims has sufficient extent to encourage further work. The gold value in Frenchmans' tunnel is interesting but no possible development of it can be forseen at the present time.

Argenta

The Argenta group of claims including Veteran No.1, Veteran No.2, Gringo Fraction and Comet No.2 were prospected and several showings were found, however these did not merit detailed surveying and have been plotted on the 1:5,000 scale map.

The most attractive showing found on the Argenta group is at the south eastern corner of the Veteran No.2 claim. The showing consists of a 7 meter long 0.3 meter thick subhorizontal hematite bed which is heavily mineralized with chalcopyrite in several places along its upper edge. Strong evidence that this is indeed a bed is provided by the presence of a 3 meter by 2 meter chert lens that sits immediately below the hematite bed. This chert lens is weakly mineralized with chalcopyrite. Chert is also found in places in a 0.2 meter zone above the hematite bed. While this is a very limited showing it is undoubtedly volcanogenic. The association of silica and hematite in bedded form is characteristic. The same conclusion cannot be drawn with reference to the other hematite occurrences on the Argenta group. All of them are obviously fracture infilling, in places associated with calcite or quartz and very minor chalcopyrite. The genesis of these hematite veins is not understood at present, but they are certainly not bedded and therefore cannot be part of a volcanogenic massive sulphide horizon. The repeated observation in old reports that these showings are part of one continuous vein,(the Erickson vein) is quite incorrect.

Rufus

The network of veins described in old reports on the Rufus property was located, almost all of these veins are

barren. The veins are largely hematite or dolomite or both, characteristically about 0.3 meters wide and occasional specks of chalcopyrite occur in one or two of them.

Only one vein shows appreciable sulphide content (sphalerite and galena) and this does not occur on Tournigan's claims. This occurrence is too limited and isolated to encourage further work.

General Geology of the Bear Pass

The rocks in the Bear Pass are by evidence of the extreme relief among some of the hardest and most resistant to erosion to be found. The rocks which are dominantly intermediate volcanics with very minor sediments show little induration. Their great hardness may be deduced to be entirely the result of compaction. This feature is illustrated by the fact that the tuffs which are usually quite soft are as hard as the lavas on the property. This degree of compaction makes the distinction between lavas and tuffs more difficult.

Before describing the volcanic rocks it is worth while to note that several geologists who have written reports on the property have described the volcanic rocks as dominantly pyroclastic. The author feels that the proportions of lava flows and tuffs are roughly equal.

The lavas are dominantly andesites with minor dacites and rhyolites. The andesites are generally featureless or contain tiny feldspar phenocrysts and chloritized mafic minerals. The dacites and rhyolites show increasing quantities of quartz as the colour index becomes lighter. The lavas show a very fine grained groundmass which is in places glassy. Flow banding is present in a dacite on the Comet No.2 claim.

The pyroclastic rocks show the same colour range as the lavas, being dominantly andesitic. These rocks are generally fine grained although everything from ash through lithic fragments to bombs does occur. The maximum grain size of each unit is shown in brackets after the rock descriptions on the map. Many of the tuffs also contain very tiny feldspar and sometimes quartz crystals. An ash tuff unit on Comet No.2 claim is very well and evenly bedded; this is clearly an air lain texture. A welded tuff unit forms an 80 foot high cliff on the London claim. This is identifiable by the lack of sorting of the fragments and bombs and by their flattened shape. In several outcrops on the London claim tuffs occur which are poorly sorted but the particles are partially rounded indicating some degree of reworking.

A minor volume of sediments occurs on the property with chert dominating over argillite and limestone. Chert beds are associated with many of the volcanogenic bedded showings. The chert beds are often very finely convoluted, and this appears to be a sedimentary feature.

The only intrusive rocks to cut the property are 0.3-2 meter wide quartz hornblende porphyry dykes which generally trend north west/south east with a very steep dip.

The limited volume of sediments on the property suggests that the environment of deposition was dominantly terrestrial. This conclusion is reinforced by the presence of an identifiably air lain tuff on Comet No.2 claim by the general lack of brecciation of the lavas and by the presence of a welded tuff, which must be air lain, on the London claim.

CONCLUSIONS AND RECOMMENDATIONS

The conclusion drawn from the 1978 program is that the Bear Pass property is a favourable host for the occurrence

of volcanogenic massive sulphide deposits and that further work is warranted. The New York, Red Top and the main Argenta showings, examined by the author are clearly volcanogenic in nature as is the main George Gold Copper showing examined by Smitheringale and visited by the author in 1978.

Trenching which proved a valuable tool in 1978 should be conducted on the New York and George Gold Copper showings. The Red Top showing should be re-examined for any further clues to the structure, which is very complex, before any further physical work be done. This work should be followed by a program of short drill holes to test the extent of each of these showings.

The area around the Superior showings should be prospected for a possible extension of vein type deposits.

Respectfully submitted

G Koyte

Geoffrey Koyte
Consulting Geologist

December 1978.

CERTIFICATION

I, Geoffrey Keyte, do hereby certify that:

1. I am a practicing geologist now resident in British Columbia.

2. I am a graduate of the University of London, England with a Bachelor of Science degree (B. Sc.) in Geology.

3. I have practiced my profession for seven years as geologist with the following companies:-

   John S. Vincent Ltd.,
   Neilson Geophysics.,
   Atled Exploration Management Ltd.,
   Serem Ltd.,
   N.V.C. Engineering.,
   Teck Corporation.,
   Stokes Exploration Management Ltd.,

   All of Vancouver, B.C.

4. I have personally examined the portions of the Bear Pass property described in this report, and that this report is based on that examination.

5. I have no financial interest in the Bear Pass property or in Tournigan Mining Explorations Ltd.

December, 1978.

Geoffrey Keyte,
Consulting Geologist

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APPENDIX 1

CLAIM LIST, BEAR PASS PROPERTY

TOURNIGAN MINING EXPLORATIONS LTD.

Claims	Claim name	Type of claim	Lot No.
Rufus Claim Group	Rufus	Rev.C.G.	3786
	Rufus No.3	" "	3789
	Rufus No. 5	" "	3791
	Slide Fr.	" "	4553
Argenta Claim Group	Comet	Rev.C.G.	3418
	Comet No.1	" "	3419
	Comet No.2	" "	3420
	Gringo Fr.	" "	3427
	Veteran No.2	" "	3425
	Veteran No.1	" "	3424
	Barite Fr.	C.G.	5345
	Barite No.2	C.G.	5344
New York Claim Group	New York	Rev. C.G.	1485
	London	" "	1480
	Kensington Fr.	" "	1484
	Paris	" "	1483
	Boston	" "	1482
Bear Pass West Claim Group	Superior	C.G.	4801
	Superior No.2Fr.	"	4806
	Amazon No.2	"	4968
	Red Top No. 1	"	4804
	Red Top No. 2Fr.	"	4949
	Red Top	"	4803
	Amazon No.2Fr.	"	4951
	Amazon No.4	"	4948
	Trail No.7	Rev.C.G.	4895
	Trail No.6	" "	4894
	Trail No.5	" "	4893
	Trail No.4	" "	4892
	Trail No.3	" "	4891
	Trail No.2	" "	4890
	Big Slide	" "	4796
	Trail No.1	" "	4889
	Trail Fr.	" "	4896
	Speculator No.2	" "	4887
	Big 4 No.1	" "	5392
	Five Fr.	" "	5395

	Claim name	Type of claim	Lot No.
Apendix 1 (cont'd)	Big 4Fr.	Rev. C.G.	5393
	Big 4	" "	5391
	Big 4 No.1Fr.	" "	5394
	Come Again	" "	4787
	Waterfall	" "	4785
	Bear No.1	" "	5332
	Bear No.2	" "	5333
	Bear No.3	" "	5334
	Bear No.4	" "	5335
	Bear No.5	" "	5336
	Bear No.6	" "	5337
	Bear No.7	" "	5338
	Bear No.8	" "	5339
	Bear No.9	" "	5340
	Copper Lord	" "	4782
	Kid	" "	4799
	Copper King	" "	4780
	Big Gulch	" "	4797
	Ice Worm No.2	" "	4944
	Canyon	" "	4798
Bear Pass East Claim Group	Enterprise Fr.	C.G.	5360
	Enterprise No.8	"	5359
	Enterprise No.5	"	5351
	Enterprise Fr.	"	6079
	Green Lake No.4	"	6078
	Green Lake No.3	"	6077
	Green Lake No.2	"	6076
	Green Lake	"	6081
	Green Lake Fr.	"	6080
	Enterprise No.7	"	5353
	Enterprise No.6Fr.	"	5352
	Enterprise	"	5346
	Enterprise No.1	"	5347
	Enterprise No.3	"	5349
	Enterprise No.2	"	5348
	Enterprise No.4	"	5350
	Pat Fr.	"	5358
	Snowlake No.1 (2 units)	staked claim	307 Rec.#
	Snowlake No.2 1	" " "	308 " "
	Demsey Fr.	Rev. C.G.	5396
	Gipsy Fr.	" "	5397
	Kid Fr.	" "	4800

Appendix 1 (cont'd)

Claim name	Type of claim	Lot No
Copper King No.1	Rev. C.G.	4790
Copper King No.2	" "	4791
Ice Worm Fr.	" "	4943
Ice Worm No.1	" "	4942

The following claims remain ungrouped at present

Red Top Fr.	C.G.	4807
Superior No.1	"	4802
Heather Fr.	"	5366
Heather No.4	"	5365
Some Fr.	"	5364
Heather	"	5354
Heather No.3	"	5355
Heather No.2	"	5356
Hector No.1	"	4805
Amazon No.3	"	4947
Amazon Fr.	"	4950
Amazon	"	4945
Amazon No.1	"	4946
Waterfall	"	4785
Whistler	"	4786
Gold Crown	"	4779
Copper Queen No.2	"	4792
Copper Queen No.1	"	4788
Copper Queen	"	4781
Castle Rock	"	4784
Helena	"	4783
Grandview	"	4793
Red Bird Fr.	"	4795
Red Bird No.1	"	4794
Sky Scrapper	"	4897
Heather No.	Rev. C.G.	5361
Heather No.6	" "	5362
Wedge Fr.	" "	5363

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CERTIFICATE OF ASSAY

CERTIFICATE NO. 34341

INVOICE NO. -----

RECEIVED Sept. 10/78

ANALYSED Sept. 21/78

TO: Tournigan Explorations Ltd.,
704 - 535 Thurlow St.,
Vancouver, B.C.
ATTN: V6E 3L2

SAMPLE NO. :	% Cu	% Pb	% Zn	% Ba	oz/ton Ag	oz/ton Au	% Ni
90001	0.05	11.8	4.36	15.7	3.26	<0.003	
90002	0.02	1.42	0.69		1.28	0.003	
90003	0.01	0.06	0.09		0.12	<0.003	
90004	0.01	18.1	1.54	7.14	5.18	<0.003	
90005	0.04	9.91	1.24	11.0	3.26	0.003	
90006	0.20	18.5	15.0		7.64	0.005	
90007	0.25	2.26	3.10 & 2.96	4.06	5.20	<0.003	
90008	1.03	50.0			15.90	<0.003	
90009	0.61	1.93	2.46		1.28	0.005	
90010	0.77				0.30	0.005	
90011	1.00				0.16	0.010	
90012	4.90				0.96	0.014	
90013	1.48				0.30	<0.010	
90014	0.07				0.02	0.003	
90015	0.20				0.12	0.003	
90016	0.78				0.20	0.012	
90017	0.50	0.02	0.05		0.24	<0.003	
90018	0.12	0.23	0.29		0.54	0.003	
90019	0.14				0.28	<0.003	
90020	0.13				0.01	0.003	
90021	0.61				0.44	0.010	
90022	0.44				0.36	<0.005	
90023	0.13				0.02	<0.003	
90024		0.30	16.6	Rufus	0.09	<0.003	
90025	0.65				0.04	<0.003	
90026	0.13				0.01	<0.003	<0.01
90027	0.19				0.08	<0.003	< 0.01
90028	0.30				0.34	0.054 ?	< 0.01
90029	0.15				0.10	0.012	< 0.01
90030	0.18				0.14	0.003	< 0.01
90031	0.57				0.10	0.005	< 0.01
90032	0.21				0.26	<0.003	< 0.01
90033	0.06				0.12	<0.003	< 0.01
90034	0.05				0.08	<0.003	< 0.01
90035	1.86				0.46	0.008	
90036	1.07				0.02	0.160	- Extreme
90037	7.00				0.66	0.096	Extreme
90038	0.14				0.42	0.030	Extreme
90039	0.13				0.05	0.005	
90040	0.23				0.16	0.008	

Original Certificate #s - 34341; 34476; 34778; 34834; 34883-4.

CTA MEMBER CANADIAN TESTING ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

CERTIFICATE NO. 34341 A

TO: Tournigan Explorations Ltd.,
704 - 535 Thurlow St.,
Vancouver, B.C.
V6E 3L2

ATTN:

INVOICE NO. _____

RECEIVED Sept. 10/78

ANALYSED Sept. 21/78

SAMPLE NO. :	oz/ton Ag	oz/ton Au	% Ni	% As	% Cu
90041	0.14	0.003			0.12
90042	0.26	0.003			0.90
90043	0.08	0.003	<0.01		
90044	0.10	<0.003			
90045	0.02	<0.003		0.01	

Original Certificate #s - 34476; 34834; 34884; 34883;

ITEMIZED COST STATEMENT

a) Personel

Geoff Keyte, geologist, worked 50 days between 4th August and 26th September @ $125 per day	$ 6,250.00
23½ of these were field days, the remainder were involved in preparation, camp moves, etc.	
John Gajda, driller and prospector, worked 34 days between 17th August and 21st Sept. @ $60 per day	2,040.00
19½ of these were field days, the remainder were involved in expediting, camp moves, etc.	
Gary Didier, prospector and geologists' helper worked 25 days between 8th August and 6th Sept. @ $50 per day.....	1,250.00
11½ of these were field days, the remainder were involved in preparation, camp moves, etc.	

b) Food and accommodation

King Edward Hotel, 15th Aug. - 26th Sept., room, meals, phone calls.....	2,193.00
Stewart Supermarket, 15th Aug.- 21st Sept.....	868.00
Ross Deakin Equipment, 10th Aug. camp equipment.	1,699.00
	$ 4,760.00

c) Transport

Vancouver Island Helicopters 15th Aug - 26th Sept. 13hrs. flying	4,064.00
Air fares to and from Stewart $117 single x 6..	702.00
Vehicle rental 1½ months @ $450 per month	675.00
	$ 5,441.00

d) Equipment for drilling, prospecting, sampling etc and miscellaneous expenses.

Equipment	$ 3,666.00
Miscellaneous costs	1,011.00
	$ 4,677.00

e) Assays

Copper	41 @	$4.50	$	184.50
Lead	12 @	5.50		66.00
Zinc	12 @	5.00		60.00
Barium	4 @	9.50		38.00
Silver	45 @	5.00		225.00
Gold	45 @	5.00		225.00
Nickle	9 @	6.00		54.00
Arsenic	1 @	9.50		9.50
			$	862.00

f) Report 3,500.00

Distribution of costs

The following number of man days were spent on each of the claim groups.

	Bear Pass West (including Red Top and Superior)	Rufus	New York	Bear Pass East (icluding Enterprise)	Argenta
G. Keyte	9	2	4	4	4½
J. Gajda	9	2	3	4	2
G. Didier	7	1½	3	--	

The total wages earned by G. Keyte are to be distributed among: 23½ field days i.e. $6,250 - 23½ = $265 per day

The total wages earned by Gajda are to be distributed among: 20 field days i.e. $2,040 - 20 = $105 per day

The total wages earned by G. Didier are to be distributed among: 11½ field days i.e. $1,250 - 11½ = $110 per day

The remaining costs are to be distributed equally among the total man days (23½ + 20 + 11½ = 55) worked on the property.

Food and Accommodation	$ 4,760.00
Transport	5,441.00
Equipment and miscellaneous costs	4,677.00
Assays	862.00
Report	3,500.00
	$19,240.00

i.e. $19,240 - 55 = $350 per man days

	Bear Pass West	Rufus	New York	Bear Pass East	Argenta
G. Keyte	$2,385.00	$ 530.00	$1,060.00	$1,060.00	$1,190.00
J. Gajda	945.00	210.00	315.00	420.00	210.00
G. Didier	770.00	165.00	330.00	--	--
Remaining costs	8,750.00	1,925.00	3,500.00	2,800.00	2,275.00
	12,850.00	2,830.00	5,205.00	4,280.00	3,675.00

N

Rufus No.3
Rufus No.2
Rufus
Side Fr.
Barite Fr.
Barite No.2
Comet
Comet No.1
Comet No.2
Gringo Fr.
Veteran No.2
Veteran No.1
Superior No.1
Superior
Superior No.2 Fr.
Red Top Fr.
Red Top No.2
Red Top No.1
Red Top
Hector No.1
Amazon No.2
Amazon No.4
Amazon No.3
Amazon No.2 Fr.
Amazon Fr.
Amazon
Amazon No.1
Bear No.6
Bear No.5
Bear No.2
Bear No.1
Bear No.8
Bear No.9
Bear No.7
Bear No.4
Bear No.3
Waterfall
Waterfall No.1
Come Again
Whistler
Copper Lord
Copper King
RUFUS CREEK
BEAR RIVER
CULLEN CREEK
SNOW LAKE

KEY
- survey lines
- outcrop
- geological contact
- fault
- 100/15°n dip and strike of bedding
- claims
- trails

SCALE 1 : 5000
0 100m 200m 300m 400m
VERTICAL SCALE IN FEET

7201

FIGURE 2

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

GEOLOGY N.W. QUADRANT

G.Keyte Dec. 78

Big Four No.1 Fr.

Big Four

Big Four Fr.

Big Four No.1

Five Fr.

1000

1500

Speculator No.2

2000

2500

New York

London

Kensington Fr.

3000

Trail No.1

andesite

andesitic tuff(3cm)

heavily chloritised

distinctive grey-lithic tuff (3cm) some rounding po-earthy

argillite

andesite

dacite, py, po

andesite

rhyolitic tuff, po

tuff

andesite

chert

andesite, py

dacite, py

40%

dacite

andesite

dacite

103°/30°n

andesite

massive pyrrhotite, actinolite, chalcopyrite

andesite, dacite

rhyolite

limestone, chert

andesitic lithic tuff (3cm) (green)

welded tuff (10cm)

limestone

chert

andesite, py

limestone

lithic tuff (1cm)

Trail Fr.

rhyolite, xenoliths epidote, quartz, py

chert

dacite

Paris

Boston

chert

dacite

103°/34°n

dacitite

quartz feldspar lithic tuff, weakly chloritised some rounding of fragments, no sorting

129°/31°n

andesitic tuff (0.5cm)

3500

4000

Trail No.2

Big Slide

4500

Trail No.7

5000

Trail

Trail No.6

5500

Trail No.5

Trail No.4

N

KEY

- outcrop
- geological contact
- fault
- dip and strike of bedding
- massive sulphide
- London — claims
- trails

SCALE 1:5000

0 100m 200m 300m 400m

Vertical Scale in feet

FIGURE 3

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

GEOLOGY S.W. QUADRANT

G Keyte Dec. 76

Enterprise Fr.
Green Lake No.4
Green Lake No.3
Green Lake No. 2
Enterprise No.5
Enterprise
Enterprise No.6 Fr
Enterprise No.7
boundary of Enterprise group
Enterprise Fr.
Enterprise No.6
Enterprise No.1
Enterprise No.3
Green Lake
Green Lake Fr.
Enterprise No. 2
Snow Lake No.1 (2 units)
Pat Fr.
Enterprise No.4
Snow Lake No.2
Demsey Fr.
BEAR RIVER
Gipsy Fr.
Kid
Kid Fr.
Copper King No.1
Copper King No.2
Heather Fr.
Heather No. 4
Ice Worm No.2
Ice Worm Fr.
Ice Worm No.1
Heather
Some Fr.
Heather No.3
Big Gulch

bunnett resource surveys ltd.

LEGEND

- Outcrop Area
- Single Outcrop
- Area of iron oxide stain
- Single outcrop stained with iron oxide
- Monzonite stock
- Intermediate to silicic pyroclastic and flow rocks (comprises all other outcrops)
- Geological contact (approx.)
- Bedding
- Old Adit
- Old trench
- 1976 Diamond Drill Hole
- Assayed sample location & number
- Claims

0 100 200 300 400
metres

SCALE 1:5000

VERTICAL SCALE IN FEET

* NOTE This map is included for location purposes only

7201

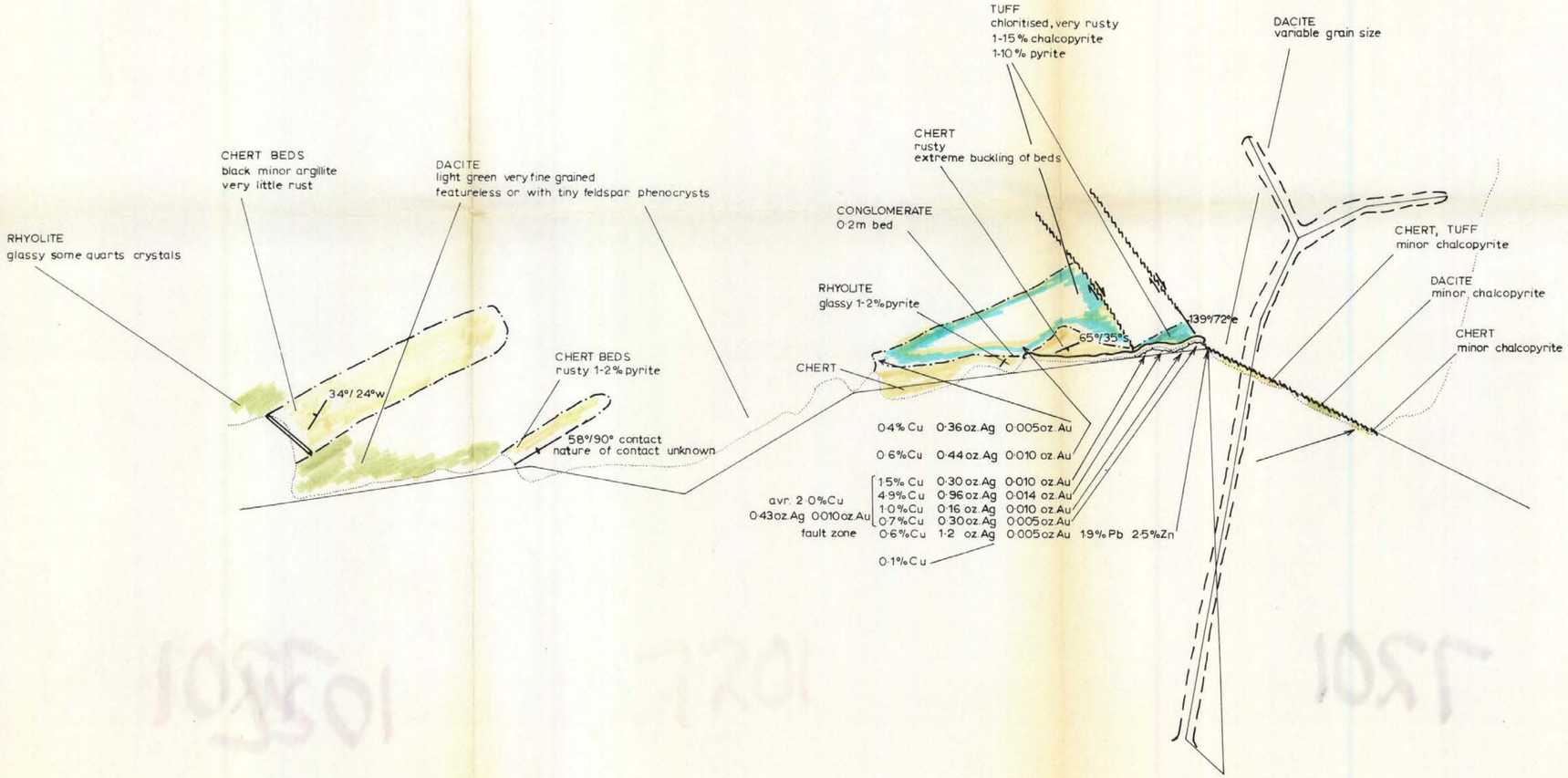
FIGURE 4

TOURNIGAN MINING EXPLORATIONS LTD.

GEOLOGY N.E. QUADRANT

BEAR PASS PROPERTY

W. Smitheringale * 1976



KEY

- survey lines
- outcrop
- geological contact
- 139°/72°e fault with dip and strike
- 65°/35°s dip and strike of bedding
- trench
- adit

N

SCALE 1 : 500

0m. 10m. 20m. 30m. 40m.

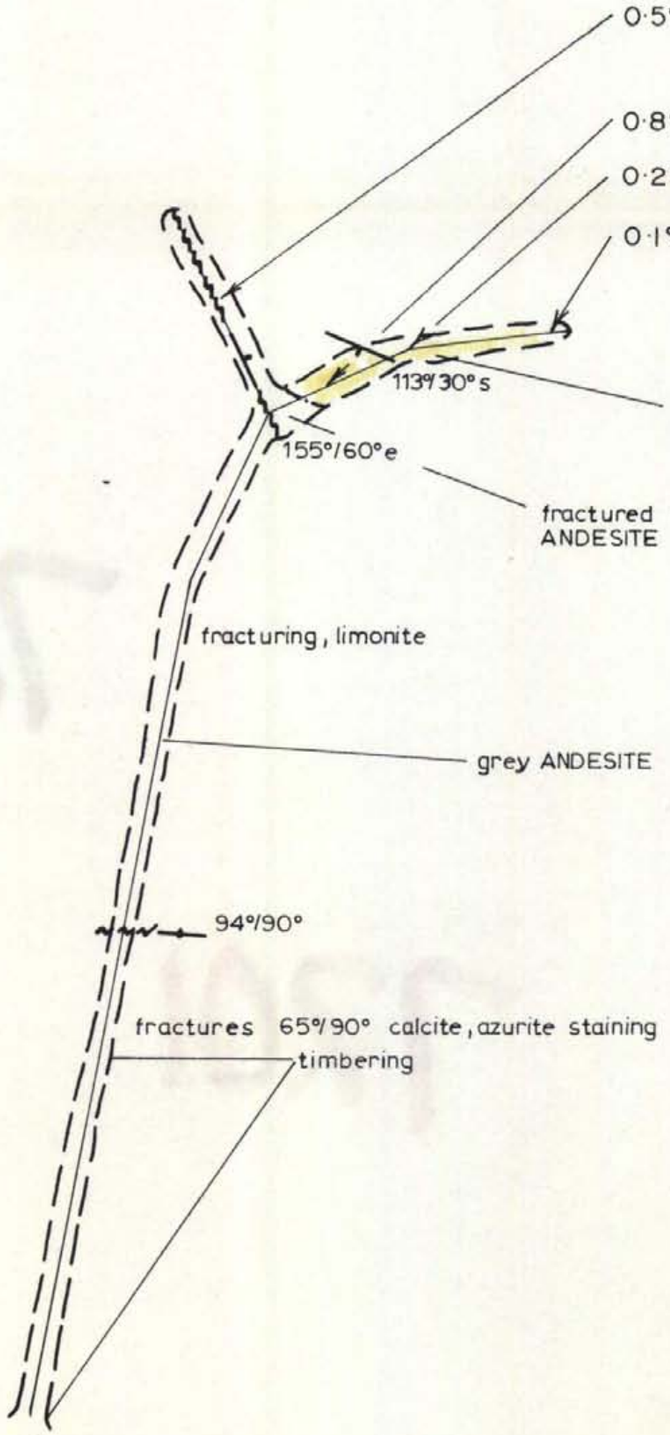
FIGURE 5

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

RED TOP PLAN OF SHOWINGS

G.Keyte Dec. 78



fault zone 0·3m.

each assay represents
1·6 m. true width

N

KEY

survey lines

geological contact

fault with dip and strike

155°/60°e

113°/30°s

dip and strike of bedding

SCALE 1:500

0 10 m. 20m. 30m. 40m.

FIGURE 6

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

RED TOP PLAN OF ADIT

G.Keyte Dec. 78

0·05m. x 0·3m. stringers of barite, galena

fracture 114°/65°w

1·5-2·0m. x 6m. layered barite, quartz, galena, sphalerite — 11·8% Pb, 4·4% Zn, 15·7% Ba, 3·3oz Ag

15m. x 40m. quartz, pyrite, galena, minor sphalerite — 1·4% Pb, 0·7% Zn, 1·3oz Ag

1m. width indurated volcanics — 0·1oz Ag

fracture 115°/60°w

quartz, galena, calcite, barite, pyrite, sphalerite, siderite — 18·1% Pb, 1·5% Zn, 7·1% Ba, 5·2oz Ag

1m. x 6m. quartz, calcite, barite, galena, sphalerite veinlets — 9·9% Pb, 1·24% Zn, 11·0% Ba, 3·3 oz Ag

0·5-1·0m. x 9m. calcite, barite, sphalerite, galena, minor chalcopyrite — 4·1% Ba, 2·3% Pb, 0·2% Cu, 3·0% Zn, 5·2 oz Ag

0·5-1·0m. x 5m. massive galena, volcanic fragments, quartz, sphalerite, chalcopyrite — 50·0% Pb, 15·9 oz Ag, 3·0% Zn, 1·0% Cu

0·5m. x 6m. incomplete outcrop shattered andesite, galena sphalerite pyrite minor chalcopyrite — 18·5% Pb, 15·0% Zn, 7·6oz Ag, 0·2% Cu

fracture 107°/65°w

ADIT

N

KEY

- survey lines
- outcrop
- adit (not mapped)
- massive sulphide veins
- dip and strike of fractures — 115°/60°w

SCALE 1 : 500

0 10m. 20m. 30m. 40m

7201

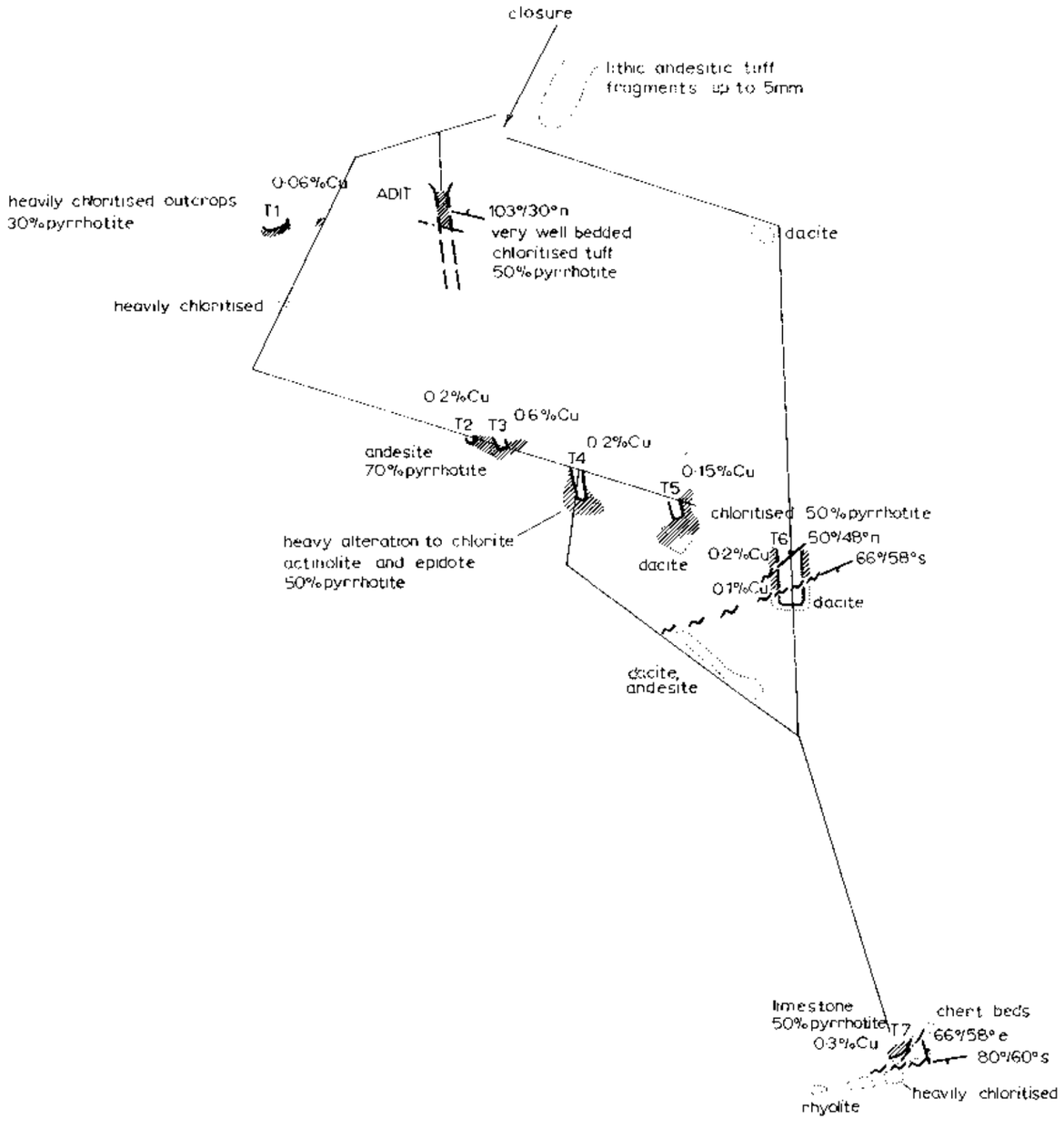
FIGURE 7

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

SUPERIOR M.C. PLAN OF SHOWINGS

G.Kayfe Dec 78



T8 ——→ not surveyed in 0·05%Cu

N

KEY

- survey lines
- outcrop
- geological contact
- 50°/48°n fault with dip and strike
- 103°/30°n dip and strike of bedding
- massive sulphide
- T2 trenches

SCALE 1:500

0 10m. 20m. 30m. 40m.

7201

FIGURE 8

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

G.Keyte

NEW YORK PLAN OF SHOWINGS

G.Keyte Dec. 78

CUT 5% pyrite along fractures

175°/90°

15°/65°e

85°/90°

0·9% Cu 0·26 oz Ag
grab from blasted material

chalcopyrite occurs along
3 fracture sets

N

extensive fracturing
very minor sulphide

107°/27°n

CUT

ADIT

CUT broken,
minor sulphide

shear zone 1% sulphide

8°/49°e

ENTERPRISE TUNNEL

0·05m zone
0·13% Cu

0·12m zone
0·14% Cu
0·42 oz Ag
0·03 oz Au

0·12% Cu 0·14% oz Ag

0·23% Cu 0·16 oz Ag

chalcopyrite pyrite along tiny fractures

grab 7·0% Cu 0·7 oz Ag 0·10 oz Au

fault gouge heavily mineralised
with chalcopyrite, pyrite, malachite

grab 1·1% Cu 0·16 oz Au

58°/60° s

155°/35°w

116°/90°

160°/80°e

156°/46°e

FRENCHMANS TUNNEL

ADIT 'A'

not surveyed in

tiny stringers of chalcopyrite

134°/66°s
0·3m. vein
broken up volcanic material with
barite and chalcopyrite
1·86% Cu 13·8% Ba 0·46 oz Ag

KEY

survey lines

outcrop

geological contact

116°/90° fault with dip and strike

85°/90° dip and strike of fractures

cut

adit

SCALE 1 : 500

0m 10m 20m 30m 40m

7201

FIGURE 9

TOURNIGAN MINING EXPLORATIONS LTD.

BEAR PASS PROPERTY

G Keyte

ENTERPRISE
PLAN OF ADITS AND CUTS

G Keyte Dec. 78