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GEOLOGICAL REPORT

By

L. G. White, P. Eng. and J. Buchholz, Geologist

on the

ANTY GROUP OF MINERAL CLAIMS

on

Stuhini Creek, Tulsequah Area 58°133° N. W E.

Atlin Mining Division

Claims held by Homestake Mineral Development Company

and

New Taku Mines Limited

Work performed between August 30 - September 13, 1967

December 15, 1967

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APPENDIX

ABSTRACT

Total antimony production in British Columbia for the year 1966 amounted to 1,405,681 lbs., all of which was recovered as a by-product at the refineries in Trail.

"B. C. Minister of Mines Annual Report - 1966
page A 34"

The E. & M. J. August, 1967, quoted price for 99.5% bulk antimony was 44¢ per lb. f. o. b. Laredo. Primary consumption of antimony in the U. S. A. was up approximately 14% in 1966 due to the Viet-Nam war. Political conditions in China and the U. S. A. -Viet-Nam conflict could combine to increase the price of antimony products available at Western Markets.

As may be seen from the attached semi-quantitative spectrographic analysis of a 10 lb. select sample of stibnite, the ore is remarkably free of refractory metals and impurities.

1. INTRODUCTION

An occurrence of stibnite associated with minor arsenopyrite was discovered initially in 1944 on the south side of Stuhini Creek, Tulsequah District, B. C. Subsequent prospecting and trenching revealed a 350' zone of mineralization carrying massive and disseminated stibnite in a pronounced shear zone cutting intensely folded argillaceous and quartzitic sediments of Pre Permian age.

The mineralized showing and the ten located claims staked to cover the showing were mapped during the first two weeks in September, 1967. Results of this work are shown on Figures III and IV. Reconnaissance mapping (Fig. IV) was carried out over the entire claim block on a scale of 1":400'. Outcrop locations and survey stations were located by means of altimeter and a topographical base map and were plotted on the 25 foot contour base map compiled from aerial photographs. This type of survey is well suited to the rugged coast range topography and is within limits of the desired accuracy. The scarcity of outcrop and the lack of suitable marker beds prevents a complete structural analysis but it is felt that sufficient data are available to indicate in a broad sense the geological history of the map units within the area occupied by Anty 1 to 10 mineral claims.

2. SUMMARY AND CONCLUSIONS

1. Massive and disseminated antimony mineralization occurs in a gangue of quartz within tightly folded micaceous quartzites and schists and is related to a pronounced northwest trending shear zone.

2. It is evident that faulting in two predominant sets - northwest and northeast respectively, is both pre and post ore, and that northerly trending branch faults influenced deposition of mineral solutions.

3. Mineralization consists of fracture replacement type over a strike length of 350+ feet across a width of 40 feet. It is related to tight folding within favorable quartzites.

4. Axial planes of folds dip northeast at moderate to steep angles. Folds plunge to the southeast except where overturning of minor folds has resulted in northwesterly plunges. Two ages of folding are present; superimposed on the initial folding parallel to bedding planes is a pattern of cross folding parallel to the horizontal plane.

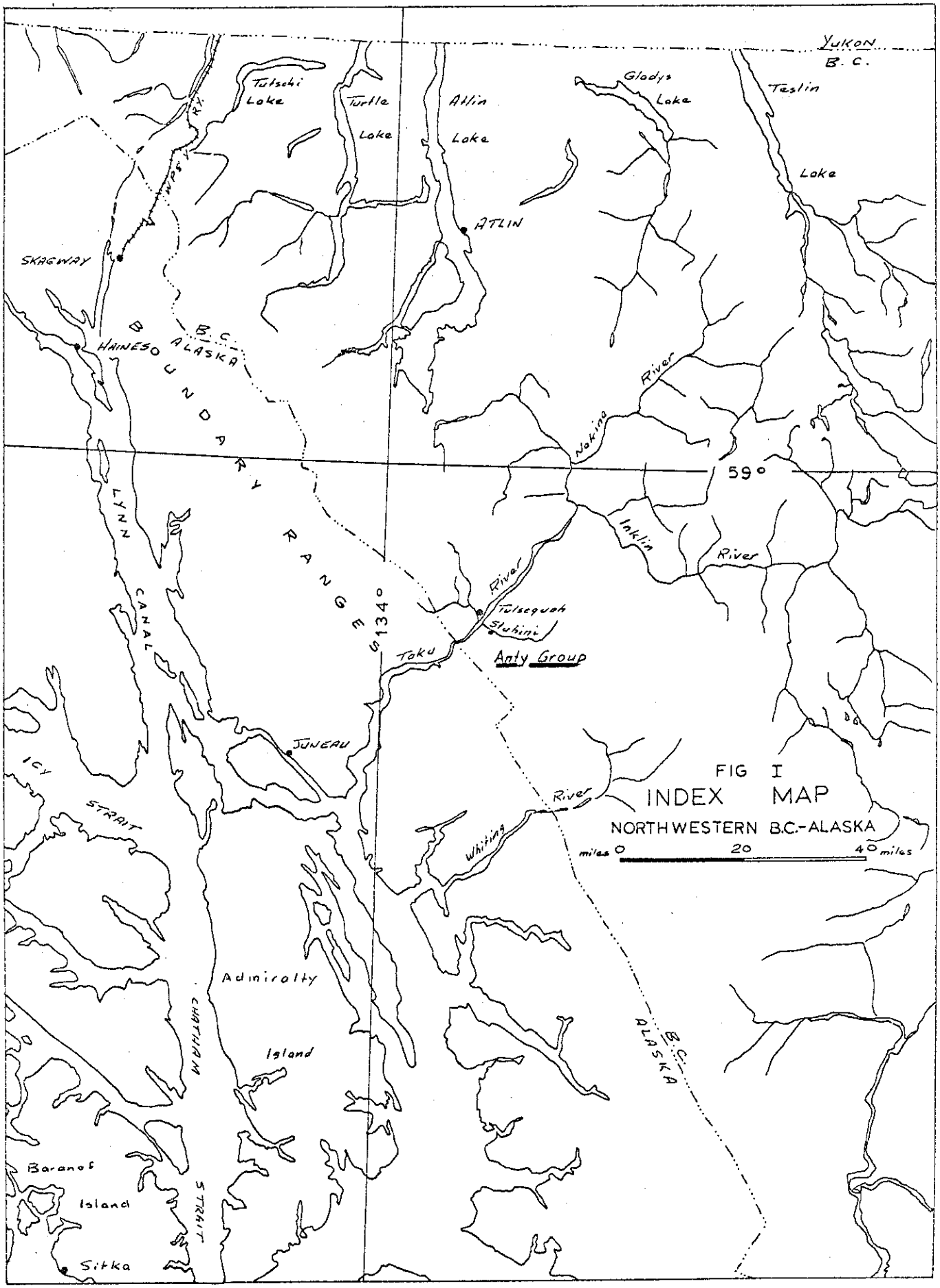
5. Geochemistry is considered to be an effective exploration tool on the property.

6. Mineralization, although of good grade in isolated samples, is not of sufficient grade overall, nor of sufficient size to encourage additional work.

7. It is concluded that the property does not warrant further work until such time as access and marketing conditions enhance the value of the showing.

3. LOCATION AND ACCESS

The property is situated between elevations of 200 and 2,000 feet on the northwest slope of Mt. Sittakanay approximately 2-1/2 miles east of the mouth of Stuhini Creek, a tributary to Taku River. The Taku River empties into the Pacific Ocean approximately 20 miles south of Juneau, Alaska. Latitude $58^{o}37'$ and longitude $133^{o}30'$ pass through the property. The property is


YUKON
B. C.
Tulsehi Lake
Turtle Lake
Allin Lake
Gladys Lake
Teslin Lake
ATLIN
SKAGWAY
HAINES
B. C.
ALASKA
BOUNDARY RANGE
River
Nakina
59°
LYNN CANAL
Inklin River
River
Tulsequah
Sluhini
Taku
Atty Group
134°
JUNEAU
ICY STRAIT
Whiting River
Admiralty Island
CHATHAM STRAIT
Baranof Island
Sitka
B. C.
ALASKA
FIG I
INDEX MAP
NORTHWESTERN B.C.-ALASKA
miles 0 20 40 miles

best reached from Juneau by means of float-equipped aircraft which may land on Taku River at Tulsequah, 3 air miles northwest of the showing. From Tulsequah it is necessary to travel a short distance by boat to the mouth of Stuhini Creek, where a foot trail approximately 3-1/2 miles long leads to the trenched showings at elevation of 1250 feet (aneroid). Tulsequah may also be reached by water, but the Taku River is navigable only by shallow draft, flat-bottom river boat. Access within the claim block is hampered by frequent heavy growths of devil's club and other types of rain forest vegetation including blueberry bush, mountain ash and tag alder. Cliff and bench topography make some areas inaccessible. Generally, areas below 2500 foot elevation are accessible (sometimes with difficulty); areas above 2500 foot elevation less frequently due to the more precipitous nature of the terrain; the absence of heavy timber, which usually prohibits growth of heavy underbrush, and due to the presence of glaciers and creek canyons.

4. CLAIMS

A group of 10 full-sized contiguous mineral claims was located in the summer of 1965 by Clifford McNeil. Anty 1-8 inclusive were located on June 22, 1965; Anty 9 and 10 on July 5, 1965. All claims were recorded in the Atlin Mining Division on July 8, 1965. All interest to these claims was transferred to L. G. White on May 26, 1966. Expiry dates, tag and record numbers are indicated below. The claims are held 50% by Homestake Mineral Development Company and 50% by New Taku Mines Limited.

Claim Name	Tag No.	Record No.	Expiry Date
Anty No. 1	580301	6438	July 8, 1968
" 2	302	6439	"
" 3	303	6440	"
" 4	304	6441	"
" 5	305	6442	"
" 6	306	6443	"
" 7	307	6444	"
" 8	308	6445	"
" 9	309	6446	"
" 10	310	6447	"

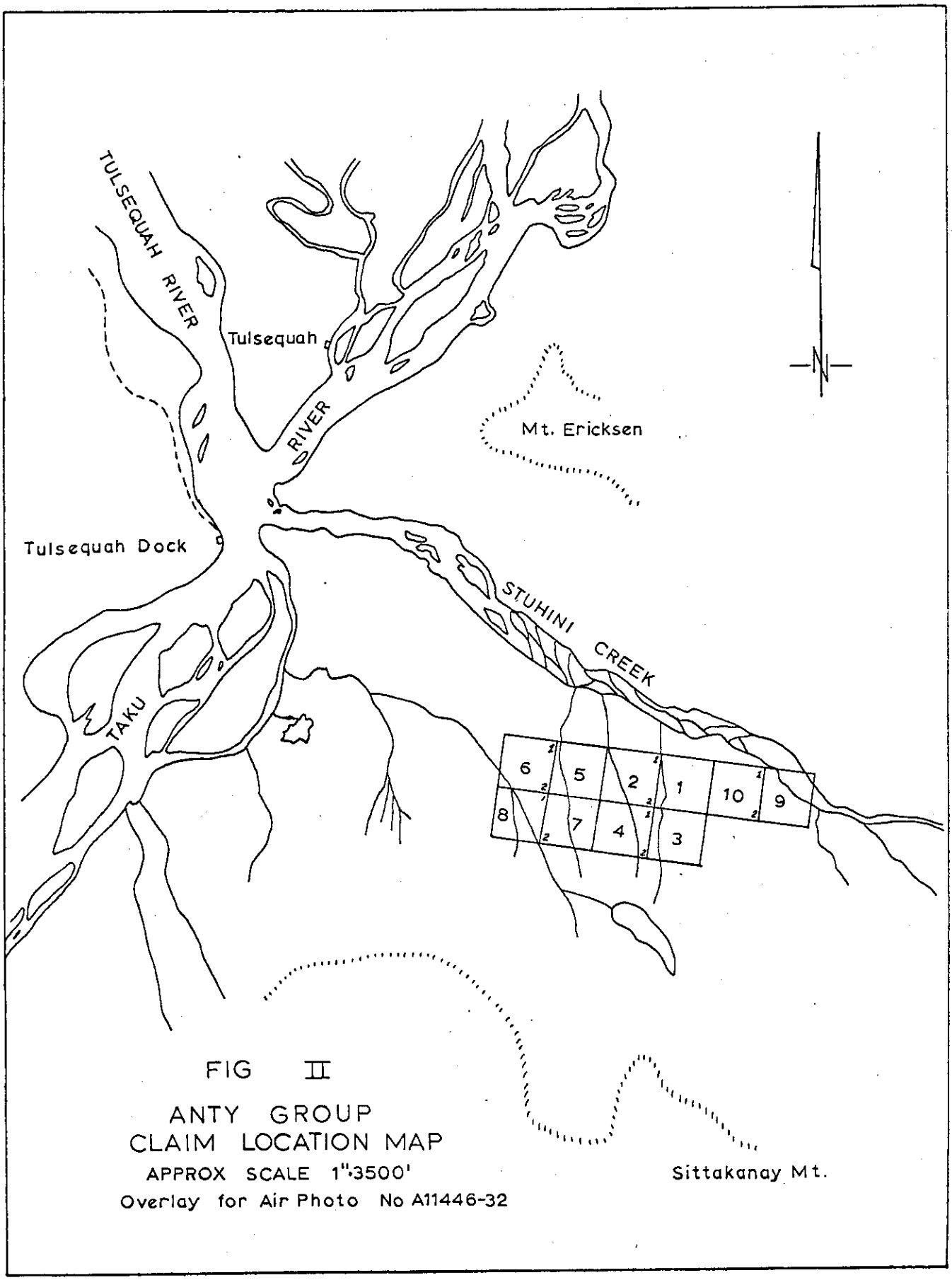


FIG II

ANTY GROUP
CLAIM LOCATION MAP

APPROX SCALE 1"=3500'

Overlay for Air Photo No A11446-32

5. HISTORY

The showing was discovered initially in 1944 by Leta Explorations while prospecting the creeks draining the west slope of Mt. Sittakanay. Massive stibnite (with quartz veins) up to 1 foot thick and 23 feet long was found in argillaceous schists and quartzites at approximately 1250' elevation. The location of the showing is indicated on Fig. IV by the circle on Anty No. 3. A minor amount of surface stripping was carried out in 1945. Nothing further was done on the property until the summer of 1965 during which time 16 hand trenches were blasted and cleaned out. Channel samples taken from 15 of these trenches returned assays ranging from 0.10 to 40.38% antimony. Gold and silver values are negligible. Assays were cross checked and are considered to be reliable. During the summer of 1967 the claims were mapped geologically by John Buchholz and his assistant under the supervision of L. G. White, P. Eng. The results of this work form the basis for this report.

6. GEOLOGY

General Geology

The area under discussion is underlain by Upper Triassic Sediments and Volcanics belonging to the Stuhini Formation as mapped by F. A. Kerr in 1932.

"G. S. C. Memoir No. 248 Taku River Map Area, British Columbia." This formation occupies the Stuhini Valley and falls on the eastern flank of the Coast Range Batholith. Its thickness is estimated to be approximately 7,500-10,000 feet and according to Kerr it is overlain uncomformably by a limestone member of the Honakta group. The underlying formation bounding the Stuhini group is the King Salmon Formation again separated by an unconformity. All three units are of Upper Triassic Age. The Stuhini grades from top to bottom from argillite and sandstone to tuffs, breccias, greywackes and conglomerates with many limestone lenses; to lavas and tuffs and finally to conglomerate which is the base of the group. According to this sequence the rock types mapped by the writers do not correspond to those mapped by Kerr. It is concluded that the rocks underlying the Anty claims actually are of Pre-Permian origin (Kerr's classification) and that they form an extension of a small body of Pre-Permian quartz-mica schists, quartzites and argillites mapped to the west by Kerr.

Evidence for this conclusion consists of the following:

1. Absence of rock types of the Stuhini Group on Anty claims

2. Similarity of rocks on Anty claims to Pre-Permian schists of Polaris Taku Mine area. Compare specimen No. P. T. with specimen No. 2.

3. Difference in types of mineral deposits associated with Stuhini formation.

In addition it is evident from field observations that the rocks underlying the Anty claims exhibit a greater degree of regional metamorphism and hence are of a probable earlier age than the relatively unmetamorphosed volcanic-sedimentary series of the Stuhini group.

The structure of the Taku-Tulsequah area consists of northwest and northeast trending fractures and faults of a regional nature known as the Taku and Tulsequah sets respectively. Both sets are present on the property. In addition to this a major structural feature of the area is a northwest trending synclinorium centered roughly on Stuhini Valley. Folds within this synclinorium plunge to the southeast and exhibit numerous minor drag-folds, some of which are overturned and which plunge to the northwest. These major and minor folds become more open and less numerous to the east.

The area has been productive of three producing mines all occurring within rocks of the Stuhini formation. These mines, not operating at present, are the Polaris Taku; Tulsequah Chief and Big Bull - gold-silver-lead-zinc producers.

Economic Geology

The reconnaissance geology of the area covered by Anty 1-10 mineral claims is indicated on Fig. IV. As may be seen, outcrop is sparsely distributed comprising less than 10% of the area discussed. Foliation symbols mark the locations of those outcrop areas which are too small to be shown on a map of this scale. Essentially the rock types present consist of a monotonous succession of argillaceous schists and micaceous derivatives of silty to quartzitic sediments (micaceous quartzites). The argillaceous schists (specimen No. 5) in part limey, vary from mica-quartz-schists with minor accessory minerals such as garnet and epidote to limey feldspathic siltstone with minor amounts of sericite and epidote. The micaceous quartzites (field term) vary from a cherty quartzite generally relatively unaltered locally, to sericite-quartz-phyllite free of accessories (specimen No. 2). Andesite (specimen No. 4) is intruded into these sediments and is found more commonly in the schistose rocks. Sills and irregular tabular bodies generally less than 30 feet thick occur more abundantly than indicated. Similarly the granite (specimen No. 6) is believed to be intruded along bedding planes and to have controlled the folding indicated in its immediate vicinity. Other irregularities of axial plane directions in the western portion of the map area are attributable to intrusions of granitic material not exposed by erosion. Five representative rock specimens were studied petrographically by A. J. Sinclair, P. Eng., whose report is included with the Appendix. Locations of specimens are indicated on Fig. IV.

Specimen No.	Location	Formation
P. T.	Polaris Taku Mine	Pre-Permian Schist
2	Anty No. 4 M. C.	Micaceous Quartzite
4	Above Anty No. 9 M. C.	Andesite
5	Above Anty No. 10 M. C.	Limey banded Schist
6	Anty No. 6 M. C.	Granite Sill

The distribution of the four rock types discussed is shown on Fig. 4. No distinct contacts separating the quartzites from the schists were observed and because of this, positions of contacts indicated are approximate.

The two prominent sets of faulting - one trending northwest; one trending northeast, form part of a regional system of fracturing mapped by others to the north. The northwesterly trending set which has been named the Tulsequah set, since it parallels Tulsequah River, has been traced for a distance of 15 miles along strike. The northeasterly trending set named the Taku set, is parallel to the deeply incised Taku River Valley. The Tulsequah set appears to be moderately dipping and to have right hand strike slip displacement in the order of a few tens to a few hundreds of feet. Numerous branch faults(north to north 25° west trending set) occur along and parallel to axial planes of folds. These branch faults dip generally fairly steeply to the east (as do axial planes of folds). It is evident that where branch faults intersect a main northwest trending fault zone, a general zone of fracturing and shearing resulted. It is these intersections which are favourable loci for mineral deposits where they occur in relatively brittle quartzites . Coincidentally, minor fold axes are parallel to these local structures. The Anty Creek Fault is considered to be such a branch fault. It dips steeply to the east and is thought to be a rotational fault as is suggested by the change in attitude of one 3" - 5" band of stibnite east and west of the fault. Rotational movement has moved the north end of the hanging wall up relative to the footwall, and the south end of the hanging wall down - relative to the footwall.

The mineralized zone as shown on Fig. III has not been delimited along any of its dimensions by the trenching. Further trenching both along strike of the main fault zone and across the strike would probably reveal additional antimony of the type and grade obtained from samples to date. It is difficult, however, to project accurately, extensions of mineralization due to abrupt changes of attitude of folds and due to the complexly faulted and fractured nature of the mineralization. Subsurface extensions of the zone should occur to the southeast of the point of intersection of the branch fault with the main fault zone, parallel to the plunge of the nose of the main quartzite band. The zone as assayed consists of 350' of 6. 3% antimony across a width of 5. 1 feet.

7. GEOCHEMISTRY

During the course of the field work 27 soil samples (locations marked on Fig. IV) were collected at approximately 500 foot intervals from the areas east and west of the showing in order to determine the usefulness of a survey of this kind when applied to the peculiar mineralization and conditions present on the claim block.

The soil consists of poorly developed (juvenile) partially weathered rock debris containing considerable amounts of vegetation and organic matter. The color of the soil is light yellow to grey; its texture is medium to coarse sandy to pebbly; and its clay constituent is predominantly Kaolinite. Samples were collected within 12" - 15" of surface and analyzed for antimony and arsenic. The samples were analyzed by Coast Eldridge, Engineers and Chemists. Antimony determinations were made spectrographically with an accuracy down to 10 p. p. m. Arsenic was extracted by the Gutzit colorimetric method with an accuracy down to 1 p. p. m.

As may be seen from the attached soil sample results, a pronounced pattern of antimony highs related to the mineralized shear zone is evident. In general arsenic highs correspond to antimony lows. The reasons for this are not known but are probably due to the relative purity of the stibnite mineralization and to greater local concentrations of syngenetic arsenopyrite within the schists as opposed to quartzites. It is concluded that a soil survey utilizing a grid would be especially useful if determinations for antimony were used as the basis for locating extensions of the mineralized zone or for locating previously unsuspected mineral occurrences. Future exploration should embrace a geochemical survey of this kind as this is one of the few geophysical tools that could be applied effectively on the property.

STUHINI SOIL SAMPLE RESULTS

Sample No.	Arsenic (ppm)	Antimony (ppm)
S7-1	Trace	200
S7-2	1	20
S7-3	1	40
S7-4	3	35
S7-5	Trace	45
S7-6	2	Trace
S7-7	1	25
S7-8	Trace	15
S7-9	Trace	Trace
S7-10	Trace	Trace
S7-11	5	Trace
S7-12	Trace	Trace
S7-13	1	15
S7-14	1	Trace
S7-15	5	Trace
S7-16	Trace	Trace
S7-17	Trace	Trace
S7-18	2	25
S7-19	2	20
S7-20	Trace	15
S7-21	Trace	15
S7-22	6	Trace
S7-23	6	Trace
S7-24	12	15
S7-25	40	20
S7-26	15	30
S7-27	45	300

Background ppm	Threshold ppm	Anomaly ppm
Trace - 15	16 - 30	31+ antimony
Trace - 5	6 - 12	13+ arsenic

8. RECOMMENDATIONS

Due to the inaccessibility of the property, the unfavourable marketing situations for antimony, the absence of gold and silver in both arsenopyrite and stibnite, and the probable limited tonnage potential of the mineralized zone, no further work is recommended at this time.

L. G. White, P. Eng.

J. Buchholz, Geologist

December 15, 1967.

9. REFERENCES

Kerr, F. A.:	Taku River Map-Area British Columbia G. S. C. Memoir 248, 1948
Smith, A.:	Tulsequah Area; Structural Geology of Canadian Ore Deposits CIMM 1948 pages 112-121
Irvine, W. T.:	Tulsequah Chief and Big Bull Mines; Structural Geology of Canadian Ore Deposits CIMM 1957 pages 7-16
G. S. C.:	Geology and Economic Minerals of Canada 1963, page 374
Hawkes, H. E. and Webb, J. S.:	Geochemistry in Mineral Exploration 1962

10. LIST OF PERSONNEL & DATES EMPLOYED

Total number of men employed: 4

Name & Address	Position	Work Performed	Days Worked	Dates 1967
J. Buchholz 304-535 Thurlow	Geologist	Geological Mapping	15	Aug. 30- Sept. 13
N. Schram 304-535 Thurlow	Assistant	"	15	"
E. Feldman Tulsequah, B. C.	Labourer	Back-packing	1	Sept. 10
N. Shaw Tulsequah, B. C.	Labourer	"	1	"

CERTIFICATION

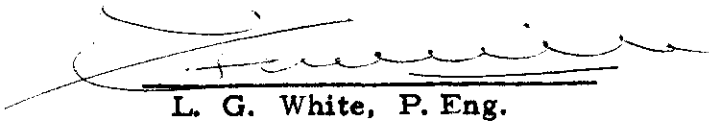
I, Leonard George White, of the City of West Vancouver, in the Province of British Columbia, hereby certify as follows:

1. That I am a Registered Professional Engineer of the Provinces of British Columbia and Ontario and reside at 704 Parkside Road, West Vancouver, B. C.

2. That I am a graduate of Washington State University with a Bachelor of Science in Mining Engineering, having practised my profession for twenty-four years.

3. That I have no interest either directly or indirectly in the claims known as the Anty group nor do I expect to receive any.

4. That the information contained herein was prepared by John Buchholz, Geologist, working in the employ of Homestake Mineral Development Company, of which I am the Exploration Manager. The claims were staked under a prospecting programme organized and supervised by me during 1965, at which time I visited the property twice.



L. G. White, P. Eng.

Vancouver, B. C.
December 15, 1967.

STATEMENT OF QUALIFICATIONS

I, John Buchholz, of 2219 Kelly Avenue, Port Coquitlam, in the Province of British Columbia, hereby state that:

1. I am a graduate of the University of British Columbia, having obtained my B. A. in Geology in 1962.

2. I have worked in the field of Exploration Geology for the past 5 years, having held the position of Field Geologist with various mining companies actively engaged in the business of exploration in British Columbia.

3. For the past 9 months I have been employed as staff Geologist for Homestake Mineral Development Company, during which time I mapped the Anty Group of claims.

4. The information contained in this Report was reviewed by L. G. White, P. Eng., who has visited the property twice and who is Exploration Manager of Homestake Mineral Development Company.

5. That I have no interest either directly or indirectly in the claims known as the Anty Group nor do I expect to receive any.

Dated at Vancouver, B. C., this 15th day of December, 1967.

John Buchholz

PETROGRAPHIC REPORT

ON

FIVE SPECIMENS
(P.T., 2, 4, 5 and 6)

INTRODUCTION:

Five rock specimens labelled P.T., 2, 4, 5 and 6 were submitted to Mr. G. E. Montgomery by Mr. J. Buckholz for the purpose of thin section preparation. The writer received the thin sections December 8, 1967 with the request that they be examined and a petrographic report prepared.

PETROGRAPHY OF SPECIMENS:

Specimen P. T.

Megascopic Description: The specimen is a medium-grained, muscovite quartz schist that is highly deformed into small, tight folds with well developed axial plane cleavage. A weathered surface is pale buff coloured due to a small amount of iron stain (limonite). On a fresh surface paralleling cleavage or schistosity mica cleavages are exposed and the rock has a bright lustre with a pale bronge colour. Surfaces that cut across cleavage and schistosity have a grey caste and show fine compositional layering with alternate layers being rich in quartz and muscovite respectively.

Thin Section: The rock has a medium-grained mosaic texture. Biotite parallels compositional layering in part (schistosity) and in part parallels an axial plane cleavage developed in small folds within the schistosity. Some of the quartz has been mylonitized but has undergone static recrystallization. A description of minerals follows.

Quartz (67%)--medium-grained, mosaic texture with highly serrated borders and shadowy extinction. A small amount has been mylonitized but has undergone static recrystallization.

Muscovite (10%)--euhedral, subparallel orientation, with slightly curved cleavage traces. Some biotite and muscovite are closely intergrown.

Plagioclase (10%)--An_{16}-in part interstitial and in part as highly irregular porphyroblasts that are very poikiloblastic containing numerous inclusions of quartz and micas. Orientation of inclusions suggests that development of porphyroblasts postdated deformation. Twinning was observed only in rare cases and no evidence of zoning was seen.

Biotite (7%)--euhedral, subparallel orientation (relative to schistosity and cleavage), slightly curved cleavage traces, fresh appearance, pleochroism from red brown to almost colourless.

Opaque Minerals (5%)--small, anhedral grains unevenly distributed throughout the section. Minerals not identified.

Garnet (0.5%)--a few small, fresh, anhedral grains erratically distributed in the section.

Sphene (0.5%)--anhedral to subhedral grains up to 0.5 mm. in maximum dimension

Epidote (Tr)--minor amounts as small anhedral grains.

Tourmaline (Tr)--only a single, small, subhedral, blue-green crystal was seen.

The rock is a garnet-biotite-muscovite-quartz schist that has undergone medium grade regional metamorphism (in the garnet zone), has been slightly mylonitized and statically recrystallized.

Specimen 2:

Megascopic description: Thinly bedded, quartz-rich, phyllitic rock with cleavage parallel to compositional layering. Locally the cleavage is deformed into small crenulations. On a fresh surface the rock appears fairly dark grey in colour. Cleavage surfaces are black with a high lustre. Weathered surfaces are bleached and some, especially joint surfaces, are coated with a thin layer of dark brown iron oxides.

Thin Section: The rock is extremely fine-grained with maximum grain size being about 0.025 mm. diameter. Two sets of cleavage can be seen, both at small angles to the compositional layering. Texture is mosaic. Evidence of deformation is seen in curved cleavage traces of sericite and shadowy extinction of some of the larger quartz grains. The rock is cut by a few thin veinlets of young, coarser-grained quartz. A description of minerals follows.

Quartz (83%)--very fine aphanitic mosaic texture. A few of the larger grains show shadowy extinction. Late, coarser-grained quartz fills small veinlets that crosscut the foliation.

Sericite (15%)--fine-grained, concentrated in thin, contorted layers. cleavage traces are curved.

Opaque minerals (2%)--minute anhedral grains mainly associated with sericite layers. Unidentified for the most part although some represents iron oxides (limonite).

Rutile (Tr)--only a few small anhedral grains were observed. This is the only accessory mineral seen in the section.

The rock is a sericite-quartz phyllite with an average grain size of about 0.01 mm.

Specimen 4:

Megascopic Description: Massive, fine-grained, grey-green volcanic rock containing about 70% small plagioclase laths and 30% dark green interstitial material that shows up best on a slightly weathered surface. Fresh surfaces appear dark green and more-or-less featureless. A few round blebs of dark green material up to 2 mm. in diameter probably represent amygdules.

Thin Section: The rock is fine-grained with hyalopilitic ("andesite groundmass") texture, consisting of small laths of plagioclase with no preferred orientation and other minerals mainly interstitial to these laths.

Rare amygdules occur. A summary of mineralogy and main features follows.

Plagioclase (60%)--An_{24}-faint zoning, twinning not very prominent. Lath-shaped, euhedral to subhedral crystals with apparent random orientation. Laths mostly 0.2 to 0.4 mm. in length.

Amphibole (20%)--uralite. Pleochroism is blue-green to almost colourless. Occurs as felted masses of acicular crystals interstitial to plagioclase and in amygdules.

Epidote (5%)--pistacite. Occurs entirely as small anhedral masses mostly as partial pseudomorphs after plagioclase but in part interstitially.

Biotite (5%)--minute crystals interstitial to plagioclase laths. Pleochroism dark brown with greenish tinge to almost colourless.

Opaque Minerals (3%)--small anhedral blebs not identified.

Chlorite (2%)--small amounts as partial alteration product of interstitial biotite.

The specimen is an intermediate volcanic rock that has been extensively altered probably deuterically and later hydrothermally.

Specimen 5:

Megascopic Description: On a fresh surface the specimen is seen to be a crudely layered, grey to white, aphanitic rock. Weathered surfaces are dark grey except where coated with dark brown iron oxides. The rock is a thinly bedded, deformed siltstone.

Thin Section: The specimen is a clastic rock in which detrital grains have been cemented and partly replaced by calcite. Thin and irregular compositional layering is cut by two crude cleavages. Thin seams of mylonite cut the rock. Tabular crystals of micas and chlorite parallel these seams. A description of mineralogy follows.

Feldspar (58%)--mostly plagioclase which occurs as clastic fragments, anhedral, slightly replaced by calcite cement. Contains rare angular replacement masses of calcite but appears essentially unaltered. A small amount of K-feldspar is present but percentage cannot be estimated.

Quartz (15%)--clastic and cataclastic fragments, anhedral, slightly replaced by calcite cement.

Calcite (15%)--occurs mainly as interstitial cement and to a lesser degree as small lenticular patches of relatively large anhedral grains that are twinned. Replaces margins of clastic grains.

Green Biotite and Chlorite (5%)--interstitial to clastic material but concentrated more in some layers than in others.

Opaque Minerals (4%)--small irregular clusters of anhedral grains. Minerals not identified although appears in part to be secondary iron oxides. A few square cross sections were seen.

Sericite (2%)--small, thin sheets with subparallel alignment.

Epidote (1%)--pistacite, occurs as small anhedral grains distributed sporadically through the section.

The rock is a thinly layered, calcite-cemented, feldspathic siltstone that has been deformed with the production of thin mylonite seams.

Specimen 6:

Megascopic Description: A small hand specimen of highly weathered fine-grained, leucocratic, plutonic rock, probably an altered lava. Main components that can be seen in hand specimen are plagioclase as small laths and fine-grained muscovite. There is no evidence of deformation. The rock effervesces considerably when treated with HCl indicating the presence of abundant calcite.

Thin Section: The rock is an intermediate plutonic rock whose exact original nature is indeterminable because of the extensive nature of hydrothemal alteration and surface weathering. The entire specimen is stained with limonite. A description of mineralogy follows.

Plagioclase (50%)--occurs as microlites that are highly altered and replaced by sericite and calcite. Cannot determine original composition. A few highly altered phenocrysts can be seen almost entirely replaced by sericite.

Calcite (15%)--anhedral, interstitial, fine-grained, replaces plagioclase extensively.

Sericite (15%)--occurs principally as an alteration product of plagioclase and to a lesser degree in interstitial positions.

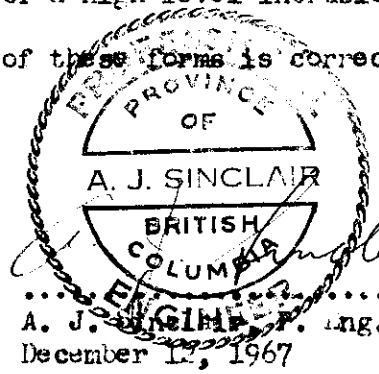
Chlorite (5%)--pseudomorphs after biotite.

Biotite (3%)--occurs as remnants associated with some chlorite patches. Has dark green colour suggesting it is in the initial stages of alteration.

Opaque Minerals (2%)--mainly limonite evenly distributed through the section.

Quartz (about 10%)--difficult to estimate because of intense nature of alteration.

In its present form the specimen can be classed as an altered, fine-grained, intermediate plutonic rock, slightly porphyritic, that has undergone sericitization, chloritization and carbonitization. There is no indication in thin section that the rock has undergone much in the way of deformation. The rock may be either of volcanic origin or a high level intrusion (e.g. a dyke). Field relations must decide which of these forms is correct.



A. J. Sinclair, P. Eng.
December 12, 1967

OCT 11 1967

To:

Homestake Minerals,

304 - 535 Thurlow Street,

Vancouver, B. C.

Attention: T. Buchholz

Certificate of Assay

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CTA Member Canadian Testing Association

PHONE: 876-4111

CABLE ADDRESS "ELDRICO"

FILE NO. A.3-H.5-67-36737

DATE October 10, 1967

We Hereby Certify *that the following are the results of assays made by us upon submitted* Ore Pulp *samples*

MARKED	GOLD		SILVER	Antimony	Arsenic (As)				
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	PER CENT. (Sb)	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
		$							
45757	Trace		0.6	49.12	1.04				

/cr

Gold calculated at $.....per ounce

Note. Rejects retained one week.
Pulps retained one month.
Pulps and rejects may be stored for a maximum of one year by special arrangement.

Unless it is specifically stated otherwise, gold and silver values reported on these sheets have not been adjusted to compensate for losses and gains inherent in the fire assay process.

H. Shaw

Provincial Assayer

G96 (REV.

PHONE: TRINITY 6-4111
CABLE ADDRESS "ELDRICO"

TO:

Homestake Minerals Limited,
304 - 535 Thurlow Street,
Vancouver, B. C.
Attention: T. Buchholz

FILE NO. A.3-H.5-67-36737

DATE October 10, 1967

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

COAST ELDRIDGE

ENGINEERS & CHEMISTS LTD.
125 EAST 4TH AVE. VANCOUVER 10. CANADA

We Hereby Certify that the following are the results of semi quantitative spectrographic analyses made on Ore Pulp samples submitted.

SAMPLE IDENTIFICATION	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Ga	Au	Fe
45758	1.0	Major	0.1	0.001	ND	ND	ND	0.01	0.3	ND	ND	0.05	ND	Trace	1.0

SAMPLE IDENTIFICATION	Pb	Mg	Mn	Mo	Nb	Ni	Si	Ag	Sr	Ta	Sn	Ti	W	V	Zn
45758	0.01	1.0	ND	ND	ND	ND	Major	0.001	Trace	ND	ND	0.1	ND	ND	ND

All results are expressed as percent by weight. TRACE = Detected but below normal spectrographic range.

Note: Rejects retained one week. MATRIX = Major Constituent
Pulps retained three months. MAJOR = Above normal spectrographic range.
N.D. = Not Detected

COAST ELDRIDGE ENGINEERS & CHEMISTS LTD.

CHIEF CHEMIST

C-95

CABLE ADDRESS: "ELDRICO"
TELEX: 04-50353

COAST ELDRIDGE
ENGINEERS & CHEMISTS LTD.

125 EAST 4TH AVE., VANCOUVER 10, B.C. TELEPHONE: 876-4111

REPORT OF: Geochemical Analysis

AT Vancouver Laboratory

PROJECT: Soil Samples

REPORTED TO: John Buchholz,
c/o Homestake Mineral Development,
304 - 535 Thurlow Street,
Vancouver, B. C.

FILE No. A.3-B.1-67-36952

DATE October 27, 1967

REPORT No.

ORDER No.

We have tested 46 samples of Soil submitted by you and report as hereunder:

TEST METHOD:

The samples were tested by the "Total Extraction" procedure.

RESULTS:

Sample No.	Arsenic (ppm)	Antimony (ppm)
S1-7	Trace	200
S7-2	1	20
S7-3	1	40
S7-4	3	35
S7-5	Trace	45
S7-6	2	Trace
S7-7	1	25
S7-8	Trace	15
S7-9	Trace	Trace
S7-10	Trace	Trace
S7-11	5	Trace
S7-12	Trace	Trace
S7-13	1	15
S7-14	1	Trace
S7-15	5	Trace
S7-16	Trace	Trace
S7-17	Trace	Trace
S7-18	2	25
S7-19	2	20
S7-20	Trace	15

G 24

RESULTS (Cont'd)

Sample No.	Arsenic (ppm)	Antimony (ppm)
S7-21	Trace	15
S7-22	6	Trace
S7-23	6	Trace
S7-24	12	15
S7-25	40	20
S7-26	15	30
S7-27	45	300

COAST ELDRIDGE

D. Timuss,
PROVINCIAL ASSAYER

/cr

STATEMENT OF EXPENDITURE

Total number of men employed: 4

Name & Address	Position	Work Performed	Days Worked	Dates 1967	Rate
J. Buchholz 304-535 Thurlow St., Van. B. C.	Geologist	Geological Mapping	15	Aug. 30-Sept. 13	$412.50/ 2 weeks
N. Schram 304-535 Thurlow St., Van. B. C.	Assistant	"	15	"	250.00/ 2 weeks
E. Feldman Tulsequah, B. C.	Labourer	Back-Packing	1	Sept. 10	20.00/ day (U.S.)
N. Shaw Tulsequah, B. C.	"	"	1	"	20.00/ day (U.S.)

Declared before me at the City of Vancouver, in the Province of British Columbia, this 9 day of January 1968, A.D.

John Buchholz

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia,

Sub-mining Recorder

* -

412.50
250.00
43.20
46.20
176.25
350.00
24.43
92.00
31.20
50.00
12.50
12.60
4.23
54.00
36.58
1,595.69 *
118.04
1,713.73

2 MARINE WAY
JUNEAU, ALASKA 99801

STATEMENT

PHONE
586-2206

OCT 2 3 1967

ALASKA Coastal AIRLINES

DATE SEP 25 1967

NAME HOME STAKE MINERAL DEVELOPMENT CO.
ADDRESS SUITE 304 - 535 THURLOW STREET
VANCOUVER 5, B. C.

DATE	DESCRIPTION		CHARGES	CREDITS	BALANCE
	BALANCE FORWARDED				000
AUG 31'67	E32979 CESSNA CHARTER F T 1.1 @ 50.00 PR HR	JT243	55.00 +		55.00 o
SEP 13'67	E28648 CESSNA CHARTER F T 1.1 @ 50.00 PR HR	JT256	55.00 +		110.00 o

110.04

Canadian funds

Telecopy Syndicate

Oil

110.00 Ni
110.04 Cobalt

FORM B-1 SM

TERMS: NET - CASH

©H

OCT 2 2 1967

TELEPHONE 278-9551

VANCOUVER AIRPORT

RICHMOND B.C.

TRANSWEST HELICOPTERS (1965) LTD.

Homestake Mineral Development
304 - 535 Thurlow St.
Vancouver B.C.

175

Date	Ticket No.	Hours	Rate	
Sept. 1/67	2434	:15	185.00	$46.20

FLIGHT REPORT

TRANSWEST HELICOPTERS (1965) LTD.

INTERNATIONAL AIRPORT, VANCOUVER, B.C.

OCT 2 2 1967

2434

CHARTERER Homestake Mineral Development Co. DATE 1 Sept 67

ADDRESS Rm 304 - 535 Thurlow St VR. B.C. A/C CF — VUD

PILOT SIGNATURE [signature] BASE VR. FUEL CUST ☐ TW ☒

OPERATION REMARKS	PASS	TAKE OFF	LAND	WT OF CARGO	HOURS	MIN.
Tulsequah Loops	2			600		15

TYPE OF CONTRACT 1 ☐ 2A ☐ 2B ☐

OTHER

AUTHORIZED BY CHARTERER REP. [signature]

HOURS FOR DAY .15

" MONTH

" CONTRACT

FOODLAND SUPER MARKET, INC.

615 WILLOUGHBY – JUNEAU, ALASKA

att L. G. White

DATE Aug 31 1967

NAME Homestake Mineral Developm Co.

ADDRESS Suite 304-535 Thurlow Street Vancouver 5, B.C.

	QUAN.	DESCRIPTION	PRICE	AMOUNT
1	10	# bacon	1.09	4 36
2	5	# hamburger	69	3 45
3	5	# steer	89	4 45
4	5	# beef roast	1.29	6 45
5	7½	# T. Bone steaks	1.59	11 53
6	5	# Veal Cutlets	1.29	6 45
7	2	Chickens 4½ #	69	3 11
8	3	pkg Weiners	79	2 37
9	8	# Salmon	199	15 92
10	5	# sugar		85
11	1	pop soda		23
12	2	salt	19	38
13	1	pepper		59
14	3	boxes Minute rice	109	3 27
15	1	box tea bags		69
16	2	- 2 # coffee	159	3 18
17	3	- ½ gal. milk	75	2 25
18	24	Can Veg soup	20	4 80
19	1	ea. Mixed fruit		79
20	6	cans Pink Salmon	85	5 10
21	6	can Crab	113	6 78
22	6	Cans Sardines	39	2 34
23	6	Ap-ap's	23	1 38
24	1	S.O.S.		23
25		©M		88 48

FOODLAND SUPER MARKET, INC.

615 WILLOUGHBY – JUNEAU, ALASKA

att L. G. White

DATE Aug 31 1967

NAME Homestead Mineral Developmt Co - Suite 304-535

ADDRESS Thurlow Street Vancouver 5, B.C.

	QUAN.	DESCRIPTION	PRICE	AMOUNT
1	1	Spice + Spam		1 23
2	15	Towels	41	6 15
3	12	pork + beans	31	3 72
4	2	Tops matches	15	30
5	3 - 2 rolls T. Tissue		27	81
6	1	wax paper		39
7	2	Sand. Bags	33	66
8	6	tins Butter	93	5 58
9	5	# Cheese		5 35
10	3	Doz oranges		4 95
11	1	Doz Lemons		1 14
12	12	lg eating onions		1 77
13	2	Cans Winstons	329	6 58
14	8	doz eggs	47	3 76
15	8	Breads	51	4 08
16	2	Breads	61	1 22
17	2	Breads	67	1 34
18	1	First aid kit		2 55
19	1	Aspirin		89
20	2	Fruit Cakes - 99 -	1.05	2 04
21	9	Tins meat	69	6 21
22	3	Tins meat	85	2 55
23				
24	2	pk. Cigars	49	98
25		©M		162 73

FOODLAND SUPER MARKET, INC.

ALASKA'S FINEST

61_ W. WILLOUGHBY AVE.

Juneau, Alaska 99801

TO: Homestake Mineral Development Co.. Sept. 1, 1967
Suite 304
535 Thurlow St.
Vancouver 5, B. C., Canada

SEP 5 1967

Attn: L. G. White:

Purchases, per att. invoice, 8/31/67 ....$162.73 U.S.

Tulsa cal Symbols work

OK

162.73 U.S.
13 52
176.25 Each + U.S/C
@1% (13.02 + .50)

AUG 17 1967

McELHANNEY SURVEYING & ENGINEERING LTD.
1200 WEST PENDER STREET, VANCOUVER 1, B.C., CANADA • PHONE: 683-8521 • CABLE: SURVENG

Homestake Mineral Development Co.,
#304, 535 Thurlow Street,
Vancouver 5, B.C.

Job No: 5170

Attention: Mr. J. Buchholz

16th August 1967

TERMS: Net 30 days

INVOICE NO: 67-182

FOR PROFESSIONAL SERVICES IN RESPECT TO:

Topographic mapping of about 2 square miles at 400 feet per inch in accordance with your letter of 14th July, ours of 17th July and more recent discussions.

Our Fee. . $350.00

Charge Tulsequah Syndicate

O.K. Cost as quoted

Stuhini Creek - Tulsequah Topo. Map
Anty Group

GB

RAB:dlb

DEC 7 1967

McELHANNEY SURVEYING & ENGINEERING LTD.
1200 WEST PENDER STREET, VANCOUVER 1, B.C., CANADA • PHONE: 683-8521 • CABLE: SURVENG

Homestake Mineral Development Co.,
#304, 535 Thurlow Street,
Vancouver 5, B. C.

Job No: 5170

Attention: Mr. J. Buchholz

6th December 1967

TERMS: Net 30 days

INVOICE NO: 67-268

FOR PROFESSIONAL SERVICES IN RESPECT TO:

Photographic enlargement in Tulsequah - Taku River area.

at cost, $24.43

Tulsequah Enlargement

O/K

MSEL:dlb

COAST ELDRIDGE
ENGINEERS & CHEMISTS LTD.
125 EAST 4TH AVE., VANCOUVER 10, B.C. • TELEPHONE 876-4111 • TELEX 04-50353

"CABLES"
"ELDRICO"

DATE	YOUR ORDER NO.	CODE	OUR FILE NO.	INVOICE NUMBER
October 27, 1967		3100	36952	4051

INVOICE TO

John Buchholz
c/o Homestake Mineral Development
304 - 535 Thurlow Street
Vancouver, B.C.

REPORTED TO

Geochemical analysis of 46 samples of soil submitted by you as per our report dated October 27.

$ 92.00

STUHINI CREEK Soil
Sb & As analyses
[illegible]
J.B.

THIS IS A PROFESSIONAL SERVICE BILL AND IS DUE ON PRESENTATION
INTEREST WILL BE CHARGED ON OVERDUE ACCOUNTS.

TERMS: Net Cash.... INVOICE

COAST ELDRIDGE
ENGINEERS & CHEMISTS LTD.

OCT 11 1967

"CABLES" "ELDRICO"

125 EAST 4TH AVE., VANCOUVER 10, B.C. • TELEPHONE 876-4111 • TELEX 04-50353

DATE	YOUR ORDER NO.	CODE	OUR FILE NO.	INVOICE NUMBER
October 10, 1967		3100	36737	3696

INVOICE TO:

Homestake Minerals Ltd.,
304 - 535 Thurlow Street
Vancouver, B.C.

REPORTED TO:

1 assay for gold/silver @ $ 4.50 each	$ 4.50
1 assay for Antimony @ $ 7.00 each	7.00
1 assay for Arsenic @ $ 6.50 each	6.50
	18.00
Less 10% discount	1.80
	16.20
1 semi-quantitative spectrographic analysis	15.00
TOTAL	$ 31.20

STUHINI CREEK
"ANTY" GROUP
Telescope Syndicate

THIS IS A PROFESSIONAL SERVICE BILL AND IS DUE ON PRESENTATION
INTEREST WILL BE CHARGED ON OVERDUE ACCOUNTS.

TERMS: Net Cash....: INVOICE

Dept. of Geology,
Univ. of B. C.,
Vancouver 8, B. C.
Dec. 12, 1967

Mr. J. Buckholz,
c/o Homestake Canadian Group,
535 Thurlow St.,
Vancouver, B. C.

Dear Mr. Buckholz;

Enclosed are two copies of a petrographic report on 5 specimens labelled P.T., 2, 4, 5 and 6 that you submitted to Mr. G. E. Montgomery. My charge for this service is $50.00.

I trust you will find the report satisfactory.

Yours very truly,

A. J. Sinclair

A. J. Sinclair, P. Eng.

OK J-B

STUHINL

6 Dec 1967

Att Homestake Mineral Development Co.
304-535 Thurlow Sts.

In account with Ed Montgomery 4764 Mass St.
Terms _____ Van. 16, B.C.

	5	Transactions	@	2	50	12	50
		STATEMENT					

INVOICE

AUG 2 5 1967

9641

WESTERN REPRODUCERS LTD.

1376 WEST PENDER STREET, VANCOUVER 5, BRITISH COLUMBIA • Phone 684-4408

TERMS

NET, PAYABLE UPON RECEIPT OF INVOICE

TO

HOMESTAKE MINERAL
DEVELOPMENT CO
535 THURLOW ST
VANCOUVER B C

SHIP TO

8 18 67

10 4003

DATE	YOUR ORDER NO.	FED. TAX NO.	PROV. TAX NO.	DATE REQUIRED	DATE SUPPLIED

No. Orig.	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	DWG. 35x22 @ 100% ON BOND.	18	3 ea.	.55 FT	9.90
	IN TWO SECTIONS.				
	SPLICING.	9		.30 FT	2.70
					12.60
				FED. TAX	1.51
				PROV. TAX	.71
				TOTAL	$14.82

AUTHORIZED BY

RECEIVED BY William C. Shapston

INVOICE

10517

WESTERN REPRODUCERS LTD.

1376 WEST PENDER STREET, VANCOUVER 5, BRITISH COLUMBIA - Phone 684-4408

TERMS

NET, PAYABLE UPON RECEIPT OF INVOICE

TO

HOMESTAKE MINERAL
DEVELOPMENT CO
535 THURLOW ST
VANCOUVER B C

10 4003

SHIP TO

10 26 67

SAME

DATE	YOUR ORDER NO.	FED. TAX NO.	PROV. TAX NO.	DATE REQUIRED	DATE SUPPLIED

No. Orig.	DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	MAP 21 X 33 @ 75% BOND (1860)	6	3 EA	.60 FT	3.60
	Subsequent Explorations				
	ANTY GROUP				

AUTHORIZED BY

RECEIVED BY J. Birchall

FED. TAX	.43
PROV. TAX	.20
TOTAL	$4.23

SEPT 11, 1967

RECEIVED FROM J. BUCHHOLZ 50 (FIFTY)

DOLLARS (U.S.) for Board & Grub

at Tulsequah

for

J BUCHHOLZ & NEIL SCHRAM

SIGNED Jon Baem

SEPT 10/67

Received from J. BUCHHOLZ

FOURTY (40) DOLLARS (U.S.)

FOR

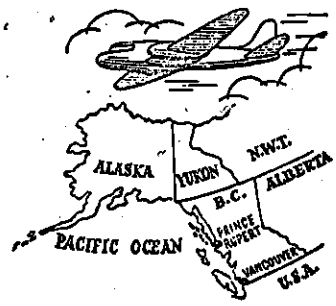
PACKING SUPPLIES FROM STUHINI

TO

TULSEQUAH

SIGNED _____

Eddy Feldman



INVOICE

P.O. Box 576
PRINCE RUPERT, B.C.

September 27th 1967

Homestake Mineral Development Company

Suite 304 - 535 Thurlow Street, Vancouver 5, B. C.

IN ACCOUNT WITH

A. S. BILL
CUSTOMS BROKER AND FORWARDING AGENT

SEP 28 1967

No 3741

Phone 624-5226

MEMBER

225 Third Street, Besner Block

To Customs Brokerage Service:

Sept./67	To preparing and presenting of Canadian Customs Form E46 entries at Prince Rupert, B. C. as per your instructions and invoices supplied:-			
	No. 1748	duty & tax paid	1.90	3.25
			7.35	2.25
			10.96	3.25
			4.37	2.75
			24.58	12.00
				$36.58

Telegram Sent to

OK

Incl. with Rpt. 1165

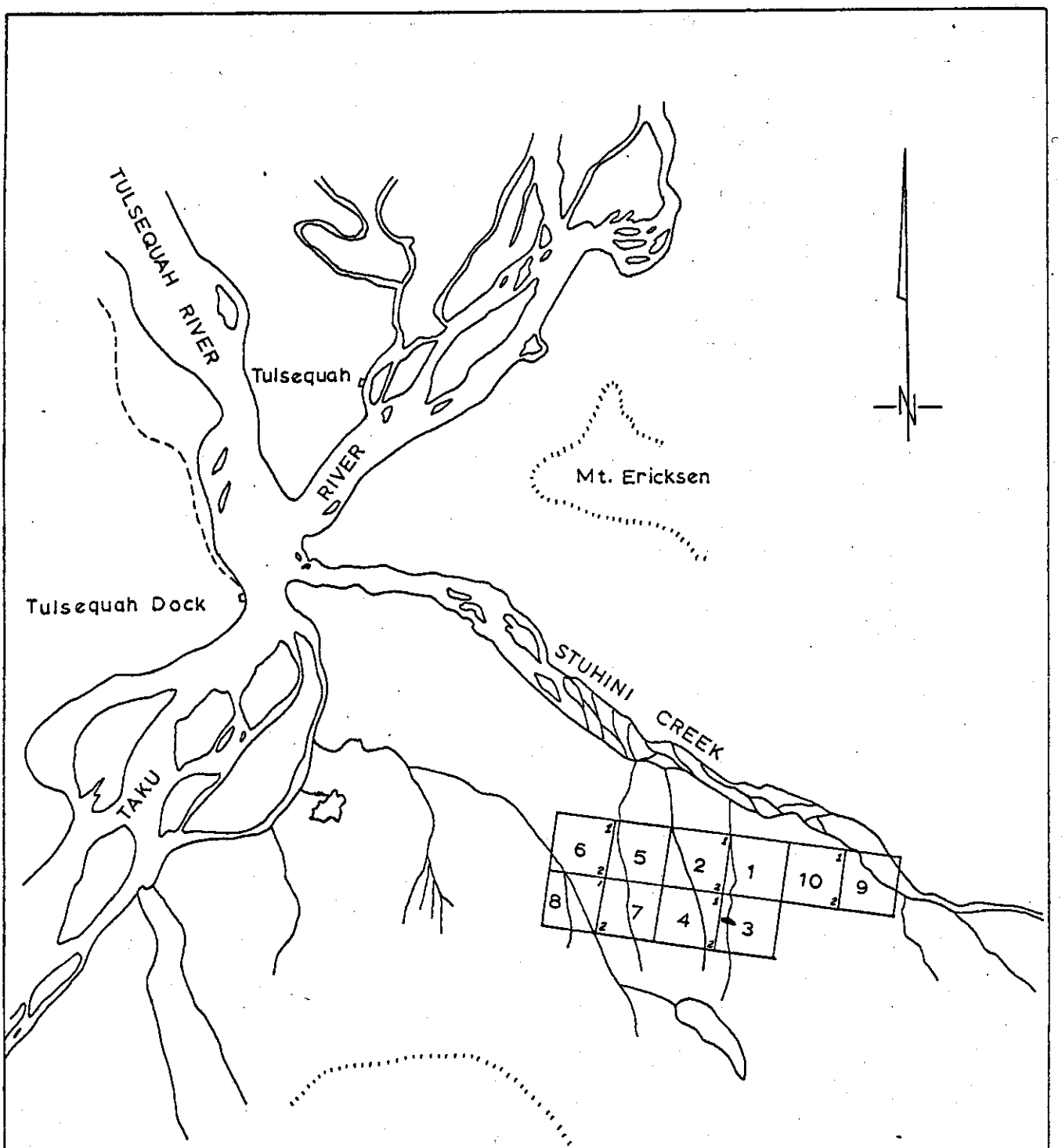


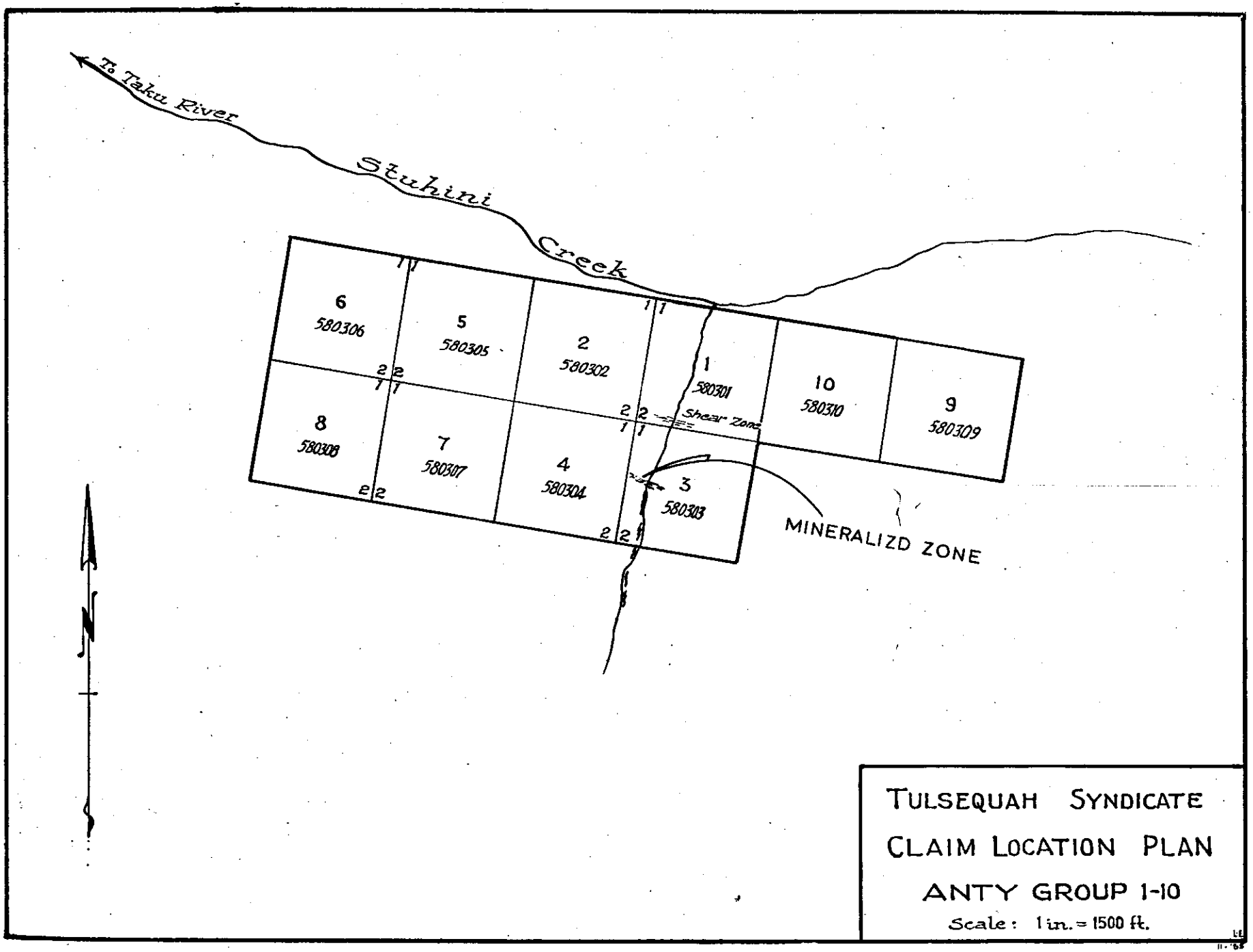
FIG II

ANTY GROUP
CLAIM LOCATION MAP

APPROX SCALE 1"=3500'

Overlay for Air Photo No A11446-32

Incl. with Rpt. 1165



TULSEQUAH SYNDICATE
CLAIM LOCATION PLAN
ANTY GROUP 1-10

Scale: 1 in. = 1500 ft.

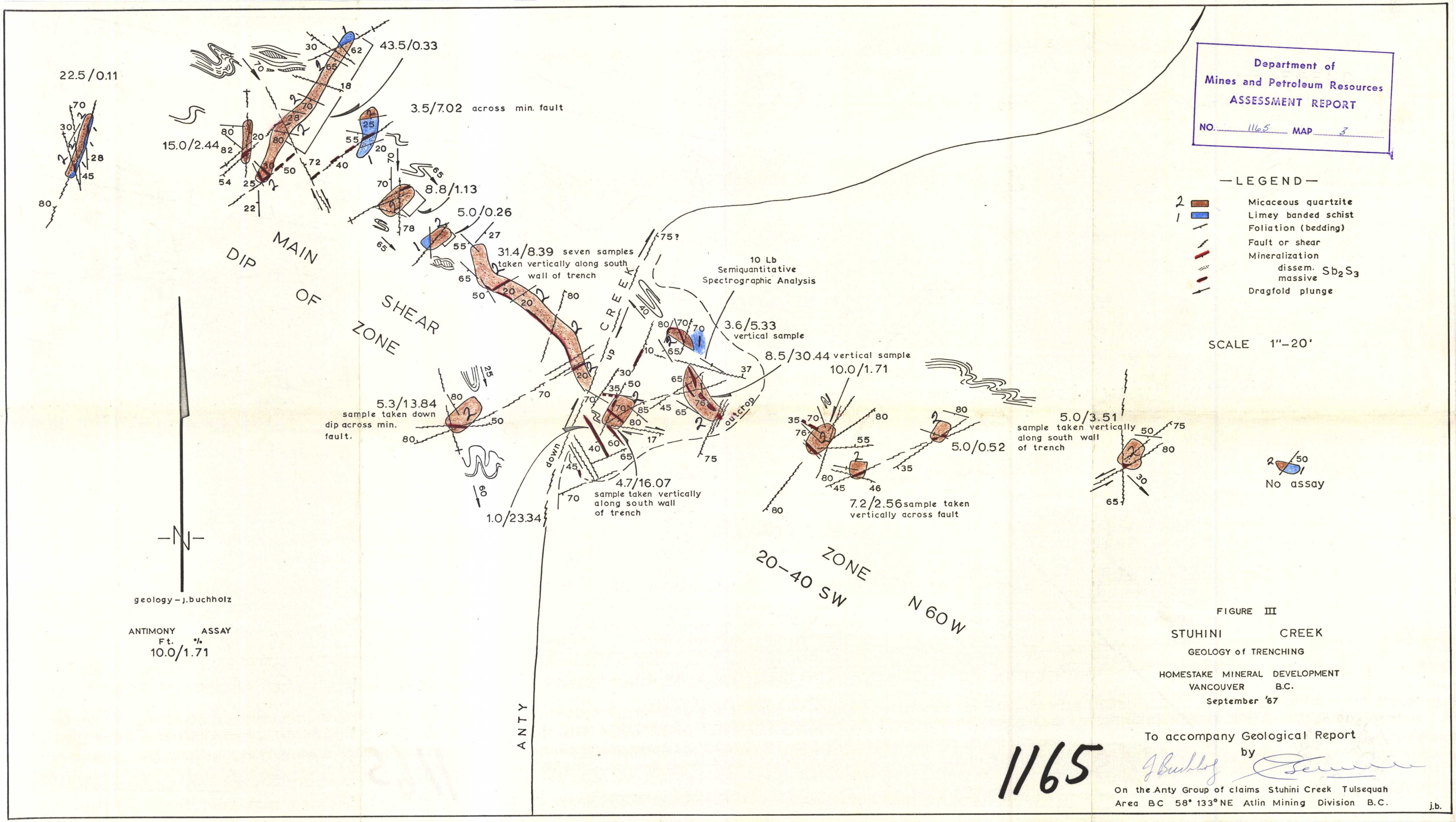


FIGURE III

STUHINI CREEK

GEOLOGY of TRENCHING

HOMESTAKE MINERAL DEVELOPMENT
VANCOUVER B.C.
September '67

To accompany Geological Report
by
J Buchholz

On the Anty Group of claims Stuhini Creek Tulsequah
Area BC 58° 133° NE Atlin Mining Division B.C.

1165

TAKU RIVER

Stuhini Creek

ANTY 6 | ANTY 5 | ANTY 2 | ANTY 1 | ANTY 10 | ANTY 9 | ANTY 8 | ANTY 7 | ANTY 4 | ANTY 3

Little or no outcrop

Snow and ice

SEE FIGURE 3

— LEGEND —

COAST RANGE
- 4 Granite sill
- 3 Micaceous quartzite

PRE-PERMIAN
- 2 Limey banded schist
- 1 Andesite

Foliation
Jointing
Geological boundary
Fault or shear
Trail
Claim line boundary
O7 Photo point
Mineralization
40 Plunge of drag fold
S 21 Soil sample station
Fold type
X4 Specimen location

FIGURE IV

SCALE AND ELEVATION DATUM BASED ON LIMITED GROUND CONTROL RESULTING IN GOOD RELATIVE, BUT UNCERTAIN ABSOLUTE MAP ACCURACY

COMPILED FROM AERIAL PHOTOGRAPHY AT AN APPROXIMATE SCALE OF 1 INCH EQUALS 400 FEET FLOWN IN 1949

To accompany Geological Report
by
J Buchholz

On the Anty Group of claims Stuhini Creek Tulsequah Area B C 58° 133° NE Atlin Mining Division B.C.

GEOLOGY J BUCHHOLZ

HOMESTAKE MINERAL DEVELOPEMENT CO.

Stuhini Creek

PRELIMINARY RECONNAISSANCE TYPE MAPPING

Compiled by
McELHANNEY SURVEYING & ENGINEERING LTD.
1200 West Pender St. Vancouver, B.C.

SCALE	CONTOUR INTERVAL	DATE	JOB NO.	SHEET NO.
1"– 550'	25 FEET	AUGUST, 1967	5170	1 of 1

1165