L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING AND GEOLOGICAL ENGINEERS
610—355 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
688-5501

RESIDENTIAL PHONE:
L. J. MANNING - 988-0030

TO ACCOMPANY MME FORM 40
APPLICATION FOR FINANCIAL ASSISTANCE
IN MINERALS EXPLORATION

1. FINANCIAL ELIGIBILITY

(a) This section of the application is to be provided by Cantu Mineral Association.

(b) This section of the application is to be provided by Cantu Mineral Association

(c) This section of the application is to be provided by Cantu Mineral Association.

To Accompany MME Form 40
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In Minerals Exploration.

2. APPLICANT'S RIGHTS IN LAND

(a) The interest in the land and mineral rights of Cantu Mineral Association is that of lessee under a Purchase Option and Mining Lease agreement dated December 8, 1969. A true copy of this agreement is submitted herewith as an integral part of this application.

The writer knows of no liens, mortgages, or other encumbrances on the property as of this date (September 15, 1970) but has not made a search for such encumbrances.

(b) The following detail described the land to be explored:

Claim Name	Town-Ship	Range	Sect.	Description	Book	Page	Recorded
Stibnite #1	2 North	1 West(FM)	14	SW½ of SW¼	XIII	240	Fairbanks
Stibnite #2	2 North	1 West(FM)	14	NW¼ of SW¼	XIII	241	Fairbanks
Stibnite #3	2 North	1 West(FM)	14	SW¼ of NW¼	XIII	242	Fairbanks
Stibnite #4	2 North	1 West(FM)	14	NW¼ of NW¼	XIII	253	Fairbanks
Eagle No. 24	2 North	1 West(FM)	15	S½ of SW¼ of SW¼	XI	49	Fairbanks
Eagle No. 25	2 North	1 West(FM)	15	N½ of SW¼ of SW¼	XI	50	Fairbanks
Stibnite #5	2 North	1 West(FM)	15	SE¼ of SE¼	XIV	112	Fairbanks
Stibnite #6	2 North	1 West(FM)	15	SW¼ of SE¼	XIV	113	Fairbanks
Stibnite #7	2 North	1 West(FM)	15	SE¼ of SW¼	XIV	114	Fairbanks
Stibnite #18	2 North	1 West(FM)	15	NE¼ of NE¼	XIV	125	Fairbanks
Stibnite #19	2 North	1 West(FM)	15	NW¼ of NE¼	XIV	126	Fairbanks
Stibnite #20	2 North	1 West(FM)	15	NE¼ of NW¼	XIV	127	Fairbanks
Stibnite #21	2 North	1 West(FM)	15	NW¼ of NW¼	XIV	128	Fairbanks
Eagle Lode #48	2 North	1 West(FM)	15	NW¼ of SW¼	XII	41	Fairbanks
Eagle Lode #49	2 North	1 West(FM)	15	NE¼ of SW¼	XII	42	Fairbanks
Eagle #50	2 North	1 West(FM)	15	NW¼ of SE¼	XII	43	Fairbanks
Eagle #51	2 North	1 West(FM)	15	NE¼ of SE¼	XII	44	Fairbanks
Eagle #52	2 North	1 West(FM)	15	SW¼ of NW¼	XII	45	Fairbanks
Eagle #53	2 North	1 West(FM)	15	SE¼ of NW¼	XII	46	Fairbanks
Eagle #54	2 North	1 West(FM)	15	SW¼ of NE¼	XII	47	Fairbanks
Eagle #55	2 North	1 West(FM)	15	SE¼ of NE¼	XII	48	Fairbanks

Claim Name	Town-Ship	Range	Sect.	Description	Book	Page	Recorded
Stibnite #22	2 North	1 West(FM)	16	NE¼ of NE¼	XIV	129	Fairbanks
Stibnite #23	2 North	1 West(FM)	16	NW¼ of NW¼	XIV	130	Fairbanks
Black Eagle #9	2 North	1 West(FM)	16	SW¼ of NW¼	XIV	135	Fairbanks
Black Eagle #11	2 North	1 West(FM)	16	SE¼ of NE¼	XIV	136	Fairbanks
Eagle #29	2 North	1 West(FM)	16	SW¼ of NE¼	XI	54	Fairbanks
Eagle #30	2 North	1 West(FM)	16	NW¼ of NE¼	XI	55	Fairbanks
Eagle #31	2 North	1 West(FM)	16	NE¼ of NW¼	XI	56	Fairbanks
Eagle #32	2 North	1 West(FM)	16	SE¼ of NW¼	XI	57	Fairbanks
Eagle #5	2 North	1 West(FM)	16	NE¼ of SE¼	XXXIII	210	Fairbanks
Eagle #6	2 North	1 West(FM)	16	NW¼ of SE¼	XXXIII	211	Fairbanks
Eagle #7	2 North	1 West(FM)	16	NE¼ of SW¼	XXXIII	212	Fairbanks
Eagle #8	2 North	1 West(FM)	16	NW¼ of SW¼	XXXIII	213	Fairbanks
Eagle #9	2 North	1 West(FM)	16	SE¼ of SE¼	XXXIII	214	Fairbanks
Eagle #10	2 North	1 West(FM)	16	SW¼ of SE¼	XXXIII	215	Fairbanks
Eagle #11	2 North	1 West(FM)	16	SE¼ of SW¼	XXXIII	216	Fairbanks
Eagle #12	2 North	1 West(FM)	16	SW¼ of SW¼	XXXIII	217	Fairbanks
Eagle #40	2 North	1 West(FM)	17	NE¼ of SE¼	XII	33	Fairbanks
Eagle #41	2 North	1 West(FM)	17	NW¼ of SE¼	XII	34	Fairbanks
Eagle #42	2 North	1 West(FM)	17	NE¼ of SW¼	XII	35	Fairbanks
Eagle #43	2 North	1 West(FM)	17	NW¼ of SW¼	XII	36	Fairbanks
Eagle #44	2 North	1 West(FM)	17	SE¼ of NW¼	XII	37	Fairbanks
Eagle #45	2 North	1 West(FM)	17	SW¼ of NE¼	XII	38	Fairbanks
Eagle #46	2 North	1 West(FM)	17	SE¼ of NW¼	XII	39	Fairbanks
Eagle #47	2 North	1 West(FM)	17	SW¼ of NW¼	XII	40	Fairbanks
Eagle #56	2 North	1 West(FM)	17	SW¼ of SW¼	XII	49	Fairbanks
Eagle #57	2 North	1 West(FM)	17	SE¼ of SW¼	XII	50	Fairbanks
Eagle #58	2 North	1 West(FM)	17	SW¼ of SE¼	XII	51	Fairbanks
Eagle #58	2 North	1 West(FM)	17	SE¼ of SE¼	XII	52	Fairbanks
Stibnite #24	2 North	1 West(FM)	17	NE¼ of NE¼	XIV	131	Fairbanks
Stibnite #25	2 North	1 West(FM)	17	NW¼ of NE¼	XIV	132	Fairbanks
Stibnite #26	2 North	1 West(FM)	17	NE¼ of NW¼	XIV	133	Fairbanks
Stibnite #27	2 North	1 West(FM)	17	NW¼ of NW¼	XIV	134	Fairbanks
Antimony Ridge #13	2 North	1 West(FM)	20	NE¼ of NE¼	XII	25	Fairbanks
Antimony Ridge #14	2 North	1 West(FM)	20	NW¼ of NE¼	XII	26	Fairbanks
Antimony Ridge #15	2 North	1 West(FM)	20	NE¼ of NW¼	XII	27	Fairbanks
Antimony Ridge #16	2 North	1 West(FM)	20	NW¼ of NW¼	XII	28	Fairbanks
Antimony Ridge #17	2 North	1 West(FM)	20	SW¼ of NW¼	XII	29	Fairbanks
Antimony Ridge #18	2 North	1 West(FM)	20	SE¼ of NW¼	XII	30	Fairbanks

Claim Name	Town-Ship	Range	Sect.	Description	Book	Page	Recorded
Antimony Ridge #19	2 North	1 West(FM)	20	SW¼ of NE¼	XII	31	Fairbanks
Antimony Ridge #20	2 North	1 West(FM)	20	SE¼ of NE¼	XII	32	Fairbanks
Antimony Ridge #9	2 North	1 West(FM)	21	SE¼ of NE¼	XII	21	Fairbanks
Antimony Ridge #10	2 North	1 West(FM)	21	SW¼ of NE¼	XII	22	Fairbanks
Antimony Ridge #11	2 North	1 West(FM)	21	SE¼ of NW¼	XII	23	Fairbanks
Antimony Ridge #12	2 North	1 West(FM)	21	SW¼ of NW¼	XII	24	Fairbanks
Antimony Ridge #1	2 North	1 West(FM)	21	N½ of NE¼ of NE¼	XXXIII	218	Fairbanks
Antimony Ridge #2	2 North	1 West(FM)	21	S½ of NE¼ of NE¼	XXXIII	219	Fairbanks
Antimony Ridge #3	2 North	1 West(FM)	21	N½ of NW¼ of NE¼	XXXIII	220	Fairbanks
Antimony Ridge #4	2 North	1 West(FM)	21	S½ of NW¼ of NE¼	XXXIII	221	Fairbanks
Antimony Ridge #5	2 North	1 West(FM)	21	N½ of NE¼ of NW¼	XXXIII	222	Fairbanks
Antimony Ridge #6	2 North	1 West(FM)	21	S½ of NE¼ of NW¼	XXXIII	223	Fairbanks
Antimony Ridge #7	2 North	1 West(FM)	21	N½ of NW¼ of NW¼	XXXIII	224	Fairbanks
Antimony Ridge #8	2 North	1 West(FM)	21	S½ of NW¼ of NW¼	XXXIII	225	Fairbanks
Stibnite #8	2 North	1 West(FM)	22	NW¼ of NW¼	XIV	115	Fairbanks
Stibnite #9	2 North	1 West(FM)	22	NE¼ of NW¼	XIV	116	Fairbanks
Stibnite #10	2 North	1 West(FM)	22	NW¼ of NE¼	XIV	117	Fairbanks
Stibnite #11	2 North	1 West(FM)	22	NE¼ of NE¼	XIV	118	Fairbanks
Stibnite #12	2 North	1 West(FM)	22	SE¼ of NE¼	XIV	119	Fairbanks
Stibnite #13	2 North	1 West(FM)	22	SW¼ of NE¼	XIV	120	Fairbanks
Stibnite #14	2 North	1 West(FM)	22	SE¼ of NW¼	XIV	121	Fairbanks
Stibnite #15	2 North	1 West(FM)	22	SW¼ of NW¼	XIV	122	Fairbanks
Stibnite #16	2 North	1 West(FM)	23	NW¼ of NW¼	XIV	123	Fairbanks
Stibnite #17	2 North	1 West(FM)	23	SW¼ of NW¼	XIV	124	Fairbanks

It is not known by the writer whether any part of the land or workings should not be subject to royalty and liens.

The property has at different time been known under the following names:

- Scrafford Mine
- Black Eagle Mine
- Eagle Creek Mine
- Scrafford Antimony Prospect.

(c) Data to be supplied and section completed by Cantu Mineral Association personnel.

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3. PHYSICAL DESCRIPTION

(a) Our research on the property indicates previous mining and exploration history to consist of the following:

1. During 1915 E. L. Scrafford leased a group of claims, including the Chief and Sunrise, from Edward Quinn, one of the original owners. The Scrafford property, also known as the Black Eagle Mine, was systematically developed during 1915 by a crew of 25 men. The deposit was worked by an open cut along the vein which was extended into the hill by an adit about 75 feet long in September 1915. During the same period some stoping was done and a shaft sunk 20 feet. The antimony ore was broken and sorted by hand, then hoisted by a 3,000 foot long inclined cable tram to the top of the ridge to the location of the present highway. From the tram head the ore was hauled by teams to the railroad, a distance of $4\frac{1}{2}$ miles.

   The last work done, except for leasers sorting the dumps, was done in 1926 by R. C. Wood, who drove the main tunnel in 300 feet and shipped a total of about 1,500 tons of sorted ore.

   The above data was taken from U. S. Geological Bulletins.

   The claims lapsed and were restaked during July 1964 by Messrs. Taylor and O'Harra.

   - Quoted from H.L. Hill report dated January 25, 1965.

2. Exploration work by Silver Ridge Mining Company in 1964 accomplished the following:

   Silver Ridge Mining Company completed a short access road and a limited amount of trenching at a cost of about $6,500 before work was suspended due to weather conditions. Trenching work was successful in locating the western extension of the No. 1 vein which, in one open cut, averaged 30% antimony over a width of 2.3 feet.

A new vein (No. 2) was also discovered adjacent to the highway, which averaged 25.8% antimony over a width of 3.0 feet. Neither the full width, length nor depth of the No. 1 or No. 2 veins has been determined.

- Quoted from H. L. Hill report dated January 25, 1965

See sketches of #1 and #2 vein accompanying report of Henry L. Hill dated January 25, 1965.

3. Further work by Silver Ridge Mining Company in 1965 included:

   i. A 35 ft. test shaft on vein #2 (Antimony Ridge claim #5) including drift rounds of 8 feet to the east and 5 feet to the west from the bottom of the shaft.

   ii. A shaft was sunk to at least 20' on the #1 Vein. This shaft hit an old drift 20 feet from the collar which gave indications that it had been used for production as well as exploration.

   Stripping 130 feet to the west of the shaft was begun. Results of this work are unknown.

   iii. A cross-cut 60 feet x 14 feet x 20 feet deep was made by drilling, blasting, and bulldozing. A test shaft (#3 Test shaft) 6' x 10' was collared within this cut by raising a 15 foot crib and sinking within the crib. This shaft was sunk to 39 feet during July 1965. Verbal discussion with John Millette, property superintendent at the time, indicates that the shaft was deepened to about 80 feet where it encountered the rail from the Main Adit. No further reports are available.

Work reported(under (a)3 above) is briefly described in the following progress reports which are included with this application.

Progress Report Summary, July 1-31, 1965
To: H. L. Hill and Associates
From: J. Millette

Progress Report Summary, June 1-30, 1965
To: H. L. Hill and Associates
From: J. Millette

An excerpt from a letter by L. J. Manning of Hill,Manning and Associates dated June 2, 1966 briefly summarizes the foregoing program and notes why the option was dropped by Silver Ridge. This excerpt is quoted below in full:

"Your company completed shaft sinking and development on the Eagle Creek Antimony deposit near Fairbanks, Alaska sufficient to prove 3,200 tons of ore grading 20.6% antimony. Possibilities of developing much larger tonnages exist. Studies and market research continued into the fall of 1965 and spring of 1966 revealed a floor price for antimony was unobtainable under deteriorating market conditions and the option was allowed to lapse."

Exploration work commencing in 1970 and being carried out by Cantu Mineral Association consists of the following:

"In summary 180 feet of adit work have been completed underground, 170 feet of #2 vein have been exposed by contiguous surface stripping, 2750 of #1 vein have been exposed by 12 trenches spaced at various intervals and a new vein, #4 vein, has been exposed by one trench for a total of 13 trenches which at approximately 150 feet per trench approaches 2,000 feet of trenching. In addition, approximately 200 feet of trenching were completed during the winter air track attempt on vein #1."

- Quoted from L. J. Manning & S. S. Tan Report of July 7, 1970.

In addition a geochemical sampling program was undertaken involving:

- in excess of 38 line miles of traverse utilizing a 200 x 400' grid with samples taken every 200 feet.

- Approximately 1,600 samples taken and assayed for Cu, Sb, As.

- Approximately 180 back-up samples taken at 50 foot intervals to determine more closely anomalous areas each assayed for Cu, Sb, As.

Current mine workings include reclamation of old dumps, some surface mining of veins exposed by trenching and re-sorting of ore previously hand-picked and loaded in barrels.

Ore mined or recovered by these methods is currently being trucked to a leased mill at Fox for concentration by jigging and tabling and then sacked for shipment.

(b) The current interests of Cantu Mineral Association are best described and detailed in the purchase-option agreement between Cantu and the present owners of the property dated December 8 1969.

A copy of this agreement is an integral part of the pertinent data accompanying this application.

(c) Production History:

During 1915 E. L. Scrafford leased a group of claims, including the Chief and Sunrise, from Edward Quinn, one of the original owners. The Scrafford property, also known as the Black Eagle Mine, was systematically developed during 1915 by a crew of 25 men. The deposit was worked by an open cut along the vein which was extended into the hill by an adit about 75 feet long in September 1915. During the same period some stoping was done and a shaft sunk 20 feet. The antimony ore was broken and sorted by hand, then hoisted by a 3,000 foot long inclined cable tram to the top of the ridge to the location of the present highway. From the tram head the ore was hauled by teams to the railroad, a distance of 4½ miles.

The last work done, except for leasers sorting the dumps, was done in 1926 by R. C. Wood, who drove the main tunnel in 300 feet and shipped a total of about 1,500 tons of sorted ore.

The above data was taken from U. S. Geological Bulletins.

The claims lapsed and were restaked during July 1964 by Messrs. Taylor and O'Harra.

- Quoted from H. L. Hill report dated January 25, 1965.

Old reports indicate that some 1,500 tons of 60%+ antimony was shipped from one area of the No. 1 vein, presumably in the vicinity of the cross-cut presently being cleaned out. Other than written descriptions, no plans exist with sufficient detail to enable a correct economic evaluation of this and other described veins. An attempt in 1965 under the direction of H. L. Hill and Associates Ltd., predecessor of the writer's company, was made to do this while recovering sufficient ore to "pay as you go". This attempt was frustrated by an early decline in the open market and the subsequent inability to obtain a high enough floor price to permit further evaluation of the property at that time. This work resulted in the

collaring of four winzes, three on the No. 1 vein and one on the No. 2 vein with the completion of only one winze from the surface to the track level (approximately 90 feet) through what was later thought to be re-frozen, low-grade vein material left by the high graders or used as fill. These three shafts, spread over a distance of approximately 500 feet of strike length, indicate a reasonably consistant width of about 5 feet of material of unknown grade. Dump material on the surface just downhill from the vein exposure in the first 300 feet west of the creek appears to be the tailings or rejects from early high grading and screening operations. This material appears to run a relatively consistent 12 to 16 per cent antimony. The antimony appears to be contained in small particles of relatively pure stibnite, massive samples of which run consistently over 60% antimony surrounded by layers of oxide material. It is roughly estimated that 5 to 10 per cent only of the total antimony value would be contained in this oxide material.

Previous reports state that the vein is traceable for 3,000 feet though again no maps showing actual outcrop or float findings to confirm this written statement are available.

Recent production from the property has consisted of 62 tons of bagged antimony ore estimated at 60%+; 103 tons of 12 to 16%; 220 tons of 12 to 16% presently being shipped; all to Hibino Metals, totalling 385 tons. In addition, a shipment of 120 tons of the 12 to 16% dump material has been shipped to Laredo, Texas as a test shipment. Total shipments--505 tons. An additional 49 sacks of lump stibnite are awaiting trucking to Fairbanks; at 160 pounds each, equals 3.9 tons.

- Quoted from L. J. Manning report dated March 31, 1970.

Current production by Cantu Mineral Association is detailed and confirmed as follows--supported by Bills of Lading.

Feb. 13, 1970	206,960#	Japan
Feb. 28, 1970	37,845#	Japan
March 14, 1970	40,170	Japan
March 26, 1970	115,580	Laredo, Texas
March 26, 1970	113,190	Texas
March 21, 1970	40,240	Japan
April 28, 1970	238,050	Japan
June 29, 1970	487,210	Japan
June 30, 1970	277,390	Japan
Gross Wt. =	1,556,635	
Gross Wt. =	778.317 short tons	

No settlement sheets have been made available to this office

(d) Known ore reserves as suggested by surface work are best described by Table 4 in the accompanying report by L. J. Manning and Associates dated August 5, 1970.

This table shows a surface indication of probable ore amounting to 953 tons per vertical foot at a grade of 11.3% antimony.

(e) The geological features of the property are best described in the following listed reports and their associated drawings or sketches:

1. Report by H. L. Hill and Associates dated January 25, 1965. See pages 4 and 5 and map included in report.

2. Report by L. J. Manning & Associates dated July 7, 1970. See pages 7, 8, 9 and accompanying drawings --Dwgs. 3, 4, 5, 10.

3. Report by L. J. Manning & Associates dated August 5, 1970.

(f) Although sampling proceedures utilized during the 1964-65 exploration campaign are not precisely described, our records contain an abundance of assay certificates and assays applicable to this work. Our knowledge of the work substantiated in part by reports of Henry Hill and Associates, suggests that sampling involved both channel and chip samples. Where underground exploration was conducted muck samples have also been reported.

The 1970 exploration program carried on under the technical supervision of L. J. Manning and Associates has involved channel samples of vein exposures almost exclusively.

Assay maps accompanying reports by L. J. Manning and Associates dated July 7, 1970 and August 5, 1970 show sampled areas in detail together with the sample numbers and antimony assays.

Copies of assay certificates are included as an integral part of this application.

We believe that exploration work done by competent professionals during the 1964-65 and 1970 campaigns together with the history of production of the property provides every indication that ore in commercial quantities can be found on the property.

(g) Two copies of each of the following listed reports are being forwarded as an integral part of this application. Since we have retained the original reports we do not require return of the data being forwarded.

1. Report on the Eagle Creek Antimony Mine
   Fairbanks, Alaska
   H. L. Hill and Associates Ltd.
   dated January 25, 1965.

2. Report on an Examination of the Eagle Creek Property
   16 miles North of Fairbanks, Alaska
   for Cantu Minerals Association
   L. J. Manning P Eng.
   dated March 70

3. Cantu Mineral Association
   Progress Report on Work Completed to June 23rd, 1970
   Scrafford Antimony Property, Eagle Creek Area,
   Fairbanks, Alaska
   by L. J. Manning, P.Eng. and S. S. Tan, B.Sc., E.I.T.
   dated July 7, 1970

4. Cantu Mineral Association
   Progress Report to 1st August, 1970
   Fairbanks Antimony Property
   Addendum to Report Completed to 23rd June, 1970
   by L. J. Manning & Associates Ltd.
   dated August 5, 1970

5. Report on Silver Ridge Mining Company
   Nelson, B. C.
   by Henry L. Hill
   dated April 13, 1965

6. Report to President and Directors,
   Silver Ridge Mining Co. Ltd.,
   Nelson, B. C.
   by H. L. Hill
   dated July 9, 1965

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4. ACCESSIBILITY OF PROPERTY

Should an OME representative examine the property he will be met by:

Mr. D. W. Shepherd, Rewak Apartments, Fairbanks, Alaska Phone 907-456-5050	or	Mr. D. W. Shepherd, 14633 Ambaum Blvd. S.W. Seattle, Washington 98166 Phone 206-248-1330

or

Mr. D. E. Ashbrook, Rewak Apartments, Fairbanks, Alaska, Phone 907-479-6174	or	Mr. D. E. Ashbrook, Tacoma, Washington Phone 206-272-4009

Prior to contacting either party the Seattle office of Cantu Mineral Association should be notified.

The property is located about Latitude 65°00'N and Longitude 147°46'W as shown on Drawing No. 1 in L. J. Manning report:

Cantu Mineral Association
Progress Report on Work
Completed to June 23rd, 1970
Scrafford Antimony Property
Eagle Creek Area, Fairbanks, Alaska
by L. J. Manning, P.Eng. & S.S.Tan, B.Sc., E.I.T.
dated July 7, 1970.

Access is by travelling North from Fairbanks eleven miles up the paved Steese Highway to Fox (present location of the mill). From Fox the mine is reached by travelling north along the well-gravelled Elliott Highway for 3½ miles to the Murphy Dome Road and west on the Murphy Dome Road for an additional 3½ miles to the No. 2 vein which is adjacent to the road and easily identified by the obvious workings.

The No. 1 vein workings are one-half mile due north of the No. 2 vein workings between the east and west forks of Eagle Creek at an elevation of 1,100 feet. The No. 1 vein adit lies almost in the east fork of the creek.

(b) The property (as noted in (a) above) is approximately 18 road miles from Fairbanks, Alaska.

Fairbanks, a city of 16,500 people is well services by roads, a government subsidized railroad, and complete modern airport facilities. The city is specifically serviced by the Alaska Highway, roads to the ports of Seward and Anchorage, by railroad to these same ports, and by several jet flights daily from Seattle.

5. EXPLORATION WORK

(a) Proposed exploration work consists of the following:

1. Trenching to establish the physical, mineralogical characteristics, and continuity of various veins.

   This work involves trenching and/or stripping as noted:

   #1 Vein - trenches 2 thru 7 involving a total of 6830 cubic yards of excavation.

   #2 Vein - stripping and trenches 23 and 24 involving a total of 7560 cubic yards of excavation.

   #3 Vein - Trenches 21 thru 36 involving 20,600 cubic yards of excavation.

   #4 Vein - trench 41 involving a total of 1780 cubic yards of excavation.

2. A geochemical survey program to cover the entire property. This program should involve 38 line miles on a 200 ft. by 400 ft. grid with samples taken every 200 feet. Samples should be assayed for copper, antimony and arsenic.

3. Extend vein #1 to the full east-west limit of the quartzite beds by dozer trenching to establish the full thickness of these beds.

   This work involves two trenches (P12 and P27 on drawing 23) totalling 3560 cubic yards of material. The required excavation is hampered by the prevalent perma frost and/or the quagmire produced by melting during the summer months.

4. Extend vein #2 downhill to the north and south to expose the thickness of the flat-lying favourable beds found in this area.

   This work involves four trenches totalling 7120 cubic yards. Perma frost and/or quagmire conditions are prevalent in this area. (See P11, P13, P14, P28 on drawing 23).

5. Expose the best of the geochemical anomalies as soon as interpretations are complete and the report is available on this work.

   This work is expected to involve a total of 22 trenches (drawing 23) each of which involve moving approximately 1780 cubic yards of material under the same adverse conditions as noted above.

   In addition, this work is expected to require approximately four miles of access road.

6. Follow-up work on the trenching is anticipated to require approximately 3,000 feet of core drilling to confirm continuity of the favourable structure and values at depth. This drilling will probably involve 10 holes to a depth of about 300 feet each.

7. Depending on results of the trenching related to geochemical anomalies and possibly prior to drilling, a geophysical program is recommended. The program recommended is a high-frequency Electro-Magnetic survey to trace the extent and continuity of structure located by geochemical methods and confirmed by trenching. A vertical loop SE 300 E.M. system is recommended.

   The program is anticipated to require 38 line miles of traverse with readings taken at 100-ft. intervals on a 200 ft. grid covering the previous anomalous geochemical areas.

8. A preliminary metallurgical test program to confirm the physical feasibility of concentrating the ore. This program would involve preliminary beneficiation tests by conventional gravity and flotation methods, associated material balances and penalty impurities in the concentrate product.

9. Underground exploration of the best showing developed by previous work.

   This work should involve approximately 300 feet of inclined shaft sunk on the vein, approximately 200 feet of exploratory drift, and 300 feet of exploratory raises.

(b) It is anticipated that access tote roads will be necessary to reach anomalous areas developed by geochemical and geophysical surveys for trenching follow-up and to provide access for drill equipment to core drill selected areas.

Preliminary estimates based on all available data suggest that about four miles of tote road will be required.

It is believed that such road will require only dozer clearing of brush and small trees plus a thin top course of gravel. The terrain is such that no rock work and only a minimum of cut or fill is required. (See drawing 23).

(c) If the OME contract is executed it is believed the work will commence within one month and proceed continuously. The total program requires approximately 30 weeks.

Average daily rate for trenching = 640 Yds.3/day
Raod building rate - 6 days per mile
Core drilling rate - 150 feet per day.

Other programs to run concurrently, the above to run consecutively.

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6. EXPERIENCE

Attached are Certificates of Qualifications of the following personnel of L. J. Manning and Associates who may be involved in the exploration program.

L. J. Manning, B.A.Sc., P.Eng.
J. W. Hogan, B. A.Sc., P.Eng.
H. M. Thurgood, B.A. Sc., P.Eng.
S. S. Tan, B.Sc., E.I.T.

The qualifications of other key personnel (if any) who may be involved and selected by Cantu Mineral Association are described elsewhere in this application.

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7. ESTIMATE OF COSTS

(a) Independent Contracts:-

- Core Drilling--to be contracted
Requested quotations (by Cantu personnel) are currently outstanding.

Verbal quotations by Hatch Drilling Co. Inc., Fairbanks, Alaska, to personnel of L. J. Manning & Associates, however, indicate that the cost of drilling recommended under article 5(a) would approximate ten dollars ($10.00) per foot.

The recommended program would, therefore, cost approximately $30,000.

Estimated Cost, 3,000 ft. x $10 = $ 30,000

- Geochemical Survey--to be contracted.
It is recommended that this work be done on a "Preferred Contractor" basis with the contractor selected by L. J. Manning and Associates.

Costs for the work are estimated as follows:

Air fare - Vancouver-Fairbanks	$ 500
Food and Lodging $32 per man per day	1,408
Supervisor - 22 days @ $100	2,200
Senior Technician - 22 days @ $65	1,430
Helpers (2) - 22 days @ $40 x 2 men (local)	1,760
Vehicle - approx. 20 days @ $28/day	560
Materials	30
Analysis (Antimony, Arsenic, Copper)	5,500
Maps, reports, etc.	600
Sub.	$ 14,068
Contingency	1,407
Total	$ 15,475
Say	$ 15,500

Cost per line mile = $40

- Geophysical Survey--to be contracted.

It is recommended that this work be done on a "Preferred Contractor" basis with the contractor selected by L. J. Manning and Associates.

Costs for the work are estimated as follows:

Air Fare - Vancouver-Fairbanks	$ 500
Food and Lodging - $32 per man per day	1,664
Operator - 26 days @ $75	1,950
Operator assistant - 26 days @ $50	1,300
Helpers (2) 19 days @ $40 x 2 men, local	1,520
Equipment rental - 26 days @ $15	390
Vehicle - 26 days @ $28/day	728
Materials	30
Maps, reports, etc.	500
Sub Total	8,582
Add 10% Contingency	858
Total	9,440
Say	$ 9,440

Cost per line mile = $25

- Metallurgical Testing - to be contracted.

It is recommended that this work be done on a "Preferred Contractor" basis with the contractor being selected by L. J. Manning and Associates.

Costs for the work are based on tests to be completed on material from three selected areas and are estimated as follows:

Labour - approximately 100 hrs. @ $9	$ 900
Assays - approximately 50 samples for Sb, S, As, Pb, at avg. $6 each	1,200
Sub Total	$ 2,100
Add 10% contingency	210
Total	$ 2,310
Say	$ 2,300

- Underground Exploration

Four quotations were requested for this work per the specification attached.

The one quotation received to date (and attached) suggests that this work is (at present) too ambitious for the planned program.

Do not include.

- Stripping and Trenching

Portions of this category utilize rental equipment both with and without operator, are not considered contract jobs, and are detailed elsewhere.

(b) Personal Services:-

The estimated cost of personal services are listed as follows:

Classification	No.	Rate	Expenses	Travel	Category	Period of Employment	Program Cost
Project Mgr.	1	$2,000/ month	$200/Mo.	$ --	Salary	30 weeks	$15,230
Geologist (Consulting)	1	$ 100/ day	$ 40/Day	$250/Mo	Fee	30 weeks	21,115
Engineer (Consulting)	1	$ 150/ day	$ 40/day	$250/Mo	Fee	30 weeks	8,308
Bookkeeper-Accountant	1	$1,200/ Month	-	-	Salary	30 weeks	8,308
Geologist - 20 days/mo.							
Engineer - 5 days/mo.							
Air Trac. Driller	1	$ 50/ day	-	-	Daily *	61 days	3,050
Air Trac. Helper	1	$ 40/ day	-	-	Daily	61 days	2,440
Dozer Optr(D8H)	1	$ 50/ day	-	-	Daily	159 days	7,950
F.E. Loader Optr. (Cat 966)	1	-	with machine rental*			28 days	-
H.D. Mechanic	1	$ 50/ day			Daily	159 days	7,950
Labourers	3	$ 40/ day each			Daily	159 days	19,080

Personnel in the foregoing categories are available.

*Per letter of September 15, 1970 from Cantu Mineral Association.

(c) Operating Materials and Supplies:-
(d) Operating Equipment:-

The following is a compilation of data representing the above categories. These data were obtained from an "Equipment Ownership & Operating Cost" manual used and compiled by a major San Francisco Construction and Mining Co. The date of printing is listed as January 21, 1963 and stamped "confidential". The items noted below are as printed but have been escalated by a factor of 20% to cover the intervening period and differences inherent to Alaska conditions.

If required the writer (H. M. Thurgood, P.Eng., of L. J. Manning and Associates) should be contacted for further detail.

Item	Rental	Repair and Service Labor Hr.	Materials & Supplies Hr.	Pro Rated O'haul Hr.	Escalation Factor	Cost/Hour * $
Air Trac*1 & 600cfm	$2600/month	.84	1.64	1.06	1.2	3.24
Compressor		.25	1.20	.91	1.2	2.53
Bits, steel, explosives			6.00*2		-	6.00
D8H & dozer	$4000*1	1.04	1.34	5.26	1.2	7.92
Ripper Shank		.18	.37	.82	1.2	1.43
Wear Points	-	[illegible]	.26	-	1.2	.31
Cat 966 FE loader $40/hr.*3	$ 40/hr.	-	-	-	-	40.00
Pickups (3)*4 2 Jeep 1 Ford	[illegible]	.60	2.22	.51	1.2	3.28

Rental - monthly $6,600 @ 208 hrs/mo = $31.73/hr.
- Hourly (Cat 966) = $40.00

* Exclusive of Service & Repair labour applied elsewhere
*1 Rental cost supplied by Cantu Mineral Association
*2 Assume 20 ft/hr. 30¢ per foot drilled.
*3 All found with operator per Cantu Mineral Association
*4 Present fair market value $6,050
Gasoline - 40.5 cents per gallon - bulk delivery
Diesel fuel - 35.0 cents per gallon - bulk - non-highway
Power - not applicable
Water - not applicable

- #1 Vein Trenching

Trenches 2, 3, 4, 5		Est. Cost
Volume stripped	3,710 yds.3	$
Total time required	10 days	
Operating time Air-trac	40 hrs.	129.60
Operating time Compressor	50 hrs.	126.50
Operating time D8H	80 hrs.	772.80
Operating time Cat 966	80 hrs.	3,200.00
Operating time pickup	40 hrs.	131.20
Total footage drilled	800 feet	
Steel, powder, bits		240.00
Associated labour cost		6,042.20
Equipment Rental		2,538.40
Total		$ 13,180.70
Cost per yard excavated	$3.55	
Samples taken (by Geologist)	54	

- #1 Vein Trenching

Trench 6		Est. Cost
Volume stripped	1,780 yds.3	$
Total time required	2. days	
Operating time D8H	16 hrs.	154.56
Operating time Cat 966	16 hrs.	640.00
Operating time pickups	8 hrs.	26.24
Associated labour cost		1,028.48
Equipment rental		307.68
Total		$ 2,156.96
Cost per yard excavated	$1.21	
Samples taken (by Geologist)	10	

- #1 Vein Trenching

Trench 7		Est. Cost
Volume stripped	1,340 yds.^{3}	$
Total time required	3 days	
Operating time D8H	24 hrs.	231.84
Operating time pickups	12 hrs.	39.36
Associated labour cost		1,548.72
Equipment Rental		461.52
Total		$ 2,281.44
Cost per yard excavated	$1.70	
Samples taken (by Geologist)	6	

- Estimate of Trenching--Stripping Costs

#2 Vein Stripping		Est. Cost
Volume stripped	4,000 yds.^{3}	$
Total time required	16 days	
Operating time Air Trac	32 hrs.	103.68
Operating time Compressor	40 hrs.	101.20
Operating time D8H	128	1,236.48
Operating time Cat 966	128	5,120.00
Operating time pickups	64	207.36
Total footage	640	
Steel, powder, bits		192.00
Associated labour cost		9,667.84
Equipment rental		4,061.44
Total		$ 20,690.00
Cost per yard excavated	$5.17	
Samples taken (by Geologist)	32	

- #2 Vein Trenching

Trenches 23 and 24		Est. Cost
Volume stripped	3,560 yds.^{3}	$
Total time required	4 days	
Operating time D8H	32 hours	309.12
Operating time pickups	16 hours	52.48
Associated labour cost		2,056.96
Equipment Rental		615.36
Total		$ 3,033.92
Cost per yard excavated	$0.85	
Samples taken (by Geologist)	14	

- #3 Vein Trenching

Trenches 31, 32, 33, 34, 35, 36		Est. Cost
Volume stripped	20,600 yds.^{3}	$
Total time required	21 days	
Operating time D8H	168 hrs.	1,622.88
Operating time pickups	84 hrs.	275.52
Associated Labour cost		10,799.04
Equipment Rental		3,230.64
Total		$ 15,928.08
Cost per yard excavated =	$0.77	
Samples taken (by Geologist	13	

- #4 Vein Trenching

Trench 41		Est. Cost
Volume stripped	1,780 yds.^{3}	$
Total time required	5 days	
Operating time Air-trac	20 hrs.	64.80
Operating time compressor	25 hrs.	63.25
Operating time D8H	40 hrs.	386.40
Operating time pickups	20 hrs.	65.60
Total footage drilled	400 feet	
Steel, powder, bits		120.00
Associated labour cost		3,021.20
Equipment rental		1,259.20
Total		$ 4,990.45
Cost per yard excavated	$2.80	
Samples taken (by Geologist)	12	

- Trenching of Geochemical Anomalies

Trenches P1 thru P6		Est. Cost
Volume stripped	10,680	$
Total time required	30 days	
Operating time Air-trac	120	388.80
Operating time compressor	150	379.50
Operating time D8H	240	2,318.40
Operating time pickups	120	393.60
Total footage drilled	2,400	
Steel, powder, bits		720.00
Associated labour cost		18,127.20
Equipment rental		7,615.20
Total		$ 29,942.70
Cost per yard excavated	$2.80	
Samples taken (by Geologist)	40	

Trenches P7 thru P28		Est. Cost
Volume stripped	39,160 yds.^{3}	$
Total time required	44 days	
Operating time D8H	352 hrs.	3,400.32
Operating time pickups	196 hrs.	642.88
Associated Labour cost		22,626.56
Equipment rental		6,768.96
Total		$ 33,438.72
Cost per yard excavated	$0.85	
Samples taken (by Geologist)	152	

- Trenching Summary

Total cubic yards stripped all trenches	86,610
Total cost all stripping	$125,642.97
Weighted average cost per cubic yard	$ 1.45

Road Building Cost Estimate

Clearing of brush and small trees
(Trees under 6" diameter)

Estimate of D8H facility for clearing 1,200 yds.^{2} under favourable conditions*
Assume 25% efficiency due to permafrost, cold muskeg, etc.--300 yds.^{2}/hour.

- Road 12' wide = 75 yards road/hour
- Top dress with gravel 3" deep, approximately 10 feet wide = 500 yds.^{3} per mile.
- Assume spreading of top course at same rate as clearing (i.e. 75 lineal yards/hour)
- $\frac{1760}{75}$ = 23.5 hours dozer clearing per mile

- $\frac{1760}{75}$ = 23.5 hrs. spreading gravel per mile

Rental of dozer $4,000 per month

$4000 ÷ 208 hours/month -	19.23/hour
Operating and maintenance supplies	9.66/hour
Operating and repair labour @ $6.25/hr.	12.50/hour
Tractor-dozer cost per hour	41.39/hour
Tractor-dozer cost per mile of road	1,945.33
Top dressing @ $3.00 per yard^3 delivered	1,500.00
Total cost per mile of road	$3,445.33
Cost per 4 miles of road	$13,718.32

(Assumes no rock work, minimal cut & fill)

*Drevdahl - "Profitable Use of Excavation Equipment"

(e) Nil

(f) Nil

(g) Estimated cost of analytical work:-

(1)	Trench sampling 333 samples for Sb assay @ $7	$ 2,331
(2)	Core drilling 10 holes @ 10 assays per hole for Sb @ $7	700
	10 holes @ 3 assays per hole for S at $5	150
(3)	Metallurgical program Estimated under 7(a)	--
(4)	Geochemical program Estimated under 7(A)	--
	Estimated Total	$ 3,181

Estimated payroll burden

(a)	Labour (hourly)- road building	$ 2,350
(b)	Labour (Hourly)- trenching	35,190
(c)	Labour (salaried)- program	22,154
	Estimated Payroll total	59,694
	Gross Payroll, say	$ 60,000

Workmens compensation and employees liability insurance $3.63/$100	$ 2,178.00
Surcharge - 8% of 2,178	174.24
Payroll taxes FICA 9.6% of $60,000	5,760.00
Alaska unemployment 3.5% of $60,000	2,100.00
Alaska school tax $10 per employee/year = $10 x 8	80.00
Estimated payroll burden	$ 10,292.24
Say	$ 10,300.00

Summary of Costs:-

(a)	Core drilling	$ 30,000
(b)	Geochemical Survey	15,500
(c)	Geophysical Survey	9,440
(d)	Metallurgical testing	2,300
(e)	Stripping and trenching	125,643
(f)	Road building	13,718
(g)	Payroll burden	10,300
	Estimated Program Cost	$206,901

Respectfully submitted,

L. J. MANNING & ASSOCIATES LTD.

H. M. Thurgood, P.Eng.

HMT:mjb

TRUST COMPANY
1330 BOYLSTON STREET, CHESTNUT HILL (NEWTON), MASS. 02167 • (617) 969-9500

October 8, 1970

Cantu Mineral Association
c/o Mr. Jordan M. Friedman
1330 Boylston Street
Chestnut Hill, Mass. 02167

Gentlemen:

RE: Cantu Mineral Association
Partnership Property
Fairbanks, Alaska
Request for $250,000. loan

We regret that we are unable to be of assistance to you at the present time in the subject loan.

Perhaps at some time in the future we might be able to reconsider the request.

Very truly yours,

John J. Gaffey
Vice President

JJG:cd

June 15, 1970

Mr. John Caffey, V. P.
Garden City Trust Company
232 Boylston Street
Newton, Mass.

Dear Mr. Caffey:

As per our conversation last week, regarding the Cantu Mineral Association Partnership Property in Fairbank, Alaska.

As advised, we are in need of approximately $250,000 for a five (5) year period, interest only for two (2) years and reduction of principle together with interest the last three (3) years, for further development.

It is respectfully requested that you submit our application to your loan committee for approval.

Best personal regards. I remain,

Very truly yours,

Jordan M. Friedman

JMF:jd

I CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF A LETTER SENT AS ABOVE ON JUNE 15, 1970.

JORDAN M. FRIEDMAN

ARROW INVESTMENT CORPORATION
INVESTMENT BANKING
EQUITY FINANCING

HARRY LEHNER, PRESIDENT
HARRY D. GOLTIN, TREASURER

June 15, 1970

Mr. Jordan M. Friedman
Jordan M. Friedman & Associates
1330 Boylston Street
Chestnut Hill, Massachusetts 02167

Dear Mr. Friedman:

Please be advised that we are unable to meet your request for a $250,000.00 loan at this time. Although, we sincerely believe in your Antimony project.

It has been increasingly difficult for most SBIC's to make new funds available for loans of this size, mainly due to the tight money situation that exists today.

Let me take this opportunity to thank you for considering us and wish you luck in your going forward with the project.

Sincerely yours,

ARROW INVESTMENT CORP.

Harry Lehner

Harry Lehner
President

HL:kef

June 1, 1970

Mr. Harry Lehner
Arrow Investment Corporation
1061 Beacon Street
Brookline, Mass.

Dear Mr. Lehner:

It was nice meeting with your loan committee, wherein I requested in behalf of Cantu Mineral Association Partnership a $250,000 loan repayable interest only for two (2) years in reduction of principle together with interest over the last three (3) years.

I understand your loan committee will be meeting at the end of this week.

As explained to you, these funds are needed to further development of an Antimony Property in Fairbank, Alaska.

Thanking you for an answer as soon as possible I remain,

Very truly yours,

Jordan M. Friedman

JMF:jd

I CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF A LETTER SENT AS ABOVE ON JUNE 1, 1970.

JORDAN M. FRIEDMAN

From the desk of . . .

JORDAN M. FRIEDMAN

ATTACHED IS CURRENT PRODUCTION VERIFICATION AS PER PAGE 10.

Copy

Cantu Mineral Association
14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

NO: 00021

PROVISIONAL INVOICE

TO: OHGITANI KYOGO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATE: FEBRUARY 13, 1970
SHIPPED VIA: S.S. HONGKONG CLIPPER
FROM: TACOMA, WASHINGTON
TO: KOBE, JAPAN

TERMS: THE SUMITOMO BANK, LTD. L/C NO. G/FO-50104

QUANTITY	DESCRIPTION		WEIGHT	UNIT VALUE	PRICE
6	CONTAINERS ANTIMONY ORE 17%Sb		206,960 LBS.		$10,710.00
	CONTAINER NO.	SEAL NO.			
	CTIU 065532	794181			
	CTIU 062149	794180			
	CTIU 062037	794183			
	CTIU 065713	794184			
	CTIU 061381	794182			
	CTIU 061847	794185			

PROVISIONAL PAYMENT RECEIVED AS PER L/C 70% DRAW $7,487.22

IMPORT LICENSE NO. IL(O-AA)G(48)-00010
CONTRACT NO. CM-001

CANTU MINERAL ASSOCIATION

BY _____
AUTHORIZED SIGNATURE

THESE COMMODITIES LICENSED BY U. S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U. S. LAW PROHIBITED.

INVOICE

Cantu Mineral Association

14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

NO: 0001

TO: OHGITANI KYOGO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATE: FEBRUARY 28, 1970
SHIPPED VIA: M.S. PORTUGAL MARU
FROM: SEATTLE, WASHINGTON
TO: NAGOYA, JAPAN

TERMS: THE SUMITOMO BANK, LTD. L/C NO. G/FO-50104

QUANTITY	DESCRIPTION	WEIGHT	UNIT VALUE	PRICE
212	BAGS ANTIMONY ORE 31.6%	37845 LBS. 526.107 UNITS	$13.60	$7,155.06

CIF NAGOYA

IMPORT LICENSE NO. IL(O-AA)G(48)-00010

CONTRACT NO. CH-001

CANTU MINERAL ASSOCIATION

BY _____
AUTHORIZED SIGNATURE

THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

Cantu Mineral Association

14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

No.: 0004

PROVISIONAL INVOICE

TO: OHGITANI TOGYO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATED: MARCH 21, 1970
SHIPPED VIA: S.S. CANADA MAIL
FROM: SEATTLE, WASHINGTON
TO: NAGOYA, JAPAN

TERMS: THE SUMITOMO BANK, LTD., L/C NO. G/FO-50104

QUANTITY	DESCRIPTION	WEIGHT	UNIT VALUE	PRICE
269	BAGS ANTIMONY ORE	20.12 Ton 40,240 LBS. 766.613 UNITS	$19.85	$15,217.28
42% Sb				
PROVISIONAL PAYMENT RECEIVED AS PER L/C		70% DRAW		$10,652.10

IMPORT LICENSE NO. IL(O-AA)G(48)-00010

CONTRACT NO. CH-001

CANTU MINERAL ASSOCIATION

BY _____
AUTHORIZED SIGNATURE

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Cantu Mineral Association

14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

NO. 0003

TO: OHGITANI KOGYO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATE: MARCH 14, 1970
SHIPPED VIA: M.S. JAPAN AMBASSADOR
FROM: SEATTLE, WASHINGTON
TO: NAGOYO, JAPAN

TERMS: THE SUMITOMO BANK, LTD. L/C NO. G/FO-50104

QUANTITY	DESCRIPTION	WEIGHT	UNIT VALUE	PRICE
255	BAGS ANTIMONY ORE	40170 LBS. 765.278 UNITS	$19.85 CIF NAGOYA	$15,190.77

IMPORT LICENSE NO. IL(O-AA)G(48)-00010

CONTRACT NO. CH-001

CANTU MINERAL ASSOCIATION

BY _____

THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

Cantu Mineral Association

14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

NO.: 0006

TO:

OHGITANI KOGYO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATED: JUNE 29, 1970
SHIPPED VIA: M.S. GOLDEN ARROW
FROM: SEATTLE, WASHINGTON
TO: NAGOYA, JAPAN

TERMS: THE SUMITOMO BANK, LTD., L/C NO. G/FO-50104

QUANTITY	DESCRIPTION	WEIGHT	UNIT VALUE	PRICE
13	CONTAINERS ANTIMONY ORE IN BULK	487,210 LBS. 6740.4086 UNITS	$19.965	$134,572.26
			70%	94,200.58
			LESS AMOUNT SHORT L/C	29,499.72
				$ 64,700.86

IMPORT LICENSE NO. IL(O-AA)G(48)-00010

CONTRACT NO. CH-001

CONTAINER NOS.:

MOLU 261016	MOLU 265146
MOLU 261276	MOLU 2652421
MOLU 261234	MOLU 260053
MOLU 261344	MOLU 2671069
MOLU 261062	MOLU 265099
MOLU 261054	MOLU 265014
MOLU 2615223	

CANTU MINERAL ASSOCIATION

BY _____
AUTHORIZED SIGNATURE

THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

ORIGINAL

Cantu Mineral Association
14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

NO.: 0007

TO: OMGITANI KOGYO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATED: JUNE 30, 1970
SHIPPED VIA: M.S. MOGAMISAN MARU
FROM: SEATTLE, WASHINGTON
TO: NAGOYA, JAPAN

TERMS: MONEYS DUE TO BE PAID AT TIME OF FINAL OUTTURN AS PER CONTRACT CH001

QUANTITY	DESCRIPTION	WEIGHT	UNIT VALUE	PRICE
7	CONTAINERS ANTIMONY ORE IN BULK	277,390 LBS. 3837.6099	19.965	$76,617.88

IMPORT LICENSE NO. IL(0-AA)G(48)00010

CONTRACT NO. CH001

CONTAINER NOS.

MOLU 265150
MOLU 2652471
MOLU 261176
MOLU 260056
MOLU 261128
MOLU 261033
MOLU 261186

CANTU MINERAL ASSOCIATION

BY _____
AUTHORIZED SIGNATURE

THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

TEXAS MINING AND SMELTING DIVISION
OF NATIONAL LEAD COMPANY
P. O. Box 580
LAREDO, TEXAS

No. CMA 4-1

ORE SETTLEMENT SHEET

Mix Reference Bed 673 Date April 27, 1970

Shipper Cantu Mineral Association

Lot Number	Car Initials Number	Ex-car Initials Number	Type of Ore	Date Received
03-CMA-70-1	SP 223756		Coarse	4-21

WEIGHTS

Gross Wgt. _____ Kgs.
Gross Wgt. _____ Lbs.
Tare (Actual) _____ Lbs.
(Marked) _____ Lbs.
Net Weight 113,190 Lbs.
Moisture 7.6 %
Dry Weight 104,588 Lbs.

PRICE

5 % Ore Pays per Short Ton. Unit $ 14.70
Plus Assay Adjustment 4.5 % at $ .40 1.80
_____ at _____
Total Price per Short Ton Unit $ 16.50

VALUE

496.80 Short Ton Units Sb. at above price $ 8,197.20
Add or Deduct _____
_____

Gross Liquidation $ 8,197.20

ANALYSIS

	Assay %	Contents Lbs.
Sb	9.5	9,936
As		
Pb		
SiO_2		
$CaCO_3$		
Fe_2O_3		
S		
Al_2O_3		
Other		

DEDUCTIONS:

Advances Documentation

Collected U. S. Customs R H & D _____

$ _____ $ _____ $ _____ $ _____ $ _____

NET SETTLEMENT $ 8,197.20

Made By EAD
Checked By _____

TEXAS MINING AND SMELTING DIVISION
OF NATIONAL LEAD COMPANY

By _____

COMMERCIAL LB 3

TEXAS MINING AND SMELTING DIVISION
OF NATIONAL LEAD COMPANY
P. O. Box 559
LAREDO, TEXAS

No. CMA 4-2

ORE SETTLEMENT SHEET

Mix Reference Bed 674 Date April 27, 1970

Shipper Cantu Mineral Association

Lot Number	Car Initials Number	Ex-car Initials Number	Type of Ore	Date Received
CS-CMA-70-2	EL 63619		Coarse	4-22

WEIGHTS

Gross Wgt. _____ Kgs.

Gross Wgt. _____ Lbs.

Tare (Actual) _____ Lbs.

(Marked) _____ Lbs.

Net Weight 115,560 Lbs.

Moisture 6.1 %

Dry Weight 108,183 Lbs.

PRICE

10 % Ore Pays per Short Ton. Unit $ 16.70

Plus Assay Adjustment _____ % at $ _____

_____ at _____

Total Price per Short Ton Unit $ 16.70

VALUE

540.90 Short Ton Units Sb. at above price $ 9,033.03

Add or Deduct _____

Gross Liquidation $ 9,033.03

ANALYSIS

	Assay %	Contents Lbs.
Sb	10.0	10,818
As		
Pb		
SiO_2		
$CaCO_3$		
Fe_2O_3		
S		
Al_2O_3		
Other		

DEDUCTIONS:

Advances Documentation

Collected U. S. Customs R H & D _____

$ _____ $ _____ $ _____ $ _____ $ _____

NET SETTLEMENT $ 9,033.03

Made By EAD

Checked By _____

TEXAS MINING AND SMELTING DIVISION
OF NATIONAL LEAD COMPANY

By _____

COMMERCIAL LB 2

Cantu Mineral Association
14633 Ambaum Blvd. S. W.
Seattle, Washington 98166
(206) 248-1330

NO.: 0005

TO: OHGITANI TOGYO CO., LTD.
23 TOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

DATED: APRIL 28, 1970
SHIPPED VIA: M.S. NICHIWA MARU
FROM: VANCOUVER, WASHINGTON
TO: NAGOYA, JAPAN

TERMS: THE SUMITOMO BANK, LTD., L/C NO. G/FO-50104

QUANTITY	DESCRIPTION	WEIGHT	UNIT VALUE	PRICE
7	CONTAINERS ANTIMONY ORE IN BULK	238,050# 3185.3717 UNITS	$17.27	$55,011.37

CONTAINER NOS.:
CTIU 264588 CTIU 264546
CTIU 264669 CTIU 264749
CTIU 264751 CTIU 264740
CTIU 264750

IMPORT LICENSE NO. IL(O-AA)G(48)-00010

CONTRACT NO. CH-001

70% PROVISIONAL AMOUNT ---- $38,507.96

CANTU MINERAL ASSOCIATION

BY [signature]
AUTHORIZED SIGNATURE

THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

[illegible] AGENCIES
[illegible] STREET
SAN [illegible], CALIFORNIA 94104

ORIENT MARITIME AGENCIES
417 SOUTH [illegible] STREET
LOS ANGELES, CALIFORNIA [illegible]

FORWARDING AGENT — REFERENCES
[illegible] SHIPPING CO. (SEATTLE) FMC-125 REF NO. [illegible]

EXPORT DEC. NO.

BILL OF LADING

SHIPPER
CANTU MINERAL ASSOCIATION

CONSIGNED TO
ORDER OF SHIPPER

ADDRESS ARRIVAL NOTICE TO
[illegible] KOGYO CO., LTD.
[illegible]-FUKUMACHI
[illegible]
[illegible], JAPAN

ALSO NOTIFY

VESSEL	VOYAGE NO.	FLAG	PIER	PORT OF LOADING
[illegible] KONGORO CLIPPER	[illegible] W	LIB.	PORT [illegible]	TACOMA, [illegible]

PORT OF DISCHARGE (Where goods are to be delivered to consignee or on-carrier)
[illegible], JAPAN

FOR TRANSSHIPMENT TO (If goods are to be transshipped or forwarded at port of discharge)

PARTICULARS FURNISHED BY SHIPPER

MARKS AND NUMBERS	NO. OF PKGS.	DESCRIPTION OF PACKAGES AND GOODS	MEASUREMENT	GROSS WEIGHT
[illegible]		CONTAINER NO. / SEAL NO.		
STOWED ON DECK		CTIU [illegible] / 794[illegible]		[illegible]
AT CARGO OWNER'S RISK		CTIU [illegible] / 794[illegible]		[illegible]
		CTIU [illegible] / 794[illegible]		[illegible]
		CTIU [illegible] / 794[illegible]		[illegible]
OTHER DECK		CTIU [illegible] / 794[illegible]		[illegible]
OTHER DECK		CTIU [illegible] / 794[illegible]		[illegible]
N/A N/A	5	CONTAINERS ANTIMONY ORE, IN BULK SHIPPERS LOAD AND COUNT		[illegible]
CONSIGNEE HAS OPTION OF RE-DELIVERING EMPTY CONTAINERS AFTER UNLOADING TO CY NAGOYA OR KOBE				

LADEN ON BOARD
FEBRUARY 13, 1978

FREIGHT PREPAID

NON-NEGOTIABLE COPY

These commodities licensed for the U. S. for ultimate destination JAPAN, diversion contrary to U. S. law prohibited

TOTALS — ALL CHARGES EX SHIP'S TACKLE OR DECK FOR ACCOUNT OF CARGO

OCEAN FREIGHT CHARGED ON	RATE	PER	PREPAID	COLLECT
[illegible]	$23.25/2000#		$2,[illegible].91	
[illegible]	$ .63/2000#		65.38	
TOTAL CHARGES -			$2,[illegible].10	XXXXX

In Witness Whereof, the carrier its agents has signed three Bills of Lading, all of the same tenor and date, one of which being accomplished, the others to stand void.

DATED AT SEATTLE, WASHINGTON — FEB. 13, 1978
Date

By ORIENT MARITIME AGENCIES
As Agent

For Master

B/L NO. TA/JK-1

K LINE

FORWARDING AGENT—REFERENCES

[illegible] EXPORT DEC. NO.

BILL OF LADING

SHIPPER

[illegible] AIRFRAME ASSEMBLERS

CONSIGNEE

ORDER OF SHIPPER

ADDRESS ARRIVAL NOTICE TO

OBERIKAN KOGYO CO., LTD.
33 TSUBAKI-FUNAMACHI, HIGASI-KU
OSAKA, JAPAN

ALSO NOTIFY

VESSEL	VOYAGE NO.	FLAG.	PIER	PORT OF LOADING
H.S. PORTUGAL MARU	12	[illegible]	37	SEATTLE, WASHINGTON

PORT OF DISCHARGE (Where goods are to be delivered to consignee or on order) MOJIKO, JAPAN

FOR TRANSSHIPMENT TO (If goods are to be transshipped at foreign port of discharge) (SEE CLAUSE 11)

PARTICULARS FURNISHED BY SHIPPERS OF GOODS

MARKS AND NUMBERS	NO. OF PKGS.	DESCRIPTION OF PACKAGES AND GOODS	MEASUREMENT	GROSS WEIGHT
N/M N/M	212	BAGS ANTIMONY ORE IMPORT LICENSE NO. IL(O-AA)G(48)-00010 31.6 % Sb		37,840#

CERTIFIED LOADED ON BOARD
FEBRUARY 28, 1970

These Commodities Licensed by U. S. for Ultimate Destination JAPAN — FREIGHT PREPAID — Diversion Contrary to U. S. Law Prohibited

All rates shown herein apply from and to ship's tackle. R. S. & D. charges, tolls, wharfage, lighterage, cost of landing and all other expenses beyond ship's tackle are for account of the cargo.

OCEAN RATES AND CHARGES: RATES, WEIGHTS AND/OR MEASUREMENTS SUBJECT TO CORRECTION

REVENUE BASIS WEIGHT POUNDS	REVENUE BASIS CUBIC FEET	RATE	OCEAN FREIGHT	CBC	HANDLING	WHARFAGE			TOTAL CHARGES
1	2	3	4	5	6	7	8	9	10
37,840#		$33.50/2000#	$633.90	$2.35/ AMOUNT $44.47		$1.00/2000# $18.93			$697.30
									TOTAL PREPAID $697.30
									TOTAL COLLECT X X X X X

IN ACCEPTING THIS BILL OF LADING the shipper, consignee and owner of the goods agree to be bound by all of its stipulations, exceptions, and conditions, whether written, printed, or stamped on the front or back hereof, any local customs or privileges to the contrary notwithstanding.

IN WITNESS WHEREOF, THE CARRIER BY ITS AGENT HAS SIGNED THREE (3) BILLS OF LADING, ALL OF THIS TENOR AND DATE, ONE OF WHICH BEING ACCOMPLISHED, THE OTHERS TO STAND VOID.

DATED AT SEATTLE, WASHINGTON, FEBRUARY 3, 19 70

B/L NUMBER SEA/[illegible]

KERR STEAMSHIP COMPANY, INC.
AS AGENTS FOR THE MASTER

BY

FORM K-503

PRINTED IN U.S.A.

Japan Line

JAPAN LINE, LTD.
Japan

FORWARDING AGENT REFERENCES

EXPORT LICENSE

BILL OF LADING

SHIPPER
WHITE MINERAL ASSOCIATION

CONSIGNED TO
ORDER OF SHIPPER

ADDRESS ARRIVAL NOTICE TO
DAIMARU KOGYO CO., LTD.
25 SOSABORI-FUNAMACHI, NISHI-KU
OSAKA, JAPAN

ALSO NOTIFY

VESSEL	VOYAGE NO.	FLAG	PIER	PORT OF LOADING
U.S. JAPAN AMBASSADOR	FN 79W	JAPAN	20	SEATTLE, WASHINGTON

PORT OF DISCHARGE (If bill of lading goods are to be delivered to consignee at port of destination)
KOBE, JAPAN

FOR TRANSSHIPMENT TO (If goods are to be transhipped or forwarded at port of destination)

PARTICULARS FURNISHED BY SHIPPER (Subject to Correction)

MARKS AND NUMBERS	NO. OF PKGS.	DESCRIPTION OF PACKAGES AND GOODS	MEASUREMENT	GROSS WEIGHT
S/M N/M	255	BAGS ANTHONY OXO		40,170#
		IMPORT LICENSE NO. L(C 6A)871-8)-00010		
		THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.		
		CERTIFIED LOADED ON BOARD MARCH 14, 1970		
		FREIGHT PREPAID		

COPY
NON-NEGOTIABLE

CHARGE	WEIGHT (1)	MEASURE (2)	RATE (3)	AMOUNT (4)
FREIGHT	40,170#		$33.50/2000#	$672.85
CSC	40,170#		$ 2.35/2000#	47.20
WHARFAGE	40,170#		$ 1.00/2000#	20.09
		TOTAL PREPAID		$740.14
		TOTAL COLLECT		XXXX

RECEIVED by the Carrier signing the Bill of Lading (herein called the "Carrier") from the Shipper and in apparent good order and condition unless otherwise noted herein the total number or quantity of packages or units indicated in the box opposite entitled "Description of Packages and Goods" for carriage subject to all the terms hereof from the place of receipt to the place of delivery shown herein.

IN WITNESS WHEREOF the Master or agent of said vessel hath affirmed to three (3) Bills of Lading all of this tenor and date, one of which being accomplished, the other to stand void.

DATED AT SEATTLE, WASHINGTON ON MARCH 14, 1970

FOR THE MASTER
By JAPAN LINE, LTD.
TRANSPACIFIC TRANSPORTATION COMPANY
as Agents

B/L No. SE/KO-2

BY

[illegible] of this Bill of Lading, the goods mentioned above, in apparent good order and condition unless otherwise noted herein, to be carried subject to the terms hereof from the place of receipt to the place of delivery shown herein and there to be delivered unto order or assigns. If requested by the Carrier, one original Bill of Lading must be surrendered duly endorsed in exchange for the goods or delivery order. If any part of the goods be carried on any other vessel or vessels prior to loading on the Vessel named herein, the Carrier may at its option and without notice to the Shipper, substitute another Vessel and/or carry the goods on deck. [illegible] the Vessel has sailed, not and have, without deviation, always safe and afloat, [illegible] of all freight and conditions of which shall whether there to be delivered [illegible] responsibility of the Carrier shall terminate.

By acceptance of this Bill of Lading it is agreed that the voyage of the carrying Vessel on the contemplated voyage includes the ports of the Americas, the West Indies, all islands of the Pacific Ocean and adjacent seas, Australia, Asia, the Far East, the Mediterranean, East, West and South Africa and Europe, including the British Isles.

By acceptance of this Bill of Lading it is agreed that the goods and the carriage [illegible] are subject to all the terms, provisions, exemptions and conditions of this Bill of Lading [illegible] on the one hand and of the Shipper, the Consignee and the holder of the other hand to every intent and purpose as if each had been a party to the same. [illegible] the Carrier waived by express written waiver signed by its duly authorized agent.

[illegible] Bill of Lading, [illegible] is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record. RECEIVED, subject to classifications and tariffs in effect on date of receipt by carrier of property described in Original Bill of Lading.

GREAT NORTHERN

Shipper's No. _____

Agent's No. _____

CARD B

at [illegible] Northern Railroad, Alaska 3/26 19[illegible]

from Auto Hauling by Lowdle Containers Service

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee — For purposes of notification only.)

Consigned to Kuskoquim Coal Co.

Destination Lowdale State of Texas County of _____

Delivery Address☆ _____

(☆To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Route Chicago, Milwaukee, St. Paul & Pacific

Delivering Carrier Milwaukee R. Wide Car Initial [illegible] Car No. [illegible]

No. Packages	DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	*WEIGHT (Subject to Correction)	CLASS OR RATE	CHECK COLUMN
1	Lowdle container one HWX $60.00 [illegible]	125,000	(Free)	
	To Yakataga, Alaska via Seward			
	Freight collect			
	Seal #1073 and #1074			

Subject to Section 7 of conditions, if any, of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ (Signature of consignor.)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

_____

Rec'd $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier.

Per _____

(The signature here acknowledges only the amount prepaid.)

Charges advanced: _____

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

Note—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

Lowdle Container Service Shipper [illegible]

Per [illegible] Per [illegible]

Permanent postoffice address of shipper _____

RECEIVED MAR 26 1970 SEC. 2 [illegible] SEATTLE, WASH. 98101

[illegible] Bill of [illegible] is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record. RECEIVED, subject to classifications and tariffs in effect on date of receipt by carrier of property described in Original Bill of Lading.

GREAT NORTHERN

Shipper's No. _____

Agent's No. _____

SHEET 3

at [illegible] Philippines, Alaska 2005, 19[illegible]

from Sunset Kiting by Mobile Containers Service

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address of consignee—For purposes of notification only.)

Consigned to National Lead Co.

Destination Kermedie, Texas State of _____ County of _____

Delivery Address☆ _____

(☆To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Route Cordova, Seattle MKT/NO PAC

Delivering Carrier Missouri Pacific Car Initial SP-[illegible] Car No. _____

No. Packages	DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	*WEIGHT (Subject to Correction)	CLASS OR RATE	CHECK COLUMN
1	1 [illegible] one MAX 250.00 box	332-390	(Sock)	
	In Kermedie, Manila via Seattle			
	Freight collect			
	Seal #1876 and #1875			

Subject to Section 7 of conditions, if applicable, bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ (Signature of consignor)

If charges are to be prepaid, write or stamp here, "To be Prepaid."

_____

Rec'd $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier.

Per _____

(The signature here acknowledges only the amount prepaid.)

Charges advanced:

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight."

Note—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

Mobile Containers Service Shipper _____ Agent

Per _____ Per _____

Permanent postoffice address of shipper _____

PRINTED IN U.S.A.

AML 481B-- Rev. 5/66

HEAD OFFICE — SEATTLE, WASH.

DELIVERING CARRIER TO STEAMER

CAR NUMBER - REFERENCE

FORWARDING AGENT - REFERENCES

[illegible] CO. (BRAZIL) [illegible] NO. [illegible]

B/L NO.

BILL OF LADING

(terms continued from reverse side hereof)

SHIPPER

[illegible] FISHERIES ASSOCIATION

CONSIGNED TO

ORDER OF SHIPPER

ADDRESS ARRIVAL NOTICE TO (without liability to carrier, see Clause 12 hereof)

[illegible] FOODS CO., LTD.
[illegible]-[illegible], [illegible]
[illegible], JAPAN

ALSO NOTIFY

VESSEL	VOYAGE NO.	FLAG	PIER	PORT OF LOADING
S. S. [illegible]	27 W	U.S.A.	46	SEATTLE, [illegible]

PORT OF DISCHARGE (from ship)

[illegible], JAPAN

FOR TRANSSHIPMENT TO (Subject to Clause 11)

PARTICULARS FURNISHED BY SHIPPER

MARKS AND NUMBERS	NO. OF PKGS.	DESCRIPTION OF PACKAGES AND GOODS	MEASUREMENT IN CU. FT.	GROSS WEIGHT IN POUNDS
N/M S/M	269	BAGS ANCHOVY DRY CONTAINER NO. [illegible] 6026 IMPORT LICENSE NO. IL(O-AL)Q(48)-00010		40,2409
S/L: S-37				

These Commodities Licensed by U. S. For Ultimate Destination JAPAN Diversion Contrary to U. S. Law Prohibited

COPY

NON- NEGOTIABLE

OCEAN RATES AND CHARGES
RATES, WEIGHTS AND/OR MEASUREMENTS SUBJECT TO CORRECTION

CHARGE	WEIGHT	MEAS.	RATE	AMOUNT
FREIGHT	40,2409		$35.50/2000	$669.02
CFS	40,2409		$ 2.25/2000	42.28
WHARFAGE	40,2409		$ 2.00/2000	40.32
		TOTAL PREPAID		$752.42
		TOTAL COLLECT		[illegible]

IN ACCEPTING THIS BILL OF LADING the shipper, and consignee of the goods agrees to be bound by all its stipulations, exceptions, and conditions, whether written, printed, or stamped on the front or back hereof, any local customs or privileges to the contrary notwithstanding.

IN WITNESS WHEREOF, the Master of the said ship affirmed to [illegible] bills of lading, all of this tenor and date, ONE of which being accomplished, the others stand void.

DATED
AT SEATTLE, WASHINGTON on [illegible] 20, [illegible]

This is a SHIPPED on BOARD Bill of Lading When Validated.

FOR THE MASTER:
AMERICAN MAIL LINE LTD.

BY

S/L No.
[illegible]

Japan Line

JAPAN LINE, LTD.
Japan

FORWARDING AGENT - REFERENCES | EXPORT DEC. NO.

[illegible] SHIPPING CO. (SEATTLE) FMC 126 REF. NO. 3919/DP

BILL OF LADING

SHIPPER
[illegible] MINERAL ASSOCIATION

CONSIGNED TO
ORDER OF SHIPPER

ADDRESS ARRIVAL NOTICE TO
[illegible] KOGYO CO., LTD.
23 [illegible]-[illegible]MACHI, NISHI-KU
OSAKA, JAPAN

ALSO NOTIFY

VESSEL: M.S. [illegible] MARU | VOYAGE NO.: PN 75W | FLAG: JAP.

PIER: PORT DOCK | PORT OF LOADING: VANCOUVER, WASH[illegible]

PORT OF DISCHARGE (Where goods are to be delivered to consignee or on-carrier): [illegible], JAPAN

FOR TRANSSHIPMENT TO (If goods are to be transshipped or forwarded at port of discharge)

PARTICULARS FURNISHED BY SHIPPER (Subject to Correction)

MARKS AND NUMBERS	NO OF PKGS.	DESCRIPTION OF PACKAGES AND GOODS	MEASUREMENT	GROSS WEIGHT
N/M N/N	7	CONTAINERS ANTIMONY ORE IN BULK		238,050#
		CONTAINER NOS:		
		CTIU 264588 CTIU 264546		
		CTIU 264669 CTIU 264749		
		CTIU 264751 CTIU 264740		
		CTIU 264750		

CERTIFIED LOADED ON BOARD

FREIGHT PREPAID

EXPORT LICENSE NO. IL(0-AA)G(43)-00010

THESE COMMODITIES LICENSED BY U.S. FOR ULTIMATE DESTINATION JAPAN. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.

CHARGE	WEIGHT (1)	MEAS. (2)	RATE (3)	AMOUNT (4)
FREIGHT	238,050#		$21.15/2000#	$2,517.38
CSC	238,050#		$ 2.35/2000#	279.71
WHARFAGE	238,050#		$ .63/2000#	74.99
			TOTAL PREPAID	$2,872.08
			TOTAL COLLECT	X X X X X

RECEIVED by the Carrier signing this Bill of Lading (herein called the "Carrier") from the Shipper named herein for shipment (continued below)

IN WITNESS WHEREOF the Master or Agent of said vessel hath affirmed to .... Bills of Lading, all of this tenor and date, one of which being accomplished, the other to stand void.

DATED AT SEATTLE, WASHINGTON ON APRIL 28, 1970

FOR THE MASTER
By JAPAN LINE, LTD.
TRANSPACIFIC TRANSPORTATION COMPANY
as Agents

BY ____________________

B/L No. [illegible]

[illegible] (subject to all the terms, provisions, exemptions and conditions contained on the face and the back of this Bill of Lading) the goods described above, in apparent good order and condition unless otherwise indicated [illegible] (weight, measure, [illegible], nature and quality being unknown to the Carrier) consigned to the Consignee named herein [illegible] the vessel named herein with liberty [illegible] other ship [illegible] or loading [illegible] another Vessel whether within or without [illegible] whether [illegible] as the whole or any part [illegible] goods, and with all other [illegible] this Bill of Lading, to the port of discharge [illegible] as the Vessel can safely get and leave without [illegible] and [illegible] always safe and afloat at all stages and conditions of water and weather [illegible] to be delivered [illegible] responsibility of the Carrier shall there cease.

By acceptance of this Bill of Lading it is agreed that the service of the carrying Vessel on the contemplated voyage includes the ports of the Americas, the West Indies, all islands of the Pacific Ocean and adjacent seas, Australia, Asia, the East Indies, the Mid East, the Mediterranean, East, West and South Africa and Europe, including the British Isles.

By acceptance of this Bill of Lading it is agreed that the custody [illegible] the goods are subject to all the terms, provisions, exemptions and conditions of this Bill of [illegible] the rights and obligations of the Carrier on the one hand and of the Shipper, the Consignee and the owner of the other hand [illegible] without [illegible] by abandonment of the voyage or deviation therefrom or unseaworthiness of the Vessel [illegible] have been waived [illegible] in express writing [illegible] signed by its duly authorized agent.

COPY

[illegible]

DELIVERING CARRIER TO STEAMER

CAR NUMBER-REFERENCE

FORWARDING AGENT-REFERENCES

[illegible]

EXPORT DEC. NO.

BILL OF LADING (COPY—NON-NEGOTIABLE)

B/L NO.

[illegible]

SHIPPER

[illegible] SHIPPER ASSOCIATION

CONSIGNED TO ORDER OF

[illegible]

ADDRESS ARRIVAL NOTICE TO

[illegible] KOGYO CO., LTD.
[illegible]-FUNAGATA, HIGASHI-KU
[illegible], JAPAN

ALSO NOTIFY

VESSEL	VOYAGE NO.	FLAG	PLACE OF RECEIPT	PORT OF LOADING
[illegible]	[illegible]	JAP.	PIER 18	SEATTLE, WASHINGTON

PORT OF DISCHARGE	PLACE OF DELIVERY
[illegible], JAPAN	

PARTICULARS FURNISHED BY SHIPPER

MARKS AND NUMBERS	No. of Containers or Pkgs.	TYPE OR KIND OF CONTAINERS OR PACKAGES-DESCRIPTION OF GOODS	MEASUREMENT	GROSS WEIGHT
[illegible] B/N	19	CONTAINING FACTORY ORE IN BULK CONTAINER NOS. MOLU 2611016 MOLU 2631146 MOLU 2612276 MOLU 2692821 MOLU 2612294 MOLU 2600953 MOLU 2613794 MOLU 2671060 MOLU 2610082 MOLU 2689099 MOLU 2611054 MOLU 2650194 MOLU 2615223 SEAL NO. [illegible]0-[illegible]0(90)-00010 FREIGHT PREPAID [illegible] PROHIBITED BY U.S. FOR UNLOADING [illegible] JAPAN, [illegible] IN COMPLIANCE BY U.S. [illegible]		[illegible]

CONTAINER NO.	FREIGHT AND CHARGES	CHARGED ON	RATE	PER	PREPAID	COLLECT
SEE ABOVE	OCEAN	407,210 LBS.	$20.00/2000#		$4,872.10	
	WHARFAGE	407,210 LBS.	$ .63/2000#		153.47	

NUMBER OF B(S)/L SIGNED	TOTAL AMOUNT OF CHARGES	
THREE(3) ORIGINAL	$5,025.57	

PLACE OF B(S)/L ISSUE	PLACE OF PAYMENT	PREPAID AT	PAYABLE AT
SEATTLE, WASHINGTON	SEATTLE, WASHINGTON	SEATTLE, WA.	[illegible]

DATED AT SEATTLE, WASHINGTON ON [illegible] 1970

Mitsui O.S.K. Lines, Ltd.

WILLIAMS, DIMOND & CO., [illegible] AGENTS

BY [illegible]

LADEN ON BOARD THE VESSEL

DATE JUNE 29, 1970

SIGNATURE: [illegible]

ALL TERMS, CONDITIONS AND EXCEPTIONS AS PER ORIGINAL BILL OF LADING

DELIVERING CARRIER TO STEAMER

CAR NUMBER-REFERENCE

FORWARDING AGENT-REFERENCES

EXPORT DEC. NO.

BILL OF LADING

B/L NO.

SHIPPER

CONSIGNED TO ORDER OF

ADDRESS ARRIVAL NOTICE TO

ALSO NOTIFY

VESSEL	VOYAGE NO.	FLAG	PLACE OF RECEIPT	PORT OF LOADING

PORT OF DISCHARGE	PLACE OF DELIVERY

PARTICULARS FURNISHED BY SHIPPER

MARKS AND NUMBERS	No. of Containers or Pkgs.	TYPE OR KIND OF CONTAINERS OR PACKAGES-DESCRIPTION OF GOODS	MEASUREMENT	GROSS WEIGHT

CONTAINER NO.	FREIGHT AND CHARGES	CHARGED ON	RATE	PER	PREPAID	COLLECT

RECEIVED BY the Carrier, the goods or containers or packages said to contain the goods herein mentioned, in apparent good order and condition unless otherwise indicated herein, to be transported by the Vessel and/or other means of carriage named herein or any substitute at Carrier's option, from the place of receipt or the port of loading to the port of discharge or the place of delivery shown herein, subject to all the terms and conditions provided for on the face and back of this Bill of Lading.

If requested, one Bill of Lading duly endorsed [illegible] exchange for the goods or delivery order.

[illegible]

NUMBER OF B(S)/L SIGNED	TOTAL AMOUNT OF CHARGES	

PLACE OF B(S)/L ISSUE	PLACE OF PAYMENT	PREPAID AT	PAYABLE AT

DATED AT _____ ON _____ 19__

Mitsui O.S.K. Lines, Ltd.

BY _____

LADEN ON BOARD THE VESSEL

DATE _____

SIGNATURE: _____

IN ACCEPTING THIS BILL OF LADING, the Merchant agrees to be bound by all the stipulations, exceptions and conditions on the face and back hereof as if signed by him, any local custom or privileges to the contrary notwithstanding, and agrees that all agreements or freight engagements for the carriage of the goods are superseded by this Bill of Lading.

In witness whereof, the number of original Bills of Lading stated herein has [illegible] on behalf of Mitsui O.S.K. Lines, Ltd., the Master and the owner of the Vessel, all of this [illegible] being accomplished, the others to stand void.

PURCHASE OPTION AND MINING LEASE

THIS AGREEMENT, dated December 8, 1969 between CANTU MINERAL ASSOCIATION, a Washington Partnership (hereinafter called "CANTU"), whose address is 134 South West 153rd Street Seattle, Washington 98166, and ARLEY R. TAYLOR, KENNETH O'HARRA, a partnership (hereinafter called "OWNER"), whose address is 23732 Locust Way, ~~Seattle~~ Bothell, Wn. for MR. TAYLOR and 1211 Warren Street, Fairbanks, Alaska for MR. O'HARRA.

W I T N E S S E T H:

The parties therby agree as follows:

1. Purchase Option. For and in consideration of $10.00 and other good and valuable considerations paid by CANTU to OWNER, receipt of which is hereby acknowledged, OWNER hereby grants to CANTU an option to purchase the real property (hereinafter called the "PREMISES"), described in Appendix A for the purchase price of [$400,000.00], reduced by all amounts

paid to OWNER and also reduced by the value of all ore or mineral taken by OWNER pursuant to paragraph 3 prior to exercise of the option.

(a) CANTU may exercise the option by notice to OWNER at any time prior to the termination of this Agreement.

(b) Upon such exercise of the option, at a closing to be held at a time and place stated in the notice of exercise, CANTU will pay the purchase price to the OWNER, and the OWNER will deliver to CANTU a deed in form suitable for recording and effective to convey the PREMISES to CANTU.

(c) Upon request from CANTU by notice, OWNER will deposit a deed as above described in escrow with an escrowee designation by such notice with instructions to deliver such deed to CANTU upon full payment of the purchase price.

OWNER represents that OWNER now owns the PREMISES, they are not now subject to any lease or encumbrance, all annual labor due to be performed on unpatented mining claims (if any) included in the PREMISES has been performed, at the time of delivery of the deed OWNER then will own the PREMISES, and they then will not be subject to any encumbrance or lease not created by CANTU.

2. Lease. OWNER hereby leases the PREMISES to CANTU until this Agreement is terminated, together with:

(a) all minerals and mineral rights in the PREMISES; and

(b) the exclusive right and privilege to mine and sell all minerals from the PREMISES and to retain the proceeds of such sales; and

(c) all personal property and fixtures now or hereafter attached to or used in conjunction with mining the PREMISES: and

(d) so much of the use of the surface, surface rights, structures, improvements, water rights, rights-of-way, easements, tenements, hereditaments and appurtenances in, or in any way now or hereafter appertaining to the PREMISES as may be necessary or convenient to mine the PREMISES.

CANTU hereby accepts this Lease. Upon termination of this Agreement, the term of this Lease shall end, but CANTU shall not be relieved of any obligation to make payments with respect to ore mined by CANTU from the PREMISES during the term of this Lease and sold.

3. Payments. On or before the 15th of each calendar month CANTU will pay to OWNER an amount equal to ten per cent (10%) of the gross value of newly mined ore, to include ore found in old tunnels and shafts. Ore which is above ground on dumps, estimated at 2,000 ton will be paid for on the basis of Twenty Five Percent (25%) Gross Value received by Cantu for the ore or mineral mined by CANTU from the PREMISES. The term "gross value" will have the meaning set forth in Appendix B. Each such payment will be made by single check to OWNER, accompanied by a copy of each settlement

sheet or remittance statement pertaining to the sales on which such payment is based. CANTU may arrange with any ore buyer to make any payment and to transmit copies of settlement sheets and remittance statements directly to OWNER. At the option of OWNER and on request by notice, CANTU will hold for OWNER subject to OWNER's direction, in kind, ten per cent (10%) of gross production of all or any part of such ore or mineral. All ore or mineral with respect to which OWNER exercises such option will not be subject to the ten per cent (10%) money payment.

4. Exploration Program. CANTU will enter upon the PREMISES as soon as practicable and will conduct an examination and investigation as it shall deem appropriate to determine whether it can operate the PREMISES commercially.

5. Undertakings of CANTU. OWNER may terminate this Agreement in accordance with the provisions of paragraph 13 in case of default by CANTU in failing:

(a) to process a cumulative average of 600 tons of material per year beginning with the calendar year 1970, i.e., 600 tons multiplied by the number of full calendar years after 1970;

(b) to enter upon the PREMISES and conduct an examination and investigation;

(c) to operate the PREMISES in a workmanlike manner;

(d) upon reasonable request to make available to OWNER for examination or copying all maps, reports, and other data resulting from the examination and investigation of the PREMISES:

(e) to carry Workmen's Compensation insurance for all persons employed by CANTU in and upon the PREMISES:

(f) to expend or to cause to be expended the amount of annual labor required by law with respect to each unpatented mining claim, if any subject to this Lease on September 1 of such year, and to file affidavits stating that such work was performed;

(g) to pay when due (unless properly protested) all valid real estate taxes with respect to each patented mining claim, if any, and all fee land, if any, subject to this Lease; or

(h) to perform any convenant or condition of this Agreement to be performed by CANTU.

6. Undertakings of OWNER. Each OWNER:

(a) will deliver to CANTU all maps and other writings under such OWNER's control relating to location or title of the PREMISES:

(b) will cooperate with CANTU and will execute all documents requested by CANTU to secure Office of Mineral Exploration and all other loans, at no expense to OWNER:

(c) grants to CANTU an easement for ingress and egress, tunnels, telephone and electric lines and pipe lines to the PREMISES over and through all lands and roads now or hereafter owned or held by such OWNER;

(d) will do all acts and execute all documents requested by CANTU as necessary or convenient to effectuate any covenant to such OWNER:

(e) may at all reasonable times examine and copy all records of CANTU pertinent to any question which may arise under this Agreement; and

(f) may at all reasonable times enter in and upon all parts of the PREMISES for the purpose of inspection. All such entries shall be at the risk of such OWNER and without interfering with CANTU's operation.

7. Further Assurances. CANTU may take such action as it deems necessary or convenient to establish, hold, or defend its interest in the PREMISES against all persons, and each OWNER will cooperate with CANTU in such action.

8. Patent. CANTU may apply for the issuance of patent upon all or any unpatented mining claims, if any, included in the PREMISES and take all steps necessary or convenient thereto, all in OWNER's name but at CANTU's expense. OWNER will cooperate in such action by CANTU. Upon issuance of patent, each such patented claim shall remain part of the PREMISES.

9. Lesser Interest. If OWNER owns less than the entire interest in the PREMISES, CANTU will pay to OWNER that proportion of the purchase price and payments based upon production which the interest of the OWNER bears to the total interest in the PREMISES.

10. Surrender. CANTU may at any time by notice to OWNER surrender any part of the PREMISES: or surrender all of the PREMISES and terminate this Agreement, in which event OWNER may retain all payments theretofore made.

11. Removal of Property. During the term of the Lease and for ninety (90) days after termination of this Agreement, CANTU may remove all personal propertt placed on the PREMISES by CANTU and may remove all ore mined from the PREMISES during the term of the Lease.

12. Notices. All notices shall be in writing, directed to the parties at their addresses stated in the opening section. Any party by notice may designate a new address. All notices sent by registered or certified mail, addressed as stated above, shall be effective as of the date of mailing.

13. Default. If CANTU defaults in the performance of any covenant or condition hereof, OWNER may deliver notice to CANTU specifying in detail the default, and if such default shall not be corrected or remedied within thirty (30) days after receipt by CANTU of such notice, OWNER at OWNER's election may:

(a) terminate this Agreement by delivery of notice to CANTU at the end of thirty (30) days after the expiration of the period for appeal after entry of final judgment holding CANTU in default, if CANTU has failed to correct or remedy such default within such thirty (30) day period;

(b) enjoin the continuance of such default; or

(c) recover damages for such default in an amount not in excess of the unpaid balance of the purchase price, and which amount shall reduce the unpaid balance of the purchase price.

CANTU may remedy any default by paying to OWNER an amount equal to the damages recoverable for the specified default. CANTU shall be deemed to have corrected or remedied any default when CANTU shall in good faith commence action to correct or remedy such default if such action shall be prosecuted thereafter with due diligence.

14. Force Majeure. CANTU shall not be considered in default if CANTU's failure to perform any covenant or condition of this Agreement is caused to any extent by any circumstances not wholly and exclusively within the control of CANTU. The settlement of a labor dispute shall not be considered to be wholly and exclusively within the control of CANTU. Financial inability to make any payment shall be considered within the control of CANTU.

15. Successors. All the terms, covenants and conditions of this Agreement shall be binding upon and inure to the benefit of the administrators, executors, heirs, successors and assigns of the respective parties.

(a) the rights of each OWNER hereunder may be assigned in whole or in part. No change or division in ownership of any OWNER's interest in the PREMISES or in payments, however accomplished, shall operate to create or enlarge any obligation or diminish any right of CANTU, or be binding upon CANTU for any purpose until receipt by CANTU of a notice signed by or on behalf of such OWNER and all successors, stating the single person and address to which all future notices and payments may be directed by CANTU.

(b) CANTU may sublease its rights hereunder with respect to all or any part of the PREMISES, and may assign this Agreement with respect to all or any part of the PREMISES. Upon notice to each OWNER of the interest embraced by such assignment, the assignee shall be substituted as lessee in the place and stead of CANTU from the date of the assignment with respect to such part of the PREMISES, and thereafter CANTU shall have no further rights or liabilities under this Agreement with respect to such part of the PREMISES, nor shall any default by the assignee with respect to such part of the PREMISES affect this Agreement with respect to any balance of the PREMISES.

16. Scope of Agreement. This Agreement (including appendices hereto) constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements and understandings of the parties in connection therewith. No officer or other agent of CANTU is authorized to make any representation, warranty or promise not contained herein. No change, termination or attempted waiver of any of the provisions hereof shall be binding on CANTU unless in writing and signed by an officer of CANTU. No officer or other agent of CANTU is authorized to agree to any change, termination or waiver of any of the provisions hereof in any other way. No modification, waiver, termination, rescission, discharge or cancellation of this Agreement shall affect the right of CANTU to enforce any claim, whether or not liquidated, which accrued prior to the date of such modification, waiver, termination, rescission, discharge or cancellation of this Agreement, and no waiver of any provision of or default under this Agreement shall affect the right of CANTU thereafter to enforce said provision or to exercise any right or remedy in the event of any other default, whether or not similar.

17. Advance Royalty Payments.

CANTU will pay to the OWNERS and advance Royalty of FIVE THOUSAND DOLLARS ($5,000.00) on or before the 1st Day of February 1970. Said money shall apply towards royalties due the Owners on shipments of ore made by CANTU to buyers.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

IN WITNESS WHEREOF, the parties have executed this Agreement.

O W N E R

Arley R. Taylor

Kenneth O'Harra

C A N T U

Recommended to Home Office for acceptance, this 8TH day of DECEMBER, 1969.

Field Representative

Secretary

A C K N O W L E D G M E N T

STATE OF WASHINGTON)
) SS.
COUNTY OF KING)

The foregoing instrument was acknowledged before me this 8TH day of DECEMBER, 1969.

Notary Public

APPENDIX A

THE PREMISES

NAME OF CLAIM	SECTION	NUMBER OF CLAIMS	ACRES PER CLAIM	TOTAL ACREAGE
Eagle Lode No's.1-4 Incl.	16	4	20	80
Eagle Lode No's 5-8 Incl.	16	4	40	160
Black Eagle No's 9-12 incl	16	4	40	160
Antimony Ridge No's 1,3,5 & 7.	21	4	40	160
		16		560

It is further understood and agreed that all claims staked and filed on by the Owners on CANTU within a radius of Three (3) Miles of the outer limits of the above listed claims shall be in the name of the owners and that those claims shall become a part of this "Purchase Option and Mining Lease".

Eagle Lode # [illegible] 20
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APPENDIX B

GROSS VALUE

"Gross value" shall mean the gross amount received by CANTU for all minerals mined from the PREMISES and sold to a mill, smelter or other plant (hereinafter referred to collectively as "receiving plant") less actual costs of transportation from mine to the receiving plant, and less treatment, assaying, weighing and special sampling charges incident to settlement with the receiving plant, but including any subsidy, bonus or equivalent thereof payable by the Federal Government or any agency thereof or from any other source as a result of the production, sale or disposal of ore, providing that payment of royalties on such subsidy or bonus is not contrary to law or governmental regulation.

Unless otherwise required by law or by regulation or action of a governmental agency, CANTU will ship all commercial ores mined from the PREMISES to the receiving plant offering the most favorable terms for the quantity available, costs of transportation and other charges being giving due consideration, and will appropriately bill the ores to show that they are from the PREMISES.

In the event that ores mined from the PREMISES are not sold but are shipped to a receiving plant operated by CANTU or an "affiliate," as defined below, the "gross purchase price" or "gross value" of such ores as the case may be shall be determined as if they had been sold to such receiving plant. Should CANTU ship ore to a receiving plant operated by CANTU or an affiliate or should CANTU sell ore to a receiving plant controlled by CANTU or an affiliate, CANTU shall be deemed to have received as good a price for all such ores as are being paid to independent miners for ores of like character and quantity and the treatment charges and other charges shall not exceed

those charged to such independent miners on ores of like character and quantity. Should OWNER believe that any charges imposed are excessive or that the price received by CANTU is unreasonable, CANTU shall, upon notice, produce evidence that the charges, or price, or both, comply with the requirements of the immediately preceding sentence.

The term "affiliate" shall mean CANTU, any partner of CANTU, any officer, director or controlling stockholder of CANTU, or any entity directly or indirectly controlling, controlled by, or under common control with CANTU.

PURCHASE OPTION AND MINING LEASE

THIS AGREEMENT, dated December 8, 1969 between CANTU MINERAL ASSOCIATION, a Washington Partnership (hereinafter called "CANTU"), whose address is 134 South West 153rd Street Seattle, Washington 98166, and ARLEY R. TAYLOR, KENNETH O'HARRA, a partnership (hereinafter called "OWNER"), whose address is 23732 Locust Way, ~~Bothell~~ Bothell, Wa. for MR. TAYLOR and 1211 Warren Street, Fairbanks, Alaska for MR. O'HARRA.

W I T N E S S E T H:

The parties thereby agree as follows:

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(b) the exclusive right and privilege to mine and sell all minerals from the PREMISES and to retain the proceeds of such sales; and

(c) all personal property and fixtures now or hereafter attached to or used in conjunction with mining the PREMISES: and

(d) so much of the use of the surface, surface rights, structures, improvements, water rights, rights-of-way, easements, tenements, hereditaments and appurtenances in, or in any way now or hereafter appertaining to the PREMISES as may be necessary or convenient to mine the PREMISES.

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sheet or remittance statement pertaining to the sales on which such payment is based. CANTU may arrange with any ore buyer to make any payment and to transmit copies of settlement sheets and remittance statements directly to OWNER. At the option of OWNER and on request by notice, CANTU will hold for OWNER subject to OWNER's direction, in kind, ten per cent (10%) of gross production of all or any part of such ore or mineral. All ore or mineral with respect to which OWNER exercises such option will not be subject to the ten per cent (10%) money payment.

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(a) to process a cumulative average of 600 tons of material per year beginning with the calendar year 1970, i.e., 600 tons multiplied by the number of full calendar years after 1970;

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(d) upon reasonable request to make available to OWNER for examination or copying all maps, reports, and other data resulting from the examination and investigation of the PREMISES:

(e) to carry Workmen's Compensation insurance for all persons employed by CANTU in and upon the PREMISES:

(f) to expend or to cause to be expended the amount of annual labor required by law with respect to each unpatented mining claim, if any subject to this Lease on September 1 of such year, and to file affidavits stating that such work was performed;

(g) to pay when due (unless properly protested) all valid real estate taxes with respect to each patented mining claim, if any, and all fee land, if any, subject to this Lease; or

(h) to perform any convenant or condition of this Agreement to be performed by CANTU.

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(a) will deliver to CANTU all maps and other writings under such OWNER's control relating to location or title of the PREMISES:

(b) will cooperate with CANTU and will execute all documents requested by CANTU to secure Office of Mineral Exploration and all other loans, at no expense to OWNER:

(c) grants to CANTU an easement for ingress and egress, tunnels, telephone and electric lines and pipe lines to the PREMISES over and through all lands and roads now or hereafter owned or held by such OWNER;

(d) will do all acts and execute all documents requested by CANTU as necessary or convenient to effectuate any covenant to such OWNER:

(e) may at all reasonable times examine and copy all records of CANTU pertinent to any question which may arise under this Agreement; and

(f) may at all reasonable times enter in and upon all parts of the PREMISES for the purpose of inspection. All such entries shall be at the risk of such OWNER and without interfering with CANTU's operation.

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8. Patent. CANTU may apply for the issuance of patent upon all or any unpatented mining claims, if any, included in the PREMISES and take all steps necessary or convenient thereto, all in OWNER's name but at CANTU's expense. OWNER will cooperate in such action by CANTU. Upon issuance of patent, each such patented claim shall remain part of the PREMISES.

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10. Surrender. CANTU may at any time by notice to OWNER surrender any part of the PREMISES: or surrender all of the PREMISES and terminate this Agreement, in which event OWNER may retain all payments theretofore made.

11. Removal of Property. During the term of the Lease and for ninety (90) days after termination of this Agreement, CANTU may remove all personal propertt placed on the PREMISES by CANTU and may remove all ore mined from the PREMISES during the term of the Lease.

12. Notices. All notices shall be in writing, directed to the parties at their addresses stated in the opening section. Any party by notice may designate a new address. All notices sent by registered or certified mail, addressed as stated above, shall be effective as of the date of mailing.

13. Default. If CANTU defaults in the performance of any covenant or condition hereof, OWNER may deliver notice to CANTU specifying in detail the default, and if such default shall not be corrected or remedied within thirty (30) days after receipt by CANTU of such notice, OWNER at OWNER's election may:

(a) terminate this Agreement by delivery of notice to CANTU at the end of thirty (30) days after the expiration of the period for appeal after entry of final judgment holding CANTU in default, if CANTU has failed to correct or remedy such default within such thirty (30) day period;

(b) enjoin the continuance of such default; or

(c) recover damages for such default in an amount not in excess of the unpaid balance of the purchase price, and which amount shall reduce the unpaid balance of the purchase price.

CANTU may remedy any default by paying to OWNER an amount equal to the damages recoverable for the specified default. CANTU shall be deemed to have corrected or remedied any default when CANTU shall in good faith commence action to correct or remedy such default if such action shall be prosecuted thereafter with due diligence.

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(a) the rights of each OWNER hereunder may be assigned in whole or in part. No change or division in ownership of any OWNER's interest in the PREMISES or in payments, however accomplished, shall operate to create or enlarge any obligation or diminish any right of CANTU, or be binding upon CANTU for any purpose until receipt by CANTU of a notice signed by or on behalf of such OWNER and all successors, stating the single person and address to which all future notices and payments may be directed by CANTU.

(b) CANTU may sublease its rights hereunder with respect to all or any part of the PREMISES, and may assign this Agreement with respect to all or any part of the PREMISES. Upon notice to each OWNER of the interest embraced by such assignment, the assignee shall be substituted as lessee in the place and stead of CANTU from the date of the assignment with respect to such part of the PREMISES, and thereafter CANTU shall have no further rights or liabilities under this Agreement with respect to such part of the PREMISES, nor shall any default by the assignee with respect to such part of the PREMISES affect this Agreement with respect to any balance of the PREMISES.

16. Scope of Agreement. This Agreement (including appendices hereto) constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements and understandings of the parties in connection therewith. No officer or other agent of CANTU is authorized to make any representation, warranty or promise not contained herein. No change, termination or attempted waiver of any of the provisions hereof shall be binding on CANTU unless in writing and signed by an officer of CANTU. No officer or other agent of CANTU is authorized to agree to any change, termination or waiver of any of the provisions hereof in any other way. No modification, waiver, termination, rescission, discharge or cancellation of this Agreement shall affect the right of CANTU to enforce any claim, whether or not liquidated, which accrued prior to the date of such modification, waiver, termination, rescission, discharge or cancellation of this Agreement, and no waiver of any provision of or default under this Agreement shall affect the right of CANTU thereafter to enforce said provision or to exercise any right or remedy in the event of any other default, whether or not similar.

17. Advance Royalty Payments.

CANTU will pay to the OWNERS and advance Royalty of FIVE THOUSAND DOLLARS ($5,000.00) on or before the 1st Day of February 1970. Said money shall apply towards royalties due the Owners on shipments of ore made by CANTU to buyers.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

IN WITNESS WHEREOF, the parties have executed this Agreement.

O W N E R

Arley R. Taylor

Kenneth O'Harra

C A N T U

Recommended to Home Office for acceptance, this 8TH day of DECEMBER, 1969.

Field Representative

Secretary

A C K N O W L E D G M E N T

STATE OF WASHINGTON)
) SS.
COUNTY OF KING)

The foregoing instrument was acknowledged before me this 8TH day of DECEMBER, 1969.

Notary Public

APPENDIX A

THE PREMISES

NAME OF CLAIM	SECTION	NUMBER OF CLAIMS	ACRES PER CLAIM	TOTAL ACREAGE
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Eagle Lode No's 5-8 Incl.	16	4	40	160
Black Eagle No's 9-12 incl	16	4	40	160
Antimony Ridge No's 1,3,5 & 7.	21	4	40	160
		16		560

It is further understood and agreed that all claims staked and filed on by the Owners on CANTU within a radius of Three (3) Miles of the outer limits of the above listed claims shall be in the name of the owners and that those claims shall become a part of this "Purchase Option and Mining Lease".

Eagle Lode # [illegible] 20
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APPENDIX B

GROSS VALUE

"Gross value" shall mean the gross amount received by CANTU for all minerals mined from the PREMISES and sold to a mill, smelter or other plant (hereinafter referred to collectively as "receiving plant") less actual costs of transportation from mine to the receiving plant, and less treatment, assaying, weighing and special sampling charges incident to settlement with the receiving plant, but including any subsidy, bonus or equivalent thereof payable by the Federal Government or any agency thereof or from any other source as a result of the production, sale or disposal of ore, providing that payment of royalties on such subsidy or bonus is not contrary to law or governmental regulation.

Unless otherwise required by law or by regulation or action of a governmental agency, CANTU will ship all commercial ores mined from the PREMISES to the receiving plant offering the most favorable terms for the quantity available, costs of transportation and other charges being giving due consideration, and will appropriately bill the ores to show that they are from the PREMISES.

In the event that ores mined from the PREMISES are not sold but are shipped to a receiving plant operated by CANTU or an "affiliate," as defined below, the "gross purchase price" or "gross value" of such ores as the case may be shall be determined as if they had been sold to such receiving plant. Should CANTU ship ore to a receiving plant operated by CANTU or an affiliate or should CANTU sell ore to a receiving plant controlled by CANTU or an affiliate, CANTU shall be deemed to have received as good a price for all such ores as are being paid to independent miners for ores of like character and quantity and the treatment charges and other charges shall not exceed

those charged to such independent miners on ores of like character and quantity. Should OWNER believe that any charges imposed are excessive or that the price received by CANTU is unreasonable, CANTU shall, upon notice, produce evidence that the charges, or price, or both, comply with the requirements of the immediately preceding sentence.

The term "affiliate" shall mean CANTU, any partner of CANTU, any officer, director or controlling stockholder of CANTU, or any entity directly or indirectly controlling, controlled by, or under common control with CANTU.

PURCHASE OPTION AND MINING LEASE

THIS AGREEMENT, dated December 8, 1969 between CANTU MINERAL ASSOCIATION, a Washington Partnership (hereinafter called "CANTU"), whose address is 134 South West 153rd Street Seattle, Washington 98166, and ARLEY R. TAYLOR, KENNETH O'HARRA, a partnership (hereinafter called "OWNER"), whose address is 23732 Locust Way, ~~Seattle~~ Bothell, Wa. 98011 for MR. TAYLOR and 1211 Warren Street, Fairbanks, Alaska for MR. O'HARRA.

W I T N E S S E T H:

The parties therby agree as follows:

1. Purchase Option. For and in consideration of $10.00 and other good and valuable considerations paid by CANTU to OWNER, receipt of which is hereby acknowledged, OWNER hereby grants to CANTU an option to purchase the real property (hereinafter called the "PREMISES"), described in Appendix A for the purchase price of [$400,000.00], reduced by all amounts

paid to OWNER and also reduced by the value of all ore or mineral taken by OWNER pursuant to paragraph 3 prior to exercise of the option.

(a) CANTU may exercise the option by notice to OWNER at any time prior to the termination of this Agreement.

(b) Upon such exercise of the option, at a closing to be held at a time and place stated in the notice of exercise, CANTU will pay the purchase price to the OWNER, and the OWNER will deliver to CANTU a deed in form suitable for recording and effective to convey the PREMISES to CANTU.

(c) Upon request from CANTU by notice, OWNER will deposit a deed as above described in escrow with an escrowee designation by such notice with instructions to deliver such deed to CANTU upon full payment of the purchase price.

OWNER represents that OWNER now owns the PREMISES, they are not now subject to any lease or encumbrance, all annual labor due to be performed on unpatented mining claims (if any) included in the PREMISES has been performed, at the time of delivery of the deed OWNER then will own the PREMISES, and they then will not be subject to any encumbrance or lease not created by CANTU.

2. Lease. OWNER hereby leases the PREMISES to CANTU until this Agreement is terminated, together with:

(a) all minerals and mineral rights in the PREMISES; and

(b) the exclusive right and privilege to mine and sell all minerals from the PREMISES and to retain the proceeds of such sales; and

(c) all personal property and fixtures now or hereafter attached to or used in conjunction with mining the PREMISES: and

(d) so much of the use of the surface, surface rights, structures, improvements, water rights, rights-of-way, easements, tenements, hereditaments and appurtenances in, or in any way now or hereafter appertaining to the PREMISES as may be necessary or convenient to mine the PREMISES.

CANTU hereby accepts this Lease. Upon termination of this Agreement, the term of this Lease shall end, but CANTU shall not be relieved of any obligation to make payments with respect to ore mined by CANTU from the PREMISES during the term of this Lease and sold.

3. Payments. On or before the 15th of each calendar month CANTU will pay to OWNER an amount equal to ten per cent (10%) of the gross value of newly mined ore, to include ore found in old tunnels and shafts. Ore which is above ground on dumps, estimated at 2,000 ton will be paid for on the basis of Twenty Five Percent (25%) Gross Value received by Cantu for the ore or mineral mined by CANTU from the PREMISES. The term "gross value" will have the meaning set forth in Appendix B. Each such payment will be made by single check to OWNER, accompanied by a copy of each settlement

sheet or remittance statement pertaining to the sales on which such payment is based. CANTU may arrange with any ore buyer to make any payment and to transmit copies of settlement sheets and remittance statements directly to OWNER. At the option of OWNER and on request by notice, CANTU will hold for OWNER subject to OWNER's direction, in kind, ten per cent (10%) of gross production of all or any part of such ore or mineral. All ore or mineral with respect to which OWNER exercises such option will not be subject to the ten per cent (10%) money payment.

4. Exploration Program. CANTU will enter upon the PREMISES as soon as practicable and will conduct an examination and investigation as it shall deem appropriate to determine whether it can operate the PREMISES commercially.

5. Undertakings of CANTU. OWNER may terminate this Agreement in accordance with the provisions of paragraph 13 in case of default by CANTU in failing:

(a) to process a cumulative average of 600 tons of material per year beginning with the calendar year 1970, i.e., 600 tons multiplied by the number of full calendar years after 1970;

(b) to enter upon the PREMISES and conduct an examination and investigation;

(c) to operate the PREMISES in a workmanlike manner;

(d) upon reasonable request to make available to OWNER for examination or copying all maps, reports, and other data resulting from the examination and investigation of the PREMISES:

(e) to carry Workmen's Compensation insurance for all persons employed by CANTU in and upon the PREMISES:

(f) to expend or to cause to be expended the amount of annual labor required by law with respect to each unpatented mining claim, if any subject to this Lease on September 1 of each year, and to file affidavits stating that such work was performed;

(g) to pay when due (unless properly protested) all valid real estate taxes with respect to each patented mining claim, if any, and all fee land, if any, subject to this Lease; or

(h) to perform any convenant or condition of this Agreement to be performed by CANTU.

6. Undertakings of OWNER. Each OWNER:

(a) will deliver to CANTU all maps and other writings under such OWNER's control relating to location or title of the PREMISES:

(b) will cooperate with CANTU and will execute all documents requested by CANTU to secure Office of Mineral Exploration and all other loans, at no expense to OWNER:

(c) grants to CANTU an easement for ingress and egress, tunnels, telephone and electric lines and pipe lines to the PREMISES over and through all lands and roads now or hereafter owned or held by such OWNER;

(d) will do all acts and execute all documents requested by CANTU as necessary or convenient to effectuate any covenant to such OWNER:

(e) may at all reasonable times examine and copy all records of CANTU pertinent to any question which may arise under this Agreement; and

(f) may at all reasonable times enter in and upon all parts of the PREMISES for the purpose of inspection. All such entries shall be at the risk of such OWNER and without interfering with CANTU's operation.

7. Further Assurances. CANTU may take such action as it deems necessary or convenient to establish, hold, or defend its interest in the PREMISES against all persons, and each OWNER will cooperate with CANTU in such action.

8. Patent. CANTU may apply for the issuance of patent upon all or any unpatented mining claims, if any, included in the PREMISES and take all steps necessary or convenient thereto, all in OWNER's name but at CANTU's expense. OWNER will cooperate in such action by CANTU. Upon issuance of patent, each such patented claim shall remain part of the PREMISES.

9. Lesser Interest. If OWNER owns less than the entire interest in the PREMISES, CANTU will pay to OWNER that proportion of the purchase price and payments based upon production which the interest of the OWNER bears to the total interest in the PREMISES.

10. Surrender. CANTU may at any time by notice to OWNER surrender any part of the PREMISES: or surrender all of the PREMISES and terminate this Agreement, in which event OWNER may retain all payments theretofore made.

11. Removal of Property. During the term of the Lease and for ninety (90) days after termination of this Agreement, CANTU may remove all personal propertt placed on the PREMISES by CANTU and may remove all ore mined from the PREMISES during the term of the Lease.

12. Notices. All notices shall be in writing, directed to the parties at their addresses stated in the opening section. Any party by notice may designate a new address. All notices sent by registered or certified mail, addressed as stated above, shall be effective as of the date of mailing.

13. Default. If CANTU defaults in the performance of any covenant or condition hereof, OWNER may deliver notice to CANTU specifying in detail the default, and if such default shall not be corrected or remedied within thirty (30) days after receipt by CANTU of such notice, OWNER at OWNER's election may:

(a) terminate this Agreement by delivery of notice to CANTU at the end of thirty (30) days after the expiration of the period for appeal after entry of final judgment holding CANTU in default, if CANTU has failed to correct or remedy such default within such thirty (30) day period;

(b) enjoin the continuance of such default; or

(c) recover damages for such default in an amount not in excess of the unpaid balance of the purchase price, and which amount shall reduce the unpaid balance of the purchase price.

CANTU may remedy any default by paying to OWNER an amount equal to the damages recoverable for the specified default. CANTU shall be deemed to have corrected or remedied any default when CANTU shall in good faith commence action to correct or remedy such default if such action shall be prosecuted thereafter with due diligence.

14. Force Majeure. CANTU shall not be considered in default if CANTU's failure to perform any covenant or condition of this Agreement is caused to any extent by any circumstances not wholly and exclusively within the control of CANTU. The settlement of a labor dispute shall not be considered to be wholly and exclusively within the control of CANTU. Financial inability to make any payment shall be considered within the control of CANTU.

15. Successors. All the terms, covenants and conditions of this Agreement shall be binding upon and inure to the benefit of the administrators, executors, heirs, successors and assigns of the respective parties.

(a) the rights of each OWNER hereunder may be assigned in whole or in part. No change or division in ownership of any OWNER's interest in the PREMISES or in payments, however accomplished, shall operate to create or enlarge any obligation or diminish any right of CANTU, or be binding upon CANTU for any purpose until receipt by CANTU of a notice signed by or on behalf of such OWNER and all successors, stating the single person and address to which all future notices and payments may be directed by CANTU.

(b) CANTU may sublease its rights hereunder with respect to all or any part of the PREMISES, and may assign this Agreement with respect to all or any part of the PREMISES. Upon notice to each OWNER of the interest embraced by such assignment, the assignee shall be substituted as lessee in the place and stead of CANTU from the date of the assignment with respect to such part of the PREMISES, and thereafter CANTU shall have no further rights or liabilities under this Agreement with respect to such part of the PREMISES, nor shall any default by the assignee with respect to such part of the PREMISES affect this Agreement with respect to any balance of the PREMISES.

16. Scope of Agreement. This Agreement (including appendices hereto) constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements and understandings of the parties in connection therewith. No officer or other agent of CANTU is authorized to make any representation, warranty or promise not contained herein. No change, termination or attempted waiver of any of the provisions hereof shall be binding on CANTU unless in writing and signed by an officer of CANTU. No officer or other agent of CANTU is authorized to agree to any change, termination or waiver of any of the provisions hereof in any other way. No modification, waiver, termination, rescission, discharge or cancellation of this Agreement shall affect the right of CANTU to enforce any claim, whether or not liquidated, which accrued prior to the date of such modification, waiver, termination, rescission, discharge or cancellation of this Agreement, and no waiver of any provision of or default under this Agreement shall affect the right of CANTU thereafter to enforce said provision or to exercise any right or remedy in the event of any other default, whether or not similar.

17. Advance Royalty Payments.

CANTU will pay to the OWNERS and advance Royalty of FIVE THOUSAND DOLLARS ($5,000.00) on or before the 1st Day of February 1970. Said money shall apply towards royalties due the Owners on shipments of ore made by CANTU to buyers.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

IN WITNESS WHEREOF, the parties have executed this Agreement.

O W N E R

Arley R. Taylor

Arley R. Taylor

Kenneth O'Harra

Kenneth O'Harra

C A N T U

Recommended to Home Office for acceptance, this 8TH day of DECEMBER, 1969.

Field Representative

Secretary

A C K N O W L E D G M E N T

STATE OF WASHINGTON)
) SS.
COUNTY OF KING)

The foregoing instrument was acknowledged before me this 8TH day of DECEMBER, 1969.

Notary Public

APPENDIX A

THE PREMISES

NAME OF CLAIM	SECTION	NUMBER OF CLAIMS	ACRES PER CLAIM	TOTAL ACREAGE
Eagle Lode No's.1-4 Incl.	16	4	20	80
Eagle Lode No's 5-8 Incl.	16	4	40	160
Black Eagle No's 9-12 incl	16	4	40	160
Antimony Ridge No's 1,3,5 & 7.	21	4	40	160
		16		560

It is further understood and agreed that all claims staked and filed on by the Owners on CANTU within a radius of Three (3) Miles of the outer limits of the above listed claims shall be in the name of the owners and that those claims shall become a part of this "Purchase Option and Mining Lease".

Eagle Lode #

APPENDIX B

GROSS VALUE

"Gross value" shall mean the gross amount received by CANTU for all minerals mined from the PREMISES and sold to a mill, smelter or other plant (hereinafter referred to collectively as "receiving plant") less actual costs of transportation from mine to the receiving plant, and less treatment, assaying, weighing and special sampling charges incident to settlement with the receiving plant, but including any subsidy, bonus or equivalent thereof payable by the Federal Government or any agency thereof or from any other source as a result of the production, sale or disposal of ore, providing that payment of royalties on such subsidy or bonus is not contrary to law or governmental regulation.

Unless otherwise required by law or by regulation or action of a governmental agency, CANTU will ship all commercial ores mined from the PREMISES to the receiving plant offering the most favorable terms for the quantity available, costs of transportation and other charges being giving due consideration, and will appropriately bill the ores to show that they are from the PREMISES.

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2. Lease. OWNER hereby leases the PREMISES to CANTU until this Agreement is terminated, together with:

(a) all minerals and mineral rights in the PREMISES; and

(b) the exclusive right and privilege to mine and sell all minerals from the PREMISES and to retain the proceeds of such sales; and

(c) all personal property and fixtures now or hereafter attached to or used in conjunction with mining the PREMISES: and

(d) so much of the use of the surface, surface rights, structures, improvements, water rights, rights-of-way, easements, tenements, hereditaments and appurtenances in, or in any way now or hereafter appertaining to the PREMISES as may be necessary or convenient to mine the PREMISES.

CANTU hereby accepts this Lease. Upon termination of this Agreement, the term of this Lease shall end, but CANTU shall not be relieved of any obligation to make payments with respect to ore mined by CANTU from the PREMISES during the term of this Lease and sold.

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4. Exploration Program. CANTU will enter upon the PREMISES as soon as practicable and will conduct an examination and investigation as it shall deem appropriate to determine whether it can operate the PREMISES commercially.

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(c) to operate the PREMISES in a workmanlike manner;

(d) upon reasonable request to make available to OWNER for examination or copying all maps, reports, and other data resulting from the examination and investigation of the PREMISES:

(e) to carry Workmen's Compensation insurance for all persons employed by CANTU in and upon the PREMISES:

(f) to expend or to cause to be expended the amount of annual labor required by law with respect to each unpatented mining claim, if any subject to this Lease on September 1 of each year, and to file affidavits stating that such work was performed;

(g) to pay when due (unless properly protested) all valid real estate taxes with respect to each patented mining claim, if any, and all fee land, if any, subject to this Lease; or

(h) to perform any convenant or condition of this Agreement to be performed by CANTU.

6. Undertakings of OWNER. Each OWNER:

(a) will deliver to CANTU all maps and other writings under such OWNER's control relating to location or title of the PREMISES:

(b) will cooperate with CANTU and will execute all documents requested by CANTU to secure Office of Mineral Exploration and all other loans, at no expense to OWNER:

(c) grants to CANTU an easement for ingress and egress, tunnels, telephone and electric lines and pipe lines to the PREMISES over and through all lands and roads now or hereafter owned or held by such OWNER;

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(e) may at all reasonable times examine and copy all records of CANTU pertinent to any question which may arise under this Agreement; and

(f) may at all reasonable times enter in and upon all parts of the PREMISES for the purpose of inspection. All such entries shall be at the risk of such OWNER and without interfering with CANTU's operation.

7. Further Assurances. CANTU may take such action as it deems necessary or convenient to establish, hold, or defend its interest in the PREMISES against all persons, and each OWNER will cooperate with CANTU in such action.

8. Patent. CANTU may apply for the issuance of patent upon all or any unpatented mining claims, if any, included in the PREMISES and take all steps necessary or convenient thereto, all in OWNER's name but at CANTU's expense. OWNER will cooperate in such action by CANTU. Upon issuance of patent, each such patented claim shall remain part of the PREMISES.

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10. Surrender. CANTU may at any time by notice to OWNER surrender any part of the PREMISES: or surrender all of the PREMISES and terminate this Agreement, in which event OWNER may retain all payments theretofore made.

11. Removal of Property. During the term of the Lease and for ninety (90) days after termination of this Agreement, CANTU may remove all personal propertt placed on the PREMISES by CANTU and may remove all ore mined from the PREMISES during the term of the Lease.

12. Notices. All notices shall be in writing, directed to the parties at their addresses stated in the opening section. Any party by notice may designate a new address. All notices sent by registered or certified mail, addressed as stated above, shall be effective as of the date of mailing.

13. Default. If CANTU defaults in the performance of any covenant or condition hereof, OWNER may deliver notice to CANTU specifying in detail the default, and if such default shall not be corrected or remedied within thirty (30) days after receipt by CANTU of such notice, OWNER at OWNER's election may:

(a) terminate this Agreement by delivery of notice to CANTU at the end of thirty (30) days after the expiration of the period for appeal after entry of final judgment holding CANTU in default, if CANTU has failed to correct or remedy such default within such thirty (30) day period;

(b) enjoin the continuance of such default; or

(c) recover damages for such default in an amount not in excess of the unpaid balance of the purchase price, and which amount shall reduce the unpaid balance of the purchase price.

CANTU may remedy any default by paying to OWNER an amount equal to the damages recoverable for the specified default. CANTU shall be deemed to have corrected or remedied any default when CANTU shall in good faith commence action to correct or remedy such default if such action shall be prosecuted thereafter with due diligence.

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(a) the rights of each OWNER hereunder may be assigned in whole or in part. No change or division in ownership of any OWNER's interest in the PREMISES or in payments, however accomplished, shall operate to create or enlarge any obligation or diminish any right of CANTU, or be binding upon CANTU for any purpose until receipt by CANTU of a notice signed by or on behalf of such OWNER and all successors, stating the single person and address to which all future notices and payments may be directed by CANTU.

(b) CANTU may sublease its rights hereunder with respect to all or any part of the PREMISES, and may assign this Agreement with respect to all or any part of the PREMISES. Upon notice to each OWNER of the interest embraced by such assignment, the assignee shall be substituted as lessee in the place and stead of CANTU from the date of the assignment with respect to such part of the PREMISES, and thereafter CANTU shall have no further rights or liabilities under this Agreement with respect to such part of the PREMISES, nor shall any default by the assignee with respect to such part of the PREMISES affect this Agreement with respect to any balance of the PREMISES.

16. Scope of Agreement. This Agreement (including appendices hereto) constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements and understandings of the parties in connection therewith. No officer or other agent of CANTU is authorized to make any representation, warranty or promise not contained herein. No change, termination or attempted waiver of any of the provisions hereof shall be binding on CANTU unless in writing and signed by an officer of CANTU. No officer or other agent of CANTU is authorized to agree to any change, termination or waiver of any of the provisions hereof in any other way. No modification, waiver, termination, rescission, discharge or cancellation of this Agreement shall affect the right of CANTU to enforce any claim, whether or not liquidated, which accrued prior to the date of such modification, waiver, termination, rescission, discharge or cancellation of this Agreement, and no waiver of any provision of or default under this Agreement shall affect the right of CANTU thereafter to enforce said provision or to exercise any right or remedy in the event of any other default, whether or not similar.

17. Advance Royalty Payments.

CANTU will pay to the OWNERS and advance Royalty of FIVE THOUSAND DOLLARS ($5,000.00) on or before the 1st Day of February 1970. Said money shall apply towards royalties due the Owners on shipments of ore made by CANTU to buyers.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

IN WITNESS WHEREOF, the parties have executed this Agreement.

O W N E R

Arley R. Taylor

Kenneth O'Harra

C A N T U

Recommended to Home Office for acceptance, this 8th day of December, 1969.

Field Representative

Secretary

A C K N O W L E D G M E N T

STATE OF WASHINGTON)
) SS.
COUNTY OF King)

The foregoing instrument was acknowledged before me this 8TH day of December, 1969.

Notary Public

APPENDIX A

THE PREMISES

NAME OF CLAIM	SECTION	NUMBER OF CLAIMS	ACRES PER CLAIM	TOTAL ACREAGE
Eagle Lode No's.1-4 Incl.	16	4	20	80
Eagle Lode No's 5-8 Incl.	16	4	40	160
Black Eagle No's 9-12 incl	16	4	40	160
Antimony Ridge No's 1,3,5 & 7.	21	4	40	160
		16		560

It is further understood and agreed that all claims staked and filed on by the Owners on CANTU within a radius of Three (3) Miles of the outer limits of the above listed claims shall be in the name of the owners and that those claims shall become a part of this "Purchase Option and Mining Lease".

Eagle Lode #1-4 20
5 20
6 20
7 20
8 20
9 20
10 20
11 40
12 20
13 20
14 20
15 20
16 20
17 20
18 20
19 20
20 20

APPENDIX B

GROSS VALUE

"Gross value" shall mean the gross amount received by CANTU for all minerals mined from the PREMISES and sold to a mill, smelter or other plant (hereinafter referred to collectively as "receiving plant") less actual costs of transportation from mine to the receiving plant, and less treatment, assaying, weighing and special sampling charges incident to settlement with the receiving plant, but including any subsidy, bonus or equivalent thereof payable by the Federal Government or any agency thereof or from any other source as a result of the production, sale or disposal of ore, providing that payment of royalties on such subsidy or bonus is not contrary to law or governmental regulation.

Unless otherwise required by law or by regulation or action of a governmental agency, CANTU will ship all commercial ores mined from the PREMISES to the receiving plant offering the most favorable terms for the quantity available, costs of transportation and other charges being giving due consideration, and will appropriately bill the ores to show that they are from the PREMISES.

In the event that ores mined from the PREMISES are not sold but are shipped to a receiving plant operated by CANTU or an "affiliate," as defined below, the "gross purchase price" or "gross value" of such ores as the case may be shall be determined as if they had been sold to such receiving plant. Should CANTU ship ore to a receiving plant operated by CANTU or an affiliate or should CANTU sell ore to a receiving plant controlled by CANTU or an affiliate, CANTU shall be deemed to have received as good a price for all such ores as are being paid to independent miners for ores of like character and quantity and the treatment charges and other charges shall not exceed

those charged to such independent miners on ores of like character and quantity. Should OWNER believe that any charges imposed are excessive or that the price received by CANTU is unreasonable, CANTU shall, upon notice, produce evidence that the charges, or price, or both, comply with the requirements of the immediately preceding sentence.

The term "affiliate" shall mean CANTU, any partner of CANTU, any officer, director or controlling stockholder of CANTU, or any entity directly or indirectly controlling, controlled by, or under common control with CANTU.

PURCHASE OPTION AND MINING LEASE

THIS AGREEMENT, dated December 8, 1969 between CANTU MINERAL ASSOCIATION, a Washington Partnership (hereinafter called "CANTU"), whose address is 134 South West 153rd Street Seattle, Washington 98166, and ARLEY R. TAYLOR, KENNETH O'HARRA, a partnership (hereinafter called "OWNER"), whose address is 23732 Locust Way, ~~Seattle~~ Bothell, Wa. for MR. TAYLOR and 1211 Warren Street, Fairbanks, Alaska for MR. O'HARRA.

W I T N E S S E T H:

The parties therby agree as follows:

1. Purchase Option. For and in consideration of $10.00 and other good and valuable considerations paid by CANTU to OWNER, receipt of which is hereby acknowledged, OWNER hereby grants to CANTU an option to purchase the real property (hereinafter called the "PREMISES"), described in Appendix A for the purchase price of $400,000.00, reduced by all amounts

paid to OWNER and also reduced by the value of all ore or mineral taken by OWNER pursuant to paragraph 3 prior to exercise of the option.

(a) CANTU may exercise the option by notice to OWNER at any time prior to the termination of this Agreement.

(b) Upon such exercise of the option, at a closing to be held at a time and place stated in the notice of exercise, CANTU will pay the purchase price to the OWNER, and the OWNER will deliver to CANTU a deed in form suitable for recording and effective to convey the PREMISES to CANTU.

(c) Upon request from CANTU by notice, OWNER will deposit a deed as above described in escrow with an escrowee designation by such notice with instructions to deliver such deed to CANTU upon full payment of the purchase price.

OWNER represents that OWNER now owns the PREMISES, they are not now subject to any lease or encumbrance, all annual labor due to be performed on unpatented mining claims (if any) included in the PREMISES has been performed, at the time of delivery of the deed OWNER then will own the PREMISES, and they then will not be subject to any encumbrance or lease not created by CANTU.

2. Lease. OWNER hereby leases the PREMISES to CANTU until this Agreement is terminated, together with:

(a) all minerals and mineral rights in the PREMISES; and

(b) the exclusive right and privilege to mine and sell all minerals from the PREMISES and to retain the proceeds of such sales; and

(c) all personal property and fixtures now or hereafter attached to or used in conjunction with mining the PREMISES: and

(d) so much of the use of the surface, surface rights, structures, improvements, water rights, rights-of-way, easements, tenements, hereditaments and appurtenances in, or in any way now or hereafter appertaining to the PREMISES as may be necessary or convenient to mine the PREMISES.

CANTU hereby accepts this Lease. Upon termination of this Agreement, the term of this Lease shall end, but CANTU shall not be relieved of any obligation to make payments with respect to ore mined by CANTU from the PREMISES during the term of this Lease and sold.

3. Payments. On or before the 15th of each calendar month CANTU will pay to OWNER an amount equal to ten per cent (10%) of the gross value of newly mined ore, to include ore found in old tunnels and shafts. Ore which is above ground on dumps, estimated at 2,000 ton will be paid for on the basis of Twenty Five Percent (25%) Gross Value received by Cantu for the ore or mineral mined by CANTU from the PREMISES. The term "gross value" will have the meaning set forth in Appendix B. Each such payment will be made by single check to OWNER, accompanied by a copy of each settlement

sheet or remittance statement pertaining to the sales on which such payment is based. CANTU may arrange with any ore buyer to make any payment and to transmit copies of settlement sheets and remittance statements directly to OWNER. At the option of OWNER and on request by notice, CANTU will hold for OWNER subject to OWNER's direction, in kind, ten per cent (10%) of gross production of all or any part of such ore or mineral. All ore or mineral with respect to which OWNER exercises such option will not be subject to the ten per cent (10%) money payment.

4. Exploration Program. CANTU will enter upon the PREMISES as soon as practicable and will conduct an examination and investigation as it shall deem appropriate to determine whether it can operate the PREMISES commercially.

5. Undertakings of CANTU. OWNER may terminate this Agreement in accordance with the provisions of paragraph 13 in case of default by CANTU in failing:

(a) to process a cumulative average of 600 tons of material per year beginning with the calendar year 1970, i.e., 600 tons multiplied by the number of full calendar years after 1970;

(b) to enter upon the PREMISES and conduct an examination and investigation;

(c) to operate the PREMISES in a workmanlike manner;

(d) upon reasonable request to make available to OWNER for examination or copying all maps, reports, and other data resulting from the examination and investigation of the PREMISES:

(e) to carry Workmen's Compensation insurance for all persons employed by CANTU in and upon the PREMISES:

(f) to expend or to cause to be expended the amount of annual labor required by law with respect to each unpatented mining claim, if any subject to this Lease on September 1 of such year, and to file affidavits stating that such work was performed;

(g) to pay when due (unless properly protested) all valid real estate taxes with respect to each patented mining claim, if any, and all fee land, if any, subject to this Lease; or

(h) to perform any convenant or condition of this Agreement to be performed by CANTU.

6. Undertakings of OWNER. Each OWNER:

(a) will deliver to CANTU all maps and other writings under such OWNER's control relating to location or title of the PREMISES:

(b) will cooperate with CANTU and will execute all documents requested by CANTU to secure Office of Mineral Exploration and all other loans, at no expense to OWNER:

(c) grants to CANTU an easement for ingress and egress, tunnels, telephone and electric lines and pipe lines to the PREMISES over and through all lands and roads now or hereafter owned or held by such OWNER;

(d) will do all acts and execute all documents requested by CANTU as necessary or convenient to effectuate any covenant to such OWNER:

(e) may at all reasonable times examine and copy all records of CANTU pertinent to any question which may arise under this Agreement; and

(f) may at all reasonable times enter in and upon all parts of the PREMISES for the purpose of inspection. All such entries shall be at the risk of such OWNER and without interfering with CANTU's operation.

7. Further Assurances. CANTU may take such action as it deems necessary or convenient to establish, hold, or defend its interest in the PREMISES against all persons, and each OWNER will cooperate with CANTU in such action.

8. Patent. CANTU may apply for the issuance of patent upon all or any unpatented mining claims, if any, included in the PREMISES and take all steps necessary or convenient thereto, all in OWNER's name but at CANTU's expense. OWNER will cooperate in such action by CANTU. Upon issuance of patent, each such patented claim shall remain part of the PREMISES.

9. Lesser Interest. If OWNER owns less than the entire interest in the PREMISES, CANTU will pay to OWNER that proportion of the purchase price and payments based upon production which the interest of the OWNER bears to the total interest in the PREMISES.

10. Surrender. CANTU may at any time by notice to OWNER surrender any part of the PREMISES: or surrender all of the PREMISES and terminate this Agreement, in which event OWNER may retain all payments theretofore made.

11. Removal of Property. During the term of the Lease and for ninety (90) days after termination of this Agreement, CANTU may remove all personal propertt placed on the PREMISES by CANTU and may remove all ore mined from the PREMISES during the term of the Lease.

12. Notices. All notices shall be in writing, directed to the parties at their addresses stated in the opening section. Any party by notice may designate a new address. All notices sent by registered or certified mail, addressed as stated above, shall be effective as of the date of mailing.

13. Default. If CANTU defaults in the performance of any covenant or condition hereof, OWNER may deliver notice to CANTU specifying in detail the default, and if such default shall not be corrected or remedied within thirty (30) days after receipt by CANTU of such notice, OWNER at OWNER's election may:

(a) terminate this Agreement by delivery of notice to CANTU at the end of thirty (30) days after the expiration of the period for appeal after entry of final judgment holding CANTU in default, if CANTU has failed to correct or remedy such default within such thirty (30) day period;

(b) enjoin the continuance of such default; or

(c) recover damages for such default in an amount not in excess of the unpaid balance of the purchase price, and which amount shall reduce the unpaid balance of the purchase price.

CANTU may remedy any default by paying to OWNER an amount equal to the damages recoverable for the specified default. CANTU shall be deemed to have corrected or remedied any default when CANTU shall in good faith commence action to correct or remedy such default if such action shall be prosecuted thereafter with due diligence.

14. Force Majeure. CANTU shall not be considered in default if CANTU's failure to perform any covenant or condition of this Agreement is caused to any extent by any circumstances not wholly and exclusively within the control of CANTU. The settlement of a labor dispute shall not be considered to be wholly and exclusively within the control of CANTU. Financial inability to make any payment shall be considered within the control of CANTU.

15. Successors. All the terms, covenants and conditions of this Agreement shall be binding upon and inure to the benefit of the administrators, executors, heirs, successors and assigns of the respective parties.

(a) the rights of each OWNER hereunder may be assigned in whole or in part. No change or division in ownership of any OWNER's interest in the PREMISES or in payments, however accomplished, shall operate to create or enlarge any obligation or diminish any right of CANTU, or be binding upon CANTU for any purpose until receipt by CANTU of a notice signed by or on behalf of such OWNER and all successors, stating the single person and address to which all future notices and payments may be directed by CANTU.

(b) CANTU may sublease its rights hereunder with respect to all or any part of the PREMISES, and may assign this Agreement with respect to all or any part of the PREMISES. Upon notice to each OWNER of the interest embraced by such assignment, the assignee shall be substituted as lessee in the place and stead of CANTU from the date of the assignment with respect to such part of the PREMISES, and thereafter CANTU shall have no further rights or liabilities under this Agreement with respect to such part of the PREMISES, nor shall any default by the assignee with respect to such part of the PREMISES affect this Agreement with respect to any balance of the PREMISES.

16. Scope of Agreement. This Agreement (including appendices hereto) constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements and understandings of the parties in connection therewith. No officer or other agent of CANTU is authorized to make any representation, warranty or promise not contained herein. No change, termination or attempted waiver of any of the provisions hereof shall be binding on CANTU unless in writing and signed by an officer of CANTU. No officer or other agent of CANTU is authorized to agree to any change, termination or waiver of any of the provisions hereof in any other way. No modification, waiver, termination, rescission, discharge or cancellation of this Agreement shall affect the right of CANTU to enforce any claim, whether or not liquidated, which accrued prior to the date of such modification, waiver, termination, rescission, discharge or cancellation of this Agreement, and no waiver of any provision of or default under this Agreement shall affect the right of CANTU thereafter to enforce said provision or to exercise any right or remedy in the event of any other default, whether or not similar.

17. Advance Royalty Payments.

CANTU will pay to the OWNERS and advance Royalty of FIVE THOUSAND DOLLARS ($5,000.00) on or before the 1st Day of February 1970. Said money shall apply towards royalties due the Owners on shipments of ore made by CANTU to buyers.

18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

IN WITNESS WHEREOF, the parties have executed this Agreement.

O W N E R

Arley R. Taylor

Kenneth O'Harra

C A N T U

Recommended to Home Office for acceptance, this 8th day of December, 1969.

Field Representative

Secretary

A C K N O W L E D G M E N T

STATE OF WASHINGTON)
) SS.
COUNTY OF King)

The foregoing instrument was acknowledged before me this 8TH day of December, 1969.

Notary Public

APPENDIX A

THE PREMISES

NAME OF CLAIM	SECTION	NUMBER OF CLAIMS	ACRES PER CLAIM	TOTAL ACREAGE
Eagle Lode No's.1-4 Incl.	16	4	20	80
Eagle Lode No's 5-8 Incl.	16	4	40	160
Black Eagle No's 9-12 incl	16	4	40	160
Antimony Ridge No's 1,3,5 & 7.	21	4	40	160
		16		560

It is further understood and agreed that all claims staked and filed on by the Owners or CANTU within a radius of Three (3) Miles of the outer limits of the above listed claims shall be in the name of the owners and that those claims shall become a part of this "Purchase Option and Mining Lease".

Eagle Lode # [illegible]

[illegible]

520

APPENDIX B

GROSS VALUE

"Gross value" shall mean the gross amount received by CANTU for all minerals mined from the PREMISES and sold to a mill, smelter or other plant (hereinafter referred to collectively as "receiving plant") less actual costs of transportation from mine to the receiving plant, and less treatment, assaying, weighing and special sampling charges incident to settlement with the receiving plant, but including any subsidy, bonus or equivalent thereof payable by the Federal Government or any agency thereof or from any other source as a result of the production, sale or disposal of ore, providing that payment of royalties on such subsidy or bonus is not contrary to law or governmental regulation.

Unless otherwise required by law or by regulation or action of a governmental agency, CANTU will ship all commercial ores mined from the PREMISES to the receiving plant offering the most favorable terms for the quantity available, costs of transportation and other charges being giving due consideration, and will appropriately bill the ores to show that they are from the PREMISES.

In the event that ores mined from the PREMISES are not sold but are shipped to a receiving plant operated by CANTU or an "affiliate," as defined below, the "gross purchase price" or "gross value" of such ores as the case may be shall be determined as if they had been sold to such receiving plant. Should CANTU ship ore to a receiving plant operated by CANTU or an affiliate or should CANTU sell ore to a receiving plant controlled by CANTU or an affiliate, CANTU shall be deemed to have received as good a price for all such ores as are being paid to independent miners for ores of like character and quantity and the treatment charges and other charges shall not exceed

those charged to such independent miners on ores of like character and quantity. Should OWNER believe that any charges imposed are excessive or that the price received by CANTU is unreasonable, CANTU shall, upon notice, produce evidence that the charges, or price, or both, comply with the requirements of the immediately preceding sentence.

The term "affiliate" shall mean CANTU, any partner of CANTU, any officer, director or controlling stockholder of CANTU, or any entity directly or indirectly controlling, controlled by, or under common control with CANTU.

L. J. MANNING & ASSOCIATES LTD.

CONSULTING MINING AND GEOLOGICAL ENGINEERS

610—890 WEST PENDER STREET VANCOUVER 1. B.C.

OFFICE PHONE: 683-5861

RESIDENTIAL PHONE: L. J. MANNING - 985-5690

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November 17, 1970

Mr. Jordan Freidman,
Cantu Mineral Association,
1330 Boylston Street,
Chestnut Hill, Mass. 02167
U. S. A.

Dear Sir:

Re: Scrafford Antimony Property

Assessments of the Scrafford Antimony property indicate a wide range of profitabilities as ore reserves increase and daily mill tonnages assume practical proportions.

It is indicated that an operation based on 285,000 tons reserves and a 200 t.p.d. mill would generate $5,000,000 and develop about $2,300,000 profit after taxes, repayment of capital, interest, and other financial obligations. It is noted that the tonnage and grade of ore necessary to achieve this end is that noted as "Probable tons per foot" in the L. J. Manning report of August 5, 1970 projected to a depth of 300 feet. Drilling and other work requested in the recent OME application could very well prove up this tonnage.

It is also indicated that an operation based on 25 per cent of the ore reserves considered above would generate only enough cash to recover the capital and other costs necessary to finance the operation.

Data from which the foregoing were derived is appended.

We believe that the tonnage required at grade to achieve the profitability suggested in Study 1 is an excellent exploration bet and that the value of the property is relative to that potential.

As regards an option of the property we would recommend an agreement contingent on a free look at the property reports, maps, etc. and involving the following:

Continued.....2

(a) cash repayment of useful exploration monies spent on the property to date by Cantu.

(b) pick-up of obligations for royalty payments and, if applicable, OME participation.

(c) An obligation to complete required exploration and development works within stipulated periods.

(d) an obligation to maintain the claims in good standing for at least one year if the option is dropped.

(e) share participation in the operating company or royalties based on either gross income or net profit after taxes with a maximum for home office and other extraordinary expenses stipulated as a percentage of total operating costs.

As regards a sale of the property we would recommend an agreement contingent on a free look at the property reports, maps, etc. and involving the following:

(a) cash repayment for useful exploration monies spent on the property by Cantu.

(b) pick-up of obligations for royalty payments and, if applicable, OME participation.

(c) cash, royalty payments, or shares in the operating company relative to the present value and cash flow noted in the appended studies.

We would be pleased to recommend more specific agreements if you so desire.

Yours very truly,

L. J. MANNING & ASSOCIATES LTD.

H. M. Thurgood, P.Eng.

HMT:mjb

ROUGH PROFITABILITY ANALYSIS

November 6, 1970

Cantu Mineral Association--Scrafford Antimony Property

Present Option - 10% NSR as royalty to pay out $400,000.

Estimated tonnage - 950 tons per ft. @ 11% Sb
- assume mining depth to 300'
- 950 x 300 = 285,000 tons

Estimated gross value @ 65¢/lb. Sb, 50% recovery
= 11 x 20 x 285,000 x .65 x .50 = $20,500,000

Estimated conc. tonnage @ 40% Sb.

$$\frac{285{,}000 \times 0.50}{40} \times 11 = 36{,}500 \text{ tons}$$

Estimated total freight cost (conc)
36,500 x $65 = $2,360,000

Estimated mill required
285,000 tons - 5 years = 57,000 tpy
300 DPY = 190 tpd
say 200 tpd.

Depletion allce. 23% of gross max. 50% of net.

Interest on capital @ 10%

Assumed costs

Capital	
Mill construction, expansion say	$1,500,000
Mine plant and development	1,000,000
Total const.	$2,500,000
Royalties	$ 400,000
OME repayment (incl. 10% int.)	165,000
share OME program	50,000
prior costs (1970)	100,000
working capital & inv.	250,000
Operating costs mine, mill total $40/ton	$11,400,000

Consider write-off of OME, capital costs as unit (mine plant, mill plant, etc.) over 5 years, Royalties over 1st year.

No Alaska taxes have been considered.

	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5	Total
Tons crude	57,000	57,000	57,000	57,000	57,000	285,000
NSR	4,100	4,100	4,100	4,100	4,100	20,500,000
Royalties	400					
Net aft. Roy.	3,700	4,100	4,100	4,100	4,100	20,100,000
COSTS						
Conc. Frt.	472	472	472	472	472	2,360,000
Mine & Mill	2,280	2,280	2,280	2,280	2,280	11,400,000
Int.	275	226	126	19	-	646,000
Amort.	613	613	613	613	613	3,065,000
Total	3,640	3,591	3,491	3,384	3,365	17,471,000
Opt. profit	60	509	609	716	735	
Depl. 50%	30	255	305	358	367	
Taxable	30	254	304	358	368	
Taxes 50%	15	127	152	179	184	
NPAT	45	382	457	537	551	1,972,000
Non Cash	613	613	613	613	613	3,065,000
Cash Gain	658	995	1,070	1,150	1,164	5,037,000
Cash st.	250	250	250	250	1,208	250
Cash Gain	658	995	1,070	1,150	1,164	5,037
Total Cash	908	1,245	1,320	1,400	2,372	5,287
Pay Back	658	995	1,070	192	-	2,915
Cash end	250	250	250	1,208	$ 2,372,000	

Present value of cash @ 15%
in 6 years = $ 1,030,000

Total Costs

Mine & Mill	$2,500,000
Work Cap.	250,000
OME	165,000
OME share	50,000
Prior costs	100,000
	$3,065,000

ROI (Return on Investment)

			15% Factor		
Yr. -1	=	(3,065)	1.000	=	(3,065)
Yr. 1		658	0.870	=	572
2		995	0.756	=	752
3		1,070	0.658	=	704
4		1,150	0.572	=	658
5		1,164	0.497	=	579
				Low	+200

		20%	
Yr. -1	(3,065)	1.000	(3,065)
Yr. 1	658	.833	.548
2	995	.694	.691
3	1,070	.579	.620
4	1,150	.482	.554
5	1,164	.402	.468
		High	-184

ROI Discounted cash flow basis approximates 17½%

$1,015,000

ROUGH PROFITABILITY ANALYSIS November 10, 1970

Cantu Mineral Association--Scrafford Antimony Property

Present Option - 10% NSR as royalty to pay out $400,000

Estimated tonnage - 475 tons per foot @ 11.0% Sb.
- assume mining depth to 150 ft.
= 475 x 150 = 71,250 tons

Estimated gross value @ 65¢ lb. Sb, 50% recovery,
= 11 x 20 x 71,250 x .65 x .50 = $5,125,000

Estimated conc. tonnage @ 40% Sb

$$\frac{71,250 \times 0.50}{40} \times 11 = 9,125$$

Estimated total conc. freight cost
9,125 x $65 = $593,000

Estimated mill required
71,250 tons = 4 yrs. = 17,800
300 days per year = 59
say 60 tpd

Depletion Allce.	23% of gross, max. 50% of net
Federal Taxes	50%
Interest on capital	10%

Alaska taxes - not applied in this study.

Assumed costs

Capital	
Mill modification - purchase	$ 250,000 say
Mine plant and development	250,000 say
Working Capital	200,000 say
Royalties	400,000
OME Repayment + 10% int.	165,000 say
Share OME program	50,000 say
Prior costs	100,000 say
Operating costs mine, mill, total @ $50 per ton crude	$2,850,000

Consider

Write off of OME, capital costs as unit over 4 years, royalty over 4 years.
Amortization of all:

Mine & Mill	$ 500,000
Working Capital	200,000
OME	165,000
Share OME	50,000
Previous work	100,000
	$1,015,000

	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Total
Tons crude	17,800	17,800	17,800	17,800	71,200
Tons Conc.	2,280	2,280	2,280	2,280	9,120
NSR	1,281	1,281	1,281	1,281	5,124,000
Royalties	100	100	100	100	400,000
Net after Royalties	1,181	1,181	1,181	1,181	4,724,000
COSTS					
Conc. Frt.	148	148	148	148	592,000
Mine Mill	712	712	712	712	2,848,000
Interest	70	61	36	8	175,000
Amort.	254	254	254	254	1,016,000
Total costs	1,184	1,175	1,150	1,122	4,631,000
Optg. Profit	(3)	6	31	59	
Depl. @ 50%	-	3	15	29	
Taxable	-	3	16	30	
Taxes 50%	-	2	8	15	
NPAT	(3)	5	23	44	69
Non Cash	254	254	254	254	1,016
Cash Gain	251	259	277	298	1,085
Cash Start	200	200	200	200	
Cash gain	251	259	277	298	
Total Cash	451	459	477	498	
Pay Back	251	259	277	78	
Cash end	200	200	200	420	

Present Value of 420 in 6 years @ 15% = $182,000

	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Total
Tons crude	17,800	17,800	17,800	17,800	71,200
Tons Conc.	2,280	2,280	2,280	2,280	9,120
NSR	1,281	1,281	1,281	1,281	5,124,000
Royalties	100	100	100	100	400,000
Net after Royalties	1,181	1,181	1,181	1,181	4,724,000
COSTS					
Conc. Frt.	148	148	148	148	592,000
Mine Mill	712	712	712	712	2,848,000
Interest	70	61	36	8	175,000
Amort.	254	254	254	254	1,016,000
Total costs	1,184	1,175	1,150	1,122	4,631,000
Optg. Profit	(3)	6	31	59	
Depl. @ 50%	-	3	15	29	
Taxable	-	3	16	30	
Taxes 50%	-	2	8	15	
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Cash gain	251	259	277	298	
Total Cash	451	459	477	498	
Pay Back	251	259	277	78	
Cash end	200	200	200	420	

Present Value of 420 in 6 years @ 15% = $182,000

Total Costs

Mine & Mill	$ 500,000
Working Capital	200,000
OME	165,000
Share OME	50,000
Previous work	100,000
	$1,015,000

ROI Discounted-cash-flow basis

		Factor	
Year 0	(1,015,000	1.00	(1,051)
1	251,000	.980	246
2	295,000	.961	249
3	277,000	.942	260
4	298,000	.924	275
			+15

ROI = 2% very closely

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING ENGINEERS
610—890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

August 31, 1970

Cantu Mineral Association,
General Delivery,
College Post Office,
Fairbanks, Alaska
U. S. A.

Attention: Mr. Dan Ashbrook

Dear Sirs:

Re: Cantu Mining and Milling Economics

We are forwarding herewith for your use, information, and appropriate distribution three (3) copies of each of the following preliminary documents pertaining to the above:

(a) Graphs 1 thru 4, dated August, 1970
Net Value of Mill Feed at Grade
vs
Net Contract Price per lb. Sb.

(b) Table 7, dated 20 August, 1970
Cantu Minerals Cost Estimates

(c) Table 6, dated August, 1970
Cantu Millable Reserves From Removing Top 10 ft. of Veins as Presently Known.

Although these data are most pertinent to the operation no detailed information as regards the present contract, wages, salaries, mill throughput, power, and other operating costs have (to date) been made available to this office. Our costs have, therefore, been estimated from our observations and experience.

Continued.....2

By utilizing appropriate graphs and guesstimating tonnage (about 30 t.p.d. measured during the writer's visit) the graphs show the various break even points of the present mill and the associated problems.

It is obvious from the graphs that:

(a) The present mill can treat only high grade material at a profit

(b) The presently estimated mill recoveries permit the use of such a circuit for stop-gap temporary high-grading only.

(c) Higher than normal arsenic in the product (with the impossibly high penalties believed to be part of the new Hibino contract) are disastrous.

(d) Some control of grade of feed and impurities to the mill must be imposed.

(e) No shipment of concentrate can be made prior to confirmation of grade and impurities in the product.

Based on the writer's visit to the mill earlier this month indications are that Graph 1 most closely represents present milling conditions.

Should the foregoing data require clarification please contact the writer.

Yours very truly,

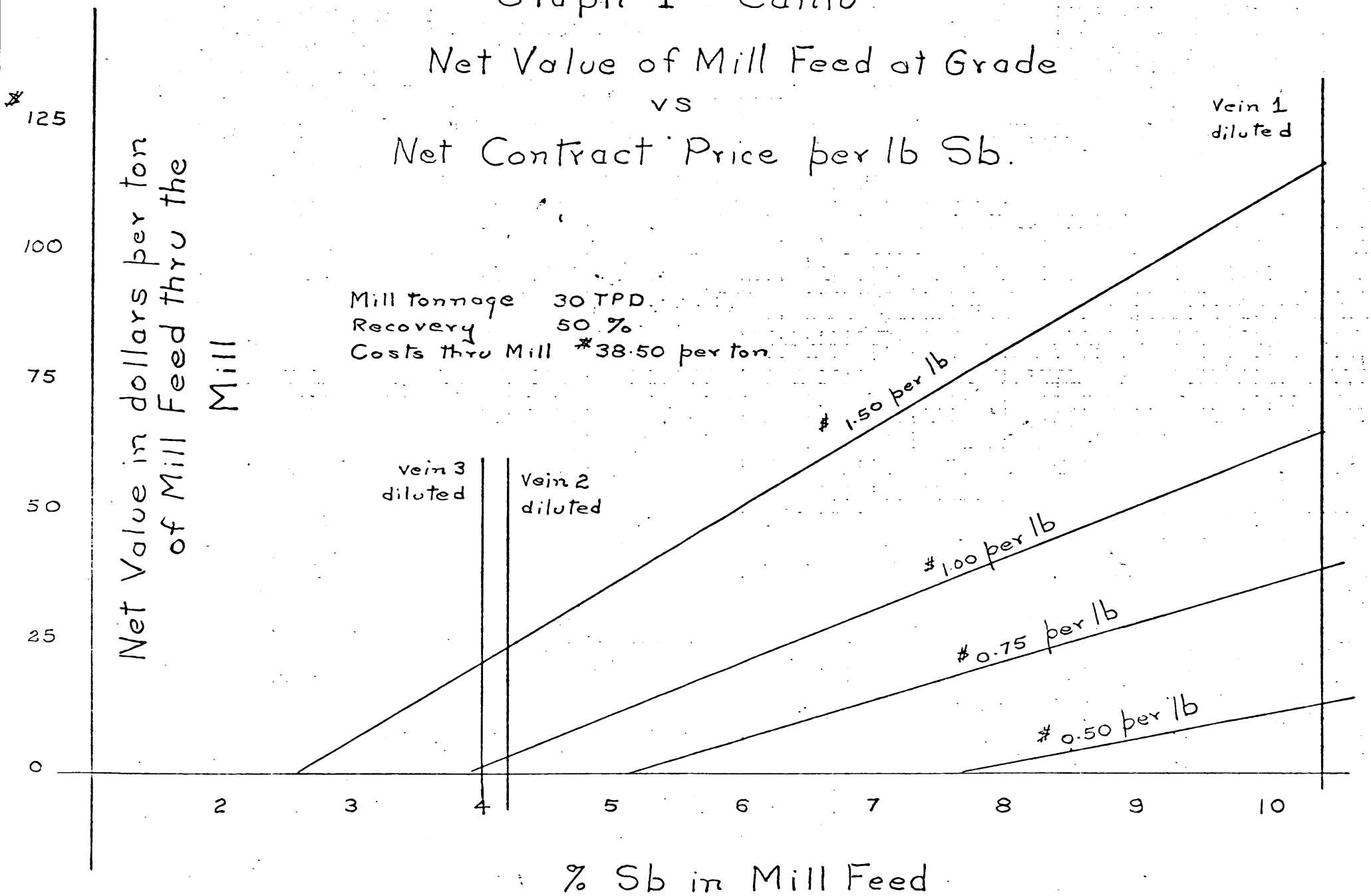
L. J. MANNING & ASSOCIATES LTD.

H. M. Thurgood, P.Eng.

c.c. with attach.
Jordan Friedman
Burt Glazer
Joe Shepherd
Cantu office (Seattle)

Graph 1 - Cantu

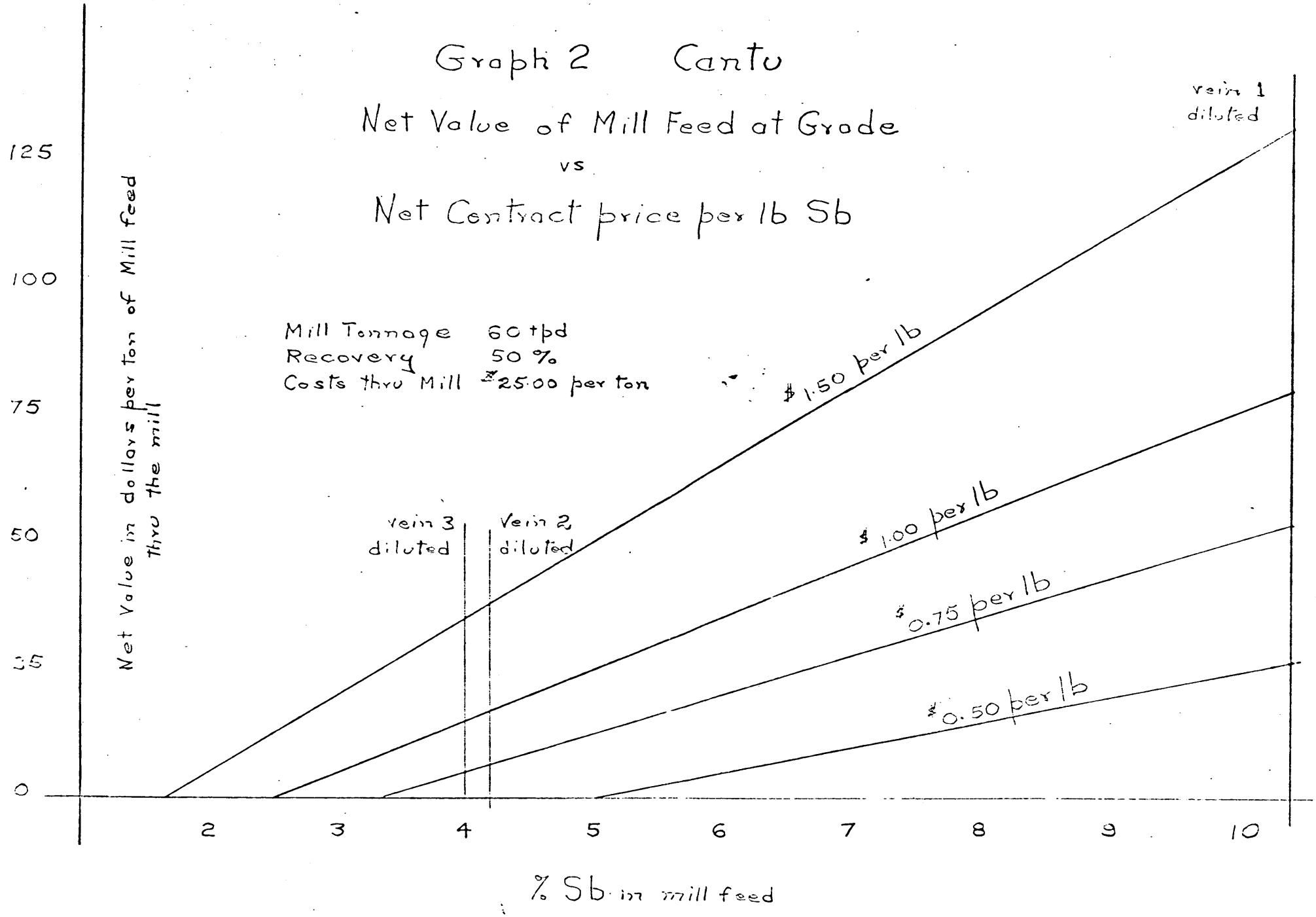
Net Value of Mill Feed at Grade vs Net Contract Price per lb Sb.



HMT Aug 1970

Graph 2 Cantu

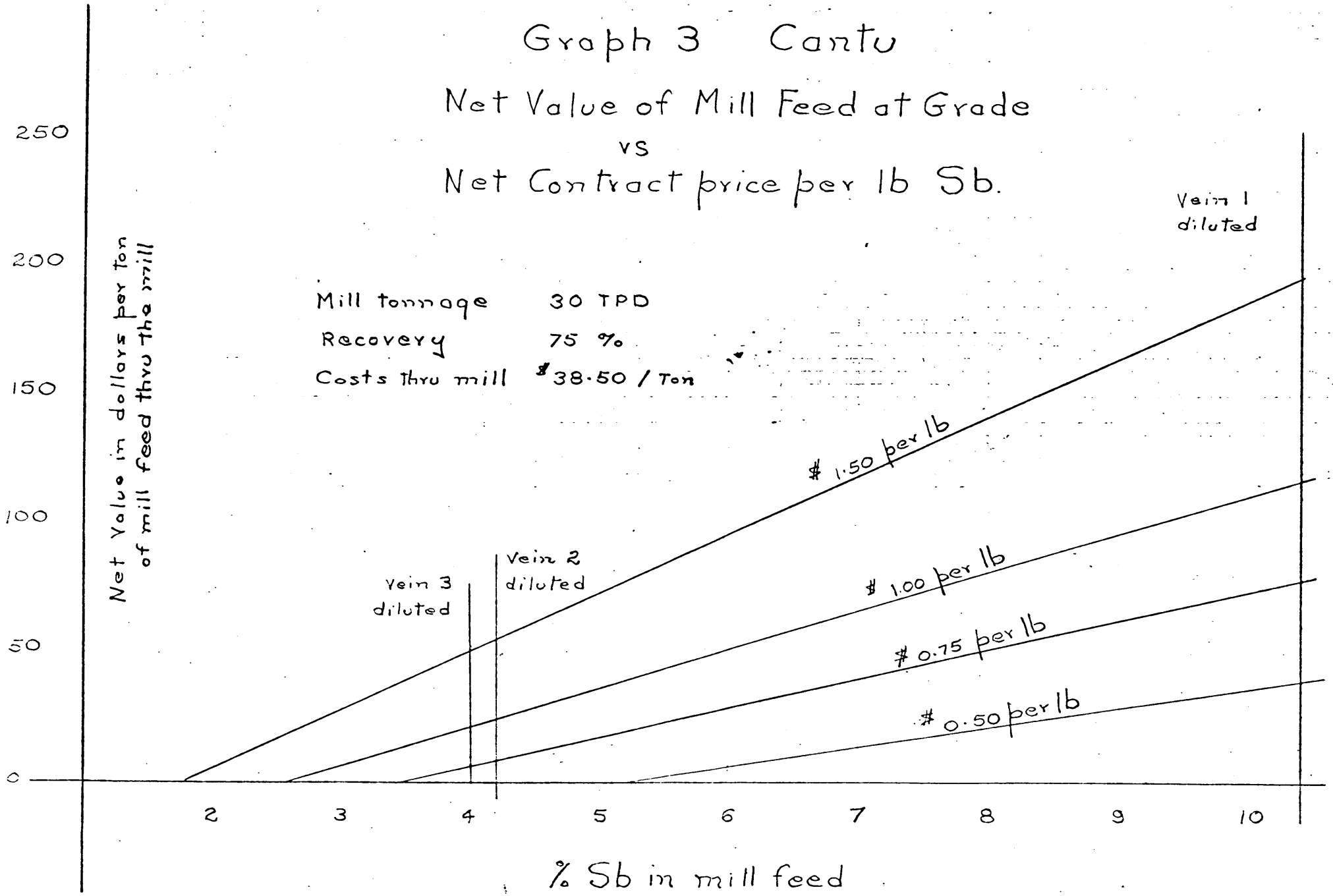
Net Value of Mill Feed at Grade vs Net Contract price per lb Sb



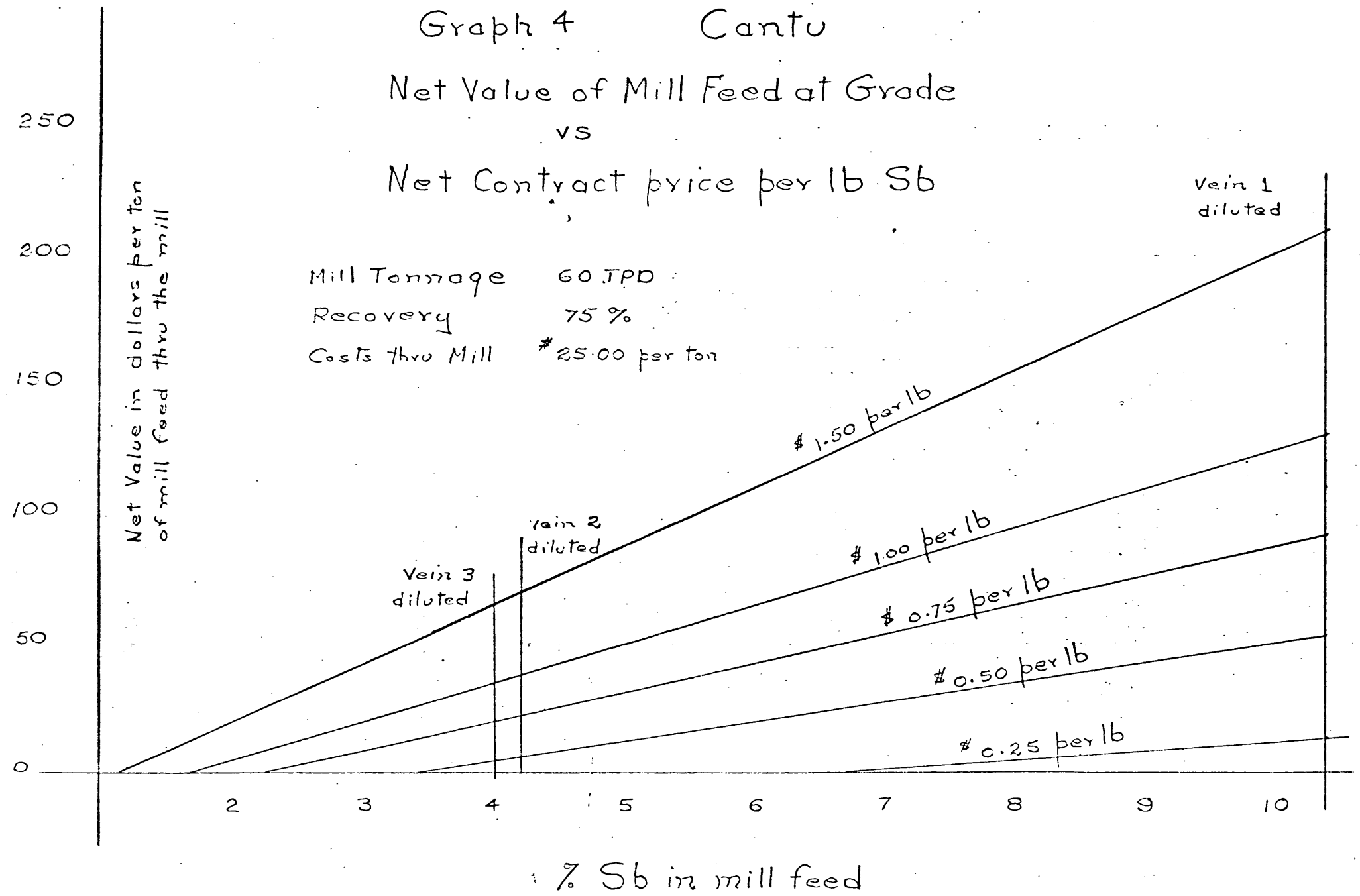
HMT Aug 1970

Graph 3 Cantu

Net Value of Mill Feed at Grade vs Net Contract price per lb Sb.



H.M.T. Aug 1970


Graph 4 Cantu
Net Value of Mill Feed at Grade
vs
Net Contract price per lb Sb
Mill Tonnage 60 TPD
Recovery 75 %
Costs thru Mill $25.00 per ton
Net Value in dollars per ton of mill feed thru the mill
250
200
150
100
50
0
Vein 1 diluted
Vein 2 diluted
Vein 3 diluted
$ 1.50 per lb
$ 1.00 per lb
$ 0.75 per lb
$ 0.50 per lb
$ 0.25 per lb
2
3
4
5
6
7
8
9
10
% Sb in mill feed

HHT Aug 1970

CANTU MINERAL ASSOCIATION

PROGRESS REPORT TO 31st AUGUST, 1970
FAIRBANKS ANTIMONY PROPERTY
ADDENDUM TO REPORT COMPLETED 1st AUGUST 1970
BY
L. J. MANNING & ASSOCIATES LTD.

L.J. Manning, P.Eng.,
L.J. Manning & Associates Ltd.,
610 - 890 West Pender Street,
Vancouver 1, B.C.

Date: September 18, 1970

File No.: Fairbanks D-2
Quad 70-3

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LIST OF TABLES

Table 6: Claim Detail Attached

Table 7: Metallurgical Test Program Attached

LIST OF MAPS

Dwg. No. 1A: Property Location Map 1:24000

Dwg. No. 23: Composite Plan or Workings & Proposed Work Areas

Dwg. No. 24: Claim Location Map

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING AND GEOLOGICAL ENGINEERS

610–890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

September 18, 1970.

The President and Directors,
Cantu Mineral Association
14633 Ambaum Blvd. S.W.
Seattle, Washington 98166
U. S. A.

Dear Sirs:

The following is an addendum to the progress report dated August 5th, 1970 on work completed to the 1st of August, 1970.

SUMMARY

Property records in this office are now complete and the claim block is as listed on Table No. 6 and as shown on Dwgs. No. 1A and 24.

Direct trenching on the extension of claim No. 2 indicated that various fractures in the vicinity of vein 2 and vein 4 contain Antimony of the approximate grade of vein 4. Direct trenching on the extensions of vein 1 and vein 3, that is trenches 34 to 36 encountered no more commercial stibnite but trench 36 exhibited what is thought to be very favourable alteration with no visible stibnite. Trenches completed are as indicated on Dwg. No. 23.

Drawing No. 23 by our Mr. S.S. Tan, indicates the proposed trenching targets as derived from collating the Tricon geochem with air photo lineaments and his personal knowledge of the property. Because of the disturbances of the ground in the immediate vicinity of vein No. 1, no geochemical samples were taken on the downhill side in this area. Geochemically several areas on the property appear more favourable than the vicinity of the No. 2 vein for Antimony deposition. Trenches have been located on plan No. 23 designed to cut apparent structural lineaments uphill from the anomalous areas.

Completed trenching as indicated on Dwg. 23 is estimated at 36,770 yards to date. A further 26 trenches are proposed on the same drawing and are estimated to require the removal of 49,840 yards.

Trenching to date has indicated two probable locations for diamond drilling. These are indicated by notes and circles on plan 23. Please note that the circles do not indicate the location for a drill hole collar in detail but rather the area of interest to be expanded by diamond drilling.

Preliminary flotation testing of weighted samples from three parts of the known veins indicated that sulfides could be floated easily but that more work will be required to solve the problem of separating the oxide portions from the tailings. Flotation of the tailings run from the Fox operation resulted in a clean appearing sulfide concentrate but no assays are forthcoming. Comments by our Mr. H. M. Thurgood and a list of his preliminary instructions are compiled in Table 7.

Yours truly,

L. J. MANNING & ASSOCIATES LTD.

L. J. Manning, P.Eng.

LJM/emp.

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING AND GEOLOGICAL ENGINEERS
610–890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
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RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

September 18, 1970

TABLE No. 6

CANTU MINERAL ASSOCIATION
SCRAFFORD ANTIMONY PROPERTY
CLAIM DETAIL

Claim Name	Town Ship	Range	Section	Description	Book	Page No.	Recorded at
Stibnite # 1	2 North	1 West(FM)	14	SW¼ of SW¼	XIII	240	Fairbanks
Stibnite# 2	2 North	1 West(FM)	14	NW¼ of SW¼	XIII	241	Fairbanks
Stibnite # 3	2 North	1 West(FM)	14	SW¼ of NW¼	XIII	242	Fairbanks
Stibnite # 4	2 North	1 West(FM)	14	NW¼ of NW¼	XIII	243	Fairbanks
Eagle No.24	2 North	1 West(FM)	15	S½ ofSW¼ of SW¼	XI	49	Fairbanks
Eagle No.25	2 North	1 West(FM)	15	N½ ofSW¼ of SW¼	XI	50	Fairbanks
Stibnite #5	2 North	1 West(FM)	15	SE¼ of SE¼	XIV	112	Fairbanks
Stibnite #6	2 North	1 West(FM)	15	SW¼ of SE¼	XIV	113	Fairbanks
Stibnite #7	2 North	1 West(FM)	15	SE¼ of SW¼	XIV	114	Fairbanks
Stibnite #18	2 North	1 West(FM)	15	NE¼ of NE¼	XIV	125	Fairbanks
Stibnite #19	2 North	1 West(FM)	15	NW¼ of NE¼	XIV	126	Fairbanks
Stibnite #20	2 North	1 West(FM)	15	NE¼ of NW¼	XIV	127	Fairbanks
Stibnite #21	2 North	1 West (FM)	15	NW¼ of NW¼	XIV	128	Fairbanks
Eagle Lode #48	2 North	1 West(FM)	15	NW¼ of SW¼	XII	41	Fairbanks
Eagle Lode #49	2 North	1 West(FM)	15	NE¼ of SW¼	XII	42	Fairbanks
Eagle # 50	2 North	1 West(FM)	15	NW¼ of SE¼	XII	43	Fairbanks
Eagle # 51	2 North	1 West(FM)	15	NE¼ of SE¼	XII	44	Fairbanks
Eagle # 52	2 North	1 West(FM)	15	SW¼ of NW¼	XII	45	Fairbanks
Eagle # 53	2 North	1 West(FM)	15	SE¼ of NW¼	XII	46	Fairbanks
Eagle # 54	2 North	1 West (FM)	15	SW¼ of NE¼	XII	47	Fairbanks
Eagle # 55	2 North	1 West(FM)	15	SE¼ of NE¼	XII	48	Fairbanks
Stibnite #22	2 North	1 West(FM)	16	NE¼ of NE¼	XIV	129	Fairbanks
Stibnite #23	2 North	1 West(FM)	16	NW¼ of NW¼	XIV	130	Fairbanks
Black Eagle #9	2 North	1 West(FM)	16	SW¼ of NW¼	XIV	135	Fairbanks
Black Eagle#11	2 North	1 West(FM)	16	SE¼ of NE¼	XIV	136	Fairbanks
Eagle # 29	2 North	1 West(FM)	16	SW¼ of NE¼	XI	54	Fairbanks
Eagle # 30	2 North	1 West(FM)	16	NW¼ of NE¼	XI	55	Fairbanks
Eagle # 31	2 North	1 West(FM)	16	NE¼ of NW¼	XI	56	Fairbanks
Eagle # 32	2 North	1 West(FM)	16	SE¼ of NW¼	XI	57	Fairbanks
Eagle # 5	2 North	1 West(FM)	16	NE¼ of SE¼	XXXIII	210	Fairbanks
Eagle # 6	2 North	1 West(FM)	16	NW¼ of SE¼	XXXIII	211	Fairbanks
Eagle # 7	2 North	1 West(FM)	16	NE¼ of SW¼	XXXIII	212	Fairbanks
Eagle # 8	2 North	1 West(FM)	16	NW¼ of SW¼	XXXIII	213	Fairbanks
Eagle #9	2 North	1 West(FM)	16	SE¼ of SE¼	XXXIII	214	Fairbanks
Eagle #10	2 North	1 West(FM)	16	SW¼ of SE¼	XXXIII	215	Fairbanks
Eagle #11	2 North	1 West(FM)	16	SE¼ of SW¼	XXXIII	216	Fairbanks
Eagle #12	2 North	1 West(FM)	16	SW¼ of SW¼	XXXIII	217	Fairbanks
Eagle #40	2 North	1 West(FM)	17	NE¼ of SE¼	XII	33	Fairbanks
Eagle #41	2 North	1 West(FM)	17	NW¼ of SE¼	XII	34	Fairbanks
Eagle #42	2 North	1 West(FM)	17	NE¼ of SW¼	XII	35	Fairbanks
Eagle #43	2 North	1 West(FM)	17	NW¼ of SW¼	XII	36	Fairbanks

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING AND GEOLOGICAL ENGINEERS
610-890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

Claim Name	Town Ship	Range	Section	Description	Book	Page No.	Recorded at
Eagle # 44	2 North	1 West(FM)	17	SE¼ of NE¼	XII	37	Fairbanks
Eagle # 45	2 North	1 West(FM)	17	SW¼ of NE¼	XII	38	Fairbanks
Eagle #46	2 North	1 West(FM)	17	SE¼ of NW¼	XII	39	Fairbanks
Eagle # 47	2 North	1 West(FM)	17	SW¼ of NW¼	XII	40	Fairbanks
Eagle # 56	2 North	1 West(FM)	17	SW¼ of SW¼	XII	49	Fairbanks
Eagle # 57	2 North	1 West(FM)	17	SE¼ of SW¼	XII	50	Fairbanks
Eagle # 58	2 North	1 West(FM)	17	SW¼ of SE¼	XII	51	Fairbanks
Eagle # 59	2 North	1 West(FM)	17	SE¼ of SE¼	XII	52	Fairbanks
Stibnite #24	2 North	1 West(FM)	17	NE¼ of NE¼	XIV	131	Fairbanks
Stibnite #25	2 North	1 West(FM)	17	NW¼ of NE¼	XIV	132	Fairbanks
Stibnite #26	2 North	1 West(FM)	17	NE¼ of NW¼	XIV	133	Fairbanks
Stibnite #27	2 North	1 West(FM)	17	NW¼ of NW¼	XIV	134	Fairbanks
Antimony/ Ridge #13	2 North	1 West(FM)	20	NE¼ of NE¼	XII	25	Fairbanks
Antimony/ Ridge #14	2 North	1 West(FM)	20	NW¼ of NE¼	XII	26	Fairbanks
Antimony/ Ridge #15	2 North	1 West(FM)	20	NE¼ of NW¼	XII	27	Fairbanks
Antimony/ Ridge #16	2 North	1 West(FM)	20	NW¼ of NW¼	XII	28	Fairbanks
Antimony/ Ridge #17	2 North	1 West(FM)	20	SW¼ of NW¼	XII	29	Fairbanks
Antimony/ Ridge #18	2 North	1 West(FM)	20	SE¼ of NW¼	XII	30	Fairbanks
Antimony/ Ridge #19	2 North	1 West(FM)	20	SW¼ of NE¼	XII	31	Fairbanks
Antimony/ Ridge #20	2 North	1 West(FM)	20	SE¼ of NE¼	XII	32	Fairbanks
Antimony/ Ridge #9	2 North	1 West(FM)	21	SE¼ of NE¼	XII	21	Fairbanks
Antimony/ Ridge #10	2 North	1 West(FM)	21	SW¼ of NE¼	XII	22	Fairbanks
Antimony/ Ridge #11	2 North	1 West(FM)	21	SE¼ of NW¼	XII	23	Fairbanks
Antimony/ Ridge #12	2 North	1 West(FM)	21	SW¼ of NW¼	XII	24	Fairbanks
Antimony/ Ridge #1	2 North	1 West(FM)	21	N½ of NE¼ of NE¼	XXXIII	218	Fairbanks
Antimony/ Ridge #2	2 North	1 West(FM)	21	S½ of NE¼ of NE¼	XXXIII	219	Fairbanks
Antimony/ Ridge #3	2 North	1 West(FM)	21	N½ of NW¼ of NE¼	XXXIII	220	Fairbanks
Antimony/ Ridge #4	2 North	1 West(FM)	21	S½ of NW¼ of NE¼	XXXIII	221	Fairbanks
Antimony/ Ridge #5	2 North	1 West(FM)	21	N½ of NE¼ of NW¼	XXXIII	222	Fairbanks

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING AND GEOLOGICAL ENGINEERS
610–890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

Claim Name	Town Ship	Range	Section	Description	Book	Page No.	Recorded at
Antimony/ Ridge #6	2 North	1 West(FM)	21	S½ of NE¼ of NW¼	XXXIII	223	Fairbanks
Antimony/ Ridge #7	2 North	1 West(FM)	21	N½ of NW¼ of NW¼	XXXIII	224	Fairbanks
Antimony/ Ridge #8	2 North	1 West(FM)	21	S½ of NW¼ of NW¼	XXXIII	225	Fairbanks
Stibnite #8	2 North	1 West(FM)	22	NW¼ of NW¼	XIV	115	Fairbanks
Stibnite #9	2 North	1 West(FM)	22	NE¼ of NW¼	XIV	116	Fairbanks
Stibnite #10	2 North	1 West(FM)	22	NW¼ of NE¼	XIV	117	Fairbanks
Stibnite #11	2 North	1 West(FM)	22	NE¼ of NE¼	XIV	118	Fairbanks
Stibnite #12	2 North	1 West(FM)	22	SE¼ of NE¼	XIV	119	Fairbanks
Stibnite #13	2 North	1 West(FM)	22	SW¼ of NE¼	XIV	120	Fairbanks
Stibnite #14	2 North	1 West(FM)	22	SE¼ of NW¼	XIV	121	Fairbanks
Stibnite #15	2 North	1 West(FM)	22	SE¼ of NW¼	XIV	122	Fairbanks
Stibnite #16	2 North	1 West(FM)	23	NW¼ of NW¼	XIV	123	Fairbanks
Stibnite #17	2 North	1 West(FM)	23	SW¼ of NW¼	XIV	124	Fairbanks

TABLE No. 7

METALLURGICAL TEST PROGRAM ON ANTIMONY ORES FOR CANTU MINERALS ASSOCIATION

INTRODUCTION

Attached is a copy of a preliminary metallurgical test program recommended for Cantu Minerals Association

SUMMARY

A test program was instigated on July 31, 1970 to test the beneficiation possibilities of Cantu antimony ores by standard gravity and flotation methods and to determine other physical and chemical properties of those ores which might be pertinent to the design of a commercial scale milling operation.

To date the following tests have been completed with indicated results as noted:

(a) Complete flotation tests were run on three ores utilizing variations of reagents, conditioning times, and other variables.

- All tests were good on the flotation of sulfides.
- All tests were fair to poor on the bulk flotation of combined oxides and sulfides.
- All tests were fair to poor on the flotation of oxides.

The flotation testing was suspended pending assay results for As and S to confirm material balances and total antimony recoveries.

(b) Scrubbing tests were completed on all ores.

- these teste indicated a high percentage of colloidal material and a tendency for the stibnite to slime and the sulfur, arsenic, and antimony to be slightly concentrated in the slime fraction.

(c) Flotation testing was completed on tailings of the mill sampling test program conducted on August 15, 1970.

- Visual indications are that a good concentrate can be obtained but assays have not yet been received.

The program has been temporarily suspended pending receipt of further assays and technical information.

July 31, 1970

Pemicon Developments Ltd.,
350 E. Esplanade Street,
North Vancouver, B. C.

Gentlemen:

Re: Cantu Mineral Association
Metallurgical testing of Antimony ores

Attached is a procedural guide, a list of samples and their weights, and a partial list of reagents known to have been used by producers in the beneficiation of sulfide and oxide antimony ores all pertaining to the above.

The procedures noted should be considered a guide only except for the detail as regards assays which should be closely followed.

We are anxious to be kept informed as regards progress and will be available at any time for consultation on problems that may occur or changes that may be recommended.

Yours very truly,

L. J. MANNING & ASSOCIATES LTD.

H. M. Thurgood, P.Eng.

HMT:mjb

Att.

CANTU MINERAL ASSOCIATION

PRELIMINARY METALLURGICAL TEST RECOMMENDATIONS

Vein 1 - Sulfide
- Sample size - 1/4" (Maybe 1/8"

GENERAL SUGGESTED PROCEDURE

1. EACH SAMPLE COMPOSITE

(a) Weigh equivalent portions of each sample in each group to make composite of three required types of material. (i.e. Sulfide, Oxide-Kaolin, Oxide-hematite)

(b) Cut portion for semi-quantitative spectrographic analysis.

requested Ag & Pb also on all. Aug 4/70 Dick Atkinson

(c) Screen for size analysis at 3, 4, 8, 10, 14, 20, 28, 35, 48, 65, 100, 200, -200 mesh.

(c) Select sample from (a) for scrubbing test assay feed and solid pdct. for Sb, S, weighing both. Calculate slime losses by difference.

(c) Cut out portions from (a) for flotation tests.

Note: We prefer Crest Laboratories for Sb assays.

2. SULFIDE SAMPLE

(a) Table testing
- stage crush to-~~100~~ -10 mesh - suggest using dispersant for slime problem

- set up table with excesses from 1a above.

(b) Obtain weights, Sb, S assays from head, con, midds, and tail products. Calculate slimes by difference

(c) Flotation - Bulk
- stage crush through 65 mesh
- clean rougher con as appears necessary
- weigh feed, cleaner con, final tail, and assay each for Sb, S
- detail reagents
- save con product for polished sections

- Sb, S size assay analysis of con at 65, 100, 150, 200, -200 mesh

(d) Flotation - Sulfide float
- stage crush as in 2(b) above
- float sulfide, treat as for bulk float
- float oxide from tail by sulfidizing (or?)
- weigh feed, both cons, final tail, and assay each for Sb, S.
- Save final con pdct for polished sections
- detail reagents.

(e) Flotation-Oxide float
- repeat 2c above reversing sulfide - oxide sequence.

3. OXIDE-KAOLIN SAMPLE

Repeat entire procedure as for sulfide sample. For flotation portion use 'bulk' procedure and one other method, (ie. sulfide-oxide or oxide-sulfide sequence.

4. OXIDE-HEMATITE SAMPLE

Repeat entire procedure as detailed under 3 above.

NOTE: Assay <u>all</u> final conc. products for Au, Ag, As, Pb.

PERTINENT SAMPLE NUMBERS, TYPES AND WEIGHTS AVAILABLE

NO. 1 VEIN - (Sulfide)

Sample Nos.	Approx. Wt. #
19212	2.1875
13	3.6875
14	4.0
09	6.25
66	13.625
67	11.125
39	2.3125
40	5.625
41	5.625
43	3.6875
—	—
10	say 20# sample

NO. 2 VEIN SOUTH - (Oxide-Kaolin)

T 7	5.5625
8	1.625
9	2.1875
10	1.1875
11	5.3750
12	4.0
13	5.25
14	3.5625
15	1.1250
16	1.75
17	1.75
19	4.5625
—	—
12	say 13.5 # sample

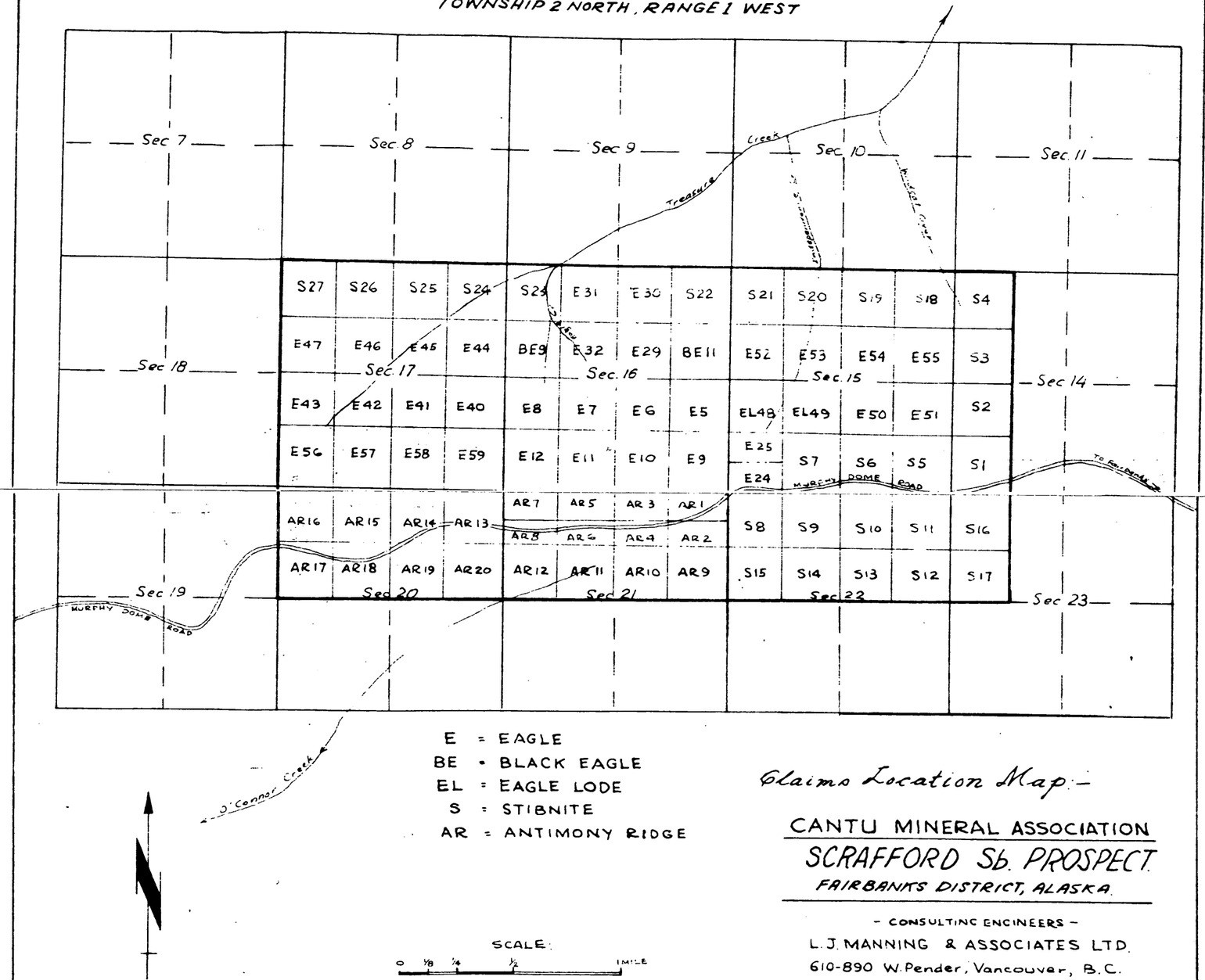
NO. 2 VEIN NORTH - (Oxide-Hematite)

Sample Nos.	Approx. Wt.#
14755	2.0
96	2.5625
97	3.25
98	1.6675
99	1.5625
800	3.1875
4c 742	2.625
✓ 43	2.5625
✓ 44	2.9375
✓ 45	2.1250
✓ 48	7.5625
✓ 49	4.1075
✓ 50	1.6875
1	1.0625
2	1.25
3	1.75
T2	1.9375
T3	1.0
T4	4.5625
T5	1.0625
20	say 20# sample

REAGENTS NOTED IN SOME PUBLICATIONS FOR ANTIMONY MINERAL FLOTATION

Sulfide	Oxide
$CuSO_4$	$CuSO_4$
Soda Ash	Soda Ash
Caustic Soda	Potassium Ethyl Xanthate
Chlorine	Cresylic Acid
Cresylic Acid	Sodium Sulfide
Lead Acetate	
Xanthate 301	
Oleic acid	
pH 8.5	pH 7

FAIRBANKS MERIDIAN
TOWNSHIP 2 NORTH, RANGE 1 WEST



E = EAGLE
BE = BLACK EAGLE
EL = EAGLE LODE
S = STIBNITE
AR = ANTIMONY RIDGE

SCALE:
0 1/8 1/4 1/2 1 MILE

Claims Location Map:-

CANTU MINERAL ASSOCIATION

SCRAFFORD Sb. PROSPECT

FAIRBANKS DISTRICT, ALASKA

- CONSULTING ENGINEERS -

L. J. MANNING & ASSOCIATES LTD.
610-890 W. Pender, Vancouver, B.C.

Date: Sept. 1970
Drawn by: S.T.

File No. Fairbanks D-2 Quad 70-2
Roll: 93 & 93A.
Dwg. No. 24.

Sept 18, 1910

CANTU MINERAL ASSOCIATION

PROGRESS REPORT TO 1st AUGUST, 1970
FAIRBANKS ANTIMONY PROPERTY
ADDENDUM TO REPORT COMPLETED TO 23rd JUNE, 1970
BY
L. J. MANNING & ASSOCIATES LTD.

L. J. Manning, P.Eng.,
L. J. Manning & Associates Ltd.,
610 - 890 West Pender Street,
Vancouver 1, B. C.

Date: August 5, 1970

File No.: Fairbanks D-2 Quad 70-2

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Table 4: Surface Exploration and Development Summary	Attached
Table 5: Cantu No. 2 Vein Reserve Calculations	Attached

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Dwg. No. 14: Assays No. 1 Vein

Dwg. No. 15: Assays No. 2 Vein

Dwg. No. 16: Ore Reserve Sketch Vein No. 1

Dwg. No. 17: Plan & Section No. 1 Vein

Dwg. No. 18: Plan & Section No. 2 Vein

Dwg. No. 19: Preliminary Geochemical Map - Copper

Dwg. No. 20: Preliminary Geochemical Map - Antimony

Dwg. No. 21: Preliminary Geochemical Map - Arsenic

Dwg. No. 22: General Interpretation, 1" = 500'

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING ENGINEERS
610–890 WEST PENDER STREET VANCOUVER 1, B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PHONE:
L. J. MANNING - 985-5690

August 5, 1970

The President and Directors,
Cantu Mineral Association,
14633 Ambaum Blvd. S.W.,
Seattle, Washington 98166
U. S. A.

Dear Sirs:

The following is an addendum to the progress report dated July 7, 1970 on work completed to June 23, 1970.

SUMMARY

Correcting and up-dating preliminary assays and vein dimensions has resulted in increases of approximately 40% in grade and 15% in tons-per-vertical foot. Although technically no "proven tonnage" has been developed, trenching has exposed and indicated a PROVEN TONNAGE PER VERTICAL FOOT of 297 tons at the surface. This material grades 11.3% Sb over a true width of 8.0 feet (see Table 4). Rough statistical extrapolation of these figures augmented by "eye-balling" the recently-completed geochemical results indicate a potential surface exposure of 953 tons per foot which, if considered as ½ square, calculates to 540,000 tons of "possible" ore inferred by surface work to date on the property. Should this ore be identical to that previously developed (i.e. 11.3% Sb over 8.0' true width), every justification exists for a 500 t.p.d. milling operation.

Research has shown that geologically your property is similar to those which have provided the most important production of antimony in the world to date.

To permit evaluation of the property it is recommended that surface development be continued to further increase "proven surface tonnage per foot" and that the best geochemical targets be developed by trenching on surface followed by rotary drilling the resulting best surface showings. In conjunction with the drill-indicated reserves thus established, metallurgical testing should be completed sufficiently to estimate final probable recoveries. At this point a preliminary feasibility assessment would indicate probable optimum mining and milling rates and methods, and most importantly would permit estimates of the property value based on return of required preproduction and capital expenditures.

Property records in this office are as yet incomplete as we have on file only copies of those affidavits existing in your Seattle office. It was noticed that considerable portions of the grid covered areas with no obvious claim lines on them. Confirmation of the status of the ground is essential.

1. ORE RESERVES

Revision of No. 1 vein and No. 2 vein assays and revision of the dimensions of No. 1 vein have resulted in the total property developed reserves being increased from 255 tons per vertical foot at 7.7% Sb in a width of 6.9' to 297 T/vert. ft. at 11.3% Sb in a width of 8.0 feet. The probable T/Vert. ft. have consequently increased from 689 to 953. See table No. 4.

Check assays by different, more expensive procedures by Crest Laboratories and by other assayers known to this firm indicated that "normal" antimony assay procedures were not adequate for recovery of some of the oxides and consequently many of the original assays were appreciably lower than they should have been. All the No. 1 vein assays were repeated as were those pertinent to reserve calculations of No. 2 vein.

Drawing No. 17 indicates the plan and projection of the Number 1 vein ore zone if its surface expression continues to depth. This figure indicates the ore vein occuring at the intersection of the exposed favourable quartzite horizon with the main No. 1 shear and shows how the ore will occur if no further, as yet undisclosed, controls exist to further delimit the ore. It should be noted that the thickness limits of the favourable quartzite have not yet been exposed on surface as clearing it by dozer to the east of No. 2 trench has been difficult without incurring appreciable loss of high grade stibnite prevalent in this area.

The accompanying tables on Dwg. No. 17 and 18 indicate the source from which $5M operating profit may be derived. $5M was chosen as an adequate ore-equivalent to repay the nominal capital required by a small mill with allowance for preliminary mine development and an operating profit. The depth required to provide this return from an exposure like No. 1 vein with operating cost of $25 and $50 while obtaining various market prices is indicated on Drawing No. 17. Drawing No. 18 indicates the required exposure for a similar return from an occurrence like the No. 2 vein.

If Drawing No. 17 (Vein 1 type) is considered, with operating costs of $50 and market price of 65¢ per pound of Sb, it is evident that $5M operating profit would require the milling of 55,000 tons. If this were milled out in three years, a mill of 50 tons per day capacity would be required. A vein such as indicated in Drawing 18 (Vein 2 type) under identical operating and marketing conditions would require the milling of 660,000 tons to return $5M. If this were returned in three years, a mill of 600 tons per day capacity would be required. As the estimated operating profit from type 2 is only $7.50 on an estimated $50.00 operating cost, and as capital cost for a 600-ton plant would be about $2.0M and underground preparation costs approximately $2.0M for a total capital of about $4M, such a vein would only be developed and mined as an addition to an operation based on vein type 1.

2. GEOCHEMICAL SURVEY

The recently completed geochemical survey has indicated several targets which appear better than those in the vicinity of some of the commercial grade exposures developed to date. The possibility exists of recovering two useful derivations from the survey:

1. Anomalous areas due to stibnite mineralization, and
2. Anomalous areas due to a change of rock types from the normal quartz sericite beds to the favourable quartzite beds.

Full interpretation of the results to date will require a field trip by the geochemist during which time bulldozer trenches will be cut in selected areas to enable the confirmation of theories obtained through a study of preliminary dispersion patterns combined with preliminary trace element assays for various stratographic members in the area. This follow-up is being accomplished as quickly as possible by Tricon Explorations.

Interpretation of the preliminary map before correcting follow-up reveals several areas geochemically superior to the No. 2 vein and No. 3 vein areas. Unfortunately, because of disturbed ground, no meaningful sampling could be performed in the No. 1 vein area.

The existence of the anomalous areas and trends lends credence to the statistically derived "probable" figure in Table 4, of 953 tons/ft. If this tonnage rate was $\frac{1}{2}$ square, i.e. depth length equals $\frac{1}{2}$ combined strike length, then 540,000 tons of "possible" ore have been indicated by work to date on your property in veins with a true width of 8.0 feet and grading 11.3% Sb.

3. Research by Mr. S. S. Tan of this office has shown that geologically your property is similar to the "Hsikwanshan" deposits in Red China which have been the most productive type of deposit in Red China (Antimony, by C. Y. Wang, M.I.M.M., published 1952). The quantity of mineral in such a geological environment is a function of the thickness and extent of the favourable quartzite beds and the frequency and extent of mineral-bearing fractures intersecting these beds. The lateral extent of the beds is normally a function of the thickness, and fractures may be traced and mineral occurrences found by geophysical and geochemical surveying methods.

RECOMMENDATIONS

I To develop the property to the point of establishing it as a "PROBABLE" important potential producer of Antimony Ore, reserves should be transferred from the "possible" to the "probable" category by means of the following program:

1. Extend vein No. 1 to full east-west limit of the quartzite beds by dozer trenching thus establishing the full thickness of the favourable quartzite beds.

2. Extend vein No. 2 downhill to the north and south by dozer to expose the thickness of the flat lying favourable beds found in this area.

3. Expose the best of the geochemical anomalies as soon as the report is available from Tricon Explorations.

4. Test drill with "Becker" or Sure-Core" Drilling the best showing to establish depth continuity.

5. Conduct preliminary metallurgical tests to enable estimates of final Antimony recovery through conventional gravity and flotation methods.

II To improve current leasing type mining operation.

1. Marketing: Establish from potential purchasers a price difference for "preferred" lump ore.

2. Milling: If it is economically favourable to provide a lump ore, establish a Harz "bull jig" after the first coarse crush. Tailings from this should be passed through a Denver Dual Mineral Jig. The overflow from the jigging should be fed to the classifier in closed circuit with a grinding mill. The overflow from the classifier should then be tabled to recover the oxides and the tabled tailings should then be subjected to flotation to recover the fine sulphides.

   Metallurgical testing, now being carried out, may, however, modify this concentration scheme.

3. Mining: A method of mining the material from the vicinity of the Number 2 and 3 trenches on the number 1 vein is suggested as follows:

   (i) Clean overburden and debris from the No. 2 trench to the creek by bulldozer.

   (ii) Improve the grade of the existing "winter" road in the vicinity of the pit by grading a road westward from the parking lot area along the old wagon road route, and switching back to join the existing winter road in the vicinity of stations 208-209. Dwg. No. 2

   (iii) Obtain the use of an available drag-line and use this to load trucks positioned along side the drag-line to be located in the vicinity of Trench No. 2. Material to be mined can be broken by small-hole drilling with hand held jack legs. It is felt that the first 20 feet of vein could be removed in this manner. Waste material, sloughing from the walls, could be removed by the drag-lines and cast in the vicinity of the existing stock piles. The mill should be established at Fox after obtaining permission to deposit fine tailings on the existing coarse dredge tailings.

It is realized that the foregoing is considerably more complex than the present manual picking, loading and barrel loading, and that the milling described is considerably more complex than that presently envisaged by your on-site leasers. Relative capacities of the various pieces of equipment will be approximated by the initial testing presently being undertaken by this firm in order to establish the approximate expected recoveries of a full-time milling operation. Once these are established, the existing practical milling layout can be improved by using available results both from testing and from practical experience. To this end, our Mr. Howard Thurgood is establishing suitable test procedures here in Vancouver and will proceed to the property as soon as possible to assist in adding to and improving the mill circuit presently being run in Fairbanks.

It is estimated that the drag-line could recover approximately 4,000 tons from the surface of the vein mining by this method. At 13½% Antimony and 50% recovery this would result in the production of 270 tons of antimony contained in 540 tons of 50% concentrate which would have an approximate value of $540,000 at $1.00 per pound of contained antimony. This equipment could then be moved to other veins on the property to permit their surface mining and milling.

Yours truly,

L. J. MANNING & ASSOCIATES LTD.

L. J. Manning, P.Eng.

LJM:mjb

TABLE 5 CANTU NO. 2 VEIN RESERVE CALCULATIONS

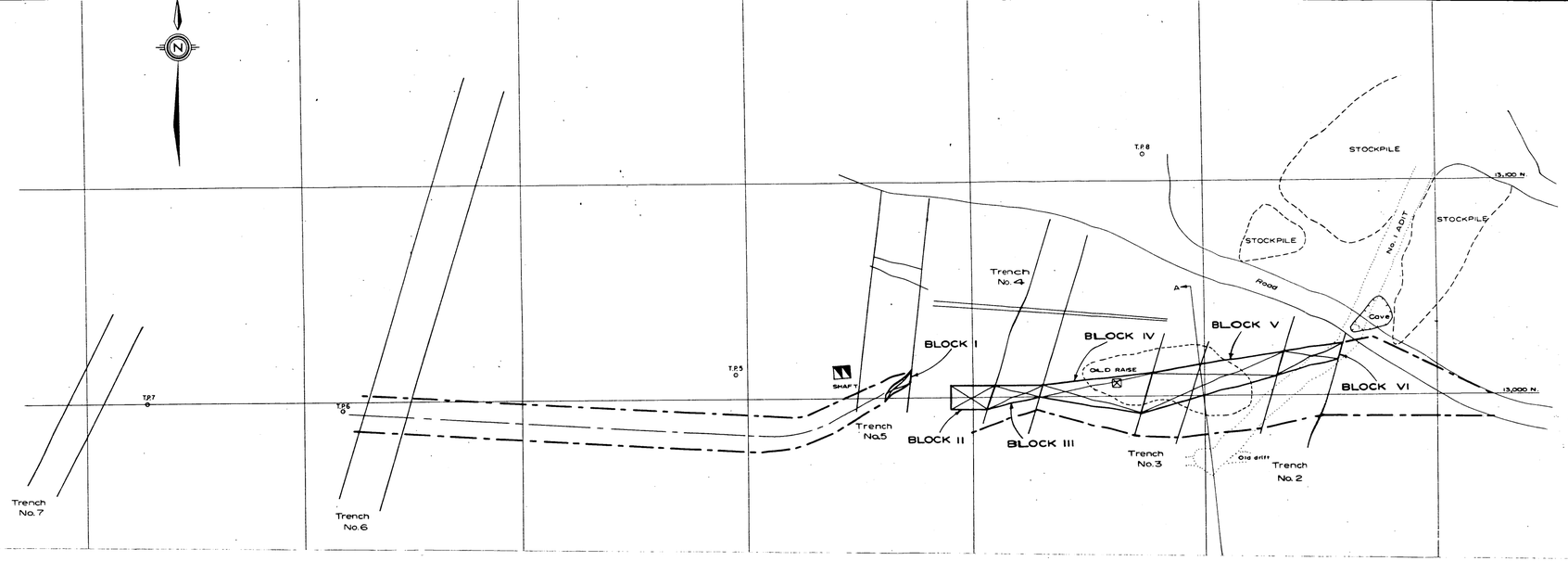
(See Dwg. No. 15)

W L	Area	% Sb	% Sb X Area
5.0 X 6.50	32.50	3.79	123.18
4.5 X 8.50	38.25	1.46	55.84
6.2 X 8.50	52.70	3.41	179.71
5.5 X 6.00	33.00	1.09	35.97
5.0 X 6.50	32.50	4.01	130.32
4.5 X 9.50	42.75	5.20	222.30
6.0 X 9.75	58.50	1.15	67.28
5.6 X 14.25	79.80	8.46	675.11
5.4 X 15.50	83.70	8.04	672.95
9.5 X 8.50	80.75	3.06	247.10
9.0 X 10.00	90.00	12.81	1,152.90
6.0 X 12.00	72.00	2.46	177.12
4.0 X 10.00	40.00	2.92	116.80
4.5 X 10.00	45.00	3.38	152.10
3.5 X 15.00	52.50	5.28	277.20
3.7 X 12.25	45.33	11.30	512.23
	20.25	4.98	100.84

Average True Width = 5.38 X sin 60° = 4.65 Ft.

Average Grade = 5.45 Sb

Tons per vertical foot = 82 tons @ 11 cu.ft./ton



		GRADE AREA	GRADE X AREA
BLOCK I	$\frac{(.1)(1.00)+(2.5)(19.30)}{2.6} = \frac{.1+48.25}{2.6} = \frac{48.35}{2.6} =$	18.60 X 6 =	112
	$\frac{(2.5)(19.30)+(5.0)(1.40)}{7.5} = \frac{48.25+7.0}{7.5} = \frac{55.25}{7.5} =$	7.37 X 30 =	221
BLOCK II	$\frac{(11.0)(19.30)+(11.00)(8.00)}{22.0} = \frac{11.00+88.00}{22.0} = \frac{99.00}{22.0} =$	4.50 X 203 =	914
BLOCK III	$\frac{(11.0)(8.00)+(6.0)(3.15)}{17.0} = \frac{88.00+18.90}{17.0} = \frac{106.90}{17.0} =$	6.29 X 158 =	994
BLOCK IV	$\frac{(6.0)(3.15)+(18.5)(21.16)}{24.5} = \frac{18.90+391.46}{24.5} = \frac{410.36}{24.5} =$	16.75 X 528 =	8844
BLOCK V	$\frac{(18.5)(21.16)+(11.0)(8.94)}{29.5} = \frac{391.46+98.34}{29.5} = \frac{489.80}{29.5} =$	16.60 X 754 =	1256
BLOCK VI		8.94 X 209 =	1868
TOTAL		13.5 1888	25469

$\frac{\text{TOTAL AREA}}{\text{HORIZ. LENGTH}} = \frac{1888}{177'} = 10.7$ HORIZ. WIDTH.

TRUE WIDTH = (10.7' HORIZ. WID.)(Sin 60° Dip) = 9.2'

∴ AVERAGE GRADE 13.50 % Sb.

TONS PER VERTICAL FOOT = $\frac{1888\ Ft^2}{11 Ft^3/ton}$ = 172

CONSULTING ENGINEERS
VANCOUVER, B.C.

CANTU MINERAL ASSOCIATION

ORE RESERVE CALCULATION SKETCH
VEIN No. I

SCRAFFORD ANTIMONY PROPERTY
EAGLE CREEK AREA, FAIRBANKS, ALASKA

FEET 40 0 40 80 FEET

Surveyed by:	Dwg. No: 16, File No. Fairbanks D-2, Quad
Drawn by: M. K. L.	Date: 31 JULY, 1970

August 5th
1970

COPY
JAN 16 1971
MILITARY CODE

Oxford

STOCK No 4210

MADE IN U. S. A.

CANTU MINERAL ASSOCIATION

PROGRESS REPORT ON WORK
COMPLETED TO JUNE 25TH, 1979
SCRAFFORD ANTIMONY PROPERTY
EAGLE CREEK AREA, FAIRBANKS, ALASKA
by
L.J. Hanning, P.Eng. & S.S. Tan, B.Sc., M.B.A.

Joe Sheppard

L.J. Hanning & Associates Ltd.
600 - 650 West Pender Street
Vancouver 1, B.C.

Date: July 2, 1979

File No.: [illegible]

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- S. S. Tan	"

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LIST OF MAPS

DRAWING 1:	Property Location Map (1:24,000)	In Pocket
" 2:	Plan No. 1 & 2 Veins (1 in. = 100 ft.)	"
" 3:	Geology - No. 2 Vein (1 in. = 10 ft.)	"
" 4:	Geology - No. 1 Vein (1 in. = 20 ft.)	"
" 5:	Geology - No. 1 Vein Trench Sections (1 in. = 10 ft.)	"
" 6:	Assay - Plan No. 1 Vein Trench Sections (1 in. = 10 ft.)	"
" 7:	Ore Reserve Calculation Sketch - No. 1 Vein (1 in. = 40 ft.)	Attached
" 8:	Section Trench No. 3 to Adit (1 in. = 20 ft.)	"
" 9:	Geology No. 4 Vein - Trench 41 Section (1 in. = 10 ft.)	"
" 10:	Geology No. 2 & 4 Veins (1 in. = 20 ft.)	In Pocket
" 11:	Geology of No. 1 Vein Adit (1 in. = 20 ft.)	Attached
" 12:	Index Map - Alaska	"
" 13:	Geology No. 3 Vein - Trench 31 Section (1 in. = 10 ft.)	"

July 7, 1970

President & Directors
Centu Mineral Association
14633 Ambaum Blvd., S.W.
Seattle, Washington

Dear Sirs:

The following is a progress report based on the work completed since my initial report of the 31st of March, 1970. Any production figures used in the report are based on conversations with officers of the company working in Fairbanks. All other assays and information pertaining to the geology and the vein in place are based on field observations by the author or members of his staff. Since the report of March 31st, 1970 the author has been on the property in the Fairbanks area on your behalf on the following dates, the 26-29 April, 13-21 May, 3-5 June, and latterly, the 18-23 June. In addition, our Geologist, Mr. Siek S. Tan was on the property from the 7th of May to the 8th of June, and accompanied the author on the last trip in June.

SUMMARY

In the three months from April to June inclusive, your company has explored approximately 2,000 feet of a probable 5,000 feet of strike length in two vein systems on your property some 11 miles north of Fairbanks, Alaska. Approximately 18% of the explored vein length contains mineralization of sufficient width and grade to be considered "ore grade". Work to date in these mineralized areas has indicated an assured "tons per vertical foot" of 255 tons of 7.7% Sb in a true width of 6.9 feet. If the success ratio is not further reduced by further exploration on either vein #1 or vein #2, a probable tons per vertical foot may be estimated at 780 tons. Judging from the known occurrences to date, the strike length of any one occurrence in this system may be estimated at a probable length of 400 feet. With depth estimated at 50% of length, a depth of 200 feet may be estimated for the 780 tons a vertical foot resulting in a possible tonnage of 156,000 tons in the known vein systems. If the 780 tons per vertical foot was exposed in one zone in one vein for a strike length of around 1,150 feet, a depth extent of 575 feet could then be presumed resulting in a possible tonnage of 400,000 tons. Experience to date has indicated, however, that this is not the case, but that the mineralization is probably confined to favourable beds of unknown

thickness and possibly further restricted by requiring favourable structural conditions within that bed. A "proven" reserve of 150,000 tons would normally justify the construction of a 150 ton mill depending on grades, markets etc. With your ore running at the unusually high present value of approximately $140 per ton over a seven foot width, less tonnage is required to justify a mill.

It is strongly felt that with further surface work on the property, assured and probable tons per vertical foot can be increased to the point where a major company could be reasonably assured of an important long term source of antimony metal located in an area of relative political and financial stability.

To this end it is recommended that the property be covered by a geochemical survey estimated to cost a maximum of $20,000 and that bulldozer trenching be used to (a) increase assured tons per vertical foot, and (b) test sufficient geochemical anomalies to increase the probable tons per vertical foot category. One month's bulldozer work is estimated by your directors to cost an additional $30,000.

LOCATION AND CLAIMS

The property is located some 11 miles north of Fairbanks, Alaska as shown on drawing #1. The property reportedly consists of 1920 contiguous acres. Because of the recent staking no claim description is available at this office.

Title search on any of the claims is incomplete but it is known to the author that key claims were maintained by Ken O'Hara and Arley Taylor from the time of the previous work in 1965 to the present and that the claims are named "Antimony Ridge" and "Eagle". Some well marked claim lines and correct posts have been seen by the author.

Cantu Minerals Association has an option to purchase the claims for a total price of $400,000 to be paid off at a rate of 10% net smelter returns. Minimum annual payments of $5,000 to the vendors plus sufficient work to maintain all claims in good standing is required to keep the option in good standing.

Fairbanks is a city of 16,500 people maintained chiefly by the U.S. military. It is well serviced by roads, railroad and has full airport facilities. A good paved road is maintained to the settlement of Fox some 11 miles north of Fairbanks on the Steese Highway at which point the main good gravelled road to the north slope travels north from the Steese Highway on the east side of Fox Creek some 3½ miles to the Murphy Dome military road. The Murphy Dome Road services some of the DEW Line stations, and branches to the west along the top of Murphy Dome Ridge.

The #2 vein at 1800 feet elevation is on the immediate south side of and beneath Murphy Dome Road 3½ miles west of the junction with the north slope (Elliott) Highway. The #1 vein workings are half a mile due north of the #2 vein workings at an elevation of 1100 feet between the east and west forks of Eagle Creek with the #1 vein adit almost in the East Fork Creek. The total distance to the #2 vein is 18 miles, 11 miles of which is good paved road. The remaining 7 miles is a good gravel road. Both are maintained open all year round by the state or by the military.

Relief is relatively gentle, varying from 450 feet at Fairbanks to 900 feet in the main creek valleys on the property with gently rounded ridges and domes rising to a maximum of about 1900 feet in the vicinity of the workings. The surface is covered with a mixture of scrub conifers intermixed with varieties of willow and buckbrush. The ground is permanently frozen in the vicinity of the mine workings to an estimated depth of 160 feet. The surface is covered with about four feet of permanently frozen black muck topped with thick moss and the tree growth. On stripping the moss in the summertime the black muck turns into a quagmire and thawing commences to appreciable depths. The local water supply is consequently not reliable as it freezes in the winter and in the summer may be on the surface at some times, and other times, through thawing actions, disappears entirely. The closest place for reliable milling water is at Fox where a good flow of water can be obtained all year round by drilling into the old dredge tailings filling the valley in that vicinity. No survey for high continuous water flows has been made anywhere in the vicinity of the mine by this office and the foregoing comments are from casual observation only.

CLIMATE

During the six month period from the middle of April to October, weather conditions are good with moderate temperatures, low precipitation and long daylight hours. For the balance of the year, particularly from December to February temperatures are below zero with extremes down to -60°. Snowfall averages less than two feet per year. Daylight hours in the winter are very short and therefore any permanent surface plant would have to be thoroughly winterized to enable year-round operation.

HISTORY

During 1915 E.L. Scrafford leased a group of claims, including the Chief and Sunrise, from Edward Quinn, one of the original owners. The Scrafford property also known as the Black Eagle Mine, was systematically developed during 1915 by a crew of 25 men. The deposit was worked by an open cut along the vein which was extended into the hill by an adit about 75 feet

long in September 1915. During the same period some stoping was done and a shaft sunk 20 feet. The antimony ore was broken and sorted by hand, then hoisted by a 3,000 feet long inclined cable tram to the top of the ridge to the location of the present highway. From the tram head the ore was hauled by teams to the railroad, a distance of 4½ miles.

The last work recorded was completed in 1926 by A.C. Wood who drove the main tunnel in 300 feet and shipped a total of about 1500 tons of sorted ore. In addition, it is known that intermixed leasing was carried on any time the antimony market justified such efforts.

The claims were staked during July, 1964 by Messrs. Taylor and O'Hara who then optioned the property to the Silver Ridge Mining Company with offices in Nelson, B.C. In 1965 under the direction of H.L. Hill and Associates Ltd., predecessors of the writer's company, an attempt was made to develop the property while recovering sufficient ore to meet expenditures. This attempt was frustrated by an early decline in the open market of antimony. Work at this time resulted in the commencing of three winzes, one on the #2 vein which ran out of ore after about 20 feet, and two on the #1 vein, one of which was completed to track level and the other which was merely cleared with no actual sinking taking place. At that time it was felt that a zone of mineable material about 300 feet by about 5 feet wide was indicated. Evidence that the strike length might be extended to possibly 600 feet was indicated by the last shaft clearing even though no mineralization had been seen in this most western extension. Immediately on the South side of Murphy Dome Road, the #2 vein was exposed at this time by a cat making a turnout for supply storage at the connection of the mine road with the Murphy Dome Road. A short winze on this vein indicated that it was erratic and did not have the depth extent indicated on the well known #1 vein. At the decline of antimony prices in 1966 all operations ceased from the property.

RECENT HISTORY

Staking, Options, and Metal Purchase Contracts

Messrs. Taylor and O'Hara optioned the key claims over the vein #1 and #2 workings to Centu Minerals Association, 14833 Auburn Blvd. S.W., Seattle, Washington, 98166, area code 206 248-1330. Terms of the lease are basically $400,000 for a total purchase of the claims payable at 10% of the net smelter returns from newly mined and 25% from all stockpiled ore, and assessment requirements per year to be spent on the property plus $5,000 per year paid to the vendors. In addition, the vendors agree that all ground staked by them or under their auspices within 3 miles radius of the key claims shall become subject to the same option.

On the 4th of January, 1970, Cento Minerals obtained an agreement with Hibino Metal, Industrial Corp. of 3 - Chome, Olmatsucho, Kitaku Osaka, Japan naming Gagitani, Kogyo Co. Ltd. of Japan as the buyer. The agreement stipulates shipments of specified amounts totalling 3100 metric tons of antimony ore commencing in February, 1970 and terminating in May, 1970 after which time shipments schedules will be agreed to between parties up to April 30th, 1971. A floor price schedule is specified beginning at $7.00 per metric ton unit for 17% antimony scaling upward to $17.04 per dry metric ton unit for 60% antimony ore or better. In addition, one half the difference between the floor price and the metal quote will be paid for everything over the floor price. Prices to be paid are C.I.F. Osaka or Nagoya, Japan. A copy of this agreement is attached to this report.

Shipments from the dumps have been made to both Hibino Metals and to the National Lead Company in Laredo, Texas, the latter under open contract. Quantities shipped with smelter results and payments to date are not in the author's office but it is understood that these are available on request. Presently, good quality 40+ material is being barrelled (used 45 gallon drums) from the area of Nos. 2 and 3 trenches, No. 1 vein. This work is being performed by four men with pick and shovel. At the time of the author's leaving on Tuesday, June 23rd, some 263 barrels were available on the property at an estimated weight of 300 pounds each and at an estimated grade of 40% plus.

Surface Exploration

During the author's visit in the latter part of March, it was recommended that the #1 vein be exposed as rapidly as possible for approximately 1,000 feet of strike length in the vicinity of the area of previously recorded production. It was known that opening the veins during summer weather was very difficult because when the ground thaws the soft clay walls surrounding the ore shoots collapse. It was therefore originally intended to expose the entire vein while it was frozen by digging a surface slash along the top to remove all over-burden, old timber, old ore stock piles etc. to enable evaluating the vein. An attempt was made to do this by drilling and blasting the frozen surface material and, in late April, procedures were established to expose the #1 vein along strike using an air track drill, and an available front end loader. One face of vein material had reportedly been encountered when the roads from the Murphy Dome military road to the #1 vein workings became impassable and all efforts were then concentrated on developing the #2 vein using the same equipment and methods. This change-over was implemented in the

first week of May, 1970. Some work continued on vein #1 in May in re-establishing the old cross-cut to meet the vein beneath the present #3 trench. The exposure of the #2 vein enabled detailed mapping and sampling of about 170 feet of strike length by the 21st of May, 1970.

At this time the surface was sufficiently dry over the #1 vein to commence clearing and trenching using a D-8 Cat with rippers in conjunction with a 966 "Cat" front-end loader. Four trenches designated 2 - 5 were laid out over the old area of staping and exposed the vein as far west as the shaft sunk in 1965 from surface to the adit level; the eastern or #1 trench was to be the face exposed during the winter attempt; in addition, the #6 trench was laid out halfway between the old shaft and the most western exposure of the vein as exposed in 1965. A stadia survey was completed of the #2 and #1 workings with a single angle traverse run down the summer road between them. Stock pile dumps at the #1 vein site were also sampled and surveyed at this time.

After the author left, the #1 vein trenches 2 - 6 inclusive were completed under the direction of Siak S. Tan, whom the author assisted with mapping, surveying and sampling from the 3rd to the 5th of June inclusive. In addition, the slight exposure of vein #4 in trench #41 was sampled at this time. On June 17th, the author and Mr. Tan again returned to Fairbanks with rough compilations and conclusions, and between the 17th and the 24th, completed a stadia traverse from the #2 vein along the Murphy Dome Road down the winter road to trenches 31 - 36 inclusive. Trench 36 is laid out on the east side of the creek as close to the creek as appears clear of the very heavy overburden encountered in a similar attempt in late April. Trenches 31 and 32 resulted from clearing out old trenches, and 33 to 35 had been recently started by Cantu Minerals progressing down the hill from 31 in approximately 300 foot jumps, and trench 36 was laid out by the author as a 700 foot jump from the last tentative exposure. Check sampling of #6 trench and sampling and mapping of trenches #7, #31 and the newly deepened #41 was also completed between the 17th and the 24th of June, 1970.

In summary, 180 feet of adit work have been completed underground, 170 feet of #2 vein have been exposed by contiguous surface stripping, 2750 of #1 vein have been exposed by 12 trenches spaced at various intervals and a new vein, #4 vein, has been exposed by one trench for a total of 13 trenches which at approximately 150 feet per trench approaches 2,000 feet of trenching. In addition, approximately 200 feet of trenching were completed during the winter air track attempt on vein #1.

RESULTS OF 1970 WORK TO DATE

Results are summarized in Table I in the appendix which is illustrated on drawing No. 3 with Table No. 2, and on drawing No. 6.

The most important columns are two, three and five showing that surface work to date indicates the presence of 255 tons per vertical foot of 7.7% antimony within a true width of 6.9 feet. No reference is made within the table to the fact that approximately 37 feet of vertical height has been tested by the adit crosscut below #3 trench (see drawing No. 8). No appreciable change of mineralization was noted within this vertical height, but the relative attitude and location of the foot wall intersections at both elevations indicates a probable reduction in width in the vicinity of the crosscut. Unfortunately, the crosscut is not long enough to penetrate the hanging wall. The next most important column is No. 15 indicating a probable 780 tons per vertical foot being attainable with further surface development in the vicinity of the known ore grade occurrences.

The changes in the results from the 5th of June, 1970 to the 23rd of June, 1970 are in the exploration completed on what is now known to be the eastern extension of #1 vein and the deepening of trench #41 resulting in the indication that vein #4 is either a separate vein or a faulted off-set from vein #2 but is probably not a direct continuation of vein #2. Geologically, vein #4 is very similar to vein #2 but its attitude and location preclude the probability of a direct extension. For calculation purposes it was considered that vein #2 was probably twice as long as exposed and that vein #4 was similar.

In summary, your company has explored approximately 2,000 feet of a probable 5,000 feet of strike length of known veins with about 18% of the explored lengths containing mineralization of sufficient grade and width to justify a depth development program to prove ore sufficient to justify the design and installation of a 150 ton mill. It is felt strongly, however, that with a relatively small amount of additional surface work sufficient tons per vertical foot can be developed to justify consideration of a larger mill. This increase in production capability may be developed by both further exploration and development along the known veins and by prospecting over the entire area in the vicinity of the veins looking for additional occurrences in other structures.

GEOLOGY AND MINERALOGY

Various types of hydrothermal alteration are evidenced in both the #1 and #2 vein systems. The following products are listed in order of their apparent importance as associates of stibnite mineralization.

1. Kaolin with vitreous quartz

   Kaolin is common to both #1 and #2 where it usually directly surrounds the sulphides; the silica is more commonly dispersed in the kaolin

in vein #1 and is more commonly localized in the walls in vein #2.

2. Hemitization (cocoa coloured)

This is apparently associated with a good deal of the mineralization in the #2 vein system where it bears the same relation to the sulphides as the kaolin, and is in contrast with the white kaolin apparent on the section near the old shaft. This hemitization is also common in vein #1 but so far has been encountered everywhere in the vein system and is not restricted to the mineralized area.

A great deal of the limonite at first gives the appearance of antimony oxide. It is best to carry a known piece of the oxide for comparison at all times. The antimony oxide is a lighter canary yellow than any of the limonite seen to date.

Mineralization and alteration seen to date has been confined to the #1 and the #2 vein systems. The #1 vein is a hydrothermally altered fault or fracture zone striking from 85° to 95° with the hanging wall dipping from 50° to 65° south. The #2 vein strikes from 45° to 55° and dips from 50° to 65° south, and again is a hydrothermally altered fault or fracture system. Both fractures cut pre-Cambrian quartz-sericite schists. In vein #1 alteration and mineralization appears to be confined to the foot wall side of the shear, the hanging wall side though apparently subjected to normal faulting on its last movement, appears compacted and not amenable to fracturing with subsequent hydrothermal alteration. Evidence exists to suggest that the more quartzitic beds in the foot wall were fractured to a greater extent and contain more alteration and mineralization. Some evidence exists that a more favourable structure for deposition may occur where the shear intersects the foot wall bedding at a steep angle, thus providing a better "tearing" action. These areas would occur where the south dipping fault intersects the north limb of the anticlines or the south limb of the synclines. Trench #31 on the east side of the property shows folds with a horizontal plunge on the foot wall side of the fault and clearly demonstrates both these controls. In addition, it is suspected that the distance from the prime source of mineralization (probably in the vicinity of the #1 adit) may affect the degree of mineralization of a particular favourable bed.

The foot wall side of the fault has been subjected to compression folding with axes of the order of 30 - 60 feet apart. Folds on the north or foot wall side of the #1 vein in the vicinity of trenches 2 - 7 appear to plunge about 35° to the west. This fact suggests that continued surface exploration along strike will reveal the frequency of occurrence of the apparently favourable quartzitic beds. Exploration down the hill from trench #31 to trench #36 will reveal the frequency of occurrence of favourable beds over a vertical distance of about 300 feet. The

hanging wall rocks on both the eastern (trench #31) and western (trench #7) side of the adit appear to be gently folded with horizontal east-west folds. The fold axes are generally vertical.

Folding on the #2 vein system is generally horizontal, but with the limited exposure to date does not appear particularly critical as everything encountered has exhibited "ore grade" mineralization, though of narrower width and lower grade than the best material found in vein #1.

Recommendations

It is recommended that development by bulldozer trenches be continued to develop known exposures of ore grade mineralization on the known two vein systems. It is recommended that geochemical surveys be conducted to delineate (a) other ore bearing vein structures on the property and (b) favourable ore bearing horizons exposed along the known two vein structures. To this end, Mr. Al Homenuke of Trican Explorations, Vancouver, B.C. is presently in Fairbanks commencing geochemical surveys.

Respectfully submitted,

L. J. MANNING & ASSOCIATES LTD.

L. J. Manning, P. Eng.

LJM/jd

S. S. Tan, B.Sc., E.I.T.

CERTIFICATE OF QUALIFICATIONS

I, Luard J. Manning, P.Eng., Mining, of 945 Belvedere Drive, North Vancouver, B. C. certify as follows:

1. That I am a graduate of the University of British Columbia and hold a Bachelor of Applied Science degree in Mining Engineering.

2. That I have been a member of the Association of Professional Engineers of Ontario since 1959 and a member of the Association of Professional Engineers of British Columbia since April, 1966.

3. That I have been engaged in the profession of mining engineering for over 15 years.

4. That I was a member of the engineering and supervisory staff of the Taxco Unit of the American Smelting and Refining Co. Ltd. from 1951 to 1953.

5. That in 1953 I joined the staff as chief engineer of Giant Mascot Mines Ltd., Spillimacheen, B. C. and remained there until 1955.

6. That from 1955 to 1957 I was employed by Rix Athabasca Uranium Mines Ltd. as chief engineer and assistant manager.

7. That from 1957 to 1965 I was employed at the Pronto Division of Rio Algom Mines Ltd. in various capacities at both the uranium mine and the copper mine.

8. That from August to December 1965 I was Resident Manager at Orecan Mines Ltd.

9. That from January 1966 I have been involved in general exploration and consulting work.

10. That I am, at present, the principal in the firm of L. J. Manning & Associates Ltd. of Vancouver, a firm of consulting mining engineers.

11. That the foregoing Progress Report of Jan. [illegible], 1970 for [illegible] Association is based on a cumulative [illegible] days on the property since March, 1970, on the work of S. S. Tan, and on a study of available reports on the area.

12. That I do not hold any financial or other interest in the properties or stock of or any of its affiliates nor do I expect to do so in the future.

Dated at Vancouver, B. C. this 7th day of July, 19 70.

L. J. Manning

L. J. Manning, P.Eng.

CERTIFICATE

I, Siak S. Tan, residing at 310 - 1965 West 8th Avenue, in the City of Vancouver, Province s of British Columbia, hereby certify that:

1. I am employed as a geologist by L. J. Manning and Associates Ltd., with office at 610 - 890 West Pender Street, Vancouver, B. C.

2. I am a graduate of Carleton University, Ottawa, Ontario, B.Sc. (Geology) in 1964, and have practiced my profession since that time.

3. I have successfully completed, by examination, the academic requirements for admission to membership of the Association of Professional Engineers of British Columbia, and am presently enrolled as an Engineer-in-Training.

4. I have no interest, direct or indirect, in the properties or securities of **CANTU MINERAL ASSOCIATION** or any of its affiliates, nor do I expect to receive any such interest.

5. **That the foregoing report of June 23, 1970 for CANTU MINERAL ASSOCIATION is based on my cumulative 37 days on the property since March, 1970 and on a study of available reports on the area.**

DATED at Vancouver, British Columbia this **7th** day of **July** 19 **70.**

S. S. Tan

S. S. Tan, B.Sc., E.I.T.

TABLE 1

CANTU MINERAL ASSOCIATION

EXPLORATION AND SURFACE DEVELOPMENT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCATION	Tons Per Vert. Feet @11 cu.ft./tn.	Ft. True Width	TonsX Width	Grade % Sb	(Tons) (Grade) T.G.	Strike Length Ore	Strike Length Developed	Development Success Ratio 7/8	Explored Vein Length	Probable Vein Length	Proportion Vein Mineralized	Proportion Mineralized Ore Grade 7/10	Tns/Vt.Ft. Per Ft.of Strike	Probable Tons/Ft. (13)(14)(11)	Possible Tons/Ft. (14)(11)
VEIN #2	82	4.65	380	4.59	372	167	167	1.00	800'	2,000'	1.00	0.21	0.49	206	980
VEIN #1	173	7.90	1,370	9.26	1,600	208	220	0.94	440'	3,000'	1.00	0.474	0.83	1,160	2,440
CANTU 5/6/70	255	6.9	1,750	7.7%	1,972	375	387	0.97	1,240'	5,000'	1.00	0.30	0.68	1,020	3,400
VEIN #2	82	4.65	380	4.59	372	167	167	1.00	167	340	1.00	1.00	0.49	167	167
VEIN #1	173	7.90	1,370	9.26	1,600	208	220	0.94	1,950	4,000	1.00	0.107	0.83	426	3,320
VEIN #4	--	--	--	--	--	--	--	--	--	340	--	--	0.49	167	167
CANTU 23/6/70	255	6.9	1,750	7.7%	1,972	375	387	0.97	2,117	4,680	1.00	0.18	0.68	780	3,180

TABLE 2 CANTU No. 2 VEIN

W L	Area	% Sb	% Sb X Area
5.0 X 6.50	32.50	2.76	89.70
4.5 X 8.50	38.25	1.41	53.93
6.2 X 8.50	52.70	3.22	169.69
5.5 X 6.00	33.00	0.97	32.01
5.0 X 6.50	32.50	2.51	81.58
4.5 X 9.50	42.75	2.35	100.46
5.0 X 9.75	58.50	1.11	34.94
5.6 X 14.25	79.80	8.00	638.40
5.4 X 15.50	83.70	7.59	635.28
9.5 X 8.50	80.75	2.61	210.76
9.0 X 10.00	90.00	10.62	955.80
6.0 X 12.00	72.00	2.29	164.88
4.0 X 10.00	40.00	2.34	93.60
4.5 X 10.00	45.00	2.76	124.20
3.5 X 15.00	52.50	3.78	198.45
3.7 X 12.25	45.33	9.45	428.37
4.5 X 4.50	20.25	4.45	90.11

Average True Width = 5.38 X Cos 60° = 4.65 ft.

Average Grade = 4.55% Sb

Tons per Vertical Foot = 82 tons @ 11 cu. ft.

INDEX MAP.

CANTU MINERAL ASSOCIATION.
SCRAFFORD ANTIMONY PROPERTY
Eagle Creek Area, Fairbanks.
— CONSULTING ENGINEERS —
L. J. MANNING & ASSOCIATES LTD.
VANCOUVER, B.C., CANADA.

ALASKA

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C. 1957

ALASKA, MAP C

File No. Fairbanks D-2 Quad. 70-
Drawing No. 12.

GEOLOGICAL SURVEY, FEDERAL CENTER, DENVER, COLORADO OR WASHINGTON 25, D. C.

TABLE 3

Contract No. CH-001

PRELIMINARY AGREEMENT

Agreement, made in the City of Fairbanks, Fourth Judicial District, State of Alaska, United States of America, between HIBINO METAL, INDUSTRIAL CORP., having an office for the transaction of business at 3-Chome, Oimatsucho, Kitaku Osaka, Japan, hereinafter called the "Consumer", and OHGITANI KOGYO CO., LTD., having an office for the transaction of business at 23, Tosabori-Funamachi, Niski-Ku, Osaka, Japan, hereinafter called the "Buyer", and CANTU MINERAL ASSOCIATION, a co-partnership, having an office for the transaction of business at 14633 Ambaum Way, Seattle, Washington United States of American, hereinafter called the "Seller".

WHEREAS, the parties hereto believe there is a need for a more detailed agreement regarding the matters herein contained, it is not their intent that this agreement shall contain all the terms and conditions desired and matters sketchily touched upon or omitted may be the subject of further agreement.

THEREFORE, it is mutually agreed as follows:

That the Seller shall sell to the Buyer and the Buyer shall purchase from the Seller, during the period beginning with the date hereof and ending on April 30, 1971, Three Thousand One Hundred (3,100) metric tons of Antimony ore from the vicinity of Fairbanks, Alaska on the following terms:

SHIPMENTS:

300 Metric tons of 30.5% SB ore in February, 1970

100 Metric tons of 30.5% SB ore in March, 1970

125 Metric tons of 40% SB ore in March, 1970

100 Metric tons of 30.5% SB ore in April, 1970

125 Metric tons of 40% SB ore in April, 1970

100 Metric tons of 30.5% SB ore in May, 1970

125 Metric tons of 40% SB ore in May, 1970

50 Metric tons of 50% SB ore in May, 1970

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ATTORNEYS AT LAW
SUITE "A"
TEAMSTERS BUILDING

Balance of tonnage will be shipped on as available basis, schedules to be agreed to between the parties.

MINIMUM PRICE:

17% SB Dry Metric Ton Unit but less than 20%	$ 7.00 ~33
20% SB Dry Metric Ton Unit but less than 25%	9.28
25% SB Dry Metric Ton Unit but less than 30%	10.00
30% SB Dry Metric Ton Unit but less than 35%	11.56
35% SB Dry Metric Ton Unit but less than 40%	12.41
40% SB Dry Metric Ton Unit but less than 45%	14.00
45% SB Dry Metric Ton Unit but less than 50%	14.94
50% SB Dry Metric Ton Unit but less than 55%	15.84
55% SB Dry Metric Ton Unit but less than 60%	16.74
60% SB Dry Metric Ton Unit or better	17.64 ≈80¢/lb

PRICE ESCALATION PROVISION:

In the event that the average of the prices published by METALS WEEK for SB for the two week period preceding docking of each ore carrying vessel is higher than the minimum price hereinbefore specified, Buyer agrees to pay Seller an additional sum equal to one-half the difference between the minimum price and the said average for such shipment.

Sample computation: Ship docks 1 March, 1970. Time for determining price based on METALS WEEK average 15 February - 28 February. If price variation during the period is $21-24, the average price will be $22.50.

DELIVERY:

Shipments shall be CIF, Osaka or Nagoya, Japan at the election of the Buyer.

PAYMENT:

Following advice by Seller to Buyer of tentative shipping date, approximate tonnage being shipped, and the SB percentage of the shipment, Buyer, in advance of respective shipments, will prov an irrevocable letter of credit to the NATIONAL BANK OF COMMERCE,

RICE, HOPPNER, BLAIR & McGHEA
ATTORNEYS AT LAW
SUITE "A"
TEAMSTERS BUILDING

SOUTH BURIEN BRANCH, 15707 1st South, Seattle, Washington, hereinafter called the "Bank", for one hundred (100%) per cent of the sum due for the respective shipment in favor of Seller on the basis of weight and SB analysis available prior to shipment.

TENDER OF DOCUMENTS:

Seller shall receive seventy per cent (70%) of the payment for each shipment upon presentment of a sight draft to the Bank, accompanied by appropriate bills of lading, seller's invoice, certificate of insurance, Seller's assay reports and, if required, appropriate governmental export authority. Balance of the price shall be paid against Seller's final invoice of each shipment on the basis of the final weight and analysis performed by or on behalf of the Buyer within sixty (60) days of the docking of the respective ore carrying vessel.

WEIGHT, MOISTURE DETERMINATION AND SAMPLING:

Ore shall be weighed, moisture content determined and each sub-lot sampled in the customary manner by the Buyer under the supervision of FAR EAST SUPERINTENDENCE CO., (FESCO) or JAPAN MARINE INSPECTION ASSOCIATION (NKKK). Parties hereto may agree to the employment of other firms to conduct the weighing and analysis. Weights, determination of moisture content, and analysis reported by FESCO or NKKK shall be final for settlement of purchase price. The costs of services provided by FESCO or NKKK shall be shared equally between Buyer and Seller.

ASSAYING:

Assays of the ore shall be made by Buyer and Seller, and exchanged in the customary manner for the SB content (0.5% splitti limit). In the event of a material disagreement between the Buyer and Seller regarding the assay, an umpire shall be selected by the parties to make a third assay. If the results obtained by the umpire shall be between the results obtained by the assayers for the two parties, the umpire's result shall be accepted. If the

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ATTORNEYS AT LAW
SUITE "A"
TEAMSTERS BUILDING

result obtained by the umpire shall be above or below the results obtained by the assayers for both parties, the assay of the party nearest to that of the umpire shall be accepted. The cost of assay by the umpire shall be paid by the party whose assay differs most from that of the umpire.

ARRIVAL AT PORT:

It is agreed between the parties that an affidavit of an officer of the stevedoring company performing the unloading of an ore shipment shall be determative as to the time, date, and place of docking of any ore shipment.

DATE OF SHIPMENT:

It is agreed between the parties that a shipment of ore has commenced upon completion of loading aboard cars of the Alaska Railroad at Fairbanks, Alaska, United States of America and an affidavit concerning the date upon which loading was completed by the freight agent shall constitute a final determination of such matter.

RIGHT OF REFUSAL:

Buyer shall have first right of refusal of Seller's excess production and low grade ores during the term of this agreement. Buyer shall have first right of refusal for ores available following discharge of this agreement.

DEDUCTION FOR MOISTURE:

The percentage of moisture to be deducted from the gross weight of the ore shall be determined by the customary methods.

IMPURITIES:

Seller shall not be penalized because of the presence of customary impurities including, but not limited to, arsenic and lead.

LOST SHIPMENTS:

Seller shall not be in default of this agreement should any shipments be lost at sea, provided insurance for the benefit of

ICE, HOPPNER, BLAIR
& McGHEA
ATTORNEYS AT LAW
SUITE "A"
TEAMSTERS BUILDING
FAIRBANKS,
ALASKA 99701
TELEPHONE 452-1201

the buyer covers the shipments.

APPLICABLE LAW:

This agreement shall be interpreted according to the laws of the State of Alaska, United States of America.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective representatives, thereunto duly authoried.

DATED this 4th day of January, 1970, at Fairbanks, Alaska, United States of America.

This agreement shall be binding upon, and inure to, the benefit of the successors and assigns of the respective parties.

C

CANTU MINERAL ASSOCIATION

By _____

By _____

SELLER

HIBINO METAL, INDUSTRIAL CORP.

By K. Hibino

CONSUMER

OHGITANI KOGYO CO., LTD.

By _____

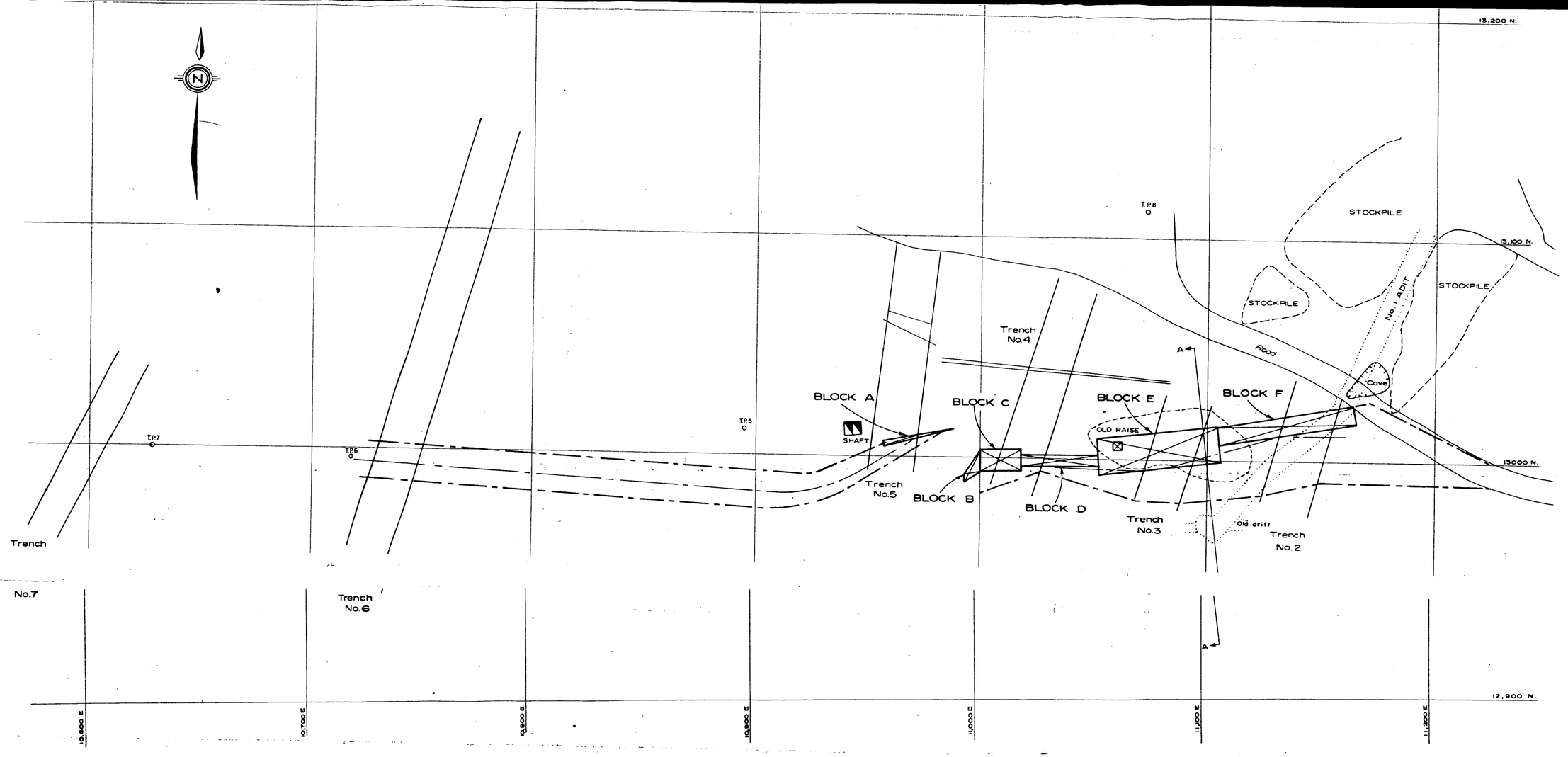
BUYER

SANRITSU SANGYO & CO., LTD.

By _____

Witness

RICE, HOPPNER, BLAIR & McCHEA
ATTORNEYS AT LAW
SUITE "A"
THUNDERBIRD BUILDING



	L.	W.	A.	G.	G.A.
BLOCK A	[(32.0)(1.95)/2 = 62.]			(17.97) =	560
BLOCK B	[(10)(5.82) = 58]			(9.1) =	530
BLOCK C	[(18)(9.7) = 175]			(3.54) =	619
BLOCK D	[(34)(5.05) = 172]			(1.84) =	316
BLOCK E	[(54)(16.5) = 882]			(19.9) =	17,550
BLOCK F	[(60)(4.95) = 297]			(11.6) =	3,440
TOTAL =	208	7.9	= 1,646	14.0%G	23,015

$\frac{A}{\text{Sin.}60} = \frac{1646}{\text{Sin}60} = 1900\ 8 \div 11 = 173$ Tons / vert. Foot

T.W. = 7.9 (Plan w. = 9.12)

	L	W	A	G	GA
TOTAL	208	–	1646	–	23,015
BLOCK E	54		882		17,550
TOTAL LESS E	154	4.90	764	8.5%	6,465

$\frac{764}{\text{Sin}60} = 882\ 8 \div 11 = 80$ Tons/vert. Foot

TOTAL PLUS 1/2 E	54	–	882	(10.0%G)	= 8,775
	208	7.90	1646	9.26	= 15,240

$\frac{1646}{\text{Sin}30} = 1900\ 1/2 \div 11$ ft./ton = 173 Tons/vert Foot

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CONSULTING ENGINEERS
VANCOUVER, B.C.

CANTU MINERAL ASSOCIATION

ORE RESERVE CALCULATION SKETCH
VEIN No.1

SCRAFFORD ANTIMONY PROPERTY
EAGLE CREEK AREA, FAIRBANKS, ALASKA

FEET 40 0 40 80 FEET

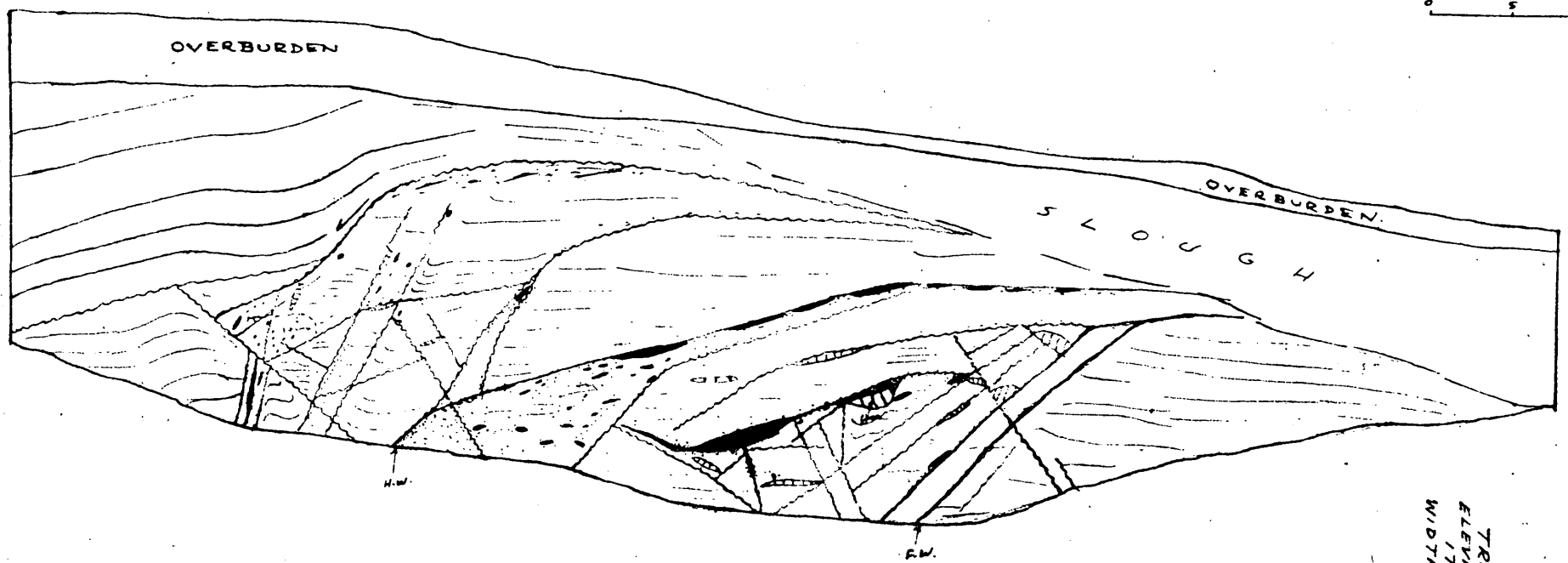
Surveyed by:	L.J.M. & S.S.T.	Dwg. No: 7	Roll: 93 & 93A
Drawn by:	L.J.M.	Date:	July 1970

N.B.
For trench location and Legend see Drawing #10

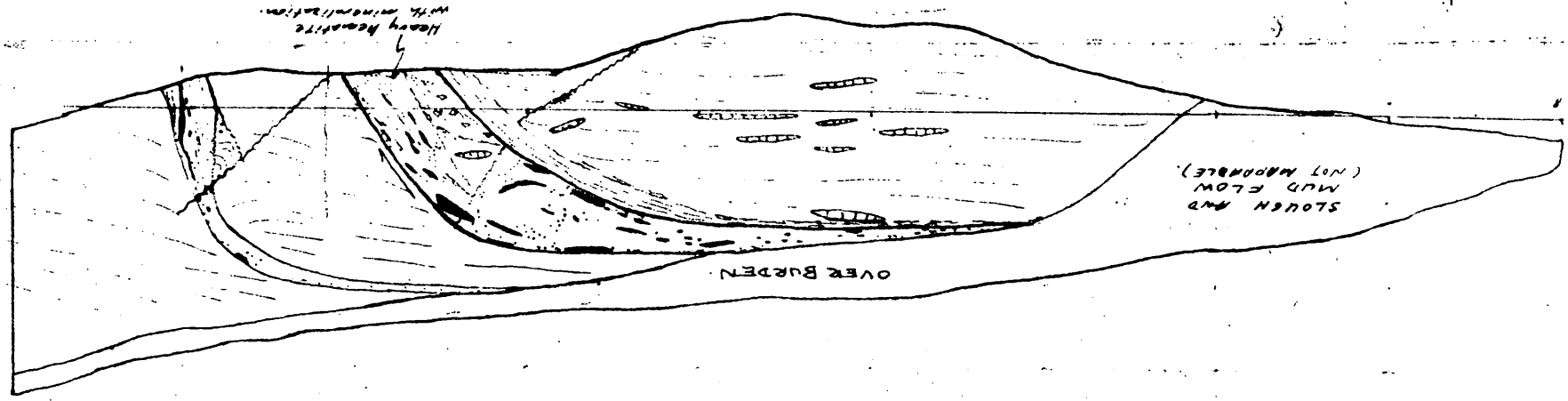
CANTU: #4 VEIN
TRENCH 41
June 23rd 1970, S.S. Tan.

SCALE
0 5 10 FT.

WEST WALL



TRENCH
ELEVATION
WIDTH = 18 FT.
HEIGHT 18 FT.



EAST WALL

File No. Fairbanks D-2 Quad: 70-2
Roll: 93 & 93A.
Drawing No. 9.

Sample No.	Width	% Sb
14776	1.3'	22.91
14777	5.0'	3.54
14778	7.0'	29.12
14779	3.5'	21.47
14780	8.5'	4.68
14781	5.6'	0.54
14782	10.0'	0.78

LEGEND

Antimony Oxide

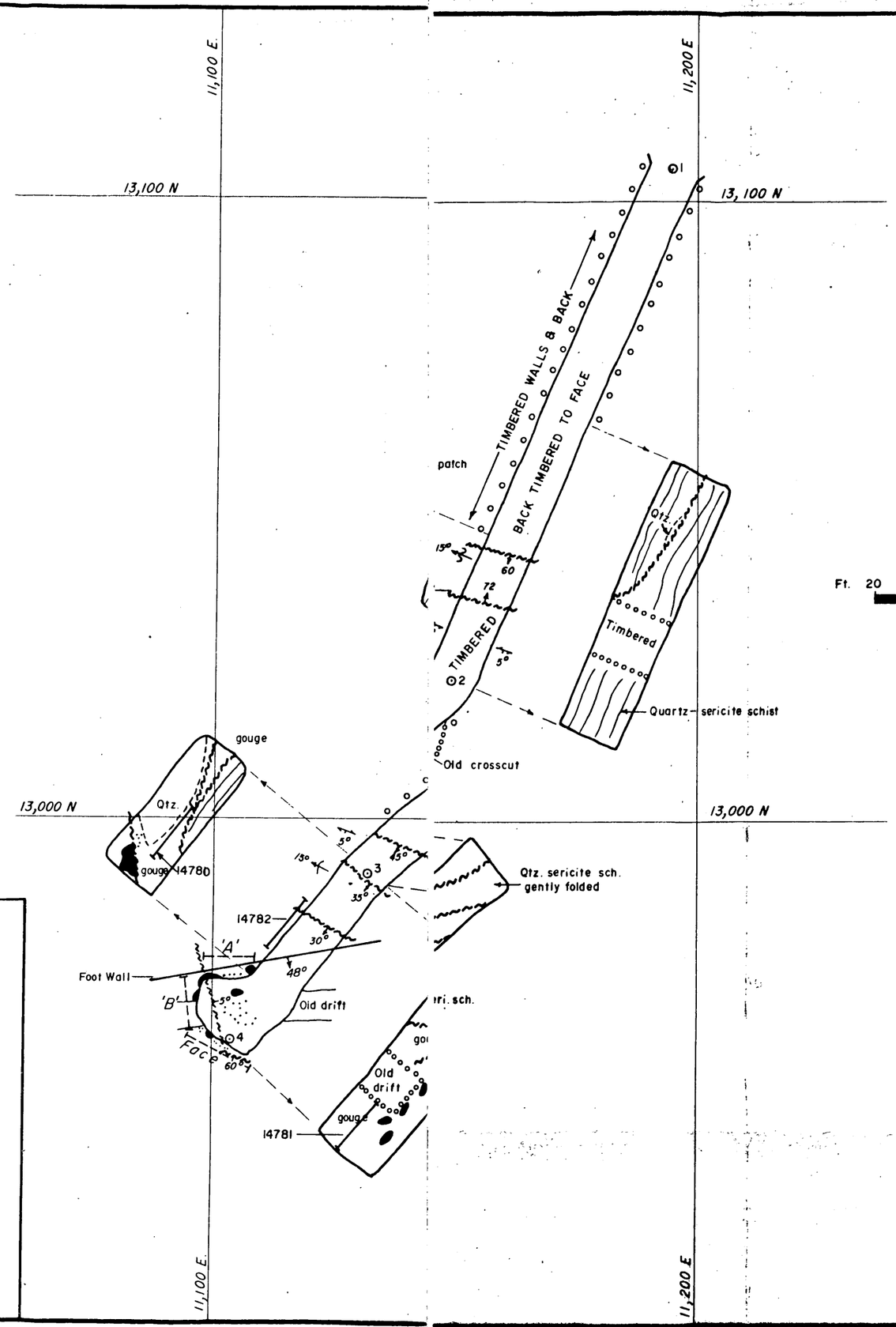
Stibnite or SbS

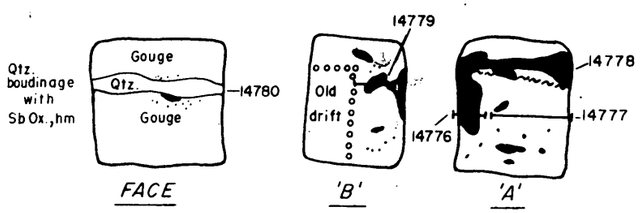
Fault & gouge (shearing) ····· 60°

Schistosity ····· 20°

Multiple fold ····· 15°

Anticline with plunge ····· 5°





SECTIONS

SCALE 1" = 10'

Ft. 10 5 0 10 Ft.

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VANCOUVER, B.C.

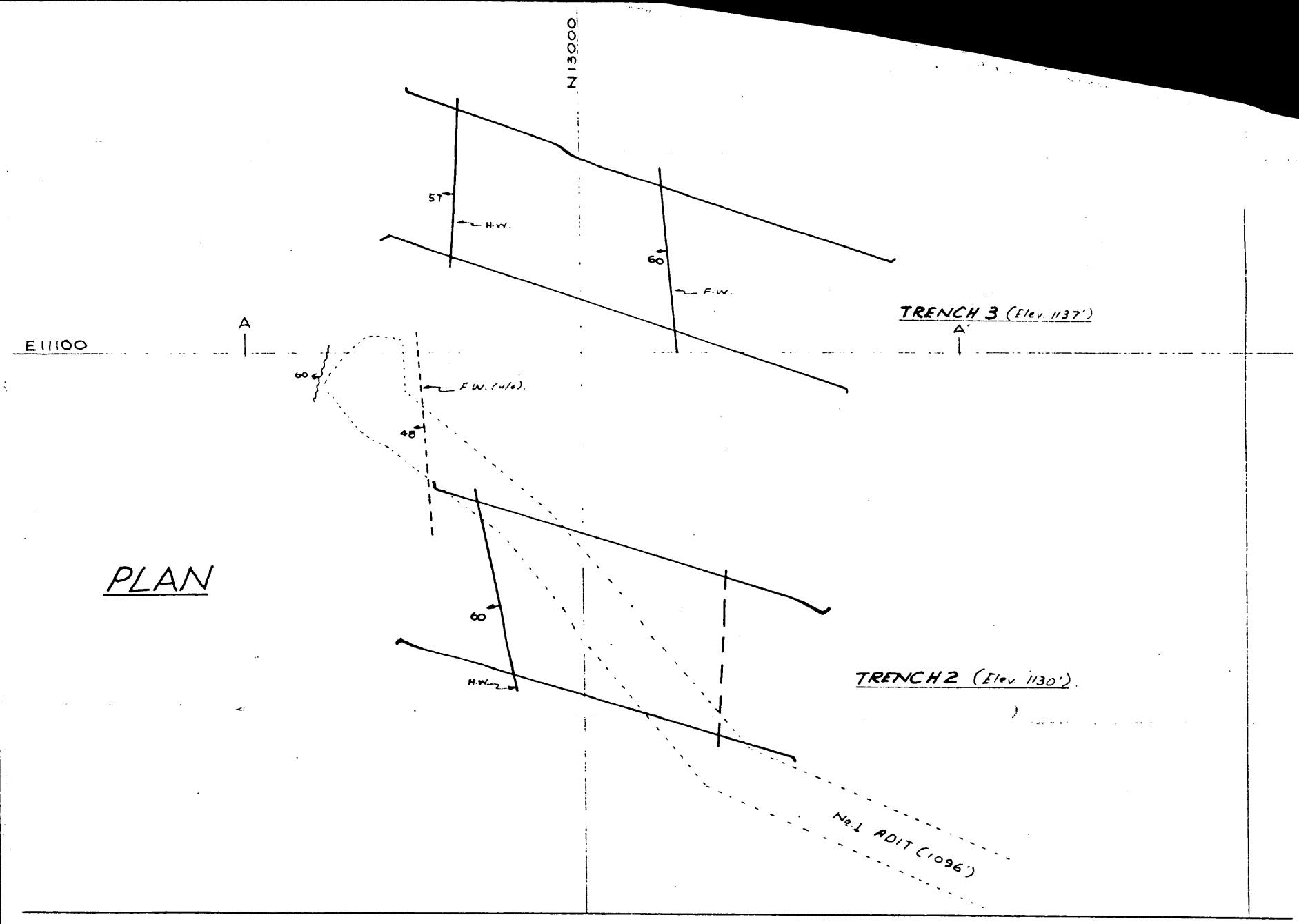
CANTU MINERAL ASSOCIATION

GEOLOGY—No. 1 VEIN ADIT

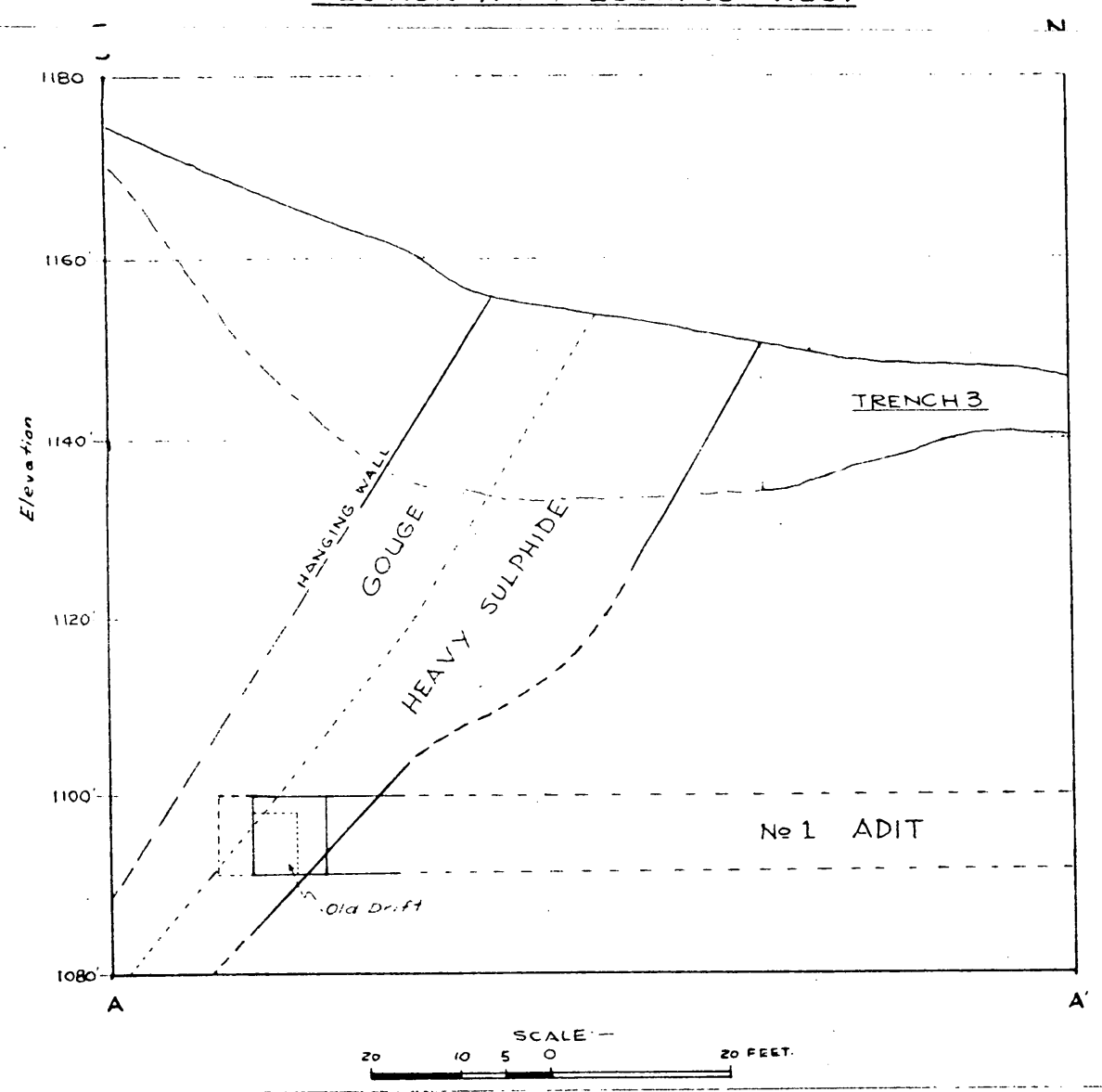
SCRAFFORD ANTIMONY PROPERTY

EAGLE CREEK AREA FAIRBANKS, ALASKA

Geology by: S. Tan	File No: Fairbanks B-2 Quad. 70-2
Surveyed by: S. Tan	Dwg. No: 11
Drawn by: S. Tan	Date: June 1970



SECTION A-A': LOOKING WEST



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— CONSULTING ENGINEERS —

Drawn by:- L.J.M.
Traced by:- S.S.T.

Roll No. 93 & 93A.
Drg. No. 8
File No. Fairbanks D-2 Quad. 10-2.

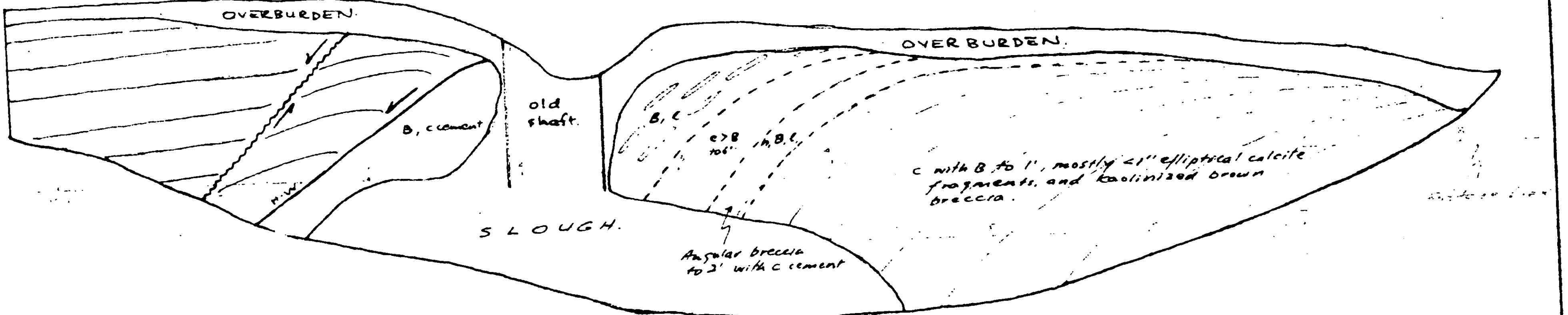
CANTU MINERAL ASSOCIATION.

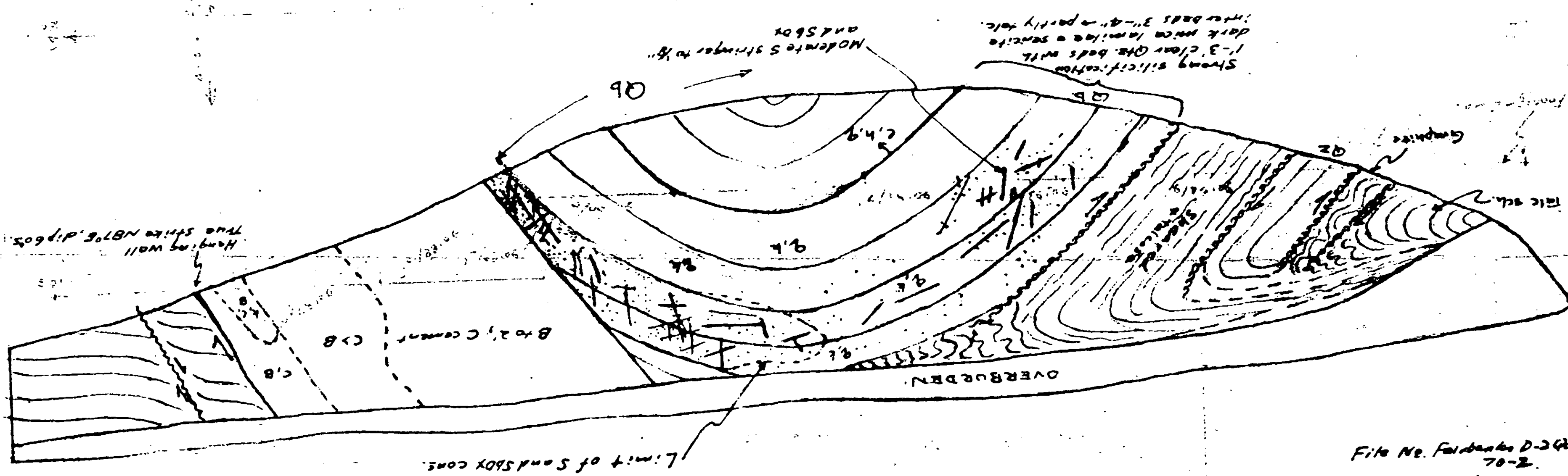
No. 1 VEIN
SECTION: TRENCH 3-ADIT
SCRAFFORD ANTIMONY PROPERTY.
EAGLE CR. AREA, FAIRBANKS, ALASKA.

Legend as in Drawing No. 4.

0 5 10 FT.

WEST WALL





EAST WALL

File No. Fairbanks D-2 Quad. 70-2

Roll: 9B 893A.

Draw. No. 13

July 7, 1970

ORIGINAL
SOFT
C. E.
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REPORT ON AN
EXAMINATION OF THE EAGLE CREEK PROPERTY
16 MILES NORTH OF FAIRBANKS, ALASKA
FOR
CANTU MINERAL ASSOCIATION

BY

L. J. MANNING, P.ENG.

31st March 1970

L. J. Manning & Associates Ltd.
610 - 890 West Pender Street
Vancouver 1, B. C.

March 31, 1970

L. J. MANNING & ASSOCIATES LTD.
CONSULTING MINING ENGINEERS
610—890 WEST PENDER STREET VANCOUVER 1. B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PH
L. J. MANNIN

March 31, 1970

The President and Directors,
Cantu Mineral Association,
14633 Ambaum Blvd. S. W.,
Seattle, Washington 98166
U. S. A.

Dear Sirs:

The following is a report on my examination of your Eagle Creek property located some 16 miles north of Fairbanks, Alaska. The report is based on the results of a visit to the property on the 26th and 28th of March, 1970 and on results of conversations with officers of the Company, some Fairbanks businessmen, a study of available reports on the area and discussions with company employees.

SUMMARY:

It is recommended that the No. 1 vein be exposed as rapidly as possible for approximately 1,000 feet of strike length in the vicinity of the area of previously recorded production from this vein. Costs for this stripping and trenching are estimated at $15,000 and it is estimated that the results of this work will be available for evaluation in approximately 6 weeks. Simultaneously, it is recommended that the company continue clearing of the original No. 1 adit and prepare this drift for extension to the west beneath the No. 3 shaft area.

The writer, of course, concurs with the company's present policy of shipping both the high-grade (60%) lump ore and small tonnages of low grade mixed dump ore as is presently being done. In addition it is recommended that several hundred tons of low grade vein material be stock piled at the nearby Busty Belle at Fox and that this material be concentrated under the supervision of a competent metallurgist who would then be in a position to design a future larger milling plant as well as provide a good quality saleable concentrate from the development material.

The excellent marketing research and development presently being carried on by the company should be continued with, it is hope a contract improved over the already good contract in existence.

HISTORY:

Old reports indicate that some 1,500 tons of 60%+ antimony was shipped from one area of the No. 1 vein, presumably in the vicinity of the cross-cut presently being cleaned out. Other than written descriptions, no plans exist with sufficient detail to enable a correct economic evaluation of this and other described veins. An attempt in 1965 under the direction of H. L. Hill and Associates Ltd., predecessor of the writer's company, was made to do this while recovering sufficient ore to "pay as you go". This attempt was frustrated by an early decline in the open market and the subsequent inability to obtain a high enough floor price to permit further evaluation of the property at that time. This work resulted in the collaring of four winzes, three on the No. 1 vein and one on the No. 2 vein with the completion of only one winze from the surface to the track level (approximately 90 feet) through what was later thought to be re-frozen, low-grade vein material left by the high graders or used as fill. These three shafts, spread over a distance of approximately 600 feet of strike length, indicate a reasonably consistant width of about 5 feet of material of unknown grade. Dump material on the surface just downhill from the vein exposure in the first 300 feet west of the creek appears to be the tailings or rejects from early high grading and screening operations. This material appears to run a relatively consistant 12 to 16 per cent antimony. The antimony appears to be contained in small particles of relatively pure stibnite, massive samples of which run consistently over 60% antimony surrounded by layers of oxide material. It is roughly estimated that 5 to 10 per cent only of the total antimony value would be contained in this oxide material.

Previous reports state that the vein is traceable for 3,000 feet though again no maps showing actual outcrop or float findings to confirm this written statement are available.

RECENT HISTORY:

Recent production from the property has consisted of 62 tons of bagged antimony estimated at 60%+; 103 tons of 12 to 16%; 220 tons of 12 to 16% presently being shipped; all to Hibino Metals totalling 385 tons. In addition, a shipment of 120 tons of the 12 to 16% dump material has been shipped to Lorado, Texas as a test shipment. Total shipments--505 tons. An additional 49 sacks of lump stibnite are awaiting trucking to Fairbanks; at 160 pounds each, equals 3.9 tons.

VEIN DESCRIPTION:

Presently the vein is reported to consist of intermittent discreet bodies of unknown dimension composed of massive stibnite containing over 60% antimony dispursed throughout unknown amounts of altered vein material of presently unknown grade. The best average grade of total vein material is likely to occur in the vicinity of the known best grade sections

Experience in previous camps has indicated that often the surface exposure of the antimony ore is wider and higher grade than that found underground. Similar experience is often obtained in other permafrost areas with galena veins. It is probable that this is caused by natural concentrating action through specific gravity by permafrost "boiling" action.

EVALUATION:

Your company presently has a preliminary agreement with Hibino Metal Industrial Corp. of 3-Chome, Oimatsucho, Kitaku Osaka, Japan, and Ohgitani Kogyo Co. Ltd. of 23, Tosabori-Funamaehi, Niski-Ku, Osaka, Japan, to ship out 3,100 metric tons of antimony ore of specified quantity and grade before certain specified dates up until May, 1970, to be followed by, to be agreed upon quantities and grades. A floor price schedule indicates minimum prices to be paid for grades ranging from 17% to 60% antimony. However, for future milling products the price for 60% antimony is the one to be considered and is $17.64 per unit or 88½¢ a pound. Metals Week prices higher than this will be split 50/50 between buyer and seller. It is expected that this arrangement will be improved in future negotiations and if not it is probable that an "agency" contract can be arranged for a metal buyer using any existing contract as the base price. These agency contracts usually arrange that prices received over and above the base contract are split approximately 80/20 between metal buyer and seller.

Presently it appears that a working figure of $1.00 per pound can safely be used, in which case 12% ore is worth $240.00 per ton, for material landed at the railhead in Fairbanks.

Freight cost estimate:

	Freight Route	Cost per TON
1.	Mine to Fairbanks	$ 4.00
2.	Fairbanks to Seattle	26.80
3.	Dock rental - $150/month	1.00
4.	Sea-land Van	1.00
5.	Steveadors	3.00
6.	Seattle to Japan	28.00
7.	Loader rental at Fairbanks	.80
	Total	$ 64.60

It is estimated that if loads can be combined with Cominco shipping to Japan at the New Westminster dock, the Seattle to Japan costs may be changed from $28.00 to $8.00. Please note: trucking costs from Seattle to Fairbanks, 2,373 miles, is $200.00 per ton whereas the reverse haul from Fairbanks to Seattle is $30.00 per ton. In addition, Japanese pipe mills are reportedly supplying the pipeline material to the north slope oil fields and in searching for a back haul have bought up all the scrap yards (mostly U.S. military equipment) in Anchorage and Fairbanks. It seems reasonable that with proper negotiations your antimony ore may be moved directly from Alaska to Japan at very reasonable rates in conjunction with the aforesaid scrap.

MINING AND COSTS:

Assuming 1,000 feet of vein averaging 5 feet wide of mineable material this results in approximately 500 tons per vertical foot, normally enabling consideration of a 500-ton mill. However, the history of these antimony veins is such that depth extensions will probably be quite limited to say two or three hundred feet, in which case a vertical cross section may be considere as 300 by 5 or 150 tons a lineal foot which would permit the consideration of 150-ton mill.

Wall conditions appear unusually bad but may improve with depth. The wall rock may be described as being weak and "ravelly" rather than "heavy", thus stoping would require light broad area support rather than heavy localized support required by "heavy" ground.

Costs for mining and milling on a 200-ton per day basis under conditions envisaged woula probably be no higher than $15 to $20 per ton to a concentrate storage bin in Fairbanks. This latter cost achieved after methods have been standardized and normal milling recoveries obtained, usually this should be obtained after a running period of about six months.

To retire the approximate one million dollar allowance which should be made for a 200-ton mill, an additional cost of $5.00/ton should be added to provide full principle retirement within three years. Total operating and capital costs may then be assumed to be in the $20 to $25 per ton range, equivalent at present prices to about 2% antimony allowing for milling losses. To provide a reasonable rate of return for unknowns, this grade should be increased to 3%. In addition, because of the extremely variable history of antimony prices, to provide for one year construction and start-up, plus three years of milling for a tota of four years, these grades should be increased to a minimum of 5 antimony. The object, therefore, becomes the development of approximately 250,000 tons of 5% assured ore. Presuming a 300-fo depth of a 5-foot vein, this is equivalent to about 850 lineal feet of strike length or 1,700 lineal feet if the existing availa 150 feet of backs is extended.

CONCLUSIONS:

From observations on the ground and a study of availabl reports, the author concludes that the chances of establishing sufficient material to justify a 200-ton mill on the No. 1 vein are good; furthermore, when considering the existence of the No. 2 vein and the possibilities of other veins on the property, the author considers the chances of achieving such an objective are excellent. Success of the future work depends almost entirely on the Company's ability to continue with a floor price equivalent to that now on hand with respect to the total economy of the day.

RECOMMENDATIONS:

1. It is recommended that negotiations continue on obtaining a five year floor price with an escalation clause to allow for inflation to be negotiated against escalation clauses based on market prices over and above the floor.

2. That the vein in the vicinity of the area of known previous production be exposed as rapidly as possible to permit detailed mapping and sampling of the vein material. The cheapest and fastest method of exposing steep dipping veins, except in areas of extremely rugged topography, is by surface stripping. It is recommended that overburden and detrital material be removed from the top of the vein by bulldozer where possible and that the top five feet of the vein material be drilled and blasted and removed by surface scraper. The logical location for such scraper is on the side of the creek, enabling a downhill slush of all material to a loading area accessible by front-end loader. It is recommended that this work be carried out by crews experienced in such drilling and slushing operation.

3. It is recommended that the existing drift be rehabilitated to enable the comparison of surface oxidation and deposition with actual underground occurrences. It is furthermore recommended that this drift be extended in an easterly direction to a point at least vertically beneath the existing No. 3 shaft.

ESTIMATED COSTS:

Exclusive of market research.

1.	Provide working camp at mine site to consist of cook trailer, bunkhouse trailers for 14 to 16 men, office, shop, dry, oil and fuel storage.	$ 30,000 to 40,000
2.	Direct cost of surface stripping, including equipment rental	15,000
3.	300 feet of 6 x 8 drift	20,000
4.	Engineering & Travel	8,000
5.	Contingencies	7,000
	Total	$ 80,000 to $ 90,000

Please note that the camp costs consist largely of resaleable trailer units, etc. and may be at least 50% recoverable and, furthermore, such costs should not be incurred all at once but incurred as needed, for example, the cook trailer, sleeping facilities for 6 men and a small dry-building should be provided fairly early in the proceedings, and as men are required facilities can be expanded.

Presently, D-4 operators and up on union scale are obtaining about $9.00 an hour for a 36 hour week or (on straight ti only) $72.00 per day. Non-union operators can probably be kept in the area for $800.00 or $900.00 a month plus board. With a cookhouse it seems reasonable that a crew over six men can be boarded at a cost of about $10.00 per man day. Good miners from Canada require about $50.00 per day clear of board (cost approximately $75.00 direct).

L. J. MANNING & ASSOCIATES LTD.

L. J. Manning, P.Eng.

LJM:mjb

Contract No. CH-001

PRELIMINARY AGREEMENT

Agreement, made in the City of Fairbanks, Fourth Judicial District, State of Alaska, United States of America, between HIBINO METAL, INDUSTRIAL CORP., having an office for the transaction of business at 3-Chome, Oimatsucho, Kitaku Osaka, Japan, hereinafter called the "Consumer", and OHGITANI KOGYO CO., LTD., having an office for the transaction of business at 23, Tosabori-Funamachi, Niski-Ku, Osaka, Japan, hereinafter called the "Buyer", and CANTU MINERAL ASSOCIATION, a co-partnership, having an office for the transaction of business at 14633 Ambaum Way, Seattle, Washington, United States of American, hereinafter called the "Seller".

WHEREAS, the parties hereto believe there is a need for a more detailed agreement regarding the matters herein contained, it is not their intent that this agreement shall contain all the terms and conditions desired and matters sketchily touched upon or omitted may be the subject of further agreement.

THEREFORE, it is mutually agreed as follows:

That the Seller shall sell to the Buyer and the Buyer shall purchase from the Seller, during the period beginning with the date hereof and ending on April 30, 1971, Three Thousand One Hundred (3,100) metric tons of Antimony ore from the vicinity of Fairbanks, Alaska on the following terms:

SHIPMENTS:

300 Metric tons of 30.5% SB ore in February, 1970

100 Metric tons of 30.5% SB ore in March, 1970

125 Metric tons of 40% SB ore in March, 1970

100 Metric tons of 30.5% SB ore in April, 1970

125 Metric tons of 40% SB ore in April, 1970

100 Metric tons of 30.5% SB ore in May, 1970

125 Metric tons of 40% SB ore in May, 1970

50 Metric tons of 50% SB ore in May, 1970

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Balance of tonnage will be shipped on as available basis, schedules to be agreed to between the parties.

MINIMUM PRICE:

17% SB Dry Metric Ton Unit but less than 20%	$ 7.00
20% SB Dry Metric Ton Unit but less than 25%	9.28
25% SB Dry Metric Ton Unit but less than 30%	10.00
30% SB Dry Metric Ton Unit but less than 35%	11.56
35% SB Dry Metric Ton Unit but less than 40%	12.41
40% SB Dry Metric Ton Unit but less than 45%	14.00
45% SB Dry Metric Ton Unit but less than 50%	14.94
50% SB Dry Metric Ton Unit but less than 55%	15.84
55% SB Dry Metric Ton Unit but less than 60%	16.74
60% SB Dry Metric Ton Unit or better	17.64

PRICE ESCALATION PROVISION:

In the event that the average of the prices published by METALS WEEK for SB for the two week period preceding docking of each ore carrying vessel is higher than the minimum price hereinbefore specified, Buyer agrees to pay Seller an additional sum equal to one-half the difference between the minimum price and the said average for such shipment.

Sample computation: Ship docks 1 March, 1970. Time for determining price based on METALS WEEK average 15 February - 28 February. If price variation during the period is $21-24, the average price will be $22.50.

DELIVERY:

Shipments shall be CIF, Osaka or Nagoya, Japan at the election of the Buyer.

PAYMENT:

Following advice by Seller to Buyer of tentative shippin date, approximate tonnage being shipped, and the SB percentage of the shipment, Buyer, in advance of respective shipments, will prov an irrevocable letter of credit to the NATIONAL BANK OF COMMERCE,

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SOUTH BURIEN BRANCH, 15707 1st South, Seattle, Washington, hereinafter called the "Bank", for one hundred (100%) per cent of the sum due for the respective shipment in favor of Seller on the basis of weight and SB analysis available prior to shipment.

TENDER OF DOCUMENTS:

Seller shall receive seventy per cent (70%) of the payment for each shipment upon presentment of a sight draft to the Bank, accompanied by appropriate bills of lading, seller's invoice, certificate of insurance, Seller's assay reports and, if required, appropriate governmental export authority. Balance of the price shall be paid against Seller's final invoice of each shipment on the basis of the final weight and analysis performed by or on behalf of the Buyer within sixty (60) days of the docking of the respective ore carrying vessel.

WEIGHT, MOISTURE DETERMINATION AND SAMPLING:

Ore shall be weighed, moisture content determined and each sub-lot sampled in the customary manner by the Buyer under the supervision of FAR EAST SUPERINTENDENCE CO., (FESCO) or JAPAN MARINE INSPECTION ASSOCIATION (NKKK). Parties hereto may agree to the employment of other firms to conduct the weighing and analysis. Weights, determination of moisture content, and analysis reported by FESCO or NKKK shall be final for settlement of purchase price. The costs of services provided by FESCO or NKKK shall be shared equally between Buyer and Seller.

ASSAYING:

Assays of the ore shall be made by Buyer and Seller, and exchanged in the customary manner for the SB content (0.5% splitti limit). In the event of a material disagreement between the Buyer and Seller regarding the assay, an umpire shall be selected by the parties to make a third assay. If the results obtained by the umpire shall be between the results obtained by the assayers for the two parties, the umpire's result shall be accepted. If the

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result obtained by the umpire shall be above or below the results obtained by the assayers for both parties, the assay of the party nearest to that of the umpire shall be accepted. The cost of assay by the umpire shall be paid by the party whose assay differs most from that of the umpire.

ARRIVAL AT PORT:

It is agreed between the parties that an affidavit of an officer of the stevedoring company performing the unloading of an ore shipment shall be determative as to the time, date, and place of docking of any ore shipment.

DATE OF SHIPMENT:

It is agreed between the parties that a shipment of ore has commenced upon completion of loading aboard cars of the Alaska Railroad at Fairbanks, Alaska, United States of America and an affidavit concerning the date upon which loading was completed by the freight agent shall constitute a final determination of such matter.

RIGHT OF REFUSAL:

Buyer shall have first right of refusal of Seller's excess production and low grade ores during the term of this agreement. Buyer shall have first right of refusal for ores available following discharge of this agreement.

DEDUCTION FOR MOISTURE:

The percentage of moisture to be deducted from the gross weight of the ore shall be determined by the customary methods.

IMPURITIES:

Seller shall not be penalized because of the presence of customary impurities including, but not limited to, arsenic and lead.

LOST SHIPMENTS:

Seller shall not be in default of this agreement should any shipments be lost at sea, provided insurance for the benefit o

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& McGHEA
ATTORNEYS AT LAW
SUITE "A"
TEAMSTERS BUILDING
FAIRBANKS,
ALASKA 99701
TELEPHONE 452-1201

the buyer covers the shipments.

APPLICABLE LAW:

This agreement shall be interpreted according to the laws of the State of Alaska, United States of America.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective representatives, thereunto duly authoried.

DATED this 4th day of January, 1970, at Fairbanks, Alaska, United States of America.

This agreement shall be binding upon, and inure to, the benefit of the successors and assigns of the respective parties.

C

CANTU MINERAL ASSOCIATION

By D. Cushenbook

By Dayton Stephens

SELLER

HIBINO METAL, INDUSTRIAL CORP.

By K. Hibino

CONSUMER

OHGITANI KOGYO CO., LTD.

By [illegible]

BUYER

SANRITSU SANGYO & CO., LTD.

By [illegible]

Witness

RICE, HOPPNER, BLAIR & McCHEA
ATTORNEYS AT LAW
SUITE "A"
BUILDING

OFFICIAL
COPY
O. M. E.
RECEIVED
JUN 16 1971
INITIALS CODE

31 1970

Appeal

TABLE 4

CANTU MINERAL ASSOCIATION

SURFACE EXPLORATION AND DEVELOPMENT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOCATION	Tons Per Vert. Foot @11 cu.ft./tn.	Ft. True Width	TonsX Width	Grade % Sb	(Tons) (Grade) T.G.	Strike Length Ore	Strike Length Developed	Development Success Ratio 7/8	Explored Vein Length	Probable Vein Length	Proportion Vein Mineralized	Proportion Mineralized Ore Grade 7/10	Tns/Vt.Ft. Per Ft.of Strike 2/8	Probable Tons/Ft. (13)(14)(11)	Possible Tons/Ft. (14)(11)
VEIN #2	82	4.65	380	4.59	372	167	167	1.00	800'	2,000'	1.00	0.21	0.49	206	980
VEIN #1	173	7.90	1,370	9.26	1,600	208	220	0.94	440'	3,000'	1.00	0.474	0.83	1,160	2,440
CANTU 5/6/70	255	6.9	1,750	7.7%	1,972	375	387	0.97	1,240'	5,000'		0.30		1,366	3,420
VEIN #2	82	4.65	380	4.59	372	167	167	1.00	167	340	1.00	1.00	0.49	167	167
VEIN #1	173	7.90	1,370	9.26	1,600	208	220	0.94	1,950	4,000	1.00	0.107	0.83	355	3,320
VEIN #4	--	--	--	--	--	--	--	--	--	340	1.00	1.00	0.49	167	167
CANTU 23/6/70	255	6.9	1,750	7.7%	1,972	375	387	0.97	2,117	4,680		0.18		689	3,654
VEIN #2	82	4.65	380	5.5	450	167	167	1.00	700	1,000	1.00	1.00	0.49	490	
VEIN #1	215	9.3	2,000	13.5	2,900	220	232	.95	1,950	4,000	0.113	0.113	0.92	416	
VEIN #4		3.0		1.6						350	1.00		0.27	(95)	
VEIN #3		5.2		5.2						100	1.00	1.00	0.47	47	
CANTU 1/8/70	297	8.0	2,380	11.3%	3,350	387	399	0.97	2,650	5,440			0.74	953	

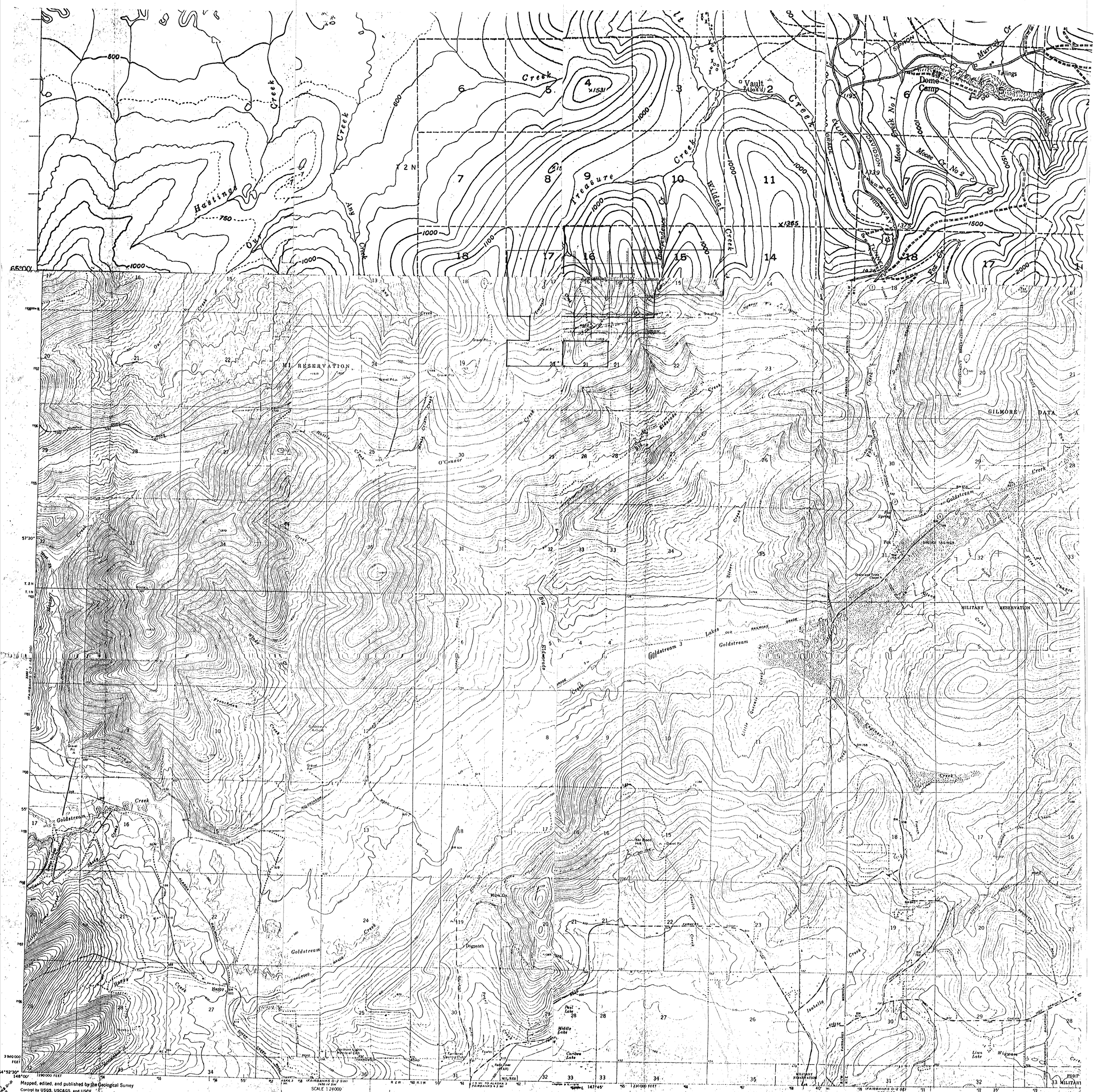
(a) All Antimony grades revised upwards

(b) Sufficient work in vicinity of #1 Vein Block to delete cut by ½

(c) Trench 31 proved to be ore grade but developed by 1 trench only

(d) Vein #4 proved to be lower than ore grade and developed by 1 trench only

(e) Trench 23 & 24 has extended #2 vein to 700'

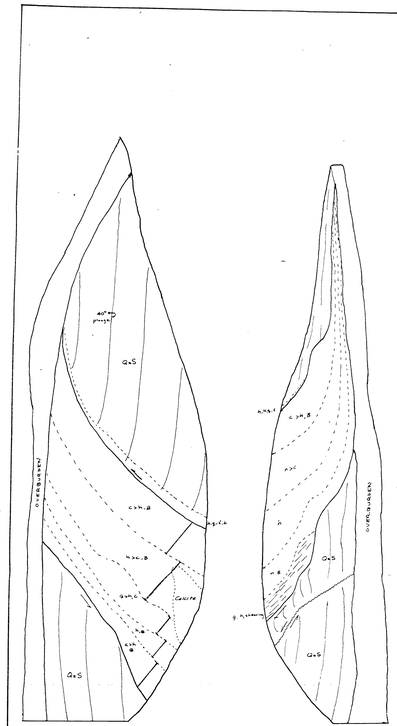

Hastings Creek
Out Creek
Any Creek
Treasure Creek
Wildcat Creek
Vault (Abn'd)
Dome Camp
Tailings
Moose Creek No 1
Moose Cr No 2
Elliot Grade
Davidson Ditch
Siphon
Murphy Cr
Rob Cr
Ester Creek
Goldstream Creek
Big Eldorado Creek
Little Eldorado Creek
Goldstream Lakes
Old Railroad Grade
Gilmore Dome
Gilmore Data
Fox Spring
Fox Creek
Chance Creek
Glenn Creek
Ester Creek
Happy Creek
Dogpatch
Paul Lake
Middle Lake
Caribou Lake
Isabella Creek
Wigwam
Linn Lake
French Gulch
Ski Boot Hill
Gravel Pit
Fairbanks Country Club
Northern Lights Memorial Cem
Radio Tower (FAR)
Farmers Loop Road
Steese Highway
Alaska Railroad
Fairbanks
Chena Hot Springs Road
Fort Wainwright
Military Reservation
O'Connor
Mt. Ox
Goldstream
Happy
Fairbanks
Chena
Wigwam
Fort Wainwright
Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, and USCE
Topography by photogrammetric methods from aerial photographs taken 1966. Field checked 1966
Universal Transverse Mercator projection, 1927 North American datum
10,000-foot grid based on Alaska coordinate system, zone 3
1000-meter Universal Transverse Mercator grid ticks, zone 6, shown in blue
Swamps, as portrayed, indicate only the wetter areas, usually of low relief, as interpreted from aerial photographs
UTM GRID AND 1966 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY
FAIRBANKS, ALASKA 99701, DENVER, COLORADO 80225, OR WASHINGTON, D.C. 20242
DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
QUADRANGLE LOCATION
2 NW, ALASKA
1966
S 3450 IV NE-SERIES Q801
NO REPRODUCTION OF ORIGINALS.
FILE NO: FAIRBANKS 2-2 QUAD. 70-2
DRAWING NO. 1

N.B. FOR RELATIVE LOCATION OF TRENCHES SEE DRAWING No. 4.

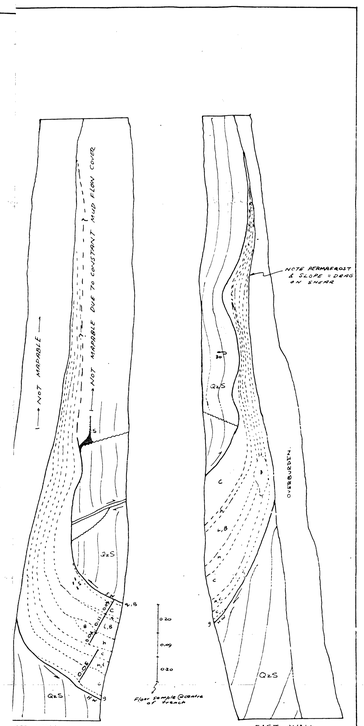
SCALE:-

10 5 0 10 20 40 FEET

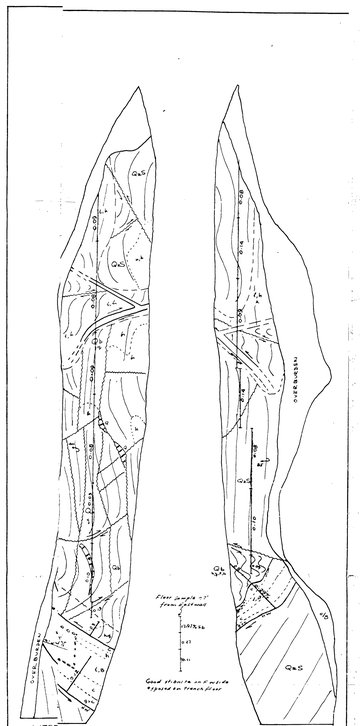
NOTE:- SCALE COMMON TO ALL SECTIONS



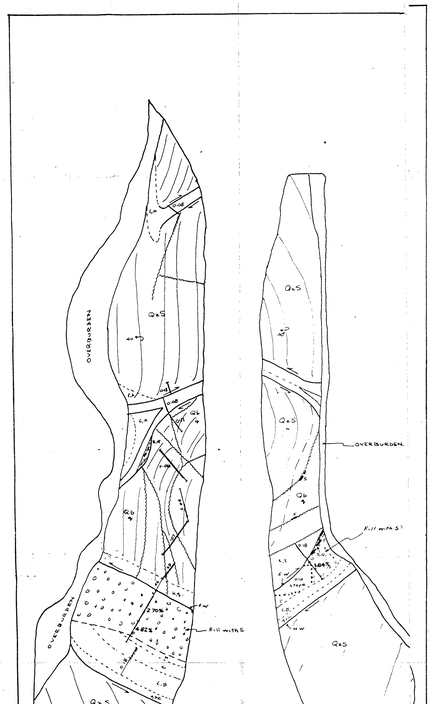
TRENCH 7
Elev. 1224 FEET
Width 18 FT



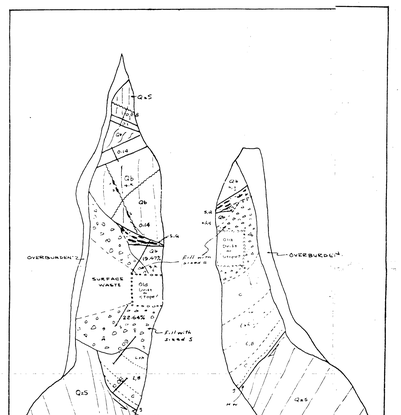
TRENCH 6
Elev. 1200 FEET
Width 20 FT



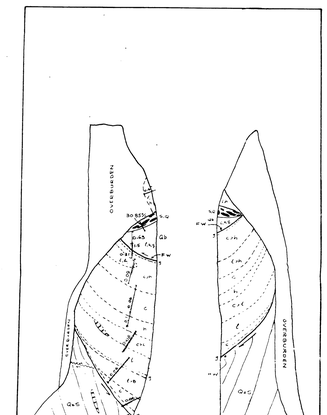
TRENCH 5
Elev. 1153 FEET
Width 20 FT



TRENCH 4
Elev. 1147 FEET
Width < 18 FT



TRENCH 3
Elev. 1137 FEET
Width 18



TRENCH 2
Elev. 1130 FEET
Width 22

L. J. MANNING & ASSOCIATES LTD
CONSULTING ENGINEERS - VANCOUVER, BRITISH COLUMBIA

CANTU MINERAL ASSOCIATION

ASSAYS - No 1 VEIN TRENCHES #2-#7

SCRAFFORD ANTIMONY PROPERTY

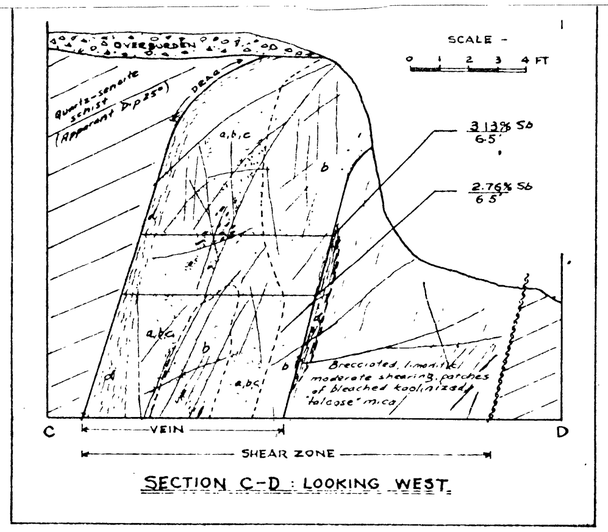
EAGLE CREEK AREA, FAIRBANKS DISTRICT, ALASKA

GEOLOGY BY - S S A	FILE No Calgaper D.P. Mine 70-2 ROLL No 93 & 93A
SURVEYED BY - L J M, S S T	DRG No 6
DRAWN BY S S T	DATE June 29, 1970

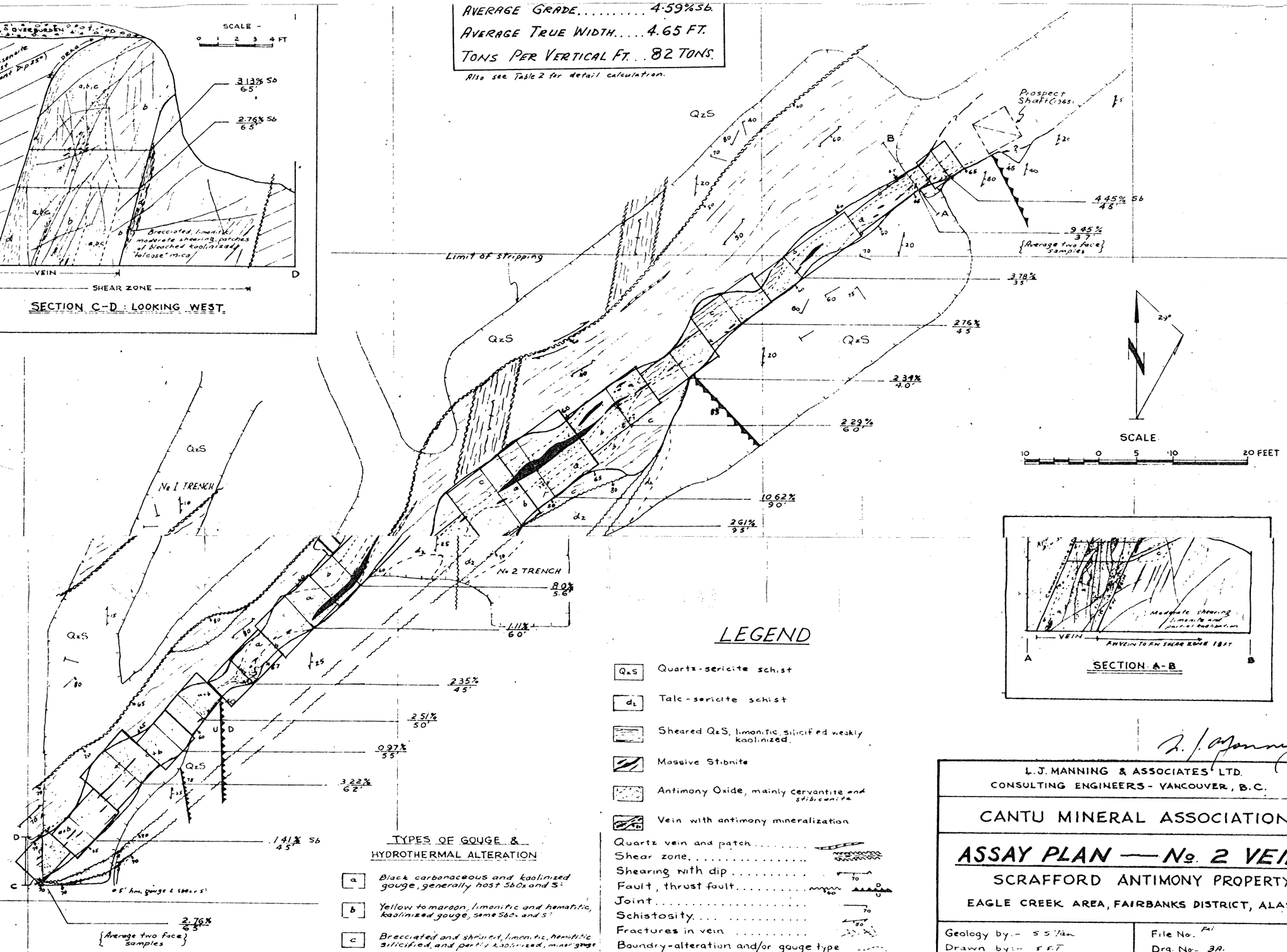
D. J. Manning

AVERAGE GRADE..... 4.59% Sb.
AVERAGE TRUE WIDTH..... 4.65 FT.
TONS PER VERTICAL FT.. 82 TONS.

Also see Table 2 for detail calculation.



SECTION C-D : LOOKING WEST.



SECTION A-B

LEGEND

- QzS — Quartz-sericite schist
- d_2 — Talc-sericite schist
- Sheared QzS, limonitic, silicified weakly kaolinized.
- Massive Stibnite
- Antimony Oxide, mainly cervantite and stibiconite
- Vein with antimony mineralization

Quartz vein and patch .....
Shear zone.....
Shearing with dip 70
Fault, thrust fault..... 60 D U
Joint.....
Schistosity..... 70
Fractures in vein 60
Boundry-alteration and/or gouge type .....

Hm = hematite Lim = limonite
Sb_2O_3 = antimony oxide S^b = stibnite

TYPES OF GOUGE & HYDROTHERMAL ALTERATION

- a — Black carbonaceous and kaolinized gouge, generally host Sb_2O_3 and S^b
- b — Yellow to maroon, limonitic and hematitic, kaolinized gouge, some Sb_2O_3 and S^b
- c — Brecciated and sheared, limonitic, hematitic silicified, and partly kaolinized, minor gouge
- d — "Talcose" and graphitic, kaolinized mica.

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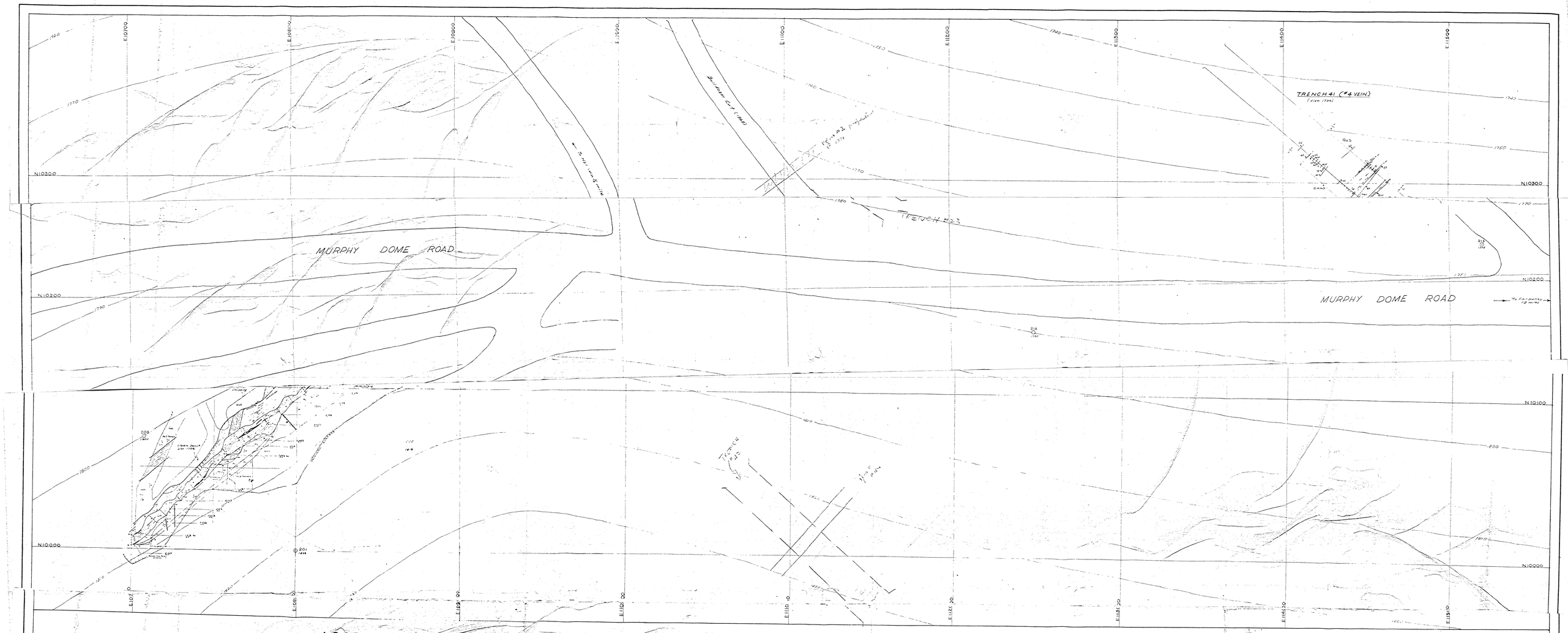
ASSAY PLAN — No. 2 VEIN

SCRAFFORD ANTIMONY PROPERTY

EAGLE CREEK AREA, FAIRBANKS DISTRICT, ALASKA

Geology by:- S.S. Yan	File No. Fai
Drawn by:- S.S.T	Drg. No:- 3A.
Date June 10, 1970	Checked by:-



LEGEND

- Q.S — Quartz-sericite schist
- T.S — Talc-sericite schist
- Sheared Q.S limonitic silicified, weakly kaolinized
- Massive stibnite
- Antimony Oxide mainly cervantite, stibiconite, minor kermesite
- Vein with antimony mineralization

SYMBOL FOR MINERALS

Hematite	Hm.
Limonite	Lm.
Antimony Oxide	Sb_2O_4
Stibnite	Sb
Quartz	Qz

- Quartz vein and patch
- Schistosity (inclination horizontal)
- Joint
- Fault, thrust fault
- Shear zone
- Shearing with dip
- Fractures in vein
- Boundary - alteration and/or gouge type
- Sample location & assay

TYPES OF GOUGE & HYDROTHERMAL ALTERATION

- a — Black carbonaceous and white kaolinized gouge
- b — Yellow to maroon, limonitic and hematitic, kaolinized gouge
- c — Brecciated, sheared, limonitic, hematitic, silicified and partly kaolinized, mineral gouge
- d — Talcose, graphitic, and kaolinized, relict microcline
- e — Predominant dark maroon hematization

SCALE -

20 15 10 5 0 10 20 30 40 60 FEET

N.B.

Geology of TRENCH #1 compiled from 1in=10ft mapping of trench walls - see Drawing #9.
Geology of No.2 vein reduced from 1in=10ft mapping for detail see Drawing #3

To accompany:-
Report on the Geology of the Scrafford Antimony Property, Eagle Creek Area, Fairbanks District, Alaska, for Cantu Mineral Association.
By:- S.S. Tan, B.Sc., E.I.T. & L.J. Manning, P.Eng.
Dated:-

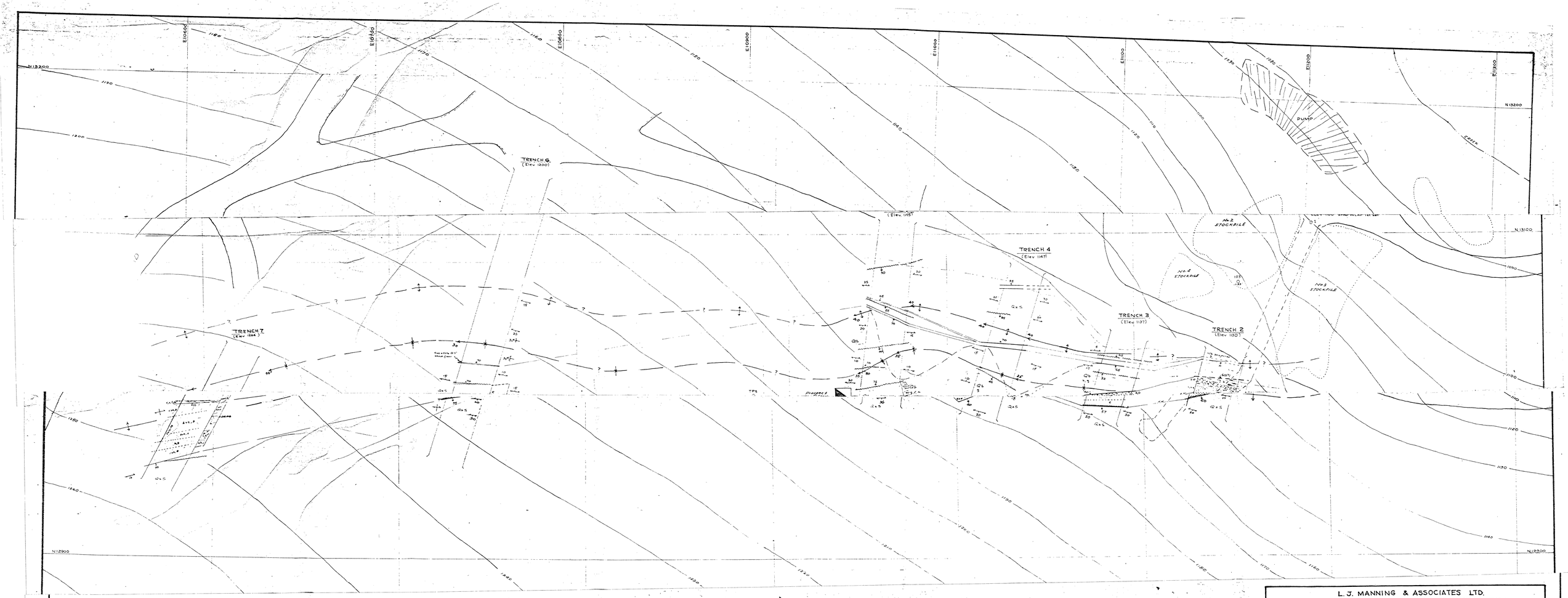
L.J. MANNING & ASSOCIATES LTD.
CONSULTING MINING & GEOLOGICAL ENGINEERS
610-890 West Pender, Vancouver 1, British Columbia.

CANTU MINERAL ASSOCIATION

GEOLOGY — No.2 & 4 VEINS

SCRAFFORD ANTIMONY PROPERTY
EAGLE CREEK AREA, FAIRBANKS, ALASKA.

Geology by: S.S. Tan	File No: Roll No: 93A/9A
Surveyed by: L.J.M. & S.S.T.	Drg. No: 10 Scale: 1inch=20feet
Drawn by: S.S.T.	Date: July 2nd 1970



Qz S — Quartz-sericite schist.

Qb — Quartzite beds, > Qz S

Massive stibnite

Antimony oxide: mainly cervantite, stibiconite, minor kermesite.

Shear zone & vein.

Geological boundary

Fault

Schistosity

Anticlinal axis with plunge (defined, assumed)

Synclinal axis with plunge (defined, assumed)

Multiple fold with plunge

Boundry - alteration and/or gouge types

GOUGE TYPES & HYDROTHERMAL ALTERATION

c — Black carbonaceous and some white kaolin gouge, often contains small elliptical calcite and quartz inclusions.

h — Hematitic gouge includes some subrounded breccia fragments

L — Limonitic gouge with some subangular breccia inclusions

b — Bleached, white to flesh coloured kaolinization. Generally occur in country rock adjacent to footwall side of shear zone

q — Silicification, crypto-crystallization results in clear quartz in quartzite beds. Occurs generally kaolinization. Generally on footwall side of shear zone

Graphitic, often occuring on hanging wall of shear zone, sometimes occasionally gouge like

c>h — Denotes carbonaceous gouge predominates over hematitic gouge

c=h — Denotes about equal relative abundance of gouge types

S = Stibnite

SbOx = Antimony Oxide

Q = Quartz

B = Breccia fragments.

29°

TRUE NORTH

SCALE -

20 15 10 5 0 10 20 40 60 FEET.

N.B.

Geology compiled from 1 inch = 10 feet mapping of walls of trenches. For detail trench wall geology refer to Drawing No 5.

For underground geology of tunnel see drawing No 11

To Accompany -

Report on the "Geology of the Scrafford Antimony Property, Eagle Creek Area, Fairbanks District, Alaska." for Cantu Mineral Association. By - S. S. Tan, B.Sc., E.I.T. & L. J. Manning, P.Eng. Dated.

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GEOLOGY - No. 1 VEIN (TRENCHES 2-7)

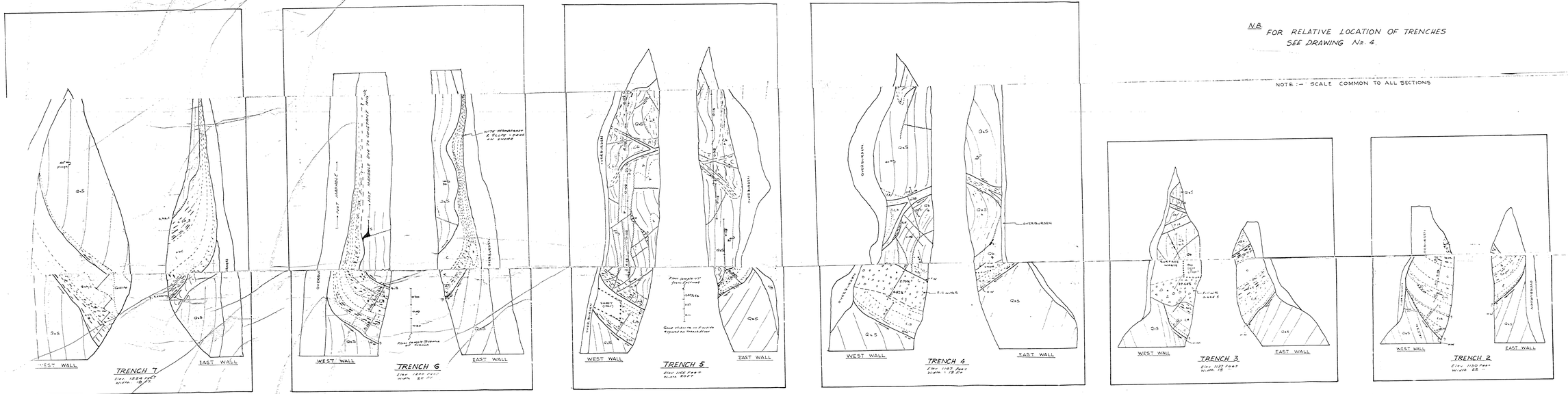
SCRAFFORD ANTIMONY PROPERTY

EAGLE CREEK AREA, FAIRBANKS DISTRICT, ALASKA.

GEOLOGY BY:- S. S. Tan	FILE No: Fairbanks 0-12 Quad 70-2 ROLL No. 93 & 93A
SURVEYED BY:- L. J. M., S. S. T.	DRG. No. 4
DRAWN BY:- S. S. T.	DATE: June 29, 1970.

N.B. FOR RELATIVE LOCATION OF TRENCHES SEE DRAWING No. 4.

NOTE:- SCALE COMMON TO ALL SECTIONS



LEGEND

- Qs — Quartz-sericite schist
- Qb — Quartzite beds > Qs
- Massive stibnite
- Antimony oxide mainly cervantite, stibiconite, minor senarmontite
- Shear zone & vein

Geological boundary
Fault
Schistosity
Anticlinal axis with plunge (defined, assumed)
Synclinal axis with plunge (defined, assumed)
Multiple fold with plunge
Boundary - alteration and/or gouge types
Bedding trace
Plunge of fold

GOUGE TYPES & HYDROTHERMAL ALTERATION

- C — Black carbonaceous and soft sandy kaolin gouge often containing small stibnite nests to small quartz veinlets
- H — Hematite gouge includes some subangular silicic fragments
- L — Limonitic gouge with some subangular silicic inclusions
- K — Kaolinized, white to light coloured kaolinization. Generally occurs in vicinity and adjacent to fracture zones of other types
- S — Silicification (secondary quartz) occurs as veinlets in shear zones, beds (recrystallized), brecciated zones, or pervasive zone of alteration
- G — Graphitic, often forming on hanging wall of shear zone, sometimes accompanying C type
- Denotes carbonaceous gouge predominates over hematitic gouge
- Denotes about equal, or very abundant of gouge types

S = Stibnite
SbOx = Antimony Oxide
Q = Quartz
B = Breccia fragments

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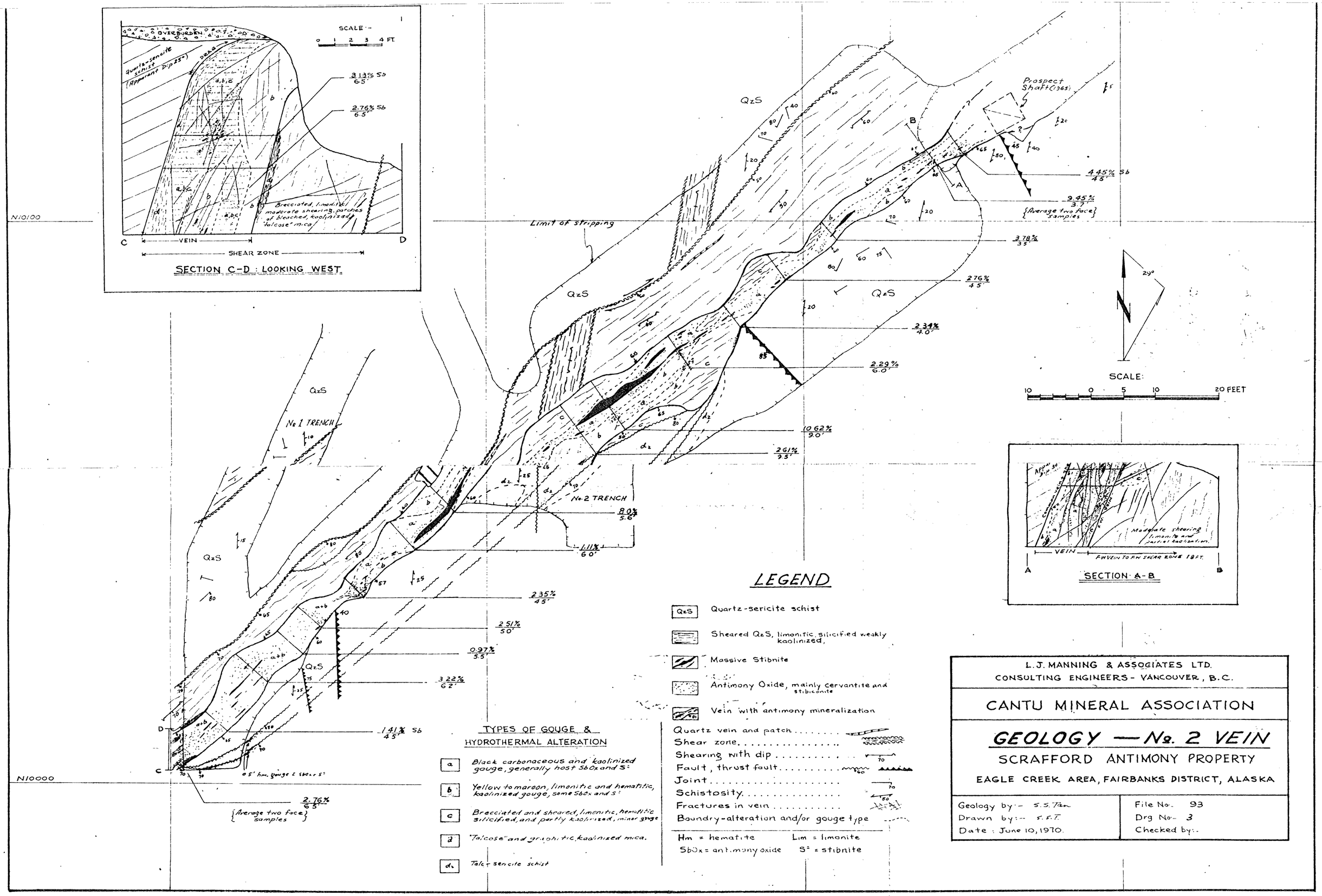
GEOLOGY - TRENCH (#2-#7) WALLS, No. 1 VEIN

SCRAFFORD ANTIMONY PROPERTY

EAGLE CREEK AREA, FAIRBANKS DISTRICT, ALASKA

GEOLOGY BY - S.S.T.	FILE No. Fairbanks D.X.B. Grant 72-2 ROLL No. 93.A.93A
SURVEYED BY:- L.J.M., S.S.T.	DRG. No. 5
DRAWN BY:- S.S.T.	DATE June 29, 1970

SECTION C-D : LOOKING WEST



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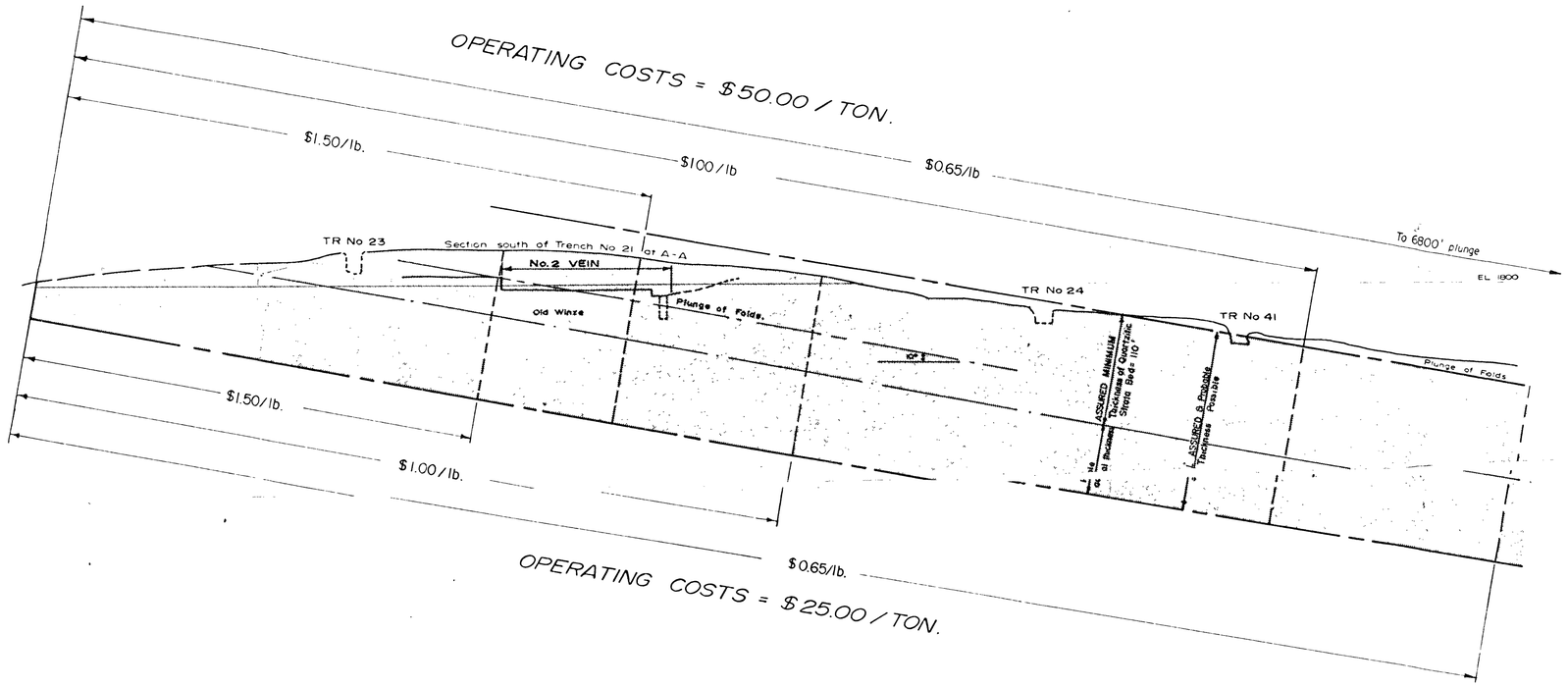
GEOLOGY — No. 2 VEIN

SCRAFFORD ANTIMONY PROPERTY

EAGLE CREEK AREA, FAIRBANKS DISTRICT, ALASKA

Geology by:- S.S. Tan	File No.- 93
Drawn by:- S.S.T.	Drg No:- 3
Date : June 10, 1970.	Checked by:-



PROJECTION A-A

JULY 31, 1970 - REVISED CALCULATIONS

I Calculation of No.2 Vein Probable Dimension

(a) If beds DIP only 10° E, then favourable quartzitic strata exist from Trench No. 23 to Trench No 41 indicating a minimum thickness of 100'

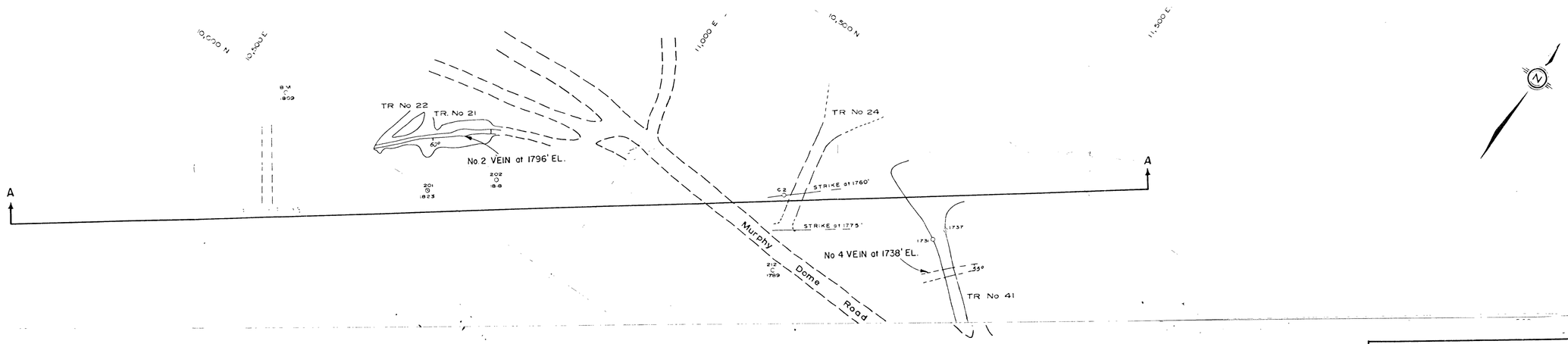
(b) It is probable that beds are 200' thick as Dips from Area of Trench 21 & 22 show Dip to be 10° - 20° East

(c) Horizon of Vein width from Trench No 21 and Trench No 22 is 5.38'

∴ Tons/Plunge Foot = (5.38)(200) = 98 Tons/Plunge Foot

II Calculations of Value at N.S.R

	$0.30/lb.	$0.65/lb.	$1.00/lb.	$1.50/lb
Mine Value per ton at 5.53% Sb & 80% recov.	$26.50	$57.50	$88.50	$132.80
(a) Presume operating costs = $25.00/Ton	$25.00	$25.00	$25.00	$25.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Plunge length Required for $5 Million oper. Profit	——	1,560'	810'	475'
(b) Presume operating costs = $50.00/Ton	$50.00	$50.00	$50.00	$50.00
Oper. Profit/Ton.	——	$ 7.50	$38.00	$82.80
Oper Profit/Ft. of plunge	——	$ 735.00	$3,780.00	$8,000.00
Plunge length required for $5 Million oper. Profit	——	6,800'	1,320'	620'



PLAN.

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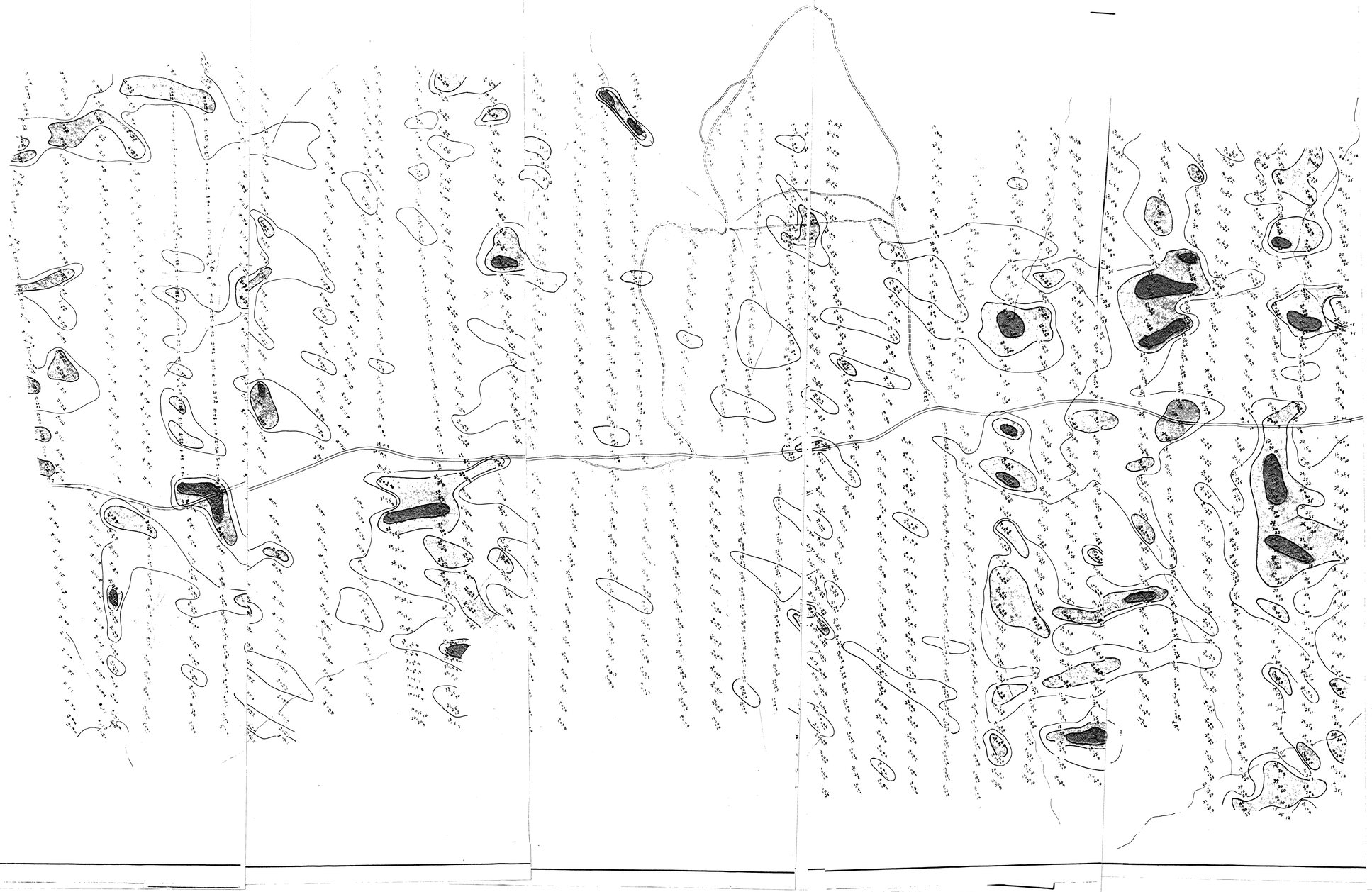
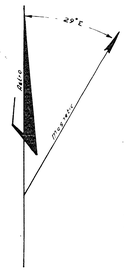
PLAN & SECTION - No. 2 VEIN

SCRAFFORD ANTIMONY PROPERTY
EAGLE CREEK AREA, FAIRBANKS, ALASKA

FEET 100 0 100 200 300 FEET

Surveyed by: L J M & S S T	Dwg No 18
Date: August, 1970	File No Fairbanks D-2 Quad 70-2





L E G E N D

Copper ppm

Antimony

Arsenic

Contour Line

Sample Site

GEOCHEMICAL KEY

31 ppm

26 ppm

21 ppm

FAIRBANKS CANTU PROJECT

GEOCHEMICAL SURVEY

ANTIMONY

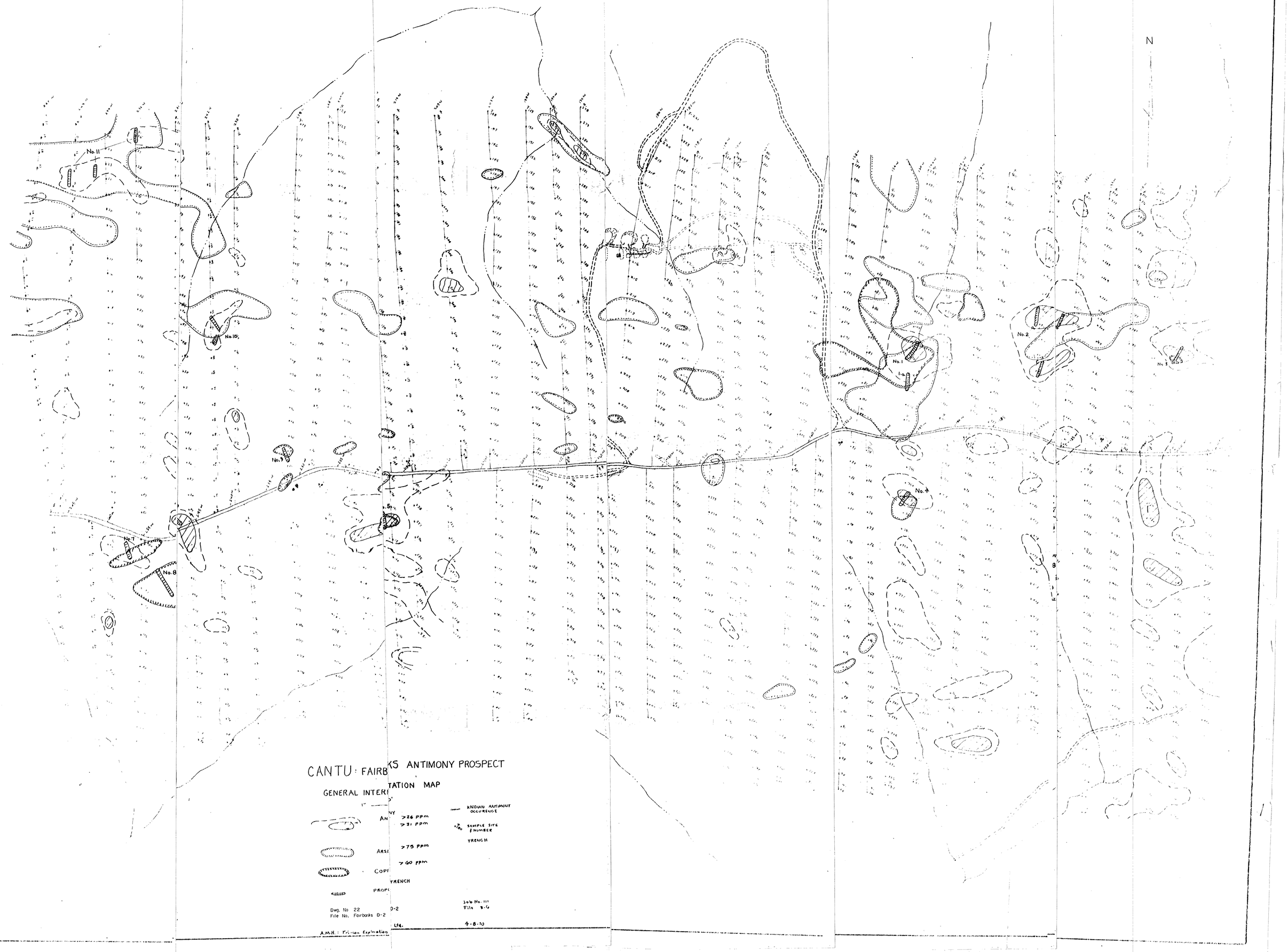
SCALE 1 INCH = 500 FT

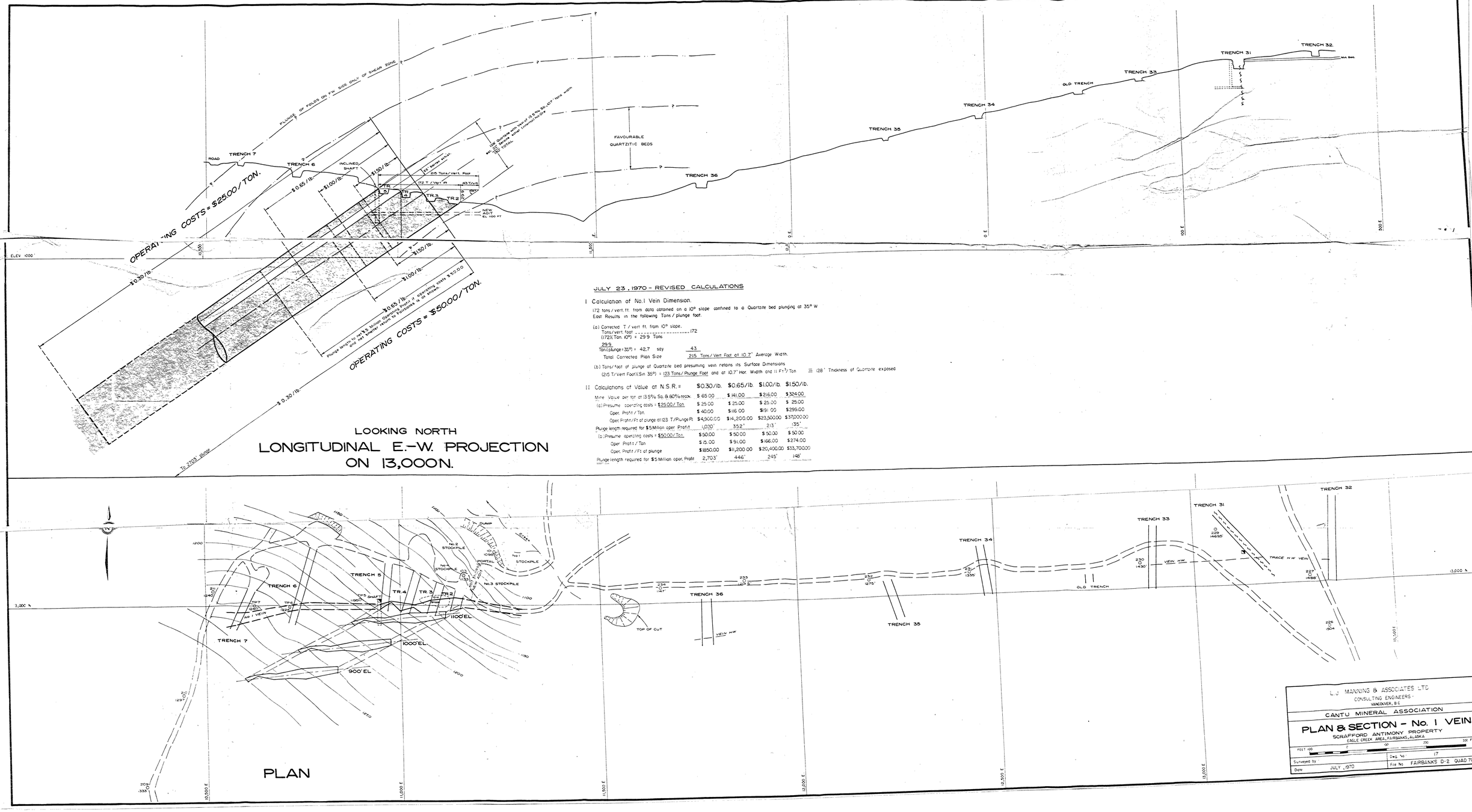
Dwg. No. 20

File No. Fairbanks D-2 Quad 70-2

Job 111

File 8-6


N
No. 11
No. 10
No. 9
No. 7
No. 8
No. 5
No. 1
No. 2
No. 3
No. 4
CANTU: FAIRB KS ANTIMONY PROSPECT
GENERAL INTER TATION MAP
AN NY
>26 PPM
>31 PPM
ARS
>75 PPM
COP
>60 PPM
TRENCH
PROP
KNOWN ANTIMONY OCCURENCE
SAMPLE SITE & NUMBER
TRENCH
Dwg. No 22
File No. Fairbanks D-2
D-2
Job No. 111
File 3-G
4-8-70
A.M.H.: Frisson Exploration



LOOKING NORTH

LONGITUDINAL E.-W. PROJECTION ON 13,000N.

JULY 23, 1970 - REVISED CALCULATIONS

I Calculation of No.1 Vein Dimension.

172 tons/vert.ft. from data obtained on a 10° slope confined to a Quartzite bed plunging at 35° W East Results in the following Tons/plunge foot.

(a) Corrected T/vert ft. from 10° slope.
Tons/vert. foot ---------- 172
(172X Tan. 10°) = 29.9 Tons

29.9
Tan (plunge = 35°) = 42.7 say 43
Total Corrected Plan Size 215 Tons/Vert Foot at 10.7' Average Width.

(b) Tons/foot of plunge of Quartzite bed presuming vein retains its Surface Dimensions
(215 T/Vert Foot)(Sin 35°) = 123 Tons/Plunge Foot and at 10.7' Hor. Width and 11 Ft³/Ton ≡ 128' Thickness of Quartzite exposed

II Calculations of Value at N.S.R. = $0.30/lb. $0.65/lb. $1.00/lb. $1.50/lb.

Mine Value per ton at 13.5% Sb. 8.80% recov.	$ 65.00	$ 141.00	$ 216.00	$ 324.00
(a) Presume operating costs = $25.00/Ton.	$ 25.00	$ 25.00	$ 25.00	$ 25.00
Oper. Profit / Ton	$ 40.00	$ 116.00	$ 191.00	$ 299.00
Oper. Profit / Ft of plunge at 123 T/Plunge Ft.	$4,900.00	$14,200.00	$23,500.00	$37,000.00
Plunge length required for $5 Million oper. Profit	1,020'	352'	213'	135'
(b) Presume operating costs = $50.00/Ton.	$ 50.00	$ 50.00	$ 50.00	$ 50.00
Oper. Profit / Ton	$ 15.00	$ 91.00	$ 166.00	$ 274.00
Oper. Profit / Ft of plunge	$1850.00	$11,200.00	$20,400.00	$33,700.00
Plunge length required for $5 Million oper. Profit	2,703'	446'	245'	148'

PLAN

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PLAN & SECTION - No. 1 VEIN

SCRAFFORD ANTIMONY PROPERTY
EAGLE CREEK AREA, FAIRBANKS, ALASKA

FEET 100 0 100 200 300 FEET

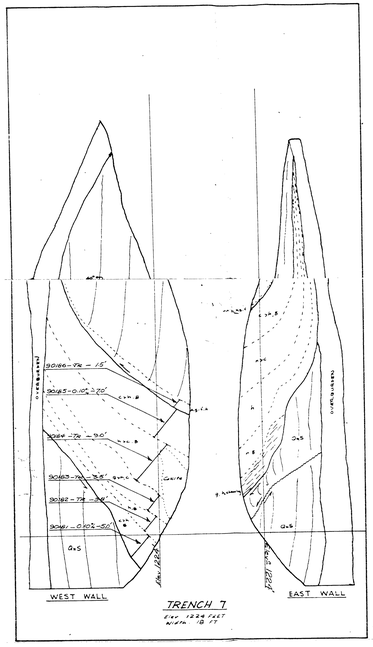
Surveyed by	Dwg. No. 17
Date JULY, 1970	File No. FAIRBANKS D-2 QUAD 70-2

N.B. FOR RELATIVE LOCATION OF TRENCHES SEE DRAWING No. 4

SCALE

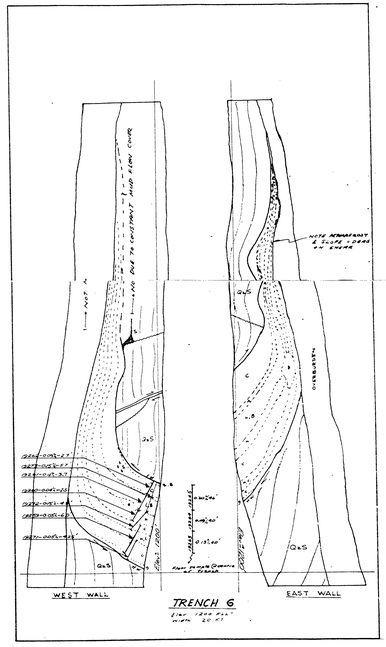
10 5 0 10 20 40 FEET

NOTE :- SCALE COMMON TO ALL SECTIONS



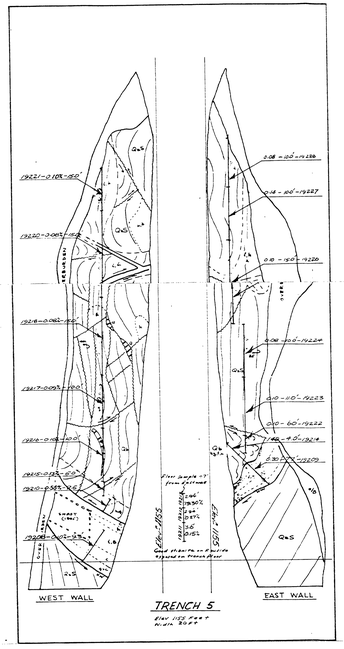
TRENCH 7

Elev. 1254 FEET
Width 18 FT



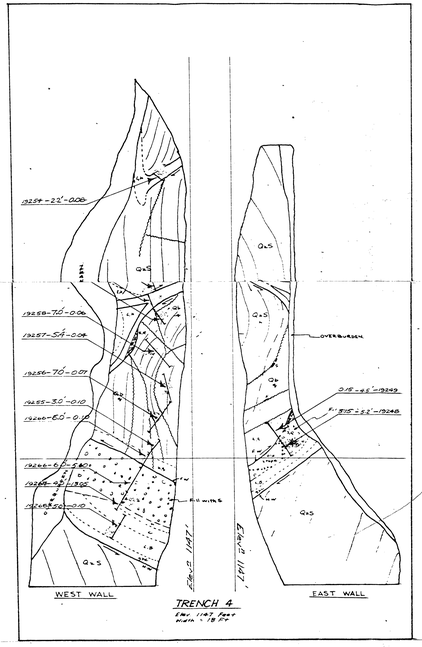
TRENCH 6

Elev. 1200 FEET
Width 20 FT



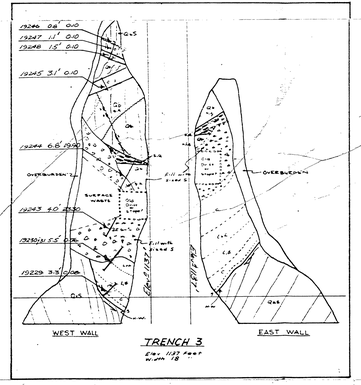
TRENCH 5

Elev. 1152 FEET
Width 8 FT



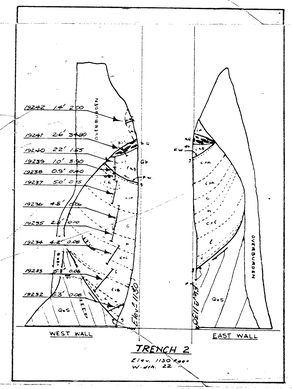
TRENCH 4

Elev. 1147 FEET
Width 18 FT



TRENCH 3

Elev. 1133 FEET
Width 18 FT



TRENCH 2

Elev. 1130 FEET
Width 22

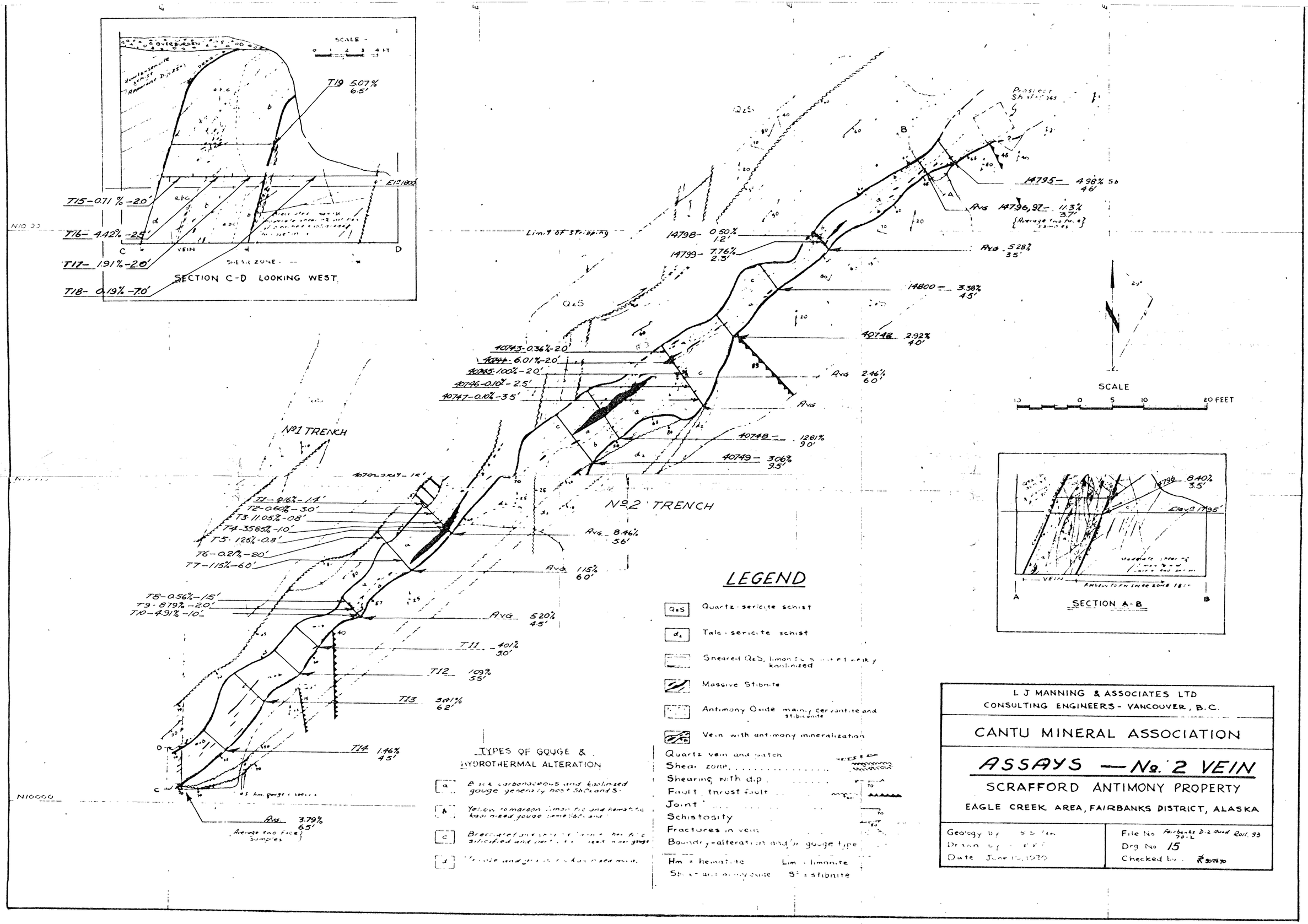
PLANNING

CARIBOO MINERAL ASSOCIATION

ASSAYS - NEW VEIN TRENCHES

14

SECTION C-D LOOKING WEST



SECTION A-B

LEGEND

- Qzs — Quartz-sericite schist
- d_2 — Talc-sericite schist
- Sheared QzS, limonitic, sometimes weakly kaolinized
- Massive Stibnite
- Antimony Oxide mainly cervantite and stibiconite
- Vein with antimony mineralization
- Quartz vein and patch
- Shear zone
- Shearing with dip
- Fault, thrust fault
- Joint
- Schistosity
- Fractures in vein
- Boundry-alteration and/or gouge type

Hm = hematite Lim = limonite
Sb = antimony oxide St = stibnite

TYPES OF GOUGE & HYDROTHERMAL ALTERATION

- a — Black carbonaceous and kaolinized gouge generally host Sb2 and St
- b — Yellow to maroon limonitic and hematitic kaolinized gouge generally host Sb2 and St
- c — Brecciated and sheared [illegible] silicified and [illegible] gouge
- d — [illegible] and [illegible] kaolinized [illegible]

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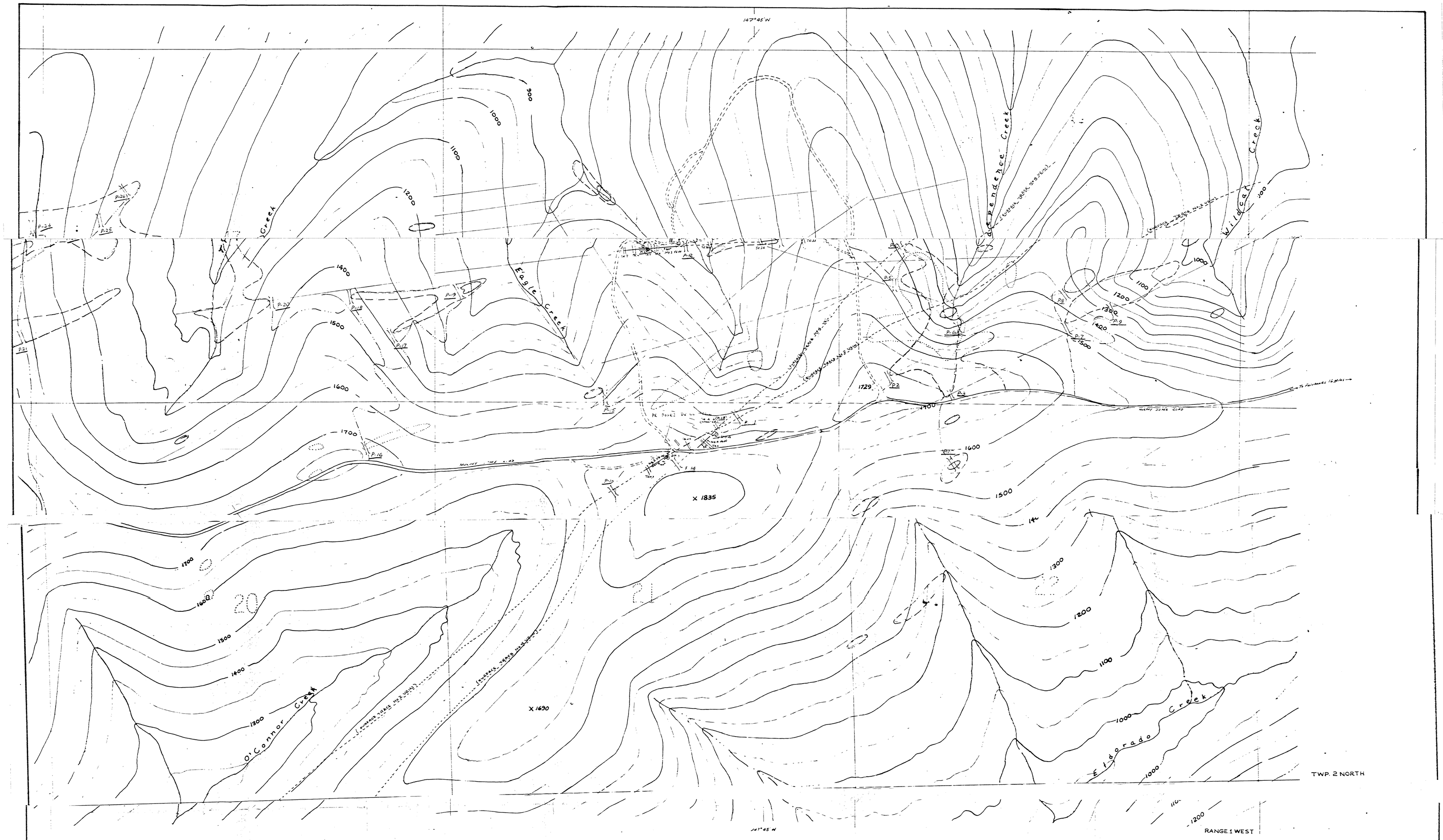
ASSAYS — Nº 2 VEIN

SCRAFFORD ANTIMONY PROPERTY

EAGLE CREEK AREA, FAIRBANKS DISTRICT, ALASKA

Geology by [illegible]	File No Fairbanks D-2 Quad Roll. 93 70-2
Drawn by [illegible]	Drg No 15
Date June 12, 1979	Checked by [illegible]



LEGEND

Geochemical soil anomalies - Arsenic > 75 p.p.m.
- Copper > 60 p.p.m.
- Antimony > 35 p.p.m.

Vein shear (defined, approximate, structural contour)
Air photo lineament
Trenches (completed, proposed)
Proposed tote road
Proposed drill holes (inclined, vertical)
Section number

SCALE :-
50' 0 50 100 150 FEET

GEOCHEMICAL DATA

	Mean Background p.p.m.	Threshold p.p.m.	Soil Horizon.
ARSENIC	30	75	B
COPPER	24	60	B
ANTIMONY	15	35	B

- IRON (HEMATITE) RICH ENVIROMENT
- B SOIL HORIZON PH = 6.5
- RESIDUAL TUNDRA SOIL (PERMAFROST).

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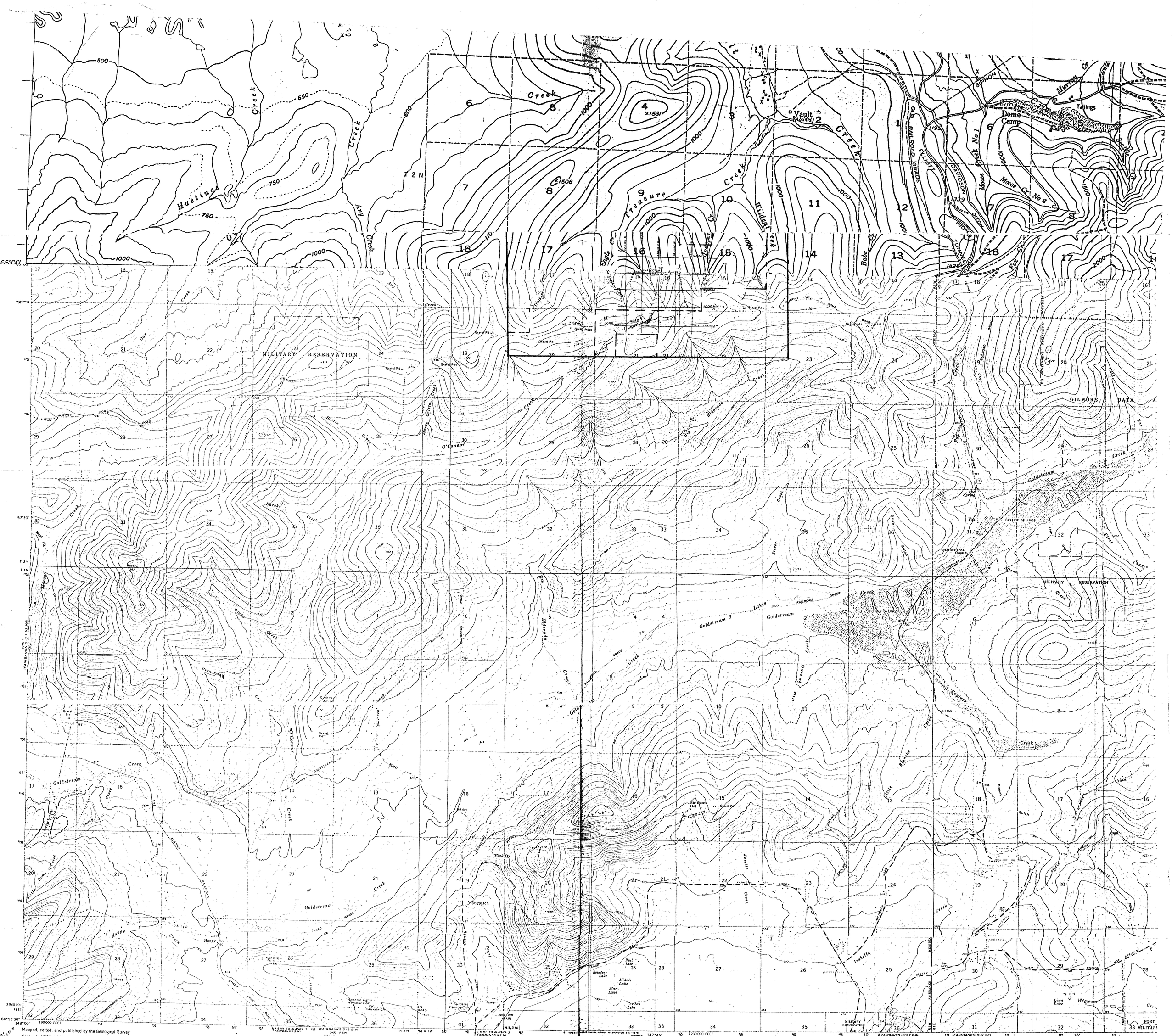
CANTU MINERAL ASSOCIATION

COMPOSITE PLAN OF WORKINGS AND PROPOSED WORK AREAS

SCRAFFORD ANTIMONY PROSPECT, EAGLE CREEK AREA
FAIRBANKS DISTRICT, ALASKA.

Compiled by :- S. S. Tan
Drawn by :- S. S. T
Date :- Sept. 1970.

File No:- 93 B 93A
Fairbanks D-2 Quad.
Scale :- 1 inch = 500 Feet.
Drwg. No. 23


MILITARY RESERVATION
GILMORE DATA
Goldstream
Dogpatch
Happy
O'Connor
Hastings
Treasure
Wildcat
Eldorado
Isabella
Tailings
Dome Camp
Old Railroad Grade
Elliot
Davidson
Moose Creek No 1
Moose Cr No 2
Murray Cr
Reindeer Lake
Middle Lake
Star Lake
Caribou Lake
Paul Lake
Linn Lake
Wigwam
Fairbanks Country Club
Radio Tower (FAR)
Ski Boot Hill
Gravel Pits
Dredge Tailings
Goldstream Lakes
Fairbanks D-2 NW, Alaska
N6452.5—W14745/7.5 X 15
1966
AMS 3450 IV NW—SERIES G801
Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, and USCE
Topography by photogrammetric methods from aerial photographs taken 1966. Field checked 1966
Universal Transverse Mercator projection. 1927 North American datum
10,000-foot grid based on Alaska coordinate system, zone 3
1000-meter Universal Transverse Mercator grid ticks, zone 6, shown in blue
Swamps, as portrayed, indicate only the wetter areas, usually of low relief, as interpreted from aerial photographs
ROAD CLASSIFICATION
Medium-duty
Light-duty
Unimproved dirt
SCALE 1:24000
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY
FAIRBANKS, ALASKA 99701, DENVER, COLORADO 80225, OR WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST
QUADRANGLE LOCATION
UTM GRID AND 1966 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
MS 3450 IV NE SERIES G801
FILE NO: FAIRBANKS D-2 QUAD. 70-2
DRAWING NO: 1A