

SUMMARY REPORT ON THE VESSEL MINE
AND RELATED PROPERTIES

WINDY ARM DISTRICT

CARCROSS, Y.T.

1960

CO-AUTHORS

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Description and Location

The Venus Mine is situated a few hundred yards north of the British Columbia-Yukon boundary line on the west shore of Windy Arm, a part of Lake Tagish, in the Yukon Territory. By water it is fifteen miles from Carcross, a small village on the White Pass and Yukon Railway. About 1910 a wagon road was built from Carcross to the Mine but is now impassible due to disuse. Carcross is fifty-seven miles by railroad from the ice-free port of Skagway in the Alaska Panhandle.

The City of Whitehorse, which is forty miles north of Carcross and connected to it by rail and by an all-weather highway, has daily aeroplane service to Vancouver and Edmonton.

A description of the climate and the flora is contained in the geological report by D.D. Cairnes entitled "Report on a Portion of Conrad and Whitehorse Mining Districts, Yukon", No. 982, published in 1908 at Ottawa.

Consolidation of the Properties

The present owners of the mining claims have been attempting to consolidate the Venus Mine and related properties since 1940. Original Crown Grants with their diversified and absentee ownership have made this a difficult task. It was not until February of 1960 that the Mining Recorder was able to confirm ownership of the various mining claims listed at the end of this report under the heading "Property and Titles".

It will be apparent to the reader why consolidation was necessary. As is shown in this summary a reading of the old reports motivated a keen interest in the potential of these properties. The first properties to be acquired were the Vault and Venus Crown Granted mining claims through tax sale purchase in 1940. The equity in these properties was maintained in good standing at considerable expense. In 1944, the Venus extension property was added, and similarly maintained in good standing. To protect these properties adjoining ground was located from time to time.

within the boundaries of these claims there is a major precious-metal bearing structure, finally grouped under one ownership for commercial extraction.

Geology

Superimposed on the attached tracing from the preliminary map 52-30A, Whitehorse, Yukon Territory, Department of Mines and Technical Surveys, are the approximate locations of the veins. In addition, the geology in the neighbourhood of the mines and part of the Bennett-Cassiar Sheet has been added.

The veins occur in a formation known as the Tutshi^H Group, consisting for the most part of green-coloured andisites and tuffs. This formation is underlain and intruded by the younger Coast Range batholith made up of granodiorite and diorite.

The veins are very similar in character. They are mineralized quartz veins in true fault fissures. The quartz is often in well-formed crystals pointing to the centre in a comb-like texture. There is a decided banded appearance to the veins in places. The veins on the Venus group all dip into the hill, averaging thirty-five degrees to forty degrees, and the gold values seem to increase with depth.

History and Resume of Old Reports

(Gold values are based on the old prices of gold (\$20 per oz.) and the silver values at the prices prevailing on the date of the reports.)

The first discovery in the area was made by W.R. Young at the Montana Mine in 1899. This discovery sparked an intensive search, resulting in numerous mineralized veins being located. The Venus was staked in 1901 by J.M. Pooley. All the main veins were in a zone about six miles long and two miles wide. In 1904 Col. J.R. Conrad, a New York mine promoter, originally from Butte, Montana, organized the Conrad Consolidated Mines to examine, prospect, acquire and promote the more important discoveries in the field.

In 1905 this organization did a great deal of development work on the properties. Their mine manager issued a report on the prospects on June 20th, 1905. A few excerpts from his report are as follows:

"Venus Vein"--Shaft 52 feet deep, drift 60 feet and several open cuts. Vein traced for 3000 feet on surface. Values \$10 to \$4000 per ton.

"Uranus Vein"--500 feet proved by open cuts. 18 inches of galena ore containing 150 ounces of silver per ton. Contains ruby silver and wire silver.

"Montana Vein"--widths from 1 to 6 feet. Values up to 2000 ounces of silver per ton.

"Little Johnny Vein"--small values to 1000 ounces of silver per ton.

"Joe Petty Vein"--51 foot shaft, 100' x-cut, 140' drifting. Vein 3' wide contains up to 500 ounces of silver per ton, argentite.

This report interested William MacKenzie of Toronto in the district. In March of 1906 an agreement was made between Conrad and MacKenzie to organize a new company to take over the Conrad properties. For 50% of the stock in this company MacKenzie agreed to pay \$500,000 in monthly installments of \$20,000.

During 1906 Alexander Sharp examined the properties for William MacKenzie and on September 20th, 1906 issued a report on his findings. Excerpts from his report are as follows:

"Veins of the district are well defined true fissures in porphyritic formation and granite with widths from 1' to 14'. They have great persistence in strike.

Venus Mine: Vein cut by 2 x-cut tunnels. The first reaches the vein 135' from its portal. The vein here is 13' in thickness. The vein filling is country rock, quartz and galena ore. The pay streak varies from a few inches to 6' in width. The vein is drifted on for 190' and contains galena ore assaying \$30 to \$60 per ton and quartz assaying \$2 to \$20 per ton. The average shipping ore without sorting for August ran \$12 gold, \$19.08 silver.

The second x-cut tunnel is 130' below the first and cuts the vein 475' from its portal. 80 feet of vein is drifted on. The galena ore here is of the same value as above.

Vault Mine: This is the same vein as the Venus. It is traced by surface showings, open cuts, small shafts and tunnels for 4000 feet. In all these open cuts and shafts ore in value from \$20 to \$60 can be seen in places. The vein is drifted on for 310 feet and varies in width from 3' to 14'. The pay streak is from 1' to 6' in width and assays from \$20 to \$60 per ton. The leaner portion from pay streak to hanging wall assays \$6 per ton. The average value of ore for August was \$3.90 in gold and \$23.71 in silver.

Uranus Claim: The vein is traceable for nearly a mile. It is in porphyry formation. It is 3' to 5' wide and carries values of \$24 per ton.

Joe Petty Claim: The vein is 5' wide carrying gold and silver values from \$20 to \$35 per ton. A shaft sunk in the vein for 50' shows good shipping ore all the way down.

Thistle Claim: A shaft is sunk to a depth of 65 feet on a vein 5' wide with gold and silver values of about \$20 per ton.

Montana Mine: 500' of drifting shows values all the way, \$20 to \$80 in richer parts and a trace to \$10 in leaner. A shaft is sunk in the vein 200 feet. General sample across the vein at the face is 4'6" wide and runs \$17 per ton mostly in silver.

In conclusion, Alexander Sharp says, "I have no doubt whatever that a number of good mines will be found in the Conrad group of properties."

In 1908 a Department of Mines, Geological Survey Report, was published, entitled "Conrad and Whitehorse Mining District, Yukon" by D.D. Cairnes. This bulletin contains a description of the various properties in the district. A summary follows:

Venus: Development work consisted of a 52 foot shaft and drifts at the bottom, going both ways. Vein nearly 3 feet wide. 15 tons of ore had been shipped to the smelter from this shaft which averaged \$65 per ton in silver.

Venus #2: In the upper level the lode is between 18" to 16' in width. In the stopes there is 4 to 8 feet of good ore which will average over \$20 per ton in gold and silver.

In the lower level the vein is narrower but looks strong both ways. The chief minerals are galena, lead carbonate, arsenopyrite, chalcopyrite, malachite and pyrite. The ore is chiefly argentiferous galena. Where the vein is wide it consists of alternate bands of quartz and mineralized country rock.

Venus Extension: 2 veins 30 feet apart are traceable right across the property. The upper vein contains about 4 feet of good ore over half of which was being sacked and will probably run \$50 to \$60 per ton. The lower vein contains about 2 feet of ore, chiefly argentiferous galena with a considerable amount of arsenical iron and pyrite.

Beach Claim: The vein is supposed to be the same as the Humber #1. It has 10 inches of ore claimed to average \$150 per ton in silver and \$5 per ton in gold. The chief minerals are galena, argentite, zinc blend and pyrite.

Humber #1: This prospect has 70 feet of drifting on a vein 18" to 4' in width. The vein material carries argentite, ruby silver, and stephanite with some native silver, galena and pyrite.

Vault: This property has a 325' long drift on the vein. Vein in places is 20 to 23 feet in width of nearly all well mineralized quartz. In places there are 4 to 6 feet of almost solid galena.

Ruby Silver: The vein on the surface is from 3" to 18" wide and has produced some very rich silver ore samples.

Uranus: A tunnel is driven 180 feet on the vein which varies in width between 1 and 4 feet.

In conclusion Cairnes says, "All these Windy Arm deposits have the same general characteristics. They are all mineralized quartz veins in true fissures. Some of the walls show such slickensiding indicating the fissures are fault fissures."

In H.W. Brock's Summary Report for 1909, Geological Survey of Canada, he states that at the time of his visit to the Venus that year, a small concentrator had been built on the lakeshore and connected with the mine by an aerial tramway. A total of about 3000 feet of development work had been done. At that time the chief interest in the district centred in the development of the Big Thing mining claims.

At that time the efforts of the mining company were concentrated on the Big Thing Mine which showed very good grades as far as they traced it down to the 400' level where it faulted off completely. The organization in the next year spent all their available funds in trying to pick up the vein past the fault, without success. In 1912 all sources of funds had run out completely and all properties in the district were closed down.

In 1912, T.A. Maclean, was commissioned by the government to investigate lode mining in the Yukon. He spent a short time at the Venus group. In his report published in 1914 "Lode Mining in the Yukon", Canada Department of Mines, he gives a short description of the properties. He states that up to that time he estimated that Conrad and his associates had spent three quarters of a million dollars on the various properties.

In 1916, the Canadian Harper Mines Corporation leased the Venus for a period of two years. During this period they ran the mill for a short time and shipped hand-sorted ore.

In 1916, D.D. Cairnes, the government geologist, issued a summary report describing the conditions at the mines. Most of this report was repetition of information previously published. At the Venus he estimated 20,000 tons blocked out, and he mentions that Conrad was supposed to have shipped a total of about 6,000 tons of ore to the smelter from the Venus.

In 1919, Mr. F.W. Bradley of the Bradley Mining Company, Alaska Juneau and Treadwell Mines, offered to pay \$250,000 for the Venus group, \$15,000 for the Maybelle and \$50,000 for the Venus Extension group. Lease agreements were in existence at the time and the ground was not available, and by the time it did become available, Mr. Bradley was tied up in the Mayo District of the Yukon Territory. Mr. Livingston Wernecke made an examination of the property for Mr. Bradley. His report is not available but a copy of the assay map he prepared as a result of this examination is enclosed.

The lessors, during their tenure, shipped 1,715 tons of ore for which they received \$119,935 and 334 tons of concentrates for which they received \$25,592. In common with most lessors, they robbed timber from existing workings to support their new stopes and filled some of the old workings below the lower levels with waste rock.

In 1922, a Mr. A.A. Mackay, a consulting mining engineer from Toronto examined the property for the Hollinger interests. Some excerpts from his report are as follows:

"The lessors did not do any development, but confined their work to stoping out the ore shoots developed. After all the developed ore in the shoots had been extracted, they operated the mill on some of the lower grade ore between the shoots but could not make this pay. The losses in the slimes were very high. I noticed on looking over the assay sheets in the assay office at the mine, that in most cases the values in the tails were 50% of the values in the heads."

"The vein has been traced for over a mile. It is unusually well defined by two parallel slip planes averaging 4 to 6 feet apart."

"I took 240 samples on the vein which varied from a few cents to \$80 per ton. The values in the shoots which were 100 to 210 feet in length where opened up, were very consistent, averaging \$16 per ton in gold, silver and lead. Our samples were at the edges of pillars of the shoots as the main parts of the shoots had been stoped out."

"The work in the Venus and the surface work on the Venus Extension, Maybelle and Vault, show evidence of a strong persistent vein with fair values in the shoots and the prospects are good for opening up richer ore."

"We also note in analytical results of ore samples that the gold values are higher in the lower levels. The results from the samples from the North shaft were very encouraging and indicated an ore shoot at this point. Indications are that ore shoots will be regular and the values persistent in these shoots."

"If the Venus and adjoining property can be taken over on favourable terms, we would strongly recommend the immediate expenditure of \$60,000 or more in carrying out the work indicated below."

"Driving a crosscut tunnel that would intersect the vein 200 feet or more vertically below the Venus Extension Tunnel. From the tunnel drifts could be run both ways on the vein."

In 1946, an examination of the property was made by Trans-Continental Resources Limited. The President of the Company was very enthusiastic about the prospects and pledged further work on the property the following year. Unfortunately he died that winter and the deal was not consummated. Their geologist, Mr. William P. Irwin was on the property for nearly two months. In his report he recorded not only his own work but some of the material from old reports and records. A copy of his plan on the underground workings is enclosed with this report.

He sampled all the accessible workings in the Venus Extension, Maybelle and Venus No. 2. A Table of the possible value of the ore shoots using \$35 per oz. for gold and 90 cents per oz. for silver from his report is given below:

<u>Location</u>	<u>Number of Samples</u>	<u>Average Width Ft.</u>	<u>Length Ft.</u>	<u>Average Value</u>
Venus extension	9	2.2	90	27.75
"	5	2.4	55	26.07
"	6	3.0	50	13.79
"	4	2.0	40	21.07
"	6	2.1	70	13.59
"	6	2.1	55	36.00
"	19	2.1	210	13.23
Maybelle 4	4	2.0	25	27.00
"	4	2.5	30	28.75
"	12	2.3	110	21.15
"	2	2.0	20	70.20
Venus No. 2	11	2.5	120	16.22
"	7	2.5	90	17.88
Totals and averages		2.3	905	20.40

According to Mr. Irwin's estimates the outlined orebodies in the vein averaged 2.3 feet in width and contain 50,350 tons at a value of \$20.40 per ton.

Summary and Conclusions

The district must have looked very inviting to the original promoters and financiers. At the Venus, beside their underground exploration, they built a 100 ton mill with a half a mile of aerial tramline from the mill to the lower portal. This mill must have been considered very modern when it was built. It contains a jaw crusher, rolls, ball mill and Huntington Mill complete with vibrating screens, bucket elevators, desliming cones and classifiers. For concentration they depended on jigs, wilfley tables and Vanners. The building and most of the machinery are in excellent condition today and was the machinery not obsolete it could easily be placed in working order. Also, at the Venus, they had a hydro plant, a steam power plant, compressor houses, an assay office and living quarters. A telephone line connected all the mines with the headquarters in Carcross.

Several factors were responsible for the abandonment of the mine by the Conrad interests. The Company was trying to develop four properties and carry out extensive exploration work at the same time. The Maybelle and the Venus extension groups were not controlled by the Company. These claims covered some of the richer showings being developed separately by other interests. Along with this, as was noted in some of the earlier reports, the milling and concentrating methods of the day were not suitable for this type of deposit. With modern methods this problem should not prove too difficult.

The present owners and the authors of this report are both mining engineers and have been residents of the Yukon since childhood. Interest was first aroused by the old reports of the area and by the stories about the Yukon District Gold Mining Company by the father of one of the owners, W.L. Phelps, K.C., who acted as the Company solicitor at that time. Since the first acquisition of ground in 1940 much time has been spent on the property and a great deal has been learned about it.

The area is favourable for precious metal deposits. Granitic rocks appear both in the neighbourhood of the Big Thing and on the lakeshore across Windy Arm from the Venus. All major finds roughly line up between these two igneous intrusives. The andisites of the Tutshi group are reported to be 2000 ft. plus in thickness. The orebodies in both the andisites and granites are similar. One would expect the Venus Vein which is so persistent in strike to be equally persistent in depth. The Vein has been traced for over 6000 ft. on the surface. Should this Vein persist only down to lake level, an average depth of 1100 ft. on its average dip of 40° , it would encompass 10,750,000 sq. ft. of area.

The hanging and foot walls are firm and in the underground stopes there has been practically no sloughing or spalling. No pumping would be required, at least down to lake level, and good timber is available around the shore of the lake.

The accessibility of the properties is a favourable factor. The pictures in the front-piece show the deep water lakes which connect it to Carcross and large boats and barges have been used in this area. With modern earth-moving equipment an all-weather highway could be cheaply constructed on the site of the old wagon road, around the lakeshore to Carcross, a distance of sixteen miles. The authors are confident that a commercial orebody will be developed on this property.

Property and TitlesCrown Granted Mineral Claims Owned by Phelps & Scott

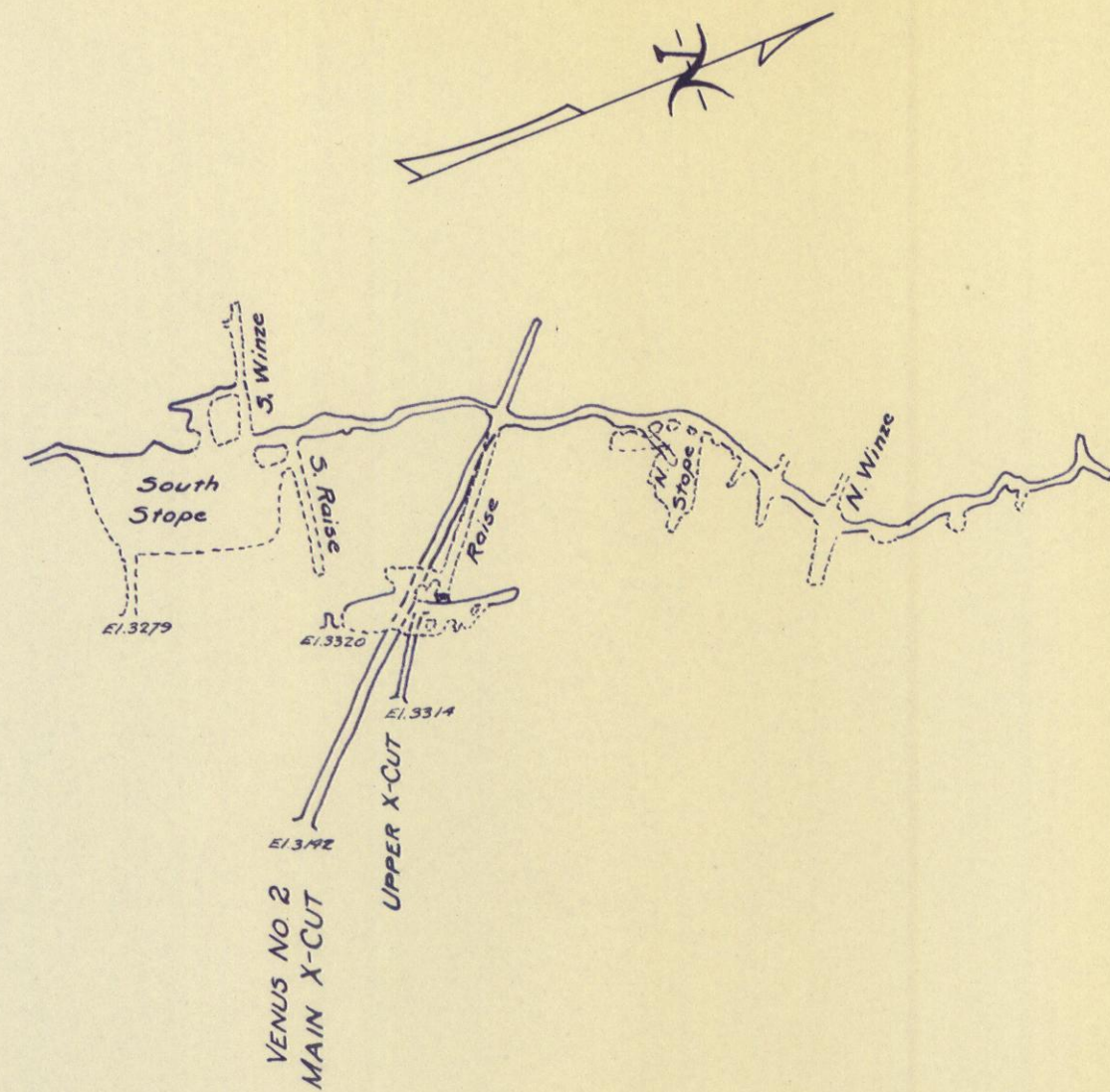
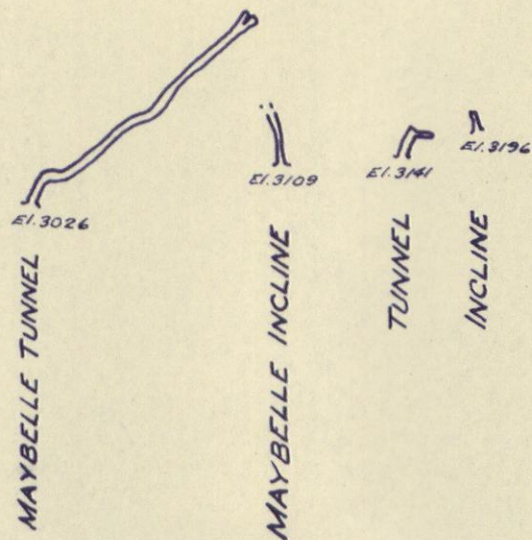
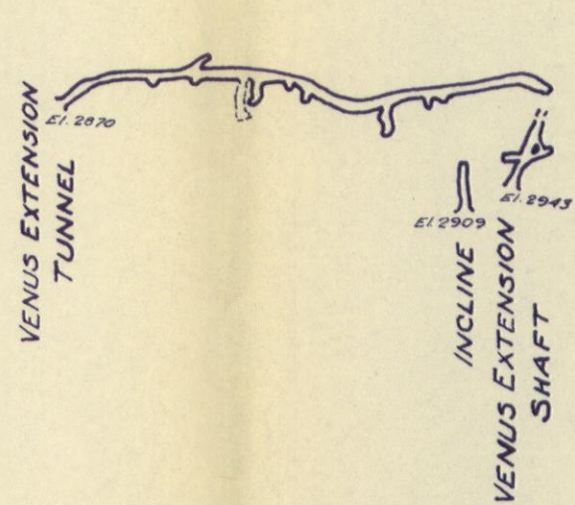
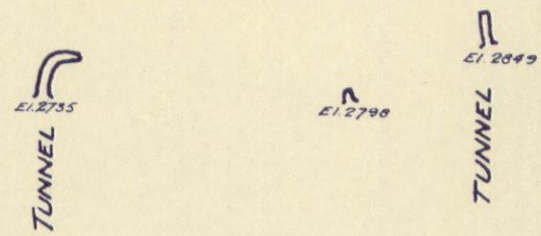
Vault
Venus
Venus #2
Ruby Silver

Ordinary Mineral Claims Owned by Phelps & Scott

Kluane (formerly the Venus Extension)
Venus #4
Venus #5
Venus #6
Venus #7
Venus #8

Crown Granted Mineral Claims Owned by Associates

Maybelle
Nipper
Beach
Humper



Traced from map prepared by W.P. Irwin
June 1946

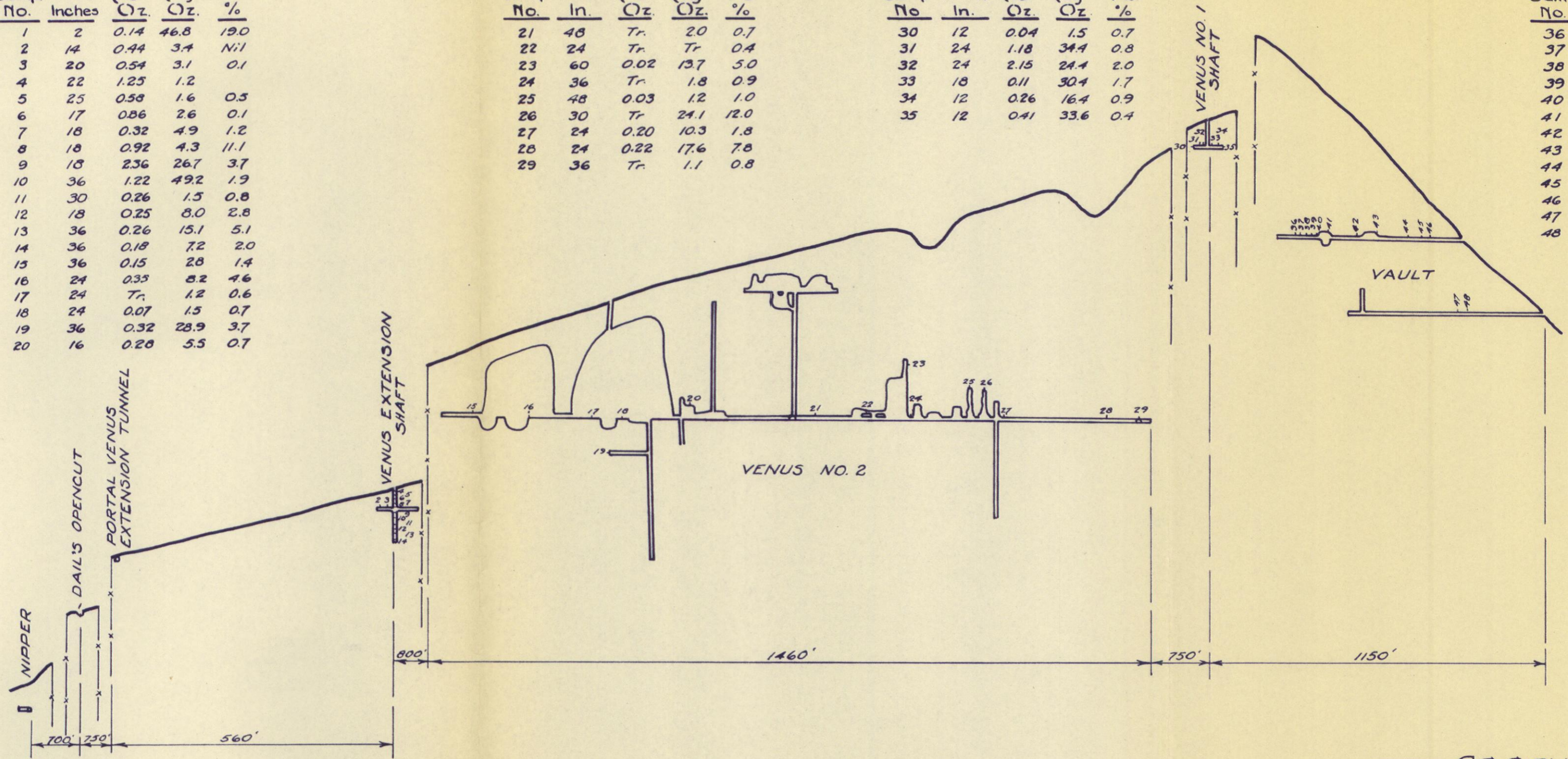
— PLAN OF UNDERGROUND DEVELOPMENT —
 — VENUS EXTENSION, MAYBELLE & VENUS NO. 2 —
 — WINDY ARM DISTRICT —
 — CARCROSS, U.T. —
 — Scale: 1" = 200' — Feb. 28, 1960. —

Assays				
Samp. No.	Width Inches	Au Oz.	Ag Oz.	Pb %
1	2	0.14	46.8	19.0
2	14	0.44	3.4	Nil
3	20	0.54	3.1	0.1
4	22	1.25	1.2	
5	25	0.58	1.6	0.5
6	17	0.86	2.6	0.1
7	18	0.32	4.9	1.2
8	18	0.92	4.3	11.1
9	18	2.36	26.7	3.7
10	36	1.22	49.2	1.9
11	30	0.26	1.5	0.8
12	18	0.25	8.0	2.8
13	36	0.26	15.1	5.1
14	36	0.18	7.2	2.0
15	36	0.15	2.8	1.4
16	24	0.35	8.2	4.6
17	24	Tr.	1.2	0.6
18	24	0.07	1.5	0.7
19	36	0.32	28.9	3.7
20	16	0.28	5.5	0.7

Assays				
Samp. No.	Width In.	Au Oz.	Ag Oz.	Pb %
21	48	Tr.	2.0	0.7
22	24	Tr.	Tr.	0.4
23	60	0.02	13.7	5.0
24	36	Tr.	1.8	0.9
25	48	0.03	1.2	1.0
26	30	Tr.	24.1	12.0
27	24	0.20	10.3	1.8
28	24	0.22	17.6	7.8
29	36	Tr.	1.1	0.8

Assays				
Samp. No.	Width In.	Au Oz.	Ag Oz.	Pb %
30	12	0.04	1.5	0.7
31	24	1.18	34.4	0.8
32	24	2.15	24.4	2.0
33	18	0.11	30.4	1.7
34	12	0.26	16.4	0.9
35	12	0.41	33.6	0.4

Assays				
Samp. No.	Width In.	Au Oz.	Ag Oz.	Pb %
36	3	0.14	36.2	2.5
37	28	0.03	0.4	Nil
38	18	0.04	13.4	2.9
39	42	0.12	24.3	13.0
40	36	0.15	12.7	5.4
41	18	0.31	40.0	Nil
42	24	0.02	0.5	1.2
43	24	0.95	4.7	1.9
44	24	0.05	4.9	1.0
45	24	0.03	1.1	0.4
46	36	0.02	11.3	0.5
47	12	Tr.	0	Tr.
48	12	0.02	0.5	Nil



Assay Map
VENUS GROUP
WINDY ARM DISTRICT
CARCROSS, Y.T.
 - Scale: 1" = 200' - Feb. 29, 1960 -

Traced from sketch map prepared by Livingstone Wernecke in report for Bradley Mining Co., 1920.

VEIN LOCATIONS

- ① Big Thing
- ② Montana
- ③ Thistle
- ④ Aurora
- ⑤ Joe Petty
- ⑥ Uranus
- ⑦ Humper
- ⑧ m & m
- ⑨ Venus

LEGEND

Recent, Superficial Deposits

CRETACEOUS

COAST INTRUSIONS, Biotite-oligoclase granodiorite and hornblende

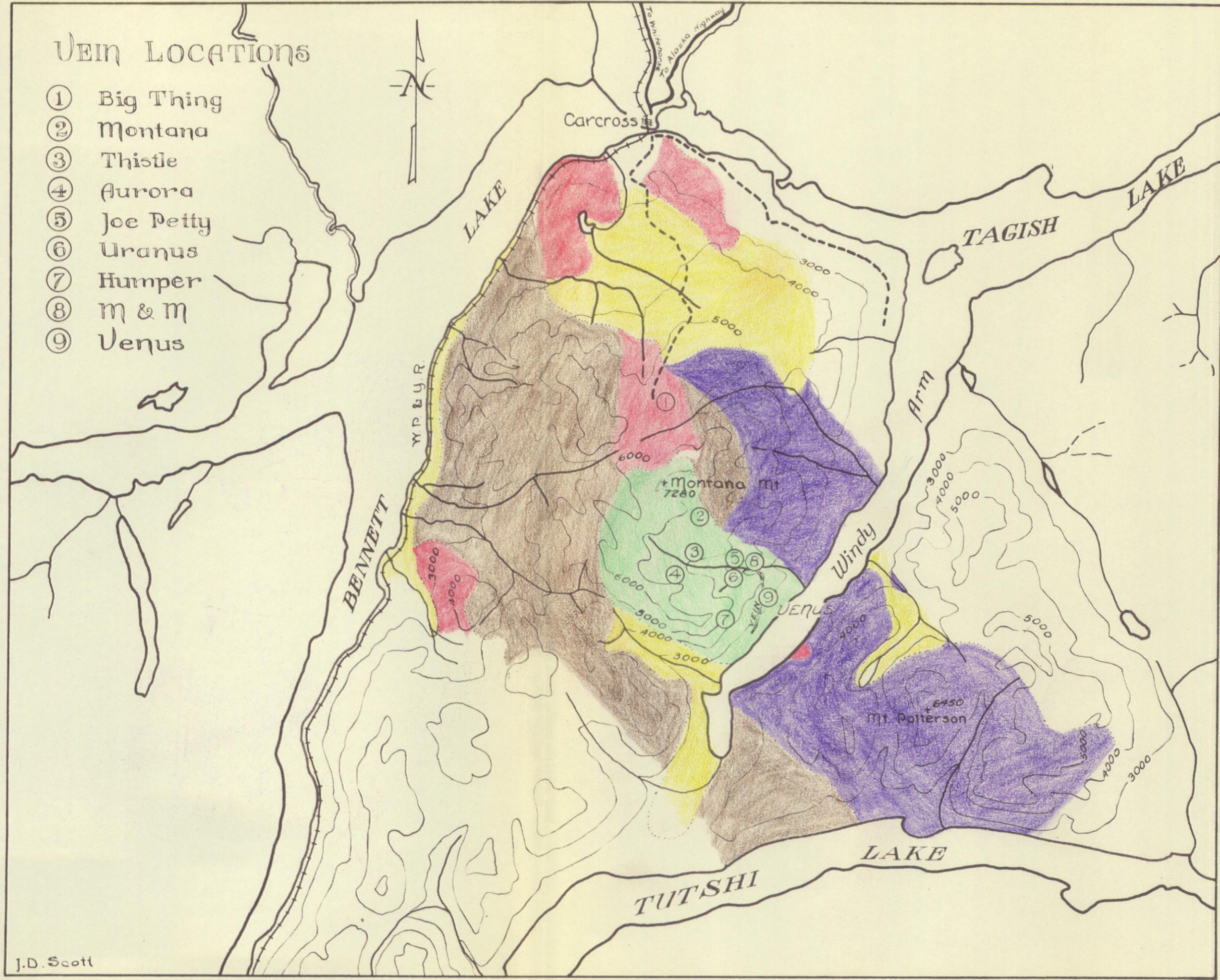
HUTSHI GROUP, Mostly green colored andesites and tuffs.

JURASSIC & TRIASSIC

LEBARGE & LEWES RIVER GROUPS
Conglomerates, greywacke, arkose, argillites, basic lavas

Metamorphosed equivalents of the Lewes River, Lebarge and Hutshi groups. Granitized and volcanic rocks containing serpentine bodies

Traced from Dept. of Mines & Technical Surveys, Preliminary Maps 52-30A Whitehorse & 19-1957 Bennett

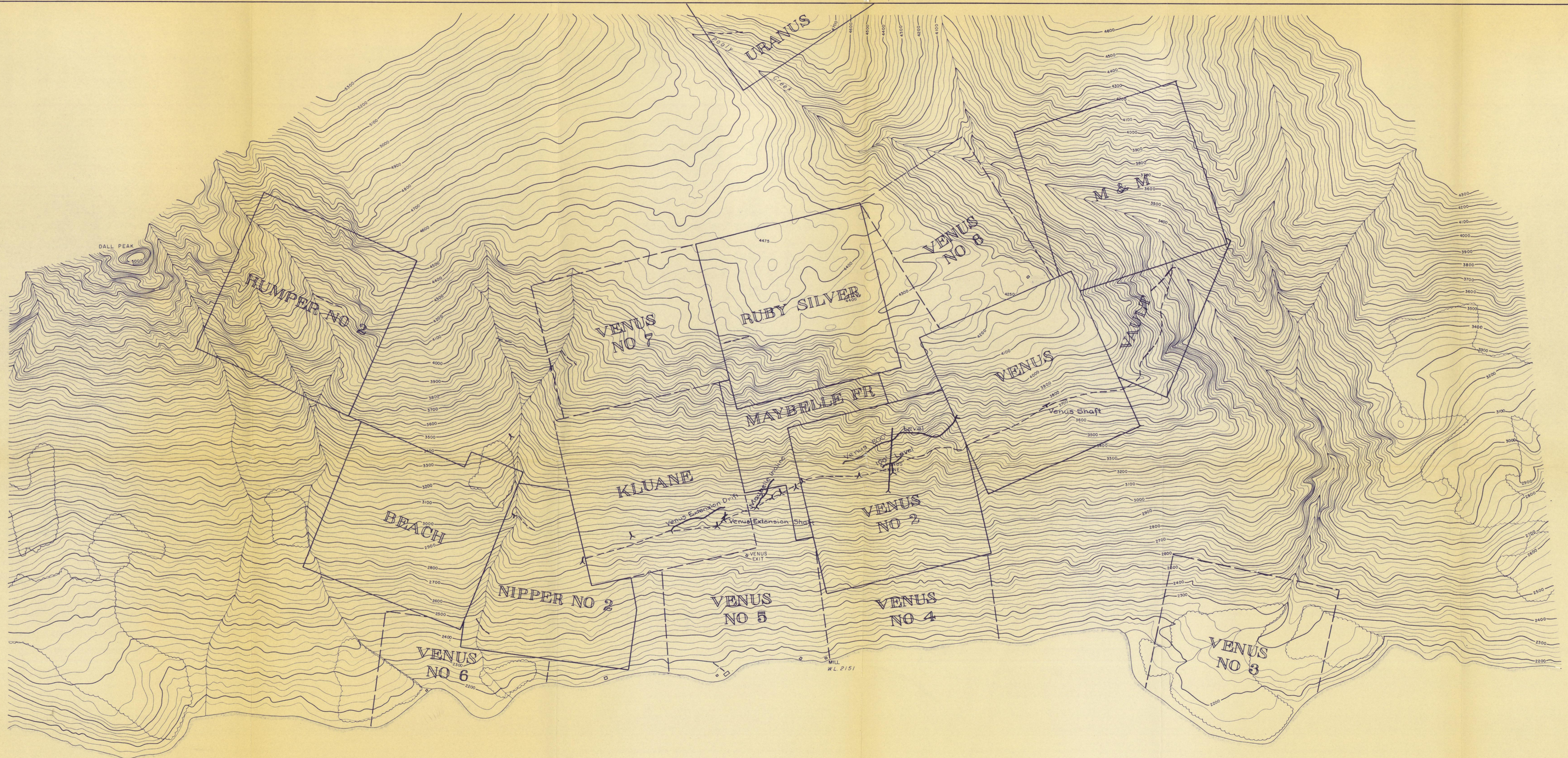


— LOCATION & GEOLOGICAL MAP —

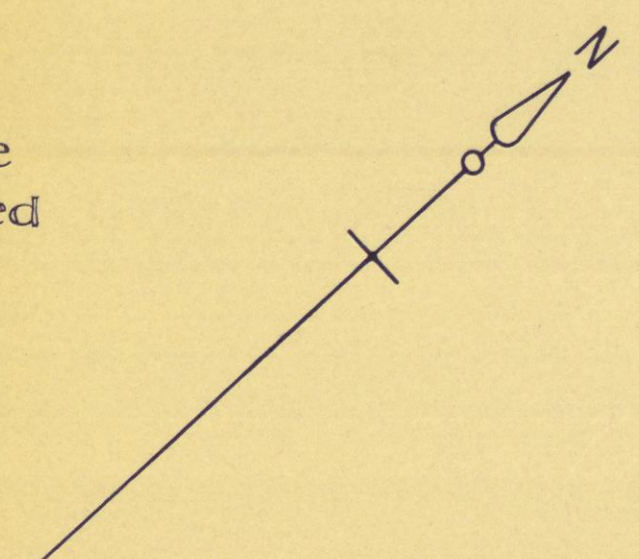
— WINDY ARM DISTRICT —

— CARCROSS, Y.T. —

— Scale: 1" = 2 miles — Feb. 28, 1960. —




Claims outlined in solid lines are Crown Granted, those in dashed lines are newly staked.



W I N D Y

A R M

— Approximate location of underground workings
 --- Approximate location of vein outcrops

 COMPILED BY AERO SURVEYS LTD. 540 Beatty St. VANCOUVER 3, B.C. 56 Sparks St. OTTAWA ONT.	John L. Phelps & John D. Scott	
	Venus Mine Area Windy Arm	
	Scale — 1" = 400'	Contour Interval — 25'
	Date Compiled — Dec / 59	Date of Photography — July / 48
JOB NO. T 2625	Datum — Geodetic	