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P R E L I M I N A R Y

REPORT

ON

BOB GROUP

COPPER CLAIMS

BONANZA LAKE, B. C.

Nanaimo

MINING DIVISION

James J. McDougall
Geologist

~~XX~~ENGINEER

JAN 1961

PROPERTY ~~BOB CLAIMS~~ ~~DONANZA LAKE, B. C.~~

HOLE NUMBER BZ-6

SHEET NUMBER 6

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT. Top of Magnetite Bluff
 DEP. near Stn. 5.

STARTED November, 1960

ELEVATION OF COLLAR 2360' approx.

COMPLETED do

DATUM McIver Survey

ULTIMATE DEPTH 83.5'

DIRECTION AT START: BEARING
 DIP -90°

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE feet	% IRON Soluble	AVERAGE IRON Cu	OZ	
							X Au	X Ag
0 - 21	Coarse-grained, grossularite garnet skarn - in large part massive garnet			21		.08	Tr	Tr
21 - 29	Skarn as above, very slight magnetite			8		.28	Tr	Tr
29 - 35	Soft chloritic gouge - no core							
35 - 50	60% magnetite mixed with skarn as above			15	40.48	.15	Tr	Tr
50 - 57	Garnet skarn & unmineralized greenstone							
57 - 70	80% Coarse-grained magnetite in skarn -2% fine-grained chalcopyrite plus pyrite.			13	53.80	1.51	Tr	0.2
70 - 83.5	Garnet skarn, some calcite stringers			13.5		.06	Tr	Tr
	Core recovery 95% except as noted.							
	<u>Significant Results</u>							
	(1) Average Iron content 35' (35-70) = 37.33%							
	(2) Best Copper - 13' @ 1.51%							
	J.A. Robertson, M. Donahue, S. Brideau, J.J. McDougall.							

PROPERTY BOB CLAIMS - BONANZA LAKE, B. C.

HOLE NUMBER BZ-7

SHEET NUMBER 8

DIAMOND DRILL RECORD

SECTION FROM TO

LOCATION: LAT. On top of Bluff 63' West of
 DEP. DDH #BZ6

STARTED November, 1960

ELEVATION OF COLLAR 2350' approx.

COMPLETED do

DATUM McIver Survey

ULTIMATE DEPTH 52'

DIRECTION AT START: BEARING N20°E (Approx.)

PROPOSED DEPTH

DIP -75°

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE feet	% IRON	AVERAGE IRON Cu	Oz Au	Oz Ag
0 - 7	Andesitic dyke rock. Hole collared in vertical, 3 ft. wide dyke.							
7 - 25	Garnet skarn, some epidote. No important mineralization.							
25 - 35	5% Chalcopyrite disseminated in magnetite, some skarn.			10	47.5	2.56	0.16	0.4
35 - 40	3% Chalcopyrite in magnetite and skarn			5	54.0	1.06	Tr	0.2
40 - 48	10% Chalcopyrite in magnetite and skarn			8	57.0	3.09	0.08	0.3
48 - 52	Skarn							
	Core Recovery 95%.							
	<u>NOTES:</u> Intersected main surface copper-rich zone down-dip to east. 23' section averages 52.2% Fe, 2.41% Cu, 0.097 Au. Gold values are higher than normal.							

PROPERTY BOB CLAIMS - DONANZA LAKE, B. C.

HOLE NUMBER BZ-8

SHEET NUMBER 9

SECTION FROM TO

DIAMOND DRILL RECORD

LOCATION: LAT. 50° North of BZ #7 - in cut.
 DEP.

STARTED November, 1960

ELEVATION OF COLLAR 2305' Approx.

COMPLETED do

DATUM McIver Survey

ULTIMATE DEPTH 10'

DIRECTION AT START: BEARING
 DIP -90°

PROPOSED DEPTH

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE feet	% IRON	%		
						AVERAGE IRON	Oz	Oz
						Cu	AU	Ag
0 - 7	70% Magnetite, cupriferous in part, plus garnet skarn			7	55.0	0.75	.08	.1
7 - 10	Skarn intermixed with reddish weathering, granitic rock			3		0.14	Tr	.1
	Hole started in cupriferous magnetite and passed through footwall of deposit.							
	<u>Abandoned</u> due to very bad ground.							
	Core recovery very poor and assay not representative.							
	Gold values still significant							

PROPERTY BOB CLAIMS - BONANZA LAKE, B. C.

HOLE NUMBER BZ-12

SHEET NUMBER 13

SECTION FROM _____ TO _____

DIAMOND DRILL RECORD

LOCATION: LAT. 175' South and slightly east
 DEP. of BZ-6

STARTED November, 1960

ELEVATION OF COLLAR 2390' approx.

COMPLETED do

DATUM McIver Survey

ULTIMATE DEPTH 45'

DIRECTION AT START: BEARING East
 DIP -60°

PROPOSED DEPTH _____

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE feet	% IRON	AVERAGE IRON	S.	P.
0 - 12	Mixed skarn & greenstone; slight chalcopyrite in minor magnetite.							
12 - 20	Magnetite 70%	Estimate		8'	50%			
20 - 21	Epidote garnet skarn							
21 - 27	Greenstone							
27 - 28	Magnetite in skarn	Estimate		1'	50%			
28 - 45	Skarn, granite and greenstone. End of hole in light coloured granitic rock.							
	Arithmetic average of all unpicked copper zone samples to date -							
	(1) Drilling 2.5%							
	(2) Surface 1.8%							

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REPRESENTED
THROUGHOUT
THE WORLD

G. S. ELDRIDGE & CO. LTD.

STANDARD TESTING LABORATORIES

CHEMICAL, INSPECTING AND TESTING ENGINEERS, ANALYTICAL CHEMISTS
PROVINCIAL ASSAYERS & METALLURGISTS

VANCOUVER - VICTORIA - PRINCE GEORGE

633 HORNBY STREET - VANCOUVER 1 - CANADA

PHONE MUTUAL 4-1267

CABLE ADDRESS "ELDRICO"

January 3, 1961

Ventures Ltd.,
401-402 West Pender St.,
Vancouver, B.C.

Dear Sirs:

We have made a semi-quantitative spectrographic analysis on sample submitted and report as follows:

ELEMENTS:	#21851	
Silicon	20.0%
Iron	40.0%
Copper	35.0%
Calcium	1.0%
Magnesium	0.9%
Aluminum	0.7%
Zinc	0.5%
Manganese	0.3%
Nickel	0.12%
Cobalt	0.07%
Titanium	0.03%
Vanadium	0.003%
Sulfur	0.015%

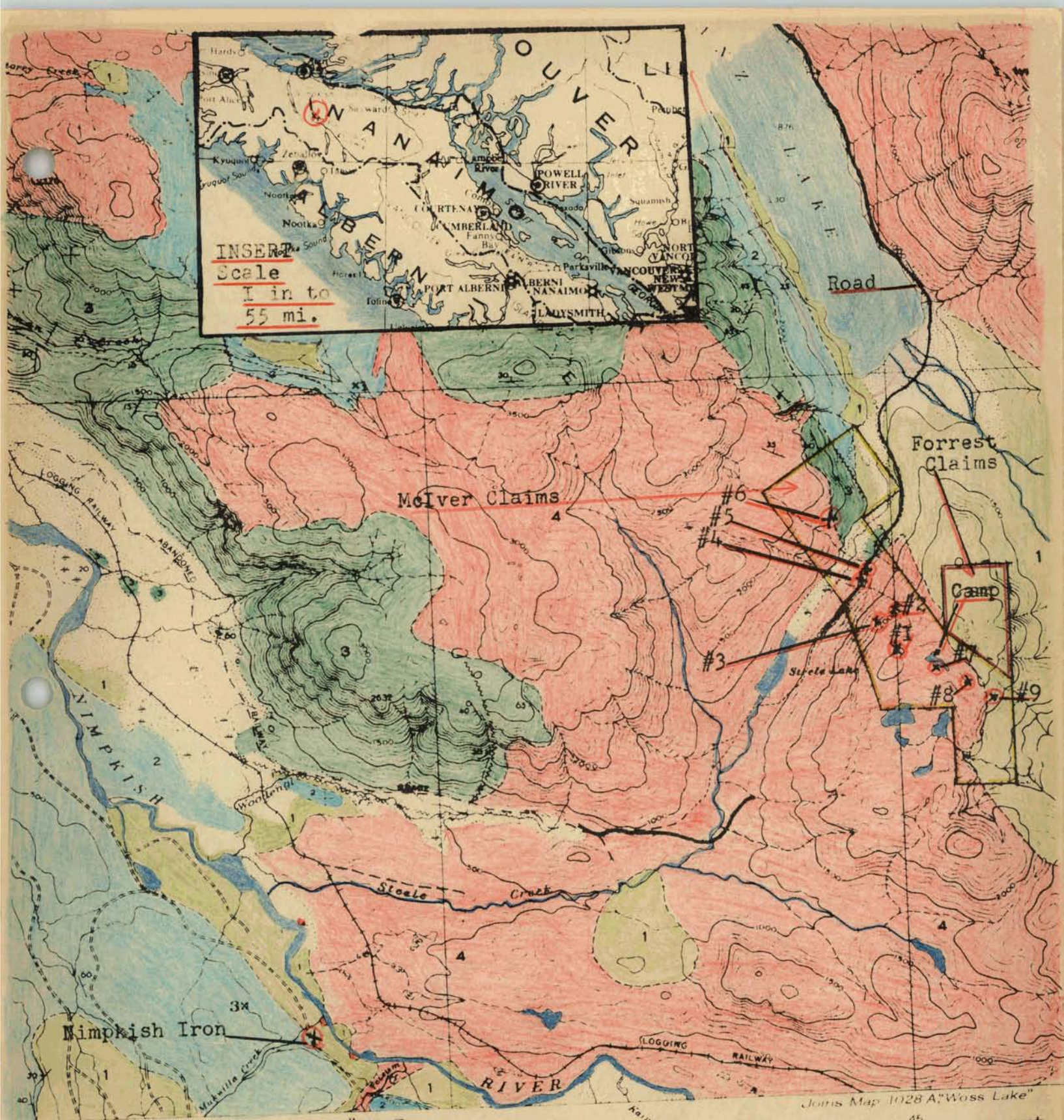
Chalcopyrite Sample
from Upper (#1) Zone.

AL:ajl

Respectfully submitted,
G.S. ELDRIDGE & CO. LTD.

per

H. Shingles



Map #BZ I
 Geological map showing location of prospects referred to in accompanying report

- Granitic Rock
- Bonanza Group volcanics & thin bedded sediments
- Quatsino formation-limestone
- Karmutsen volcanics

MAP 1029A

NIMPKISH

VANCOUVER ISLAND
 BRITISH COLUMBIA

Scale: One Inch to One Mile = $\frac{1}{63,360}$ Miles

MAP BZ3(a)

A₃ Magnetometer Ground
Survey Overlay

--- Total Intensity in Gammas
(X100)













--- Regional Background
Approximately 55000 γ

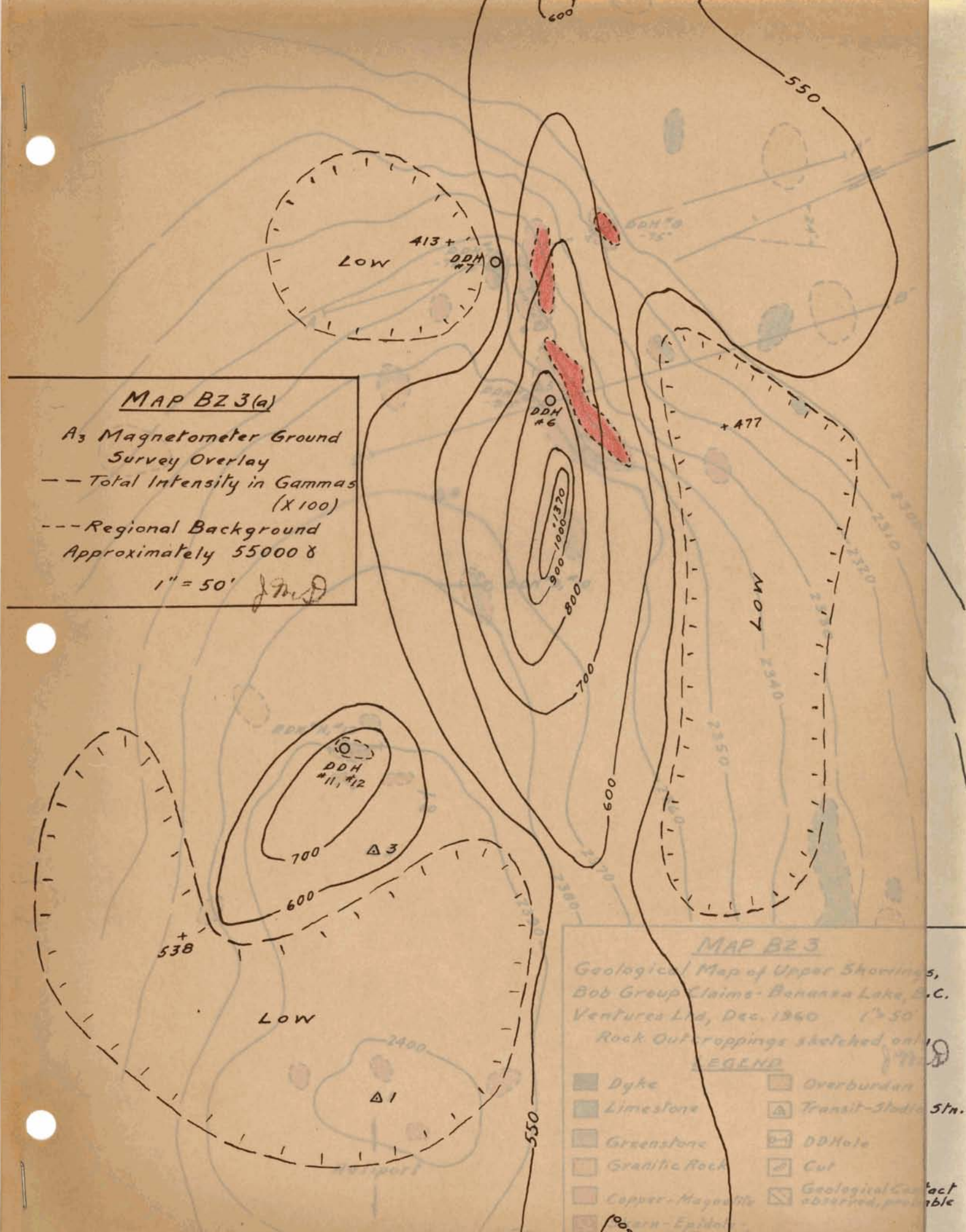
1" = 50'

J.M.D.

MAP BZ3
Geological Map of Upper Showings,
Bob Group Claims - Banana Lake, L.C.
Ventures Ltd, Dec. 1960 1" = 50'
Rock Outcroppings sketched on 1/10

LEGEND

- | | | | |
|--|------------------|---|--------------------|
|  | Dyke |  | Overburden |
|  | Limestone |  | Transit-Station |
|  | Greenstone |  | DDH Hole |
|  | Granitic Rock |  | Cut |
|  | Copper-Magnetite |  | Geological Contact |
|  | Copper-Epidote |  | Observed, probable |



MAP BZ3(a)

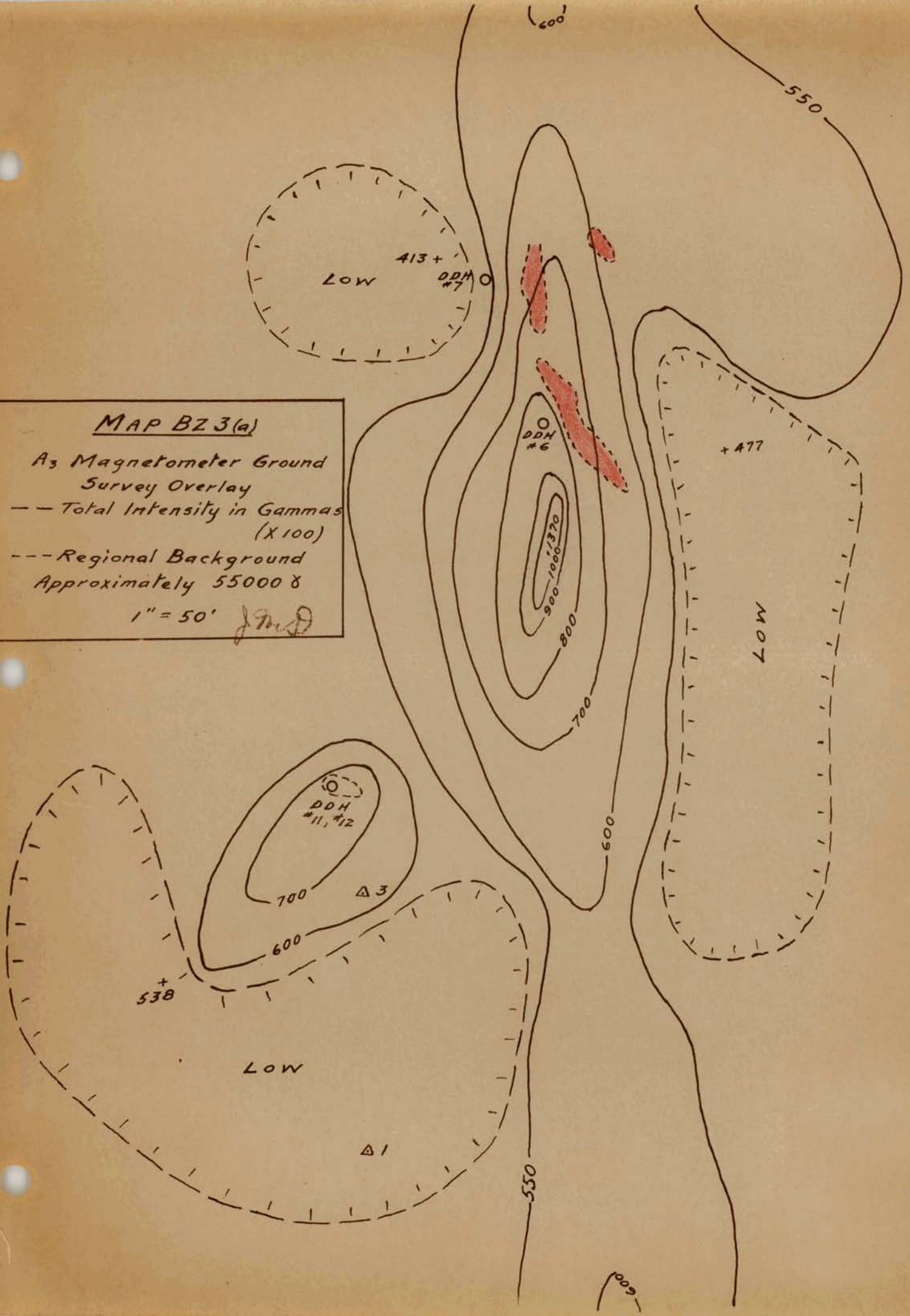
A₃ Magnetometer Ground
Survey Overlay

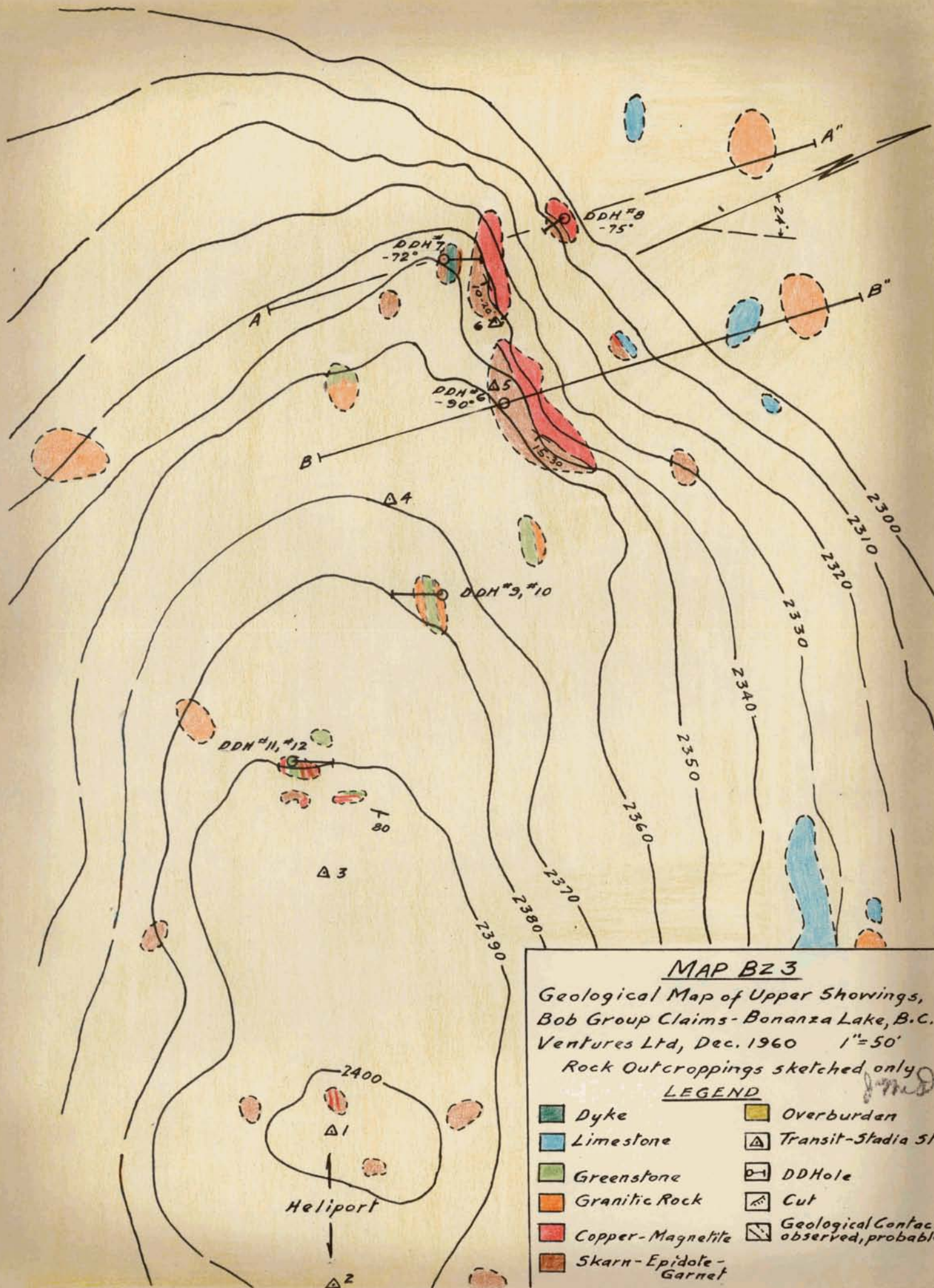
--- Total Intensity in Gammas
(X100)

--- Regional Background
Approximately 55000 γ

1" = 50'

JMS





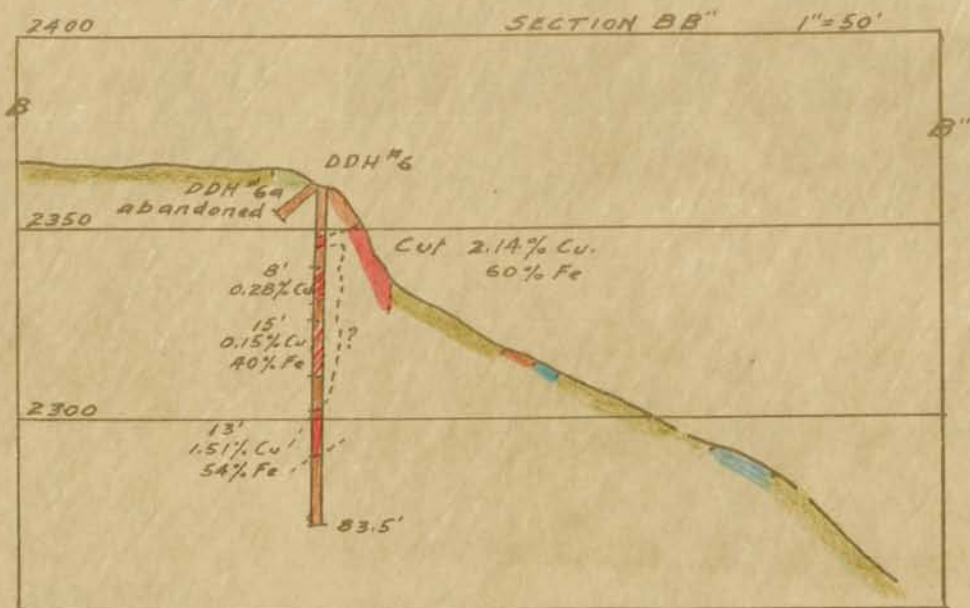
MAP B23

Geological Map of Upper Showings,
 Bob Group Claims - Bonanza Lake, B.C.
 Ventures Ltd, Dec. 1960 1"=50'
 Rock Outcroppings sketched only

LEGEND

- | | |
|----------------------|---------------------------------------|
| Dyke | Overburden |
| Limestone | Transit-Stadia Stn. |
| Greenstone | DDHole |
| Granitic Rock | Cut |
| Copper-Magnetite | Geological Contact observed, probable |
| Skarn-Epidote-Garnet | |

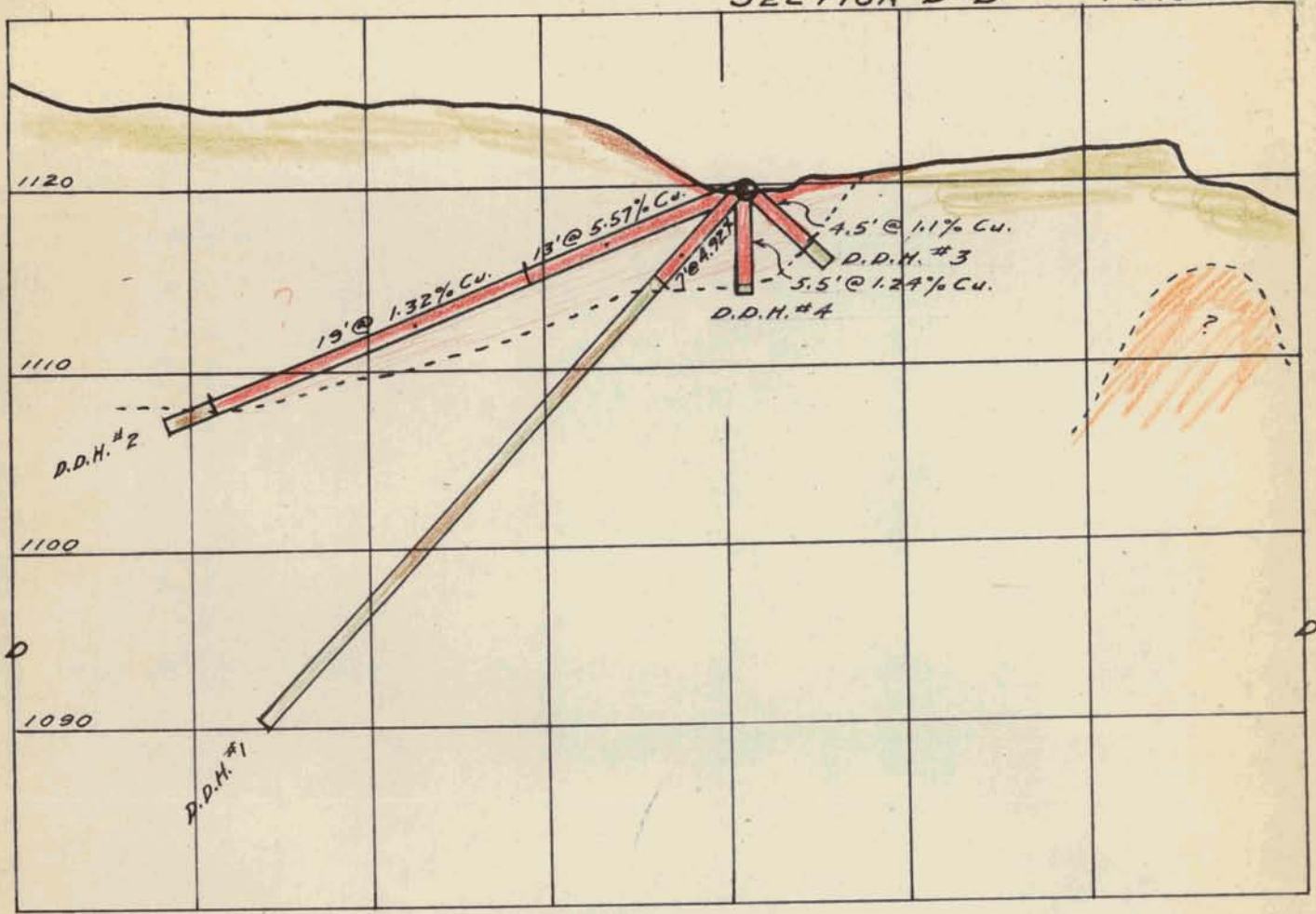
See Map BZ 3



See Map B24

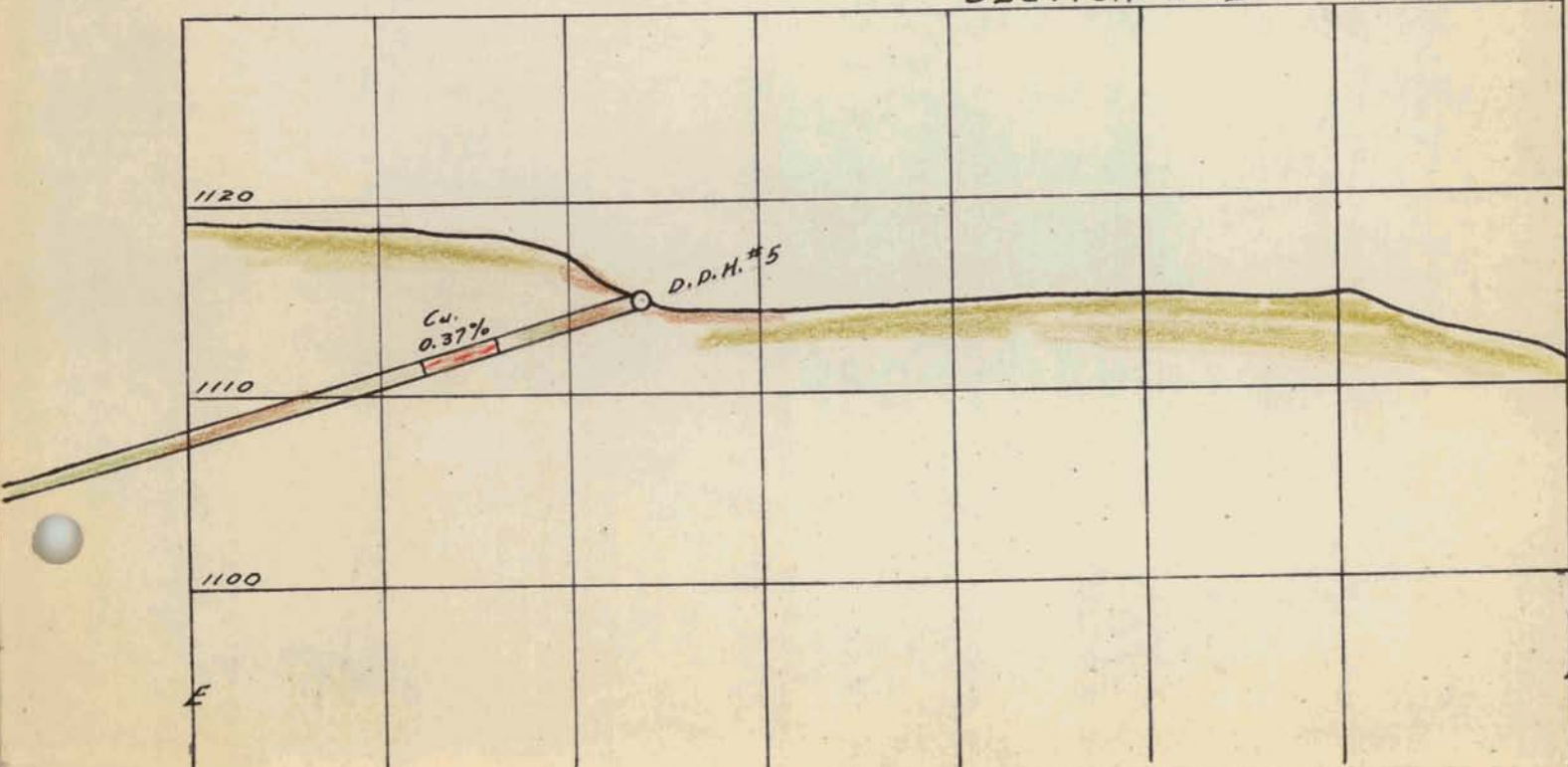
SECTION D-D"

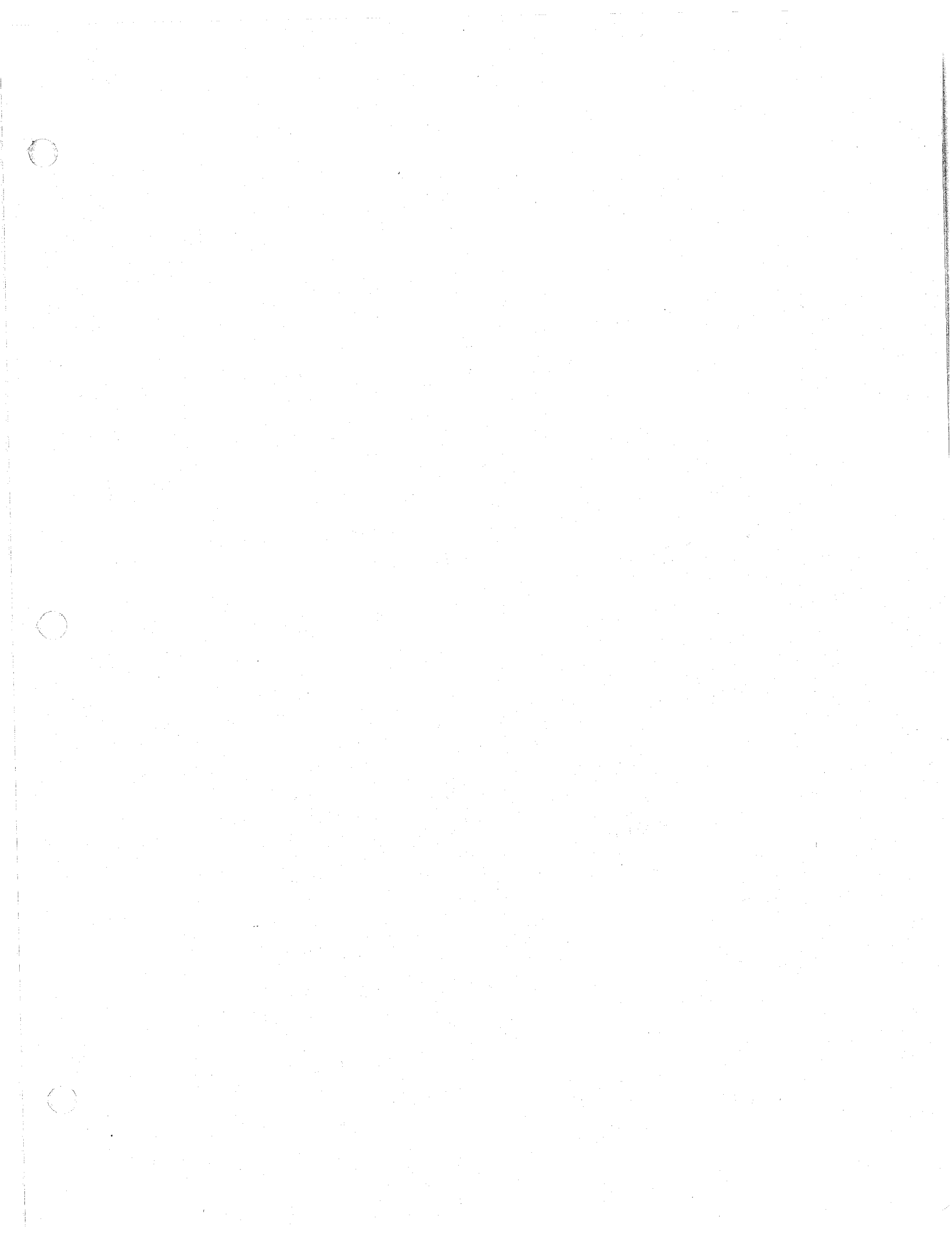
1" = 10'



SECTION E-E"

1" = 10'





PRELIMINARY REPORT

on

BOB GROUP COPPER CLAIMS

BONANZA LAKE, B. C.

James J. McDougall

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MAPS AND ILLUSTRATIONS

BZ-1 - Geological & Location Map - Bonanza Lake Area - Scale 1" = 1 mile	2(a)
BZ-2 - Topographic Base & Claim Map (2 sheets) - " 1" = 400'	in Pocket
BZ-3 - Geological Maps of Upper Showings - " 1" = 50'	9(a)
BZ-3a - Magnetite Overlay " - " 1" = 50'	9(a)
BZ-3b - Drill Hole Sections " - " 1" = 50'	9(a)
BZ-4 - Map of Lower Roadcut Showings - " -----	9(b)
BZ-4a - Drill Hole Sections Roadcut Showings-----	9(b)
BZ-5 - Dip Needle Survey, Lower Claim Area - Scale 1" = 250'	10(b)

<u>PHOTOS:</u> - #1 Camp on Lower Roadcut #2 Upper Bluff Showings	} ----- 10(a)
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PRELIMINARY REPORT

on

BOB GROUP COPPER CLAIMS

BONANZA LAKE, B. C.

James J. McDougall

INTRODUCTION

The following report on the Bob Group claims has been prepared following initial work done on the property during both July and November, 1960. The ground is almost totally drift-covered and to date only a small fraction of it has been tested. Preliminary examination suggests, but does not prove, the existence of a series of copper and copper-iron-bearing lenses along a zone several thousand feet or more in length. The grade of the lenses so far tested and the proximity to existing railroad facilities are such that the property is a moderately attractive prospect on which more work should be done in the near future.

LOCATION AND ACCESS:

The Bob Group claims are located immediately south of the head of Bonanza Lake, a 5 mile long body of water on northeastern Vancouver Island about 140 miles northwest of Vancouver (see Inset Map). It is included in the Nanaimo Mining Division.

Direct access is afforded by way of road to Beaver Cove, a small logging railway terminus on the east coast of the Island where iron ore, as well as timber from the extensive Nimpkish logging operations, is unloaded for transshipment. The truck road is owned and presently used by Northern Pulpwood Limited (a subsidiary of Crown-Zellerbach Limited) whose timber license extends southerly about three miles beyond Bonanza Lake. The Steele Creek branch of this road, along which logging is now in progress, cuts across the lower claim area, and a second is being constructed to the uppermost portion of the property. Within a few months the Steele Creek road should connect with one feeding the main Nimpkish Valley railway only 4 miles south of the main showings on the Bob claims. Beaver Cove at the other end will soon become a ferry terminal on the proposed Island Highway System running from Campbell River to Holberg.

The trading centre for the area is Alert Bay situated on a small island several miles northwest of Beaver Cove. Transportation facilities, both air and water, are good. Daily B.C.A. flights to Port Hardy connect with

P. W. A. from Vancouver. Alert Bay Air Services operate to all north Island ports. Regular scheduled and chartered passenger boats call at Beaver Cove, Port Hardy and Alert Bay.

Under suitable conditions float planes with Super-Cub performance can land on Steele Lake as well as on larger Bonanza Lake 2 miles to the north.

Several very small lakes situated on the 'pocketed' top of the relatively low, northerly trending ridge on which mineralization was originally discovered made initial helicopter landings feasible. These also assure an adequate water supply.

Hydro power could doubtless be developed on the Bonanza and Nimpkish rivers. Such a development on Bonanza is contemplated and all lands below the 950 foot contour have been reserved for some years.

HISTORY AND GENERAL GEOLOGY:

Copper-iron mineralization in place was first discovered in the southern Bonanza Lake section in 1959 by Bob McIver, a surveyor employed by Northern Pulpwood. McIver became interested in the Steele Creek section because of unexplainable compass deflections noticed while running road location and timber boundary surveys. Magnetite was found in place on top of the ridge and boulders of high grade chalcopyrite were rooted out by the bulldozers building road at lower elevations along Steele Creek. Thirty claims have since been staked to cover these showings.

HISTORY AND GENERAL GEOLOGY: contd.

Through association with the writer both in the Fall of 1959 and the Spring of 1960 arrangements were made for a preliminary examination and this later led to our optioning the property. The option agreement calls for at least a year's assessment work on all claims plus a first payment due in September of 1961. Besides Alex Smith and the writer, our 1960 crew included James Robertson, Meade Hepler, Mike Donahue, Tom Cross. Bob McIver and an associate helped supply the camp which was serviced by our 12E helicopter operating out of Zeballos or Alert Bay.

Our interest in the area is not new as reports of magnetite float in this geologically favorable section were given to us several years ago by another land surveyor, W.H. Forrest of Victoria. Unfortunately, Mr. Forrest's recollection of the location of his discoveries made 40 years ago was not sufficiently accurate and such could not be relocated. Our interest at the time was in magnetite and we had the area flown by Photographic Surveys Limited. The writer and S. Bridcut checked all significant magnetic anomalies without important results, and the conclusion reached then that there were no important magnetite deposits still holds. Significant anomalies did not appear over the copper-magnetite zone as presently outlined and as the existing published geological map showed the area to be well within granitic rock it was by-passed. Mr. Forrest ac-

The Karmutsen Group is conformably overlain by the Quatsino crystalline limestone formation so important in localizing practically all Western British Columbia magnetite deposits. Minor volcanic flows are included in this Upper Triassic formation which varies in thickness up to 1000 feet.

The Quatsino limestone is in turn conformably overlain by the Bonanza Group volcanics and sediments the top of which has not yet been located in the area. It is recognizable as its base consists of a 400-500' of thin-bedded argillaceous to quartzitic sediments which are often iron rich and weather a rusty color. The remainder of the group consists of minor limestone with volcanics not too different than those of the Karmutsen.

The Coast Intrusions of Jurassic and/or Cretaceous Age provide a variety of granitic types, the commonest being quartz monzonite, granodiorite and quartz diorite. These rocks, which cut the above groups, are irregular in distribution and are not of true batholithic extent but rather are more like small stocks which generally trend northwesterly along with the sediments and volcanics. Basic dykes cut the granitic rocks and clusters of these are common in the limestones and thin-bedded sediments near granite contacts.

Metamorphism has resulted in alteration of many of the volcanic rocks beyond recognition and such are best termed greenstones. Thermal metamorphism of the limestone has probably caused marmorization resulting in large bodies of relatively pure marble. Large amounts of garnet along

with epidote are similarly common along with calcite, actinolite, sericite, chlorite, etc. The development of hornfelsic sediments and schists is not nearly as common as in other sections of British Columbia and dynamic metamorphism must have played a minor role.

Regionally common metallic minerals are of simple composition and include magnetite, sphalerite, pyrrhotite, pyrite and chalcopyrite, with occasional galena and molybdenite. Except in local stocks around Zeballos, gold is not common and in the sulphide deposits of this region have, in the past, seldom exceeded \$1.00.

Within the Bob Group boundaries only the Karmutsen and Coast Range Intrusives are recognizable with certainty. Disseminated magnetite in the former gave rise to air magnetometer anomalies previously recorded. Remnants of both the Quatsino and Bonanza rocks may be represented by the meagre (2%) outcroppings in this overburdened area but no attempt to map them as such can be undertaken at this time. As shown on Map B21 the latter outcrop along the logged off lakeshore for several miles to the northwest but are not shown as crossing Steele Creek Valley as far as the zone of present interest. It is quite likely that some offset, probably vertical, has taken place because of a cross-fault paralleling Steele Creek. Basic to andesitic dykes have been noted and there is evidence of sill-like granodiorite occurring in the mineralized areas. (Studies of several rock types will appear as an appendix to this report).

The writer believes that in general the McIver showings are controlled by favorable structures such as those indicated along projected strike to the northwest and including the well defined fault contact previously described whose identity south of Steele Creek is lost. The ore deposits are believed to occur as a series of replacement lenses occupying the noses of "truncated" folds along a favorable but irregular skarn zone or mantle. The skarn is probably underlain by granitic rock at no great depth. Local limestone-greenstone contacts are favored. To the north the Bonanza rocks are distinctly folded with axis trending in the same direction as this zone of mineralization to the south. The individual 'orebodies' however are believed to cut across this regional trend.

DEVELOPMENT WORK:

Work during July, besides prospecting, included the drilling of 5 packsack holes on the lower road-cut totaling 124 feet and a local magnetometer survey over the upper bluff showings (Map BZ3a). Several rock cuts and pits had been put in by McIver by this time. A low-level airborne magnetic survey of this and the surrounding country of interest was completed at this time using our flux gate magnetometer mounted on the helicopter.

Work in November was continued until a frozen water supply cancelled packsack drilling on the upper showings, and heavy wet snow at lower elevations prevented the completion of a dip needle survey between the

major showings (Map BZ5). Eight holes totaling 452 feet were completed resulting in partial determination of the shape of the deposits as well as the possible grade. By this time several more pits had been put in by McIver who also by then had prepared a good base and claim map (BZ #2(2)). As is usual in drift covered areas the pack-sack drill is hopelessly inadequate for delimiting or usefully outlining any orebody as driving casing usually results in extensive damage to the very light drill.

DESCRIPTION OF SHOWINGS:

The mineral showings on the Bob Group have been numbered for clarity approximately in the order of discovery and are plotted on Map BZ1. As at least 98% of the area is drift covered continuity has not been established. The only information on the size of the skarn belt is gained through road cut exposures. This rock crumbles easily giving way to soil and is seldom even exposed in the numerous creek cuts on the property.

In general copper mineralization in the form of chalcopyrite occurs both with massive garnet and garnet-magnetite in an irregular, possibly blanket-like skarn zone in altered volcanics and limy sediments. The zone is probably a mile or so in length in a NW-SE direction and widths of up to 1000 feet are indicated.

The uppermost exposure is at 2400 feet and the lowest 1300 feet below this. The former (#1 on Map BZ1) is on the western rim of a heavily timbered, flat-topped

ridge which separates Steele Creek on the west from the south fork of Bonanza Creek to the east. Showings #4 & #5 occur on the lower road cut. Although contacts are obscured, granitic rock occurs to the west and crops out erratically in the mineralized sections of the altered volcanics-sediment zone. The latter could conceivably be a pendant in the granite with mineral deposits localized along a fault-fold zone as previously described. Scattered along this zone at least a dozen mineralized outcrops have been found.

The heavy, massive grossularite(?) garnet so common in the skarn zone has undoubtedly resulted from the metamorphism of impure lime-rich sediments of which little trace has been left. Lenses of relatively pure marble occur.

Magnetite with or without chalcopyrite can be picked up and traced on the ground with either magnetometer or dip needle but the lack of significant readings from our low level mag. flying discounts the possibility of important iron deposits occurring, at least to economic depths.

Boulders of near massive chalcopyrite weighing up to 100 pounds have been turned up by bulldozers building roads through the lower skarn zone. These are probably not far from being in place but search for bedrock is hampered by the loose or crumpling nature of the rock.

Asurite stain is common in magnetite contain-

ing appreciable copper. The writer's experience on the West Coast suggests that important copper mineralization in magnetite exists only if in close proximity to limestone. Magnetite occurring in greenstones on the Bob Group claims thus contains no copper of interest.

The best exposures are along 20 ft. high bluffs at position #1. This deposit is shown on Map BZ3 and its included sections (see also photo #2). In general more or less continuous copper-magnetite mineralization is exposed for a length of 100 feet in an east-west direction as a southerly dipping band about 15-20 feet wide. Magnetic work suggests its continuation under overburden on both ends for a total addition of 300 feet (see Map BZ3a). Shallow surface dip indicated was not borne out by the drilling which showed such to be steep. This may reflect local folding. A second poorly exposed paralleling band 10-15 feet in width is indicated about 40 feet below the first one. It has been exposed along a 20 foot trench put in on what was originally considered float from the upper showing. The eroded nature of this deposit near surface make grade and attitude determination difficult and prevents worthwhile pack-sack drilling.

Average surface and drill hole assays of "ore grade section" indicate 2% copper and 45% soluble iron for this deposit. The average gold content is interesting with those samples assayed to date showing a high of 0.16 oz. and an average of 0.09 oz. (Drill logs and assays are included in the appendix of the report).

Drilling done on an isolated 10 ft. square high grade outcrop exposed by the road cut (#4 & #5) suggests a very low angle easterly dipping deposit (see Map B24). Assays range from 1.10 to 5.57% copper. Fill-in drilling, so obviously required, could not be done with the packsack and the extent of this mineralization is not known.

Drilling of the above showings (#1 & #4) from the limited set-ups available to the packsack suggest continuation at least to shallow depth.

A frozen water supply prevented drilling of the anomalous extension to the east of #1 showing. Previous to this two short holes (#9 & #10) encountered only unmineralized skarn and greenstone on the western flank of the anomaly (Survey ground control was not available when the magnetic survey was made and the plotted magnetic highs could be plotted 50 ft. or more from their actual location as shown on Map B23(a)).

Two short holes, #11 & 12, were drilled to test a magnetite outcrop in a small anomalous volcanic-granite contact zone several hundred feet southeast of the main outcropping. No important copper mineralization was encountered here. Small lenses of magnetite occur throughout this zone but are not important at this time.

Isolated cupriferous skarn showings, not seen by the writer, occur at positions #2 and #3 but the prospectors who sampled them say such testing is not representative because of the intermixed overburden. The better of these, #2, is exposed in a 50' x 6' x 10' cut. Assays

ranging from 0.29% to 1.25% and averaging 0.68% occur across a probable true width of 20 feet (see Map B25). It is interesting to note that dip needle readings over this showing of about + 5° are about the same as shown by an anomaly in overburden on the north central portion of Bob #12 mineral claim. #3 showing about 500 feet southwest of #2 consists of chalcopyrite weakly disseminated in garnet.

Float samples containing magnetite and chalcopyrite have been picked up at locations 7, 8 and 9 but have not been seriously investigated. Sphalerite was found in float at location #6.

RESERVES:

Due to the obvious lack of information ore in sight at present is negligible. Drilling of the bluff showing probably indicates 5000-8000 tons of 2% copper ore to a depth of 50 feet. Possible ore in this zone, assuming a length of 400 feet, is probably in the order of 800-1000 tons per vertical foot. The value of the total mineral content of this ore, including the iron, is about \$20.00/ton.

CONCLUSIONS AND RECOMMENDATIONS:

The McIver property remains a raw, drift covered prospect on which insufficient work has been done at this time to allow final evaluation. Our work to date, as well as having fulfilled the assessment requirements, has given a better idea of the grade to be expected. The general zone of mineralization has been outlined but continuity be-

tween existing showings has not been proven one way or the other. The hoped for magnetic values associated with the mineralization are insufficient for air detection with our present flux gate magnetometer and even on the ground magnetite is not always associated with copper.

It is the writer's belief, from the fragmentary evidence available, that the zone represents a ruptured fold continuation of the fault contact exposed north of Steele Creek. Granite probably underlies much of the area at no great depth. The important individual deposits so far mapped are irregular lense-like replacements elongated in an east-west direction almost at right angles to the north-south zone. The deposits appear to be along the noses of easterly plunging anticlinal folds. If this is the case in general, continuity of the individual showings is not likely along the zone but rather across it.

The length of the "orebodies" so far exposed is discouraging but should the local structural control be one of plunging anticlinal noses persistence at depth may be the important factor.

Insufficient magnetite is present to consider the property a potential iron producer. The copper values so far encountered (although lower than originally anticipated) combined with the possibilities within the large but only partially exposed skarn zone are such that continued exploration is definitely warranted. A copper producer in this locality would benefit from existing road and rail system.

The claim area is largely covered by a moderately deep mantle of drift and is very heavily timbered. Surface prospecting can turn up little of further value and other means must be used.

A self-potential geophysical survey, using our own equipment, should be attempted if tests show the method satisfactory around known outcrops. Should we obtain a more sensitive "Proton-type" magnetometer, favorable zones might be rapidly outlined and the S. P. survey run over these.

Our small packsack drills are not suited on this property or on any other known to the writer except for deeper sampling of outcrops or preliminary outline definition. Drilling through even shallow overburden (75% of the holes have to be abandoned) reduces the drill life by more than 50%. Holes can seldom be spotted to good advantage and results are never conclusive. Our major need, not only on this property but on all others discovered by our prospecting, is for a heavier portable drill capable of driving casing and of drilling to 300 or 400 foot depth. Such a drill, termed the "Prospector" is available from Longyear. A second hydraulic type, although very streamlined for portability, could be obtained locally. The latter with a weight of 1000 pounds is 400 pounds heavier than the Longyear, and thus not so attractive. However, within the next few months we have available our own BEX1 drill which could be put into use on this property.

The area covered by the Bob claims is slated for logging in the very near future. Although this would have obvious long term advantages, until logging is completed and the hillside slash cleared up an impenetrable jungle of logs and fallen trees is the rule. Such will probably remain for many months and therefore extend beyond our commitment date in September. We are thus faced with the situation of having to evaluate the property before logging has advanced too far or of extending the option dates if the property is inaccessible for a long period.

Snow will usually hamper work above the 1500 ft. level until May. Self-potential work at lower elevations, although slow and wet, could be commenced as soon as the snow leaves. It is suggested that if reports show the lower road area to be free of snow late in January or February an attempt be made to use the S.P. unit. The writer could organize a small crew already familiar with the area. Coupled with the survey, or immediately following it, our EX drill should be trucked in and a few exploratory holes put in above the road. An attempt should be made to fill out Section D-D of BZ4 and enlarge upon favorable results. The larger of the magnetic anomalies resulting from our dip needle work (Map BZ5) should be checked, preferably stripped by a cat and drilled if encouragement still exists.

If logging in the section is deferred for some reason, one of the logging companies cats might be engaged to do some stripping on the lower zone.

Recent information not present before the final drafting of this report ⁽¹⁾ is that the logging of this section will not commence until about March 1st. Slash will probably be cleared by the end of June or July, depending on the commencement date. The Kokish camp at Beaver Cove is at present closed and will be until about the first of March. An ideal situation now exists whereby a small crew could live in one of the vacant buildings at Kokish and drive to the showing daily, using our own jeep which could easily be transported there from Vancouver. Such arrangements would greatly simplify our work there. Such conditions will probably not exist again with any certainty until next winter. Our regular drill crew using the Wedeene equipment could probably complete most of our objective by early March and then be free for work we have outlined elsewhere.

The lower claim area in question is at present free of snow following several days of rain. This condition may or may not persist but either way will not effect diamond drilling. Little use can be made of a cat prior to logging clean-up but after that the logging company has agreed to make one available. Very limited cat work could be done in the near future and only within 100 feet of the road.

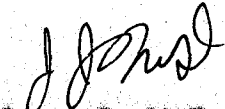
(1) Personal communication with Bob McIver, January 11, 1961.

Our relations with the local logging companies are good. However, they are forced by law to observe strict safety and fire regulations. To attempt work in the vicinity of modern logging operations, even if allowable, would be foolhardy. As Mr. McIver, being a surveyor, has some control over the location of logging roads in the area, such can be expected to be located so as to best serve the mining interests after logging has been completed.

Estimated costs of a 4 man crew doing six weeks of geophysical and general exploratory work as outlined would approximate \$3500. Two men are required to run the S.P. unit and a third to fill in additional dip needle data. Living in a tent on the north coast during the wet of winter is anything but comfortable and a cook-handyman as used in the past is necessary.

Costs of EX drilling are not known as such a program would be in progressive stages. No difficulty is foreseen in transporting the drill to the property. A minimum of \$5,000., and maximum of \$20,000., should determine the possibilities of the lower zone.

Vancouver, B. C.
January 11th, 1961


Jas. J. McDougall,
Geologist.

PROPERTY BOB CLAIMS - BONANZA LAKE, B. C.

HOLE NUMBER BZ-1

SHEET NUMBER 1

SECTION FROM _____ TO _____

DIAMOND DRILL RECORD

LOCATION: LAT. Original Road cut showing on
 DEP. BOB #9 Claim
 ELEVATION OF COLLAR 1120' approx.
 DATUM McIver Survey
 DIRECTION AT START: BEARING Easterly
 DIP -47°

STARTED July, 1960
 COMPLETED do
 ULTIMATE DEPTH 40'
 PROPOSED DEPTH _____

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE Ft.	% IRON	AVERAGE	Oz	Oz
						IRON	S Au	P. Ag
0 - 5	Cupriferous (chalcopyrite) magnetite in garnet skarn			5'	41.0	6.35		
5 - 7	As above - more skarn, greenstone			2'	16.4	1.37		
	7 ft. section @ 4.92% Cu 33.9 % Fe							

PROPERTY BOB CLAIMS - BONANZA LAKE, B. C.

HOLE NUMBER RZ-2

SHEET NUMBER 2

DIAMOND DRILL RECORD

SECTION FROM _____ TO _____

LOCATION: LAT. Original Road Cut Showing on
 DEP. BOB #9 Claim

STARTED July, 1960

ELEVATION OF COLLAR 1120' approx.

COMPLETED do

DATUM McIver Survey

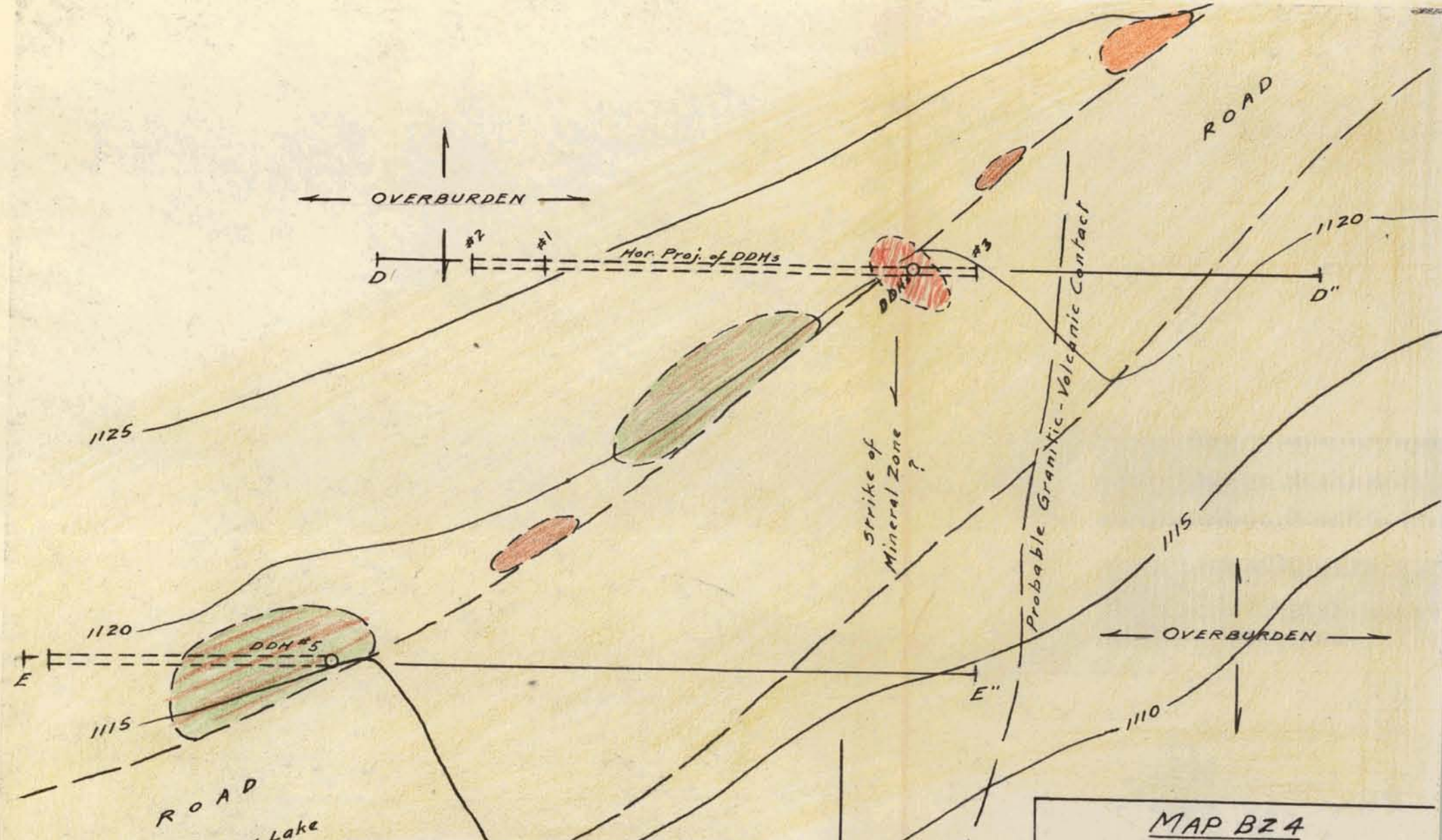
ULTIMATE DEPTH 35'

DIRECTION AT START: BEARING Easterly

PROPOSED DEPTH _____

DIP -21°

DEPTH FEET	FORMATION	FROM	TO	WIDTH OF SAMPLE Feet	% IRON	%		Oz Au	Oz Ag
						AVERAGE	IRON		
0 - 8	Cupriferous magnetite in skarn			8	42.1	6.54	Cu	Tr	1.5
8 - 13	do do			5	28.1	4.02		Tr	1.5
13 - 20	do do			7	63.5	1.33		Tr	0.7
20 - 32	do do			12	48.1	1.32		Tr	0.5
32 - 35	Unmineralized volcanics (greenstone) to end of hole.								
	32 ft. section @ 3.05% Cu								
	46.8 % Fe								
	.09 Oz. Ag								
	Probably a down-dip hole								



LEGEND

	Granitic Rock
	Andesitic Volcanic & Dyke Rock, Skarn in part
	Garnet-Epidote Skarn
	Copper-Iron Mineralization in Skarn
	Overburden

MAP BZ 4
 Sketch of Lower Roadcut
 Showings-Bob Group Claims
 Bonanza Lake - B.C.
 Ventures Ltd. - Dec. 1960
 Scale - 1" = 10'

jmd



Photo #1 - Prospecting Camp on Roadway approximately 1500' N of Road-Cut Showing. (#1 DDH). Setting is typical of area.

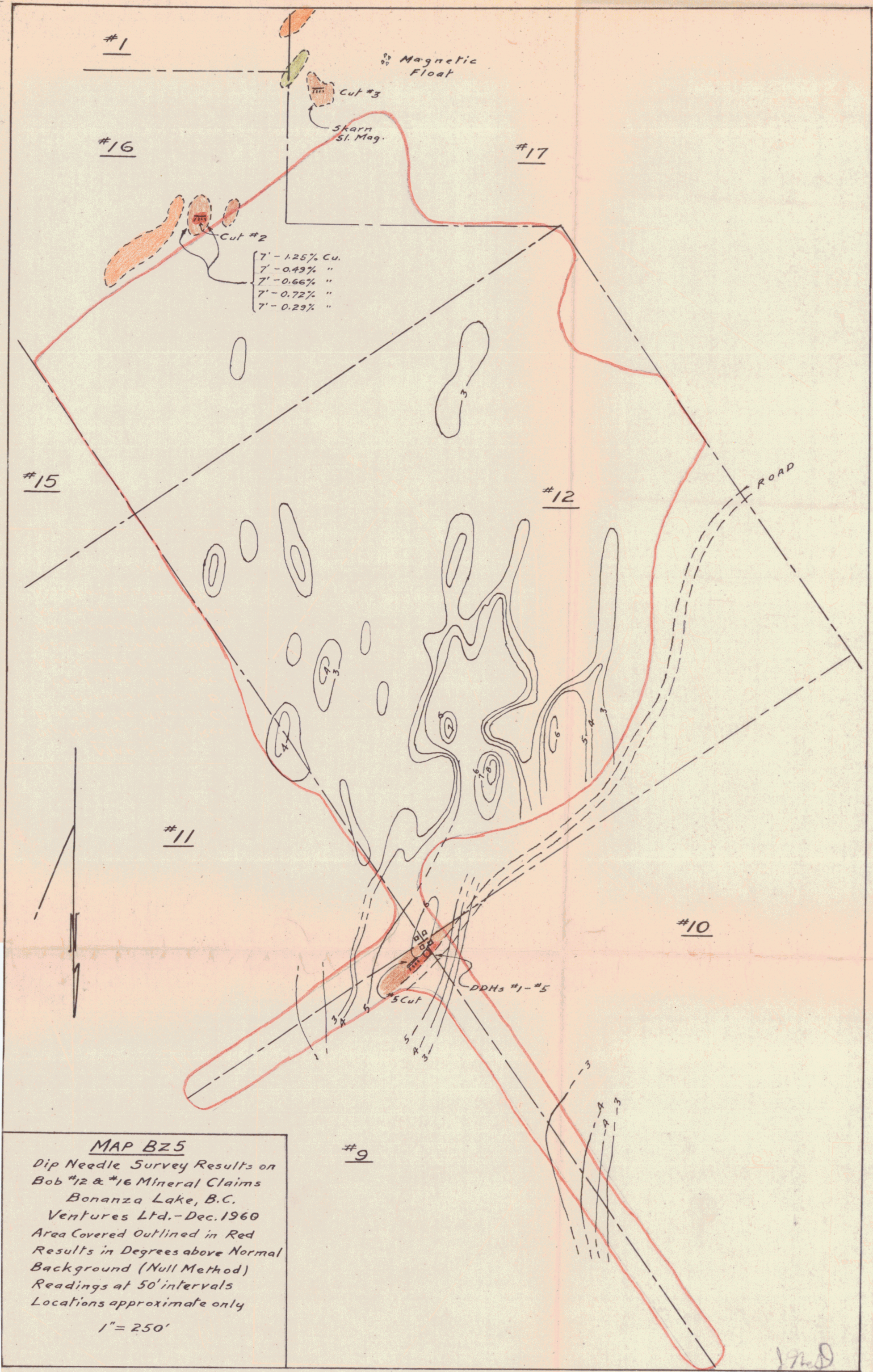
DDH #6



DDH #7

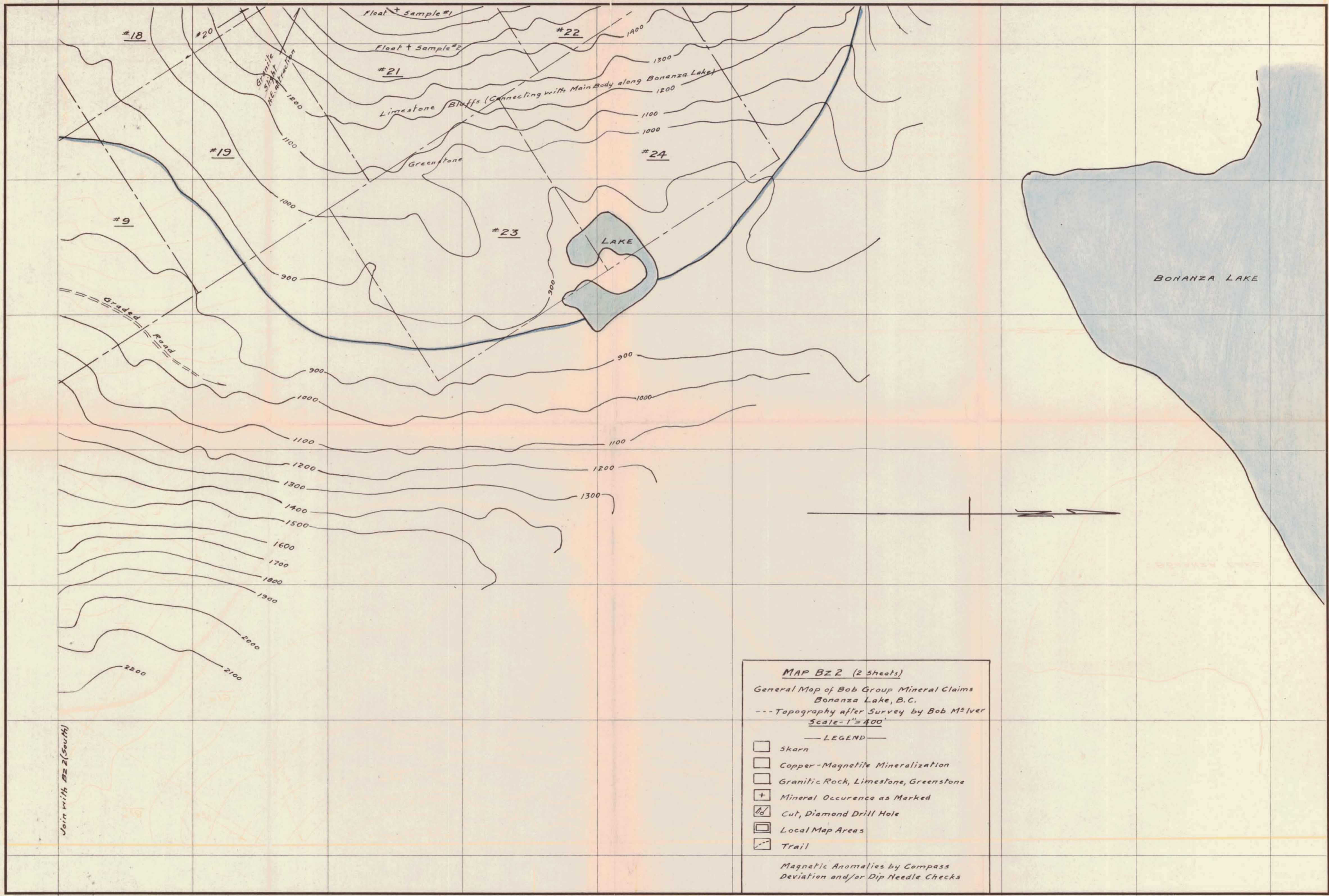
DDH #8

Photo #2 - Looking Southerly. Upper Bluff Showings on Bob #1 Mineral Claim. 20' Bluffs are cupriferous magnetite.



MAP BZ5
 Dip Needle Survey Results on
 Bob #12 & #16 Mineral Claims
 Bonanza Lake, B.C.
 Ventures Ltd. - Dec. 1960
 Area Covered Outlined in Red
 Results in Degrees above Normal
 Background (Null Method)
 Readings at 50' intervals
 Locations approximate only
 1" = 250'

J.M.D.



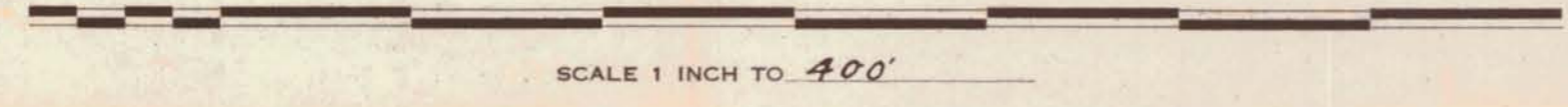
Join with Bz 2 (South)

MAP BZ 2 (2 sheets)
 General Map of Bob Group Mineral Claims
 Bonanza Lake, B.C.
 --- Topography after Survey by Bob M^Slver
 Scale - 1" = 400'

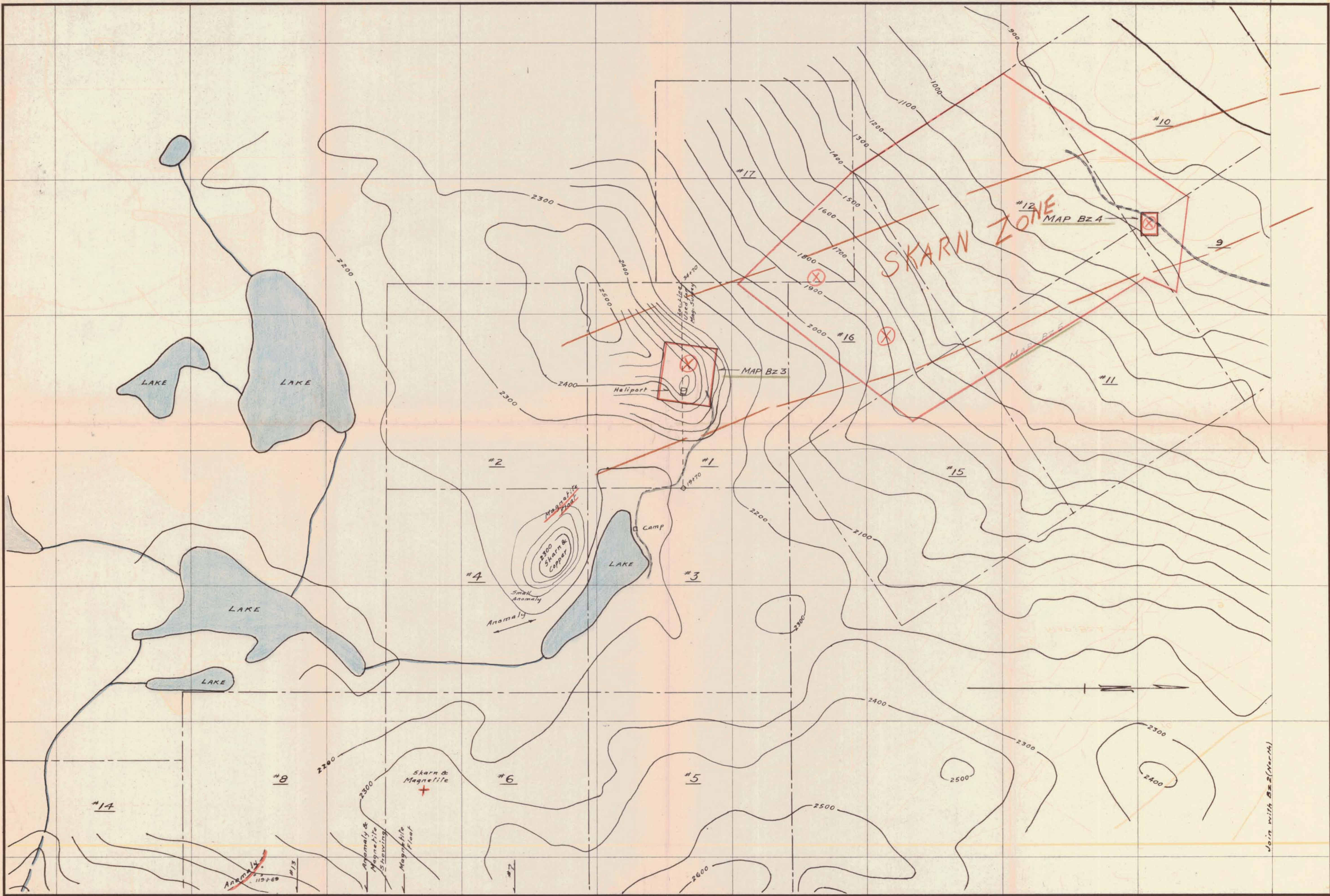
— LEGEND —

- Skarn
- Copper-Magnetite Mineralization
- Granitic Rock, Limestone, Greenstone
- + Mineral Occurrence as Marked
- Cut, Diamond Drill Hole
- Local Map Areas
- Trail

Magnetic Anomalies by Compass
 Deviation and/or Dip Needle Checks



COMPANY _____ WORKING PLACE _____ DATE _____
 PROPERTY _____ DRAWN BY *JMD*
 LOCATION _____ TYPE OF MAP _____ MAP NO. *Bz 2 (North)*



SCALE 1 INCH TO 400'

COMPANY _____	WORKING PLACE _____	DATE _____
PROPERTY _____	TYPE OF MAP _____	DRAWN BY <i>VLD</i>
LOCATION _____		MAP No. <i>B# 2 (South)</i>

Join with B# 2 (North)