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CANADIAN EXPLORATION, LIMITED

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93L-2-07  
PROPERTY FILE

# OWEN LAKE

REPORT ON OWEN LAKE PROPERTIES

By H. L. Batten

June, 1949

431008-07

PROPERTY FILE

# CANADIAN EXPLORATION, LIMITED

CABLE: "CANEXPLOR"  
VANCOUVER, CANADA  
CODE: MINERS AND SMELTERS

11TH FLOOR  
ROYAL BANK BUILDING  
VANCOUVER, B. C.  
CANADA

July 8th, 1949

Mr. K. F. Hofmann,  
Placer Management Ltd.,  
23rd Floor, USS Bldg.,  
San Francisco 4, Calif.

Dear Mr. Hofmann:

Owen Lake Properties

Enclosed herewith please find description  
of Owen Lake Properties and particularly work done  
since 1941, based on a field examination which I  
completed to end of June.

Yours very truly,



H. L. Batten

HLB:td  
Attach

cc The Hon. Chas. A. Banks, C.M.G. - Victoria, B. C. ✓  
Office

OWEN LAKE PROPERTY

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## OWEN LAKE PROPERTIES

### Section 1

#### GENERAL

The Owen Lake Properties were acquired early in the summer of 1941 when the Cole Property was optioned. During the summer of 1941 an examination of the Cole and Owen Lake Groups was made and the results of this examination, which was carried out under the close supervision of the writer, are recorded in the report by B. I. Nesbitt, dated December 10, 1941.

The work carried out in 1941 consisted of a fairly close examination with some short hole diamond drilling on the Cole Group, repairs to the road carried out with the assistance of the Provincial Government and a geological examination of the Owen Lake surface showings and an examination of the Earl crosscut tunnel to 860 feet from the portal with mapping and sampling the drifts off the tunnel between the portal and 860 feet. Also careful examination was made of ore produced to that time and of specimens obtained from the veins in an attempt to determine the nature of the deposit and to obtain information to guide future prospecting. Most of the actual mining work done during the 1941 summer was performed on the Cole Group. It was intended also to drill one or two holes on the Mae Mineral Claim testing the vein on which the Chisholm shaft is sunk. However, due to an unfavourable and very early fall, it was not possible to complete this program and drilling on the Chisholm showing had to be postponed.

No further work was done on the property until 1946 when there were 12 men-months worked for assessment purposes. Also in 1946 two Earl claims were surveyed and surveys recorded as assessment work. In 1947 10 men-months work was done and recorded as assessment work. Of necessity most of the assessment work was done on uncrown granted claims and was done principally on the Mae and on the IXL. In addition to the assessment work the tunnel was cleaned out from 860 feet to the face at slightly under 3,000 feet from the portal.

As the 1941 work has been somewhat fully described in the Nesbitt report, the writer's late examination and this report will refer to work done and showings exposed in the 1946 and 1947 work with some comment on the 1941 report and the addition of some notes from the writer's personal file referring to an earlier operation of the property.

As regards the geology as described by Nesbitt, we have little to add except that Nesbitt outlines the probable boundaries of microdiorite intrusion suggesting that the veins show preference for this host rock. Since the 1941 examination was made the Mae Nos. 1 and 2 Veins have been exposed and these do not lie within the boundaries of the microdiorite as determined by Nesbitt. We think, therefore, that while it is probably correct that the veins show preference for the microdiorite, they occur also in the andesite and andesitic tuffs which cover a large part of the area.

Another point mentioned in Nesbitt's report is the possible duplication of veins due to faulting. In the writer's opinion this is an important point to keep in mind as it seems highly probable that there has been a duplication of veins due to faulting. However, in no case is it possible to determine this definitely. It is purely an assumption which is justified, particularly in the case of the Canyon Veins and of the Portal Veins.

For the sake of convenience the veins are considered under three groups - the Portal Veins, the Canyon Veins and the Mae Veins. This division of veins into three groups is, however, purely arbitrary as all veins, as far as can be seen from present exploration, have similar characteristics and further work undoubtedly will disclose other veins between these groups when the economic geology can be considered as a whole rather than in patches. There is one very important difference among the veins, namely, some carry a relatively high grade gold-silver-copper mineralization, whereas others show only lead-zinc mineralization. It has been shown, however, that both types of mineralization may occur in any vein, although in most of the veins the copper mineralization has not been shown to occur. Judging from present exposures the Portal Veins are most favourable for the occurrence of copper mineralization but it occurs also in one of the Canyon Veins and was also noted in one or two exposures on the MacKay Vein and the Mae Veins.

All bearings given in this report are referred to true North. It should be noted that all sketches accompanying this report are based only on rough taping and compass shots and should not be used when precision is required.

Section 2PROPERTY

The property is located about 30 miles south of Houston, B.C., a station on the Canadian National Railway between Smithers and Burns Lake.

The Recording Office for the district is Smithers, B. C.

There are seven crown granted claims, namely Earl Nos. 1 and 2 (on which surface rights have been obtained) the Silver Tip, Silver King, Silver Queen, Tyee and IXL Mineral Claims.

In addition to the above crown granted claims the following claims and fractions are held by location with expiry dates as noted:-

Mae M. C.	- Expires July 3; 1950
Mae No. 1 M. C.	- Expires July 3, 1950
Marg. Fr.	- Expires July 19; 1950
Asta Fr.	- Expires July 19; 1950
Lucy M. C.	- Expires July 19; 1950
Lili Fr.	- Expires July 19; 1950
Mary M. C.	- Expires July 19; 1950
Earl No. 3 M. C.	- Expires June 10, 1950
Jim Fr.	- Expires September 14, 1949

There is also a narrow strip, Earl No. 1 Fr., lying between Earl Nos. 1 and 2 and Silver Tip and Silver King. This fraction expires June 6, 1953. It has been surveyed and the survey recorded so all that is required to crown grant this fraction is to post a notice of intention to crown grant on the ground, advertise and complete crown granting.



The balance of the claims have all had sufficient work done on them for crown granting but require surveying before crown grants can be obtained.

The Earl No. 4 M. C. expired on June 10, 1949, and has not been relocated. It was proposed also to allow the Jim Fr. to expire when it runs out in September, 1949.

The Earl No. 4 M. C. does not cover known showings of interest and should there be such showings they go naturally with the Cole Group lying to the east. These remarks apply also to the Jim Fr. The Earl No. 4 M. C. was located and has been held because it covers George Lake which, it was thought, might at some time be required for water supply. However, George Lake is a relatively shallow, swampy lake and should a protracted severe cold spell be experienced it might freeze to the bottom. It does not, therefore, provide a reliable source of water for an established operation. For development work on a moderate scale, the run-off from George Lake by Wrinch Creek, following what is known as the Canyon, above the workings, provides an ample supply of water. Should a greater supply of water at any time be required it would be safer to pump from Owen Lake.

The camp is located on the Earl No. 1 where the company owns surface rights. The portal of what is at present the main tunnel is also located on the Earl No. 1.

All claims except those mentioned above (which are shown on the general plan accompanying this report) have been allowed to lapse. In 1941 an option was taken on the Cole Group and an examination made during 1941. This option was dropped in 1943 due to conditions of the agreement requiring an expenditure which was considered not justified at that time.

The country covered by the claims is rolling grass land, with patches of timber consisting of Poplar, Jack Pine and some Spruce. There is a fairly good supply of saw mill timber on the claims and an ample supply for underground purposes. However, the local timber does not have very good lasting properties and should permanent works be constructed it would be advisable to use Fir for, at least, key timbers.

Maximum relief on the property is about 700 feet from the level of Owen Lake.

The property was acquired in 1941 by leasing crown granted claims from the Provincial Government and by staking open ground as well as optioning the Cole Group which option, as stated, has now been dropped. The reasons for acquiring the property were, the favourable opinion which the writer had formed during an earlier operation with which he was associated, the fact that the claims could in 1941 be obtained for a nominal cost, and, probably most important of all, it was felt that the property supplied a base for prospecting operations in the area between the property and the Coast Range Contact, bounded on the south by the Sibola Mountains and on the north by Copper River.

During the earlier operation a very limited amount of prospecting was done in this area by prospectors working for the Owen Lake Management and some interesting gold-copper samples were brought in. From that time to date there has been practically no prospecting done in this area nor has this property been used as a prospecting base by Canadian Exploration Ltd.

9.  
Section 3

TRANSPORTATION

The property is reached by a road 30 miles in length from the Canadian National Railway at Houston, B. C.

The first 14 miles of this road is a fair truck road providing good travelling in dry weather but somewhat greasy when wet. This road extends 14 miles from Houston to a logging operation located on Morice River.

The south 15 or 16 miles of the road were at one time in fair shape for trucking but have now been allowed to deteriorate until this section cannot be considered suitable for trucks. With an expenditure of approximately \$3,000.00 on gravelling certain sections and replacing culverts a very fair caterpillar tractor road would be made. A tractor for use on this road should be not heavier than a D4, otherwise more expense would be required in the construction of one, or possibly two, bridges heavier than those now in existence. The present bridges would require some stiffening to carry a D4 with trailer. With this expenditure, and suitable equipment, such as a D4 cat with rubber tired trailer, low slung and with somewhat large wheels to reduce road friction, one round trip per day between Fourteen Mile and the property could be made with a 1-1/2 ton load.

It is not possible without surveys to estimate the cost of a truck road between Fourteen Mile and the mine as a suitable truck road would require relocation in at least two places along the Morice River, where troublesome mud slides occur each spring.

As a matter of fact, were a truck road for a substantial operation required, it is probable that practically 10 miles of the present road should be relocated, staying away from the Morice River Valley and joining the present road somewhere near the west end of Owen Lake. This is the approximate route of an old winter road which was in use before the present road was constructed.

An alternative route would be Burns Lake to Francois Lake thence from Colleymount or Nadina to the property. This is the old route into the property, over which plant and equipment was hauled. This May Dr. F. C. Buckland put an expedition over the Owen Lake road. His equipment consisted of a large heavy cat, light truck and a jeep. Dr. Buckland's intention was to use this route to reach the old Emerald Mine on Sweeney Mountain. Due to slides on the road his plans were changed and he has now decided to use the route via Burns Lake to Nadina thence across-country into the Sibola Mountains. This is a longer route and, should an operation of any magnitude develop in the Sibola Mountains, the ultimate route will, in all probability, be via Owen Lake and a relocated road from Owen Lake to the logging camp at Fourteen Mile thence by the present truck road to the railroad.

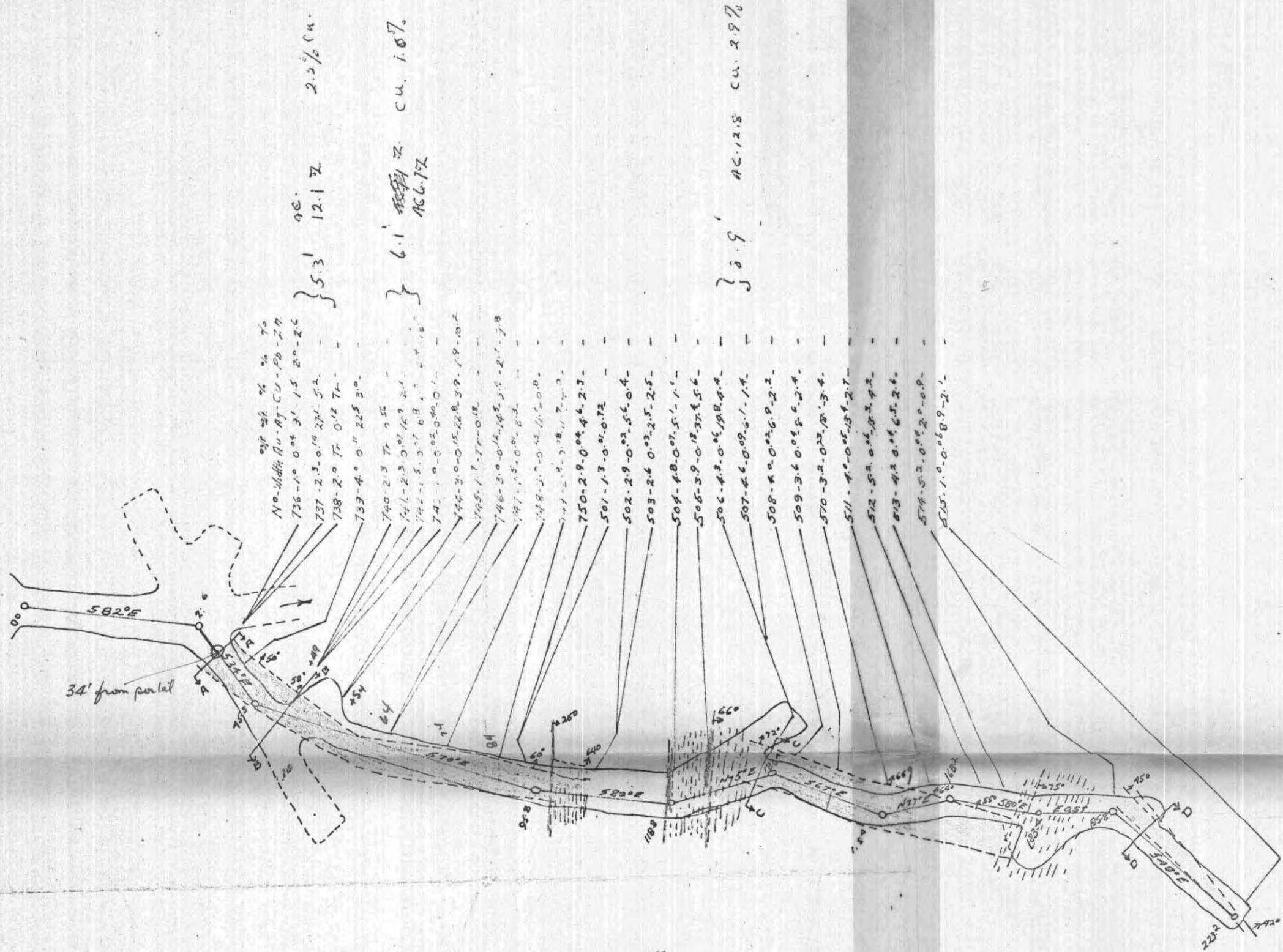
Best hauling conditions exist during the summer when the road is relatively dry, namely, the second half of June, July, August and the first half of September and when the road is frozen.

BUILDINGS AND EQUIPMENT

Buildings on the property at present consist of a cookhouse adequate to accommodate about 20 men. There was at one time a corresponding bunkhouse but this has been burned down as also has a small office building. In addition to the cookhouse there is a cabin which would accommodate 4 men, or could be used as an office, and a small dry which would provide accommodation for about 6 men. There are also stables and a blacksmith shop. Another cabin nearby, which is the property of the company, has been used for a number of years by an Indian who traps in the area during the winter and keeps an eye on the company's buildings. There are at present no other inhabitants nearer than the logging camp at Fourteen Mile.

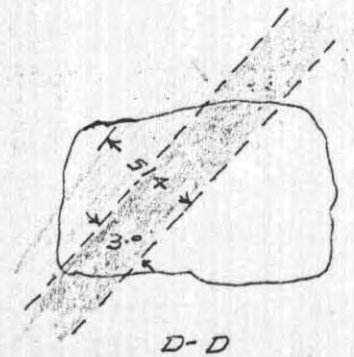
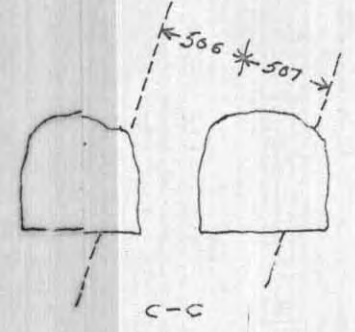
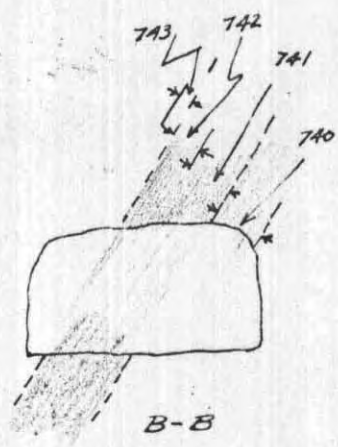
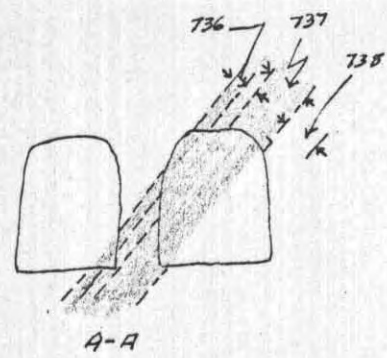
Equipment at the property consists of one Fairbanks-Morse Model 1B7, serial No. 76.305123, 2-1/2 HP at 1800 RPM, air-cooled gas engine manufactured by D. W. Onan & Sons, Minneapolis for Fairbanks-Morse. This engine by 2-V drive belts operates a size 6 fan, Model MH, serial No. 64535, manufactured by Canadian Armature Works, Montreal. The engine and fan are stored in the cookhouse.

In the blacksmith shop are 4 cars salvaged from the tunnel and one ore car which was purchased for the purpose of clearing out the tunnel. The salvaged cars are badly rusted and scaled but are in good working condition. In addition

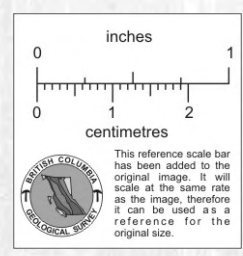


Station	Bearing	Distance	Notes
736	1° 0' 31"	15'	2.5% Cu
737	2° 3' 0"	24'	
738	2° 0' 14"	24'	
739	4° 0' 22"	30'	
740	2° 3' 0"	35'	
741	2° 3' 0"	43'	
742	5° 3' 0"	49'	
743	1° 0' 0"	50'	
744	3° 0' 15"	59'	
745	1° 7' 0"	61'	6.1% Cu, 1.07%
746	3° 0' 12"	64'	
747	1° 5' 0"	65'	
748	2° 0' 0"	68'	
749	2° 3' 0"	71'	
750	2° 9' 0"	74'	
501	1° 3' 0"	75'	
502	2° 9' 0"	76'	
503	2° 6' 0"	78'	
504	4° 8' 0"	81'	
505	3° 9' 0"	83'	
506	4° 3' 0"	85'	
507	4° 6' 0"	87'	
508	4° 0' 0"	89'	
509	3° 6' 0"	91'	
510	3° 2' 0"	93'	
511	1° 0' 0"	95'	
512	5° 2' 0"	97'	
513	4° 2' 0"	99'	
514	5° 2' 0"	101'	
515	1° 0' 0"	103'	

38.9' AC. 2.8 CU. 2.9%



- Fault
- Gouge
- Vein



CANADIAN EXPLORATION  
 WRINCH TUNNEL  
 OWEN LAKE  
 HOUSTON, B.C.  
 Examined - Oct/41  
 Scale - 20ft = 1 in.

to the above are small tools, pickaxes, shovels, etc. which, with boarding house dishes and 6 folding cots, are stored in several large cases in the cookhouse.

There is rail and pipe in all underground workings. The rail is serviceable for use in the workings, but, as it is somewhat badly pitted, it would not pay to take it out and ship. These remarks apply also to the 2" and 1" pipe in the workings and to a receiver which is in place in the crosscut tunnel at about 1200 feet from the portal.

When we visited the property the camp was in good shape and no tools and equipment or supplies had been removed. There was a small cave at the portal of the tunnel but otherwise the tunnel was in very fair shape. Many of the timbers however are now very punky and would require replacement for safe operation.



Section 5

PORTAL VEINS

These veins are fully described, with geological sketches and sampling, in the 1941 report. As a matter of general interest we append list of assays abstracted from report by the writer dated April 20, 1929. This list does not record samples taken by the writer but is a record of <sup>mine</sup> routine/sampling done while the drifts were being driven.

	Distance from Xcut	Width of Sample	Ag Ozs.	Au Ozs.	Zn%	Pb%	Cu%
No. 1 Drift N.E.	At X cut	Specimen	103.0	----	----	----	----
" " "	" " "	3' 0	9.5	.04	13.0	2.3	0.2
" " "	" " "	Galena	67.9	.08	16.7	29.2	----
" " "	" " "	4' 0	4.8	.04	18.5	1.8	0.1
	----	4' 0	24.5	.22	10.6	0.4	0.3
	13	5' 0	0.8	.02	10.9	1.4	0.2
	20	7' 0	16.6	.02	3.5	0.2	2.0
	8	5' 5	7.0	.08	21.5	0.3	1.0
	14	5' 5	31.6	.28	8.0	0.2	2.5
	19	5' 5	15.0	.07	3.0	0.2	0.8
	21	7' 0	22.5	.08	13.7	0.2	0.2
	21	1' 0	181.9	1.15	2.5	0.1	16.5
	21	5' 0	22.2	.12	11.0	2.8	5.0
	22	8' 0	3.0	.04	3.2	1.9	0.2
	25	7' 0	1.6	Tr	2.5	0.6	0.5
	30	6' 5	3.4	.03	1.4	0.2	1.2
	30	7' 0	18.5	.08	7.5	2.0	0.5
	35	6' 0	6.6	.02	3.0	0.4	0.7
	35	4' 5	13.6	.04	1.0	0.3	0.5
	35	2' 0	81.1	.24	3.5	0.5	9.5
	35	5' 0	2.0	.02	1.0	0.1	0.2
Test hole 6'	38	6' 0	0.1	Tr	0.5	0.1	----
	42	3' 5	0.1	Nil	2.6	0.1	----
	--	2' 0	56.4	.16	6.1	0.4	2.0
	--	0' 5	187.0	.57	0.7	0.2	14.0
	52	2' 0	21.7	.06	0.7	0.2	3.0
Test hole 6'	52	6' 0	0.2	Tr	3.2	0.2	----
Test hole 5' (126)	--	5' 0	0.08	Nil	0.5	0.2	----
	56	1' 0	19.5	.07	1.0	0.2	2.8
	66	1' 5	19.5	.05	4.2	0.1	----

	<u>Distance</u>	<u>Width of</u>	<u>Ag Ozs.</u>	<u>Au Ozs</u>	<u>Zn%</u>	<u>Pb%</u>	<u>Cu%</u>
		<u>Sample</u>					
No. 1 Drift S. W.	10'	5' 0	1.0	.02	1.5	0.2	0.1
	12'	4' 0	5.2	.06	15.8	6.6	0.2
	19'	5' 5	25.3	.07	10.2	1.0	2.7
No. 2 Drift N. E.	18'	4' 0	5.8	.02	3.0	0.2	0.2
	18'	2' 0	0.8	.01	1.7	0.1	0.1
	18'	5' 0	2.0	.01	3.0	0.1	0.5
	18'	2' 0	5.4	.14	5.5	1.5	2.0
	20'	5' 5	3.0	.01	5.4	0.1	0.5
	20'	5' 0	2.3	Tr	3.0	0.2	0.2
	22'	6' 0	2.0	.03	2.5	0.1	0.1
	24'	5' 0	0.2	Nil	6.0	0.2	0.2
Test hole 5'	25'	5' 0	53.8	.37	9.3	0.5	1.0
	28'	5' 5	0.8	.02	12.5	0.3	0.2
	30'	3' 0	1.6	.02	13.0	0.2	---
	35'	4' 0	1.4	.01	13.5	0.2	---
Test hole 4'	33'	4' 0	0.2	Nil	0.3	Nil	---
Test hole 7'	33'	7' 0	0.2	Tr	1.5	0.1	---
	42'	2' 0	0.1	Nil	3.1	0.2	---
Test hole 6'	40'	6' 0	0.2	Tr	9.0	0.1	---
	46'	2' 0	3.2	.04	1.0	0.2	---
	--	4"	4.1	Tr	6.2	0.3	0.4
	62'	2' 0	1.8	.04	15.5	0.4	---
	65'	4' 0	1.4	.04	20.5	1.0	---
(127)	64'	3' 5	2.2	.02	6.2	2.5	---
No. 2 Drift S. W.	12'	5' 0	23.5	.13	4.8	1.0	1.0
	15'	5' 0	7.6	.02	5.4	0.2	1.5
	--	2' 0	1.8	.02	10.0	0.2	---
No. 3 Drift N. E.	13'	5' 0	4.8	.03	3.3	2.0	0.5
	32'	3' 5	0.1	Tr	6.0	0.2	---
	--	16"	1.0	Tr	11.0	0.1	---
(125)	32'	4' 0	0.12	Tr	0.4	Tr	---
No. 4 Drift N.E. at Xcut		14"	7.0	.05	2.5	0.4	0.5
" "		2' 5	0.2	Nil	3.2	0.2	0.1
" "		3' 0	Tr	Nil	0.9	Tr	---
" "		8'	2' 0	0.1	Tr	3.5	0.2
		16"	1.0	Tr	1.2	0.1	---
		10'	1.0	Tr	1.0	0.1	---
No. 4 Drift N. E. (124)	15'	16"	1.4	Tr	5.1	0.1	---
No. 5 Drift N.E. at Xcut		2' 0	0.1	Tr	1.5	0.2	---
" "		3"	5.4	.02	17.6	0.9	---
(112)	" "	6"	9.6	.02	---	0.2	---
" "	8'	6"	2.1	.02	0.7	0.5	0.8
(123)	12'	10"	0.6	Tr	0.6	0.1	---

When this old work was being done there was some general prospecting on the surface above these drifts. Nothing definite was exposed but there were indications of other veins, or continuations of the Portal Veins, beyond the areas explored underground.

Section 6MACKAY VEIN

The MacKay Vein was opened up in 1947. Indications of the presence of the vein were noted at a point near the middle of the Tyee Mineral Claim and the MacKay vein is mentioned in the 1941 report as a possible continuation of the Wrinch Vein in the Canyon. The vein has now been opened up for a length of about 300 feet. The positions of samples are shown by Sketch No. 1

At the west end the vein has a strike of north 75 west, and there is, therefore, reason to suppose that this vein is the easterly continuation of the Wrinch Vein. Going east, however, the vein gradually swings to the south until at the most easterly exposure it has a strike of almost due north-south. Were the vein exposed only in the east end and west end it might be assumed that there were two veins, one of the north-south system and the other of north-west system but the vein has been shown to occur on the curve joining two such tangents. Therefore, from present exposures we must consider the cuts as on one vein and there is, at this time, nothing to suggest that an east-west vein continues east of the more westerly cuts or that a north-south vein continues north from the most south-easterly cuts. The vein is similar in character to all the other veins on the property as far as can be judged from examination of cuts. Where the vein is exposed in these cuts it is so very badly leached that it is difficult to be sure of the mineralization

but there is nothing to suggest that it differs in any marked degree from the other veins exposed on the property. The dip averages about 60° to the north-east. If the Wrinch and MacKay are the same vein it may be considered to have a horizontal extent in excess of 1600 feet. However, our experience on this property suggests the great danger of trying to project these veins beyond exposed limits and the writer can consider that the MacKay is an extension of the Wrinch only as a supposition.

It is reported in the 1941 report that the Wrinch-MacKay Vein was cut by the Earl crosscut tunnel. As will be seen from our description of the tunnel there is no vein exposed there which could be considered the Wrinch Vein based on projection. This matter is considered further in our description of the tunnel. The MacKay Vein, as exposed, is a good strong vein showing good continuity and in view of the very badly leached condition of the material sampled, values are of some interest. The relatively low gold values suggest lack of residual enrichment and I think that, considering the samples, the leaching that has taken place is an important consideration. This remark applies to all samples taken on the surface on this property.

After opening up the MacKay Vein it was assumed to be a continuation of the Wrinch and cuts on the Wrinch Vein west of the Canyon were cleaned out and sampled. The Wrinch Vein

occurs in two cuts, west of the Canyon, one on the west edge of the Canyon and the other about 300 feet further west. There is a cut in between the two in which the vein is not exposed. Samples Nos. 962 and 963 were taken by the foreman from the cut on the west edge of the Canyon. Sample No. 964 was taken from the third cut about 300 feet west. All these samples show copper mineralization and copper mineralization also occurs in the tunnel on this vein on the east side of the Canyon as reported in the 1941 report. Some chalcopyrite was observed in cuts on the MacKay Vein but the material sampled was so badly leached that copper, if at one time present, would have been leached out.

Section 7MAE VEINS

The Mae Veins must be considered in connection with the showing on which the old Chisholm shaft was sunk from which two cars of reportedly good grade ore were shipped about 1915. This section was not covered by the 1941 report and since then two other veins have been exposed, approximately parallel to the Chisholm Vein.

The Chisholm shaft is now badly caved and its depth is unknown. Judging from the dump we should expect it to be about 40 feet in depth. No vein can now be seen due to caving and filling but a vein is exposed in a cut about 70 feet south-east of the shaft (and in an intermediate cut) so it is safe to assume that this is the vein on which the shaft was sunk and which has been named the Mae No. 1 Vein. The dump and shaft show two types of mineralization, the usual lead-zinc mineralization characteristic of all these veins and also a heavy pyritic material containing some arsenopyrite but no lead or zinc. This appears to be a replacement of country and replacement of country rock on a similar scale is not noted in any other of the cuts on these veins. We have not been able to find out which type of material was shipped. Assays of both types of material are reported in the list of samples. In the cuts south-east from the shaft the vein material appears to be similar to the other veins but is, as usual, so badly leached it is very difficult to

determine just what the original mineralization was. In most cases in the cuts in this section only galena is left in recognizable form with occasionally some zinc. Positions of samples is shown on Sketch No. 2.

As shown on the sketch, three veins have been opened up, each of which is over a length of about 100 feet. No. 1 Vein is the most northerly. No. 2 is south of No. 1 and No. 3 is about 60 feet south of No. 2. Strikes are similar but not exactly the same but, considering the short lengths over which these veins are exposed, they may be considered parallel veins. There are apparently three parallel veins but these may be the result of the faulting of one vein though there is nothing on the surface to indicate such faulting. The veins occur in two ridges, a depression separating No. 1 Vein from Nos. 2 and 3. North of No. 1 there is a depression and south of No. 3 is a depression where there is deep overburden which has not been prospected. Both east and west all veins run under heavy overburden. All veins over the distance prospected show good continuity and similar dips, namely, 45 to 65 degrees north-east.

About 300 feet east of the Mae workings is a heavy deposit of Wad. Judging from the topography it seems unlikely that this material has been derived from the Mae Veins, having been carried down by a small stream originating some little distance north-east from the Mae showings. It is of interest only in suggesting the occurrence of other veins north-east of

the Chisholm showings. All the veins carry rhodochrosite as gangue material and manganese stain is one of the most characteristic features guiding prospecting in this area. While this staining is of great help in prospecting all vein outcrops are so heavily stained that it makes it much more difficult to judge the original characteristics of the vein material.



EARL CROSSCUT TUNNEL

The position of the Earl crosscut tunnel is shown on the property map accompanying this report. This is the map prepared in 1941 on which the writer has marked the approximate locations of later work.

The Earl Crosscut portal is on the Earl No. 1 Mineral Claim and the crosscut has been driven a total length of slightly under 3,000 feet. The first 2200 feet are in a direction approximately north 57 east where the direction changes to approximately due north. The work was well done in the tunnel and the tunnel is on line all the way with a fairly uniform grade. But, as might be expected from construction work done ahead of prospecting and investigation of the deposit, it adds very little to our knowledge. With the exception of the portal veins, which were discovered by driving the tunnel, there is no showing in the tunnel which can be correlated with any known surface exposure and there is no known showing on the surface which can be correlated with any exposure in the tunnel.

One of the most interesting points to determine is whether or not the Wrinch-MacKay Vein was intersected by the tunnel. Projecting the Wrinch-MacKay Vein down from the surface at a dip of approximately 60° north it should be encountered in the tunnel at about 2500 to 2600 feet from the portal. At or near this point there is no indication of any vein in the tunnel. There are other veins in the tunnel, as will be noted below, which

may be a continuation of the Wrinch-MacKay but if so they have been displaced substantial distances by faulting. As there is definitely a great deal of complicated faulting shown in the tunnel this may very easily have been the case. However, it may be stated definitely that there is no exposure in the tunnel which may confidently be considered the downward continuation of either the Wrinch or the MacKay.

Excluding the Portal Veins, which are described in the 1941 report, the first vein encountered in the tunnel is at about 958 feet. These workings are shown by our Sketch No. 3.

The drift has been driven north-westerly for a distance of about 80 feet and a short oblique drift driven easterly which also intersects the vein at a distance of about 20 feet. This east drift was made into a sump. These drifts are driven on a well defined shear striking north 65 west with a dip vertical to slightly south. Very little mineralization shows and only one sample was taken in the face of the west drift. In the face the surface is less broken and looks more like a vein than the rest of the drift. The dip is vertical or slightly south whereas the characteristic dip for veins in this area is around 60 to 70 degrees to the north.

The next vein encountered in the tunnel is at about 1215 feet from the portal where a drift has been driven west slightly over 100 feet and east about 150 feet. Positions of samples are shown by Sketches 4A and 4B. These workings follow

what appears to be a strong fault fissure striking north 50 east and dipping vertically to slightly south. Some vein gangue appears in the fissure but no visible sulphides. The drift west is in very loose caving ground and is in unsafe condition. The east drift is in less loose ground and the vein, or fault, is well defined. Samples Nos. 85 and 86 were taken from the east and west faces respectively but the rest of the vein was not sampled as it may safely be considered to be without values. At the east end the vein is entering much more solid ground. In the east face there is about two feet of silicified material in the hanging of a heavy gangue slip. This silicified material is more like vein material than any other exposed in the tunnel.

From 1250 feet to 1528 feet there is nothing of interest to report.

At 1528 feet a well defined fissure was encountered and workings driven north-westerly a total distance of about 240 feet. There is also a stub drift to the east as shown by Sketch No. 5.

The west drift follows continuously a well defined vein fissure which is fairly well mineralized. The strike is approximately north 30 west and dip about 70° to the north. At about 100 feet from the crosscut a narrow zinc stringer was encountered in the north-east side of the tunnel striking due north-south with a dip 80° to the east. This stringer is of little or no economic interest.

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About 55 feet back from the west face the drift encounters a porphyry dyke striking north 20° east and dipping about 50° to the north-west. This dyke is approximately 15 feet in thickness. After passing through the dyke the drift swings into a crosscut south-west and the vein is again picked up and followed a distance of about 30 feet to the face. North-west of the dyke the fissure is narrower and has a very definite strike north 05° west with a dip of about 76° to the north-east.

The positions of samples are shown on Sketch No. 5. The east drift also exposes the vein fissure which is similar in character to that exposed in the drift north-west.

From the 1528 drifts to the change of direction at 2200 feet the crosscut is in fairly good ground. There are a number of slips and minor faults but between 1528 feet and 2655 feet there is nothing of interest to note except two major faults, one at about 2200 feet, striking north 30° west and dipping 40° south-east. The other is at about 2280 feet striking north 20° east and dipping 60° north-west. Between 1528 feet and 2655 feet there is nothing that looks like a vein exposed in the tunnel and, as the ground is fairly good for this total distance, it appears extremely unlikely that a vein could be crosscut without recognition.

At about 2655 feet from the portal a strong well mineralized vein about 10 or 11 feet in width is exposed (see Sketch No. 6). This vein is well defined, striking north 45° west

and dipping 65 to 75° north-east. This vein was well exposed in a drift west about 100 feet in length. The drift east is in loose broken country and no vein is to be seen. There are so many slips and breaks cutting off the vein at this section that no definite fault can be noted so it is not possible to determine the strike and dip of movements destroying the vein at this section. As will be noted from the sketch, a block of ore occurs on the east side of the main crosscut, our sample No. 68. This is merely a block which appears to have been picked up in the broken ground but on the west side of the crosscut the vein is well exposed and it is very definite with strong walls. As will be seen from the sketch, had the crosscut been located its own width to the east this vein would have been passed without recognition. It is probably this occurrence which lead to the report that the Wrinch-MacKay Vein had been encountered in the tunnel. This showing may, of course, be the Wrinch-MacKay Vein but it is nowhere near the position which projection from the surface would suggest. The mineralization is similar to the Wrinch-MacKay except that there is less chalcopyrite and the strike and dip also are similar to the Wrinch-MacKay Vein.

After passing through this vein the crosscut almost immediately encounters very loose ground which continues for 100 feet or so to a short drift at 2750 feet. This drift is driven on a fissure striking north 87 west. There is no

mineralization in the drift but there is slight mineralization, which appears of little or no economic interest, in the east wall of the crosscut. From this short drift to the face the crosscut passes through about 30 feet of broken, loose ground and then enters good solid ground which continues to the face at slightly under 3,000 feet from the portal.

While we were working in the tunnel the air was not good but there was nothing to cause any serious trouble or discomfort. The fan was in operation during our examination but it has little or no effect past the bend in the tunnel. The ventilation pipe ends at 1800 feet from the portal and with the size fan in use there would be no object in continuing it further.

In examining this tunnel the main danger is falls of ground, as much of the country is very loose and original timbers placed in the tunnel are now in unsafe condition.

Section 9

LIST AND DESCRIPTION OF SAMPLES

Section 6 - MacKay Vein - See Sketch No. 1

Sample No. 63 - across 3-1/2 ft. - leached and oxidized vein at the most south-easterly exposure.

Au	.02 oz.	Ag	1.7 oz.
Pb	0.2%	Zn	2.1%

The strike of the outcrop at this point is approximately true north. No visible sulphides occur in the pit which is not deep enough to reach fresh material.

Sample No. 64 - not representative of any measured width but is a sample of chunks of vein material somewhat fresher than the showing in the pit. This sample taken 30 feet north of Sample No. 63.

Au	.04 oz.	Ag	8.3
Pb	5.4%	Zn	10.1%
Cu	Tr		

Sample No. 65 - fairly fresh material from north-west side of cut.

Au	.03 oz.	Ag	5.4 oz.
Pb	1.5%	Zn	11%

At this point the vein is of its usual width - 4 to 5 ft.

Sample No. 66 - 24" streak from the vein which at this point has a full width of from 6 to 7 ft. Due to oxidation and leaching of the vein as a whole the exact walls are not determinable but at this section there is some undissolved lead and zinc and chalcopyrite also was observed. The dump material shows some chunks of very nice chalcopyrite ore.

Au	.02 oz.	Ag	9.1 oz.
Pb	4.4%	Zn	17.1%
Cu	Tr		

A trace of copper is not representative of fresh vein. Where the sample was taken most of the copper had been leached out but this section of the vein appears originally to have carried pretty fair copper values.

Sample No. 67 - sample taken at the most north-westerly cut where the vein has a strike of approximately north 60 west, which is the normal strike for these veins in this section, with a dip of approximately 70° north. Projecting this section of the vein westerly suggests the likelihood of it being a continuation of the Wrinch Vein. Width - 3-1/2 ft.

Au	.02 oz.	Ag	6.4 oz.
Pb	3.7%	Zn	9.3%

Highly leached and altered country rock and vein material.

The following samples were taken by the foreman when these pits were opened up:

Sample No. 960 - width - 4 ft.

Au	.10 oz.	Ag	3.8 oz.
Pb	2.6%	Zn	6.7%

Sample No. 961 - width - 3.8 ft.

Au	.13 oz.	Ag	9.1 oz.
Pb	3.2%	Zn	13.2%

These samples were taken from the most south-easterly exposure on the vein.

Sample No. 959 - taken at the same place as our sample No. 64.

Width - 4 ft.

Au	.11 oz.	Ag	4.2 oz.
Pb	2.7%	Zn	7.4%

Sample No. 958 - taken from the same cut as our sample No. 65.

Width - not reported - about 4 ft.

Au	.14	Ag	5.1 oz.
Pb	Tr	Zn	9.4%



Sample No. 957 - taken from a cut about half way between our samples Nos. 65 and 66. This cut is now caved and was not cleaned out and sampled by the writer. Width - 5 ft.

Au	.08 oz.	Ag	5.1 oz.
Pb	Tr	Zn	7.9%

Sample No. 956 - taken from the same cut as our sample No. 66

Au	.10 oz.	Ag	4.5 oz.
Pb	Tr	Zn	4.4%

The width was not reported but the foreman informed me on the ground that the sample was taken across the full width of the vein - 4 or 5 ft.

Sample No. 955 - taken from the same cut as our sample No. 67

Width - 6.5 ft.	Au	.07 oz.	Ag	2.4 oz.
	Pb	Tr	Zn	5.6%

From the above samples it is impossible to determine any average values and it is not known what changes have been effected by leaching and oxidation. There is definitely no residual enrichment of gold as gold values are too low to suggest this. What changes have been made in the silver values, the writer cannot state. There definitely has been much of the zinc and lead removed but it will be noted that several samples show lack of lead with zinc values present. It is to be expected that there would be more zinc removed than lead as lead is the most insoluble constituent of the vein material. It is suggested therefore that where lead values are lacking and zinc values persist, the samples were taken at points where lead was low in the original veins before alteration.

After opening up the section of the MacKay Veins described above, two cuts on the Wrinch Vein west of the Canyon were cleaned out and sampled. These cuts were not check-sampled by the writer.

Sample No. 962 - across 43" from the foot wall of the Wrinch Vein to about the centre of the vein where vein exposed in pit on west edge of the Canyon.

Au	.04 oz.	Ag	7.0 oz.
Cu	4.9%	Pb and Zn	- not assayed.

Sample No. 963 - across 36" from the centre of the vein to the hanging wall - same pit.

Au	.02 oz.	Ag	14.1 oz.
Cu	1.8%	Pb and Zn	- not assayed.

Sample No. 964 - across 3-1/2 ft. width from the third cut on the Wrinch Vein about 300 feet west of the west edge of the Canyon, that is about 300 ft. west of samples Nos. 962/3.

Au	.02 oz.	Ag	12.2
Cu	3.8%	Pb and Zn	- not assayed

These samples show continuation of the chalcopyrite section of the Wrinch Vein west of the Canyon. Copper was observable in the Wrinch Tunnel east of the Canyon and copper also occurs in the MacKay Vein near the most westerly exposure. Thus, if the Wrinch and the MacKay Veins are the same vein then there would appear to be good possibilities for the occurrence of chalcopyrite over a substantial distance in this vein, namely, from 300 feet west of the west side of the Canyon to some point east of the most westerly exposure on the MacKay Vein. The copper mineralization occurs in an easterly direction at least as far as sample No. 66 or, probably, sample No. 65. Whether or not copper occurs south-east from No. 65 is not determinable.

Section 7 - Mae Veins - See Sketch No. 2

The Chisholm shaft is old work and no vein is to be seen at the present time due to caving.

Sample No. 51 - is representative lead-zinc ore picked up from the dump.

Au	.04 oz.	Ag	21.4 oz.
Pb	5.4%	Zn	22.8%

Nothing is known about the width of the vein from which this material was broken but the vein is probably similar at the shaft to the exposure in the cut about 70 feet south-east from which our sample No. 53 was obtained.

In addition to the lead-zinc ore on the dump there is heavy pyritic material which appears to be pyritized country rock (andesite or andesitic tuff). How much of this material there is is unknown as there is no exposure from which the quantity can be determined.

Au	.04 oz.	Ag	15.2 oz.
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It is to be noted that this material does not carry appreciable gold values as might be expected but does carry silver values. As this is the material in which gold might be expected were gold present in any quantity, it seems fairly safe to assume that gold is lacking, or virtually lacking, in these veins and that appreciable values must be expected only in silver, lead and zinc. Gold values would show in concentrates but it may be considered that crude ore would not average more than \$1.00 or \$1.50 per ton - probably not more than \$1.00.

At no other points on these veins was heavy pyritization noticeable nor was arsenopyrite noted anywhere except at the Chisholm shaft and even there the presence of arsenopyrite was not definitely determined.

Sample No. 53 - taken from cut about 80 feet south-east of the Chisholm shaft. This is the most south-easterly exposure on the vein which, going south-east, runs under heavy overburden. Width - 4 ft.

Au .04 oz. Ag 25.4 oz.

As the material was completely leached, no lead and zinc was observable and the sample was not assayed for lead and zinc.

The above samples were from what we have named Mae No. 1 Vein. The strike of the vein is about north 35 west with a dip of about 45 or 50° north-east. Mae No. 2 Vein has a strike approximately parallel to No. 1 and a similar dip. It occurs in the second ridge about 100 feet south-west of the No. 1 Vein.

Sample No. 54 - from the most south-easterly exposure on No. 2 Vein. In this cut fresh galena shows in streaks and in chunks. This sample was selected galena which assayed:

Au .04 oz. Ag 90.9 oz.  
Pb 58.4%

This sample confirms lack of appreciable gold values in the galena.

Sample No. 55 - width - 3 ft. - from the north-west side of the cut from which sample No. 54 was selected. This material was badly leached and oxidized, but the sample did show some fresh galena.

Au	.12 oz.	Ag	39.0 oz.
Pb	14.4%	Zn	5.3%

Slightly higher gold values will be noted in this sample but this might be due to some residual enrichment and may be neglected.

Sample No. 56 - from cut about 60 feet north-west of samples Nos. 54/55. Width - 36" horizontally across a vein dipping 45° north-west - 22" in width at right angles to the dip.

Au	.04 oz.	Ag	4.5 oz.
Pb	1.5%	Zn	2.1%

This sample shows the reduction in silver, lead and zinc values compared with the fresher material in other samples.

Sample No. 57 - from the most westerly exposure on the Mae No. 2 Vein. Width - 3 ft. - Oxidized material.

Au	.12 oz.	Ag	23.9 oz.
Pb	11.8%	Zn	Tr

From this sample the zinc has apparently been almost completely dissolved. Lead values are fair and silver values are good which suggests that removal of zinc did not result in great reduction in silver values suggesting the association of the silver principally with the galena.

Mae No. 3 Vein is about 60 feet south-west of No. 2 and is in the same ridge.

Sample No. 58 - from the most south-easterly exposure on No. 3. The sample included a substantial percentage of country rock and in this cut, at any rate, No. 3 Vein does not appear to be <sup>as</sup> solid as No. 2.

Width - 3 ft.

Au	.02 oz.	Ag	1.8 oz.
Pb	Tr	Zn	2.5%

Sample No. 59 - from cut about 50 feet north-west from sample No. 58.

Au	.03 oz.	Ag	10.7 oz.
Pb	3.4%	Zn	12.6%

The material sampled was similar to that of Sample No. 58.

A substantial percentage of altered country rock was included but some fresh galena was noted in sample No. 59.

Samples Nos. 60 and 61 - are from cut approximately 20 feet north-west from sample No. 59.

Sample No. 60 - width - 6 ft.

Au	.02 oz.	Ag	2.3 oz.
Pb	1.1%	Zn	5.9%

Sample No. 61 - across 24" streak very heavily manganese stained showing no visible sulphides from the south-east side of the cut opposite sample No. 60.

Au	.05 oz.	Ag	9.1 oz.
Pb	2.3%	Zn	5.7%

Assays show lead and zinc was not completely removed but the material sampled was so heavily manganese stained that they could not be seen in the material sampled.

Sample No. 62 - from the most north-westerly exposure on Mae No. 3 Vein. Width - 3 ft.

Au	.03 oz.	Ag	4.9 oz.
Pb	2.7%	Zn	6.6%

Assay results show lower values in Vein No. 3 and the present appearance of the vein suggests a lower percentage of sulphides than occur in No. 2 Vein. However, both veins in the cuts are so badly altered and leached that it is very difficult to determine original characteristics from present exposures.

At both the south-east and north-west ends of Veins Nos. 2 and 3 they run under heavy overburden and have not been prospected beyond exposures described. South-west of No. 3 Vein is a depression similar to the depression separating Nos. 1 and 2 Veins then south of this depression is another ridge which has not been prospected to date. There is always the possibility that these apparently three veins may be faulted sections of the same vein but, as stated elsewhere, we noted nothing to suggest that this is the case.

#### Section 8 - Earl Crosscut Tunnel

958 Drift - See Sketch No. 3

Sample No. 27 - from north-west face - width - 6 ft.

Au      Tr                                      Ag      Tr

This working has already been described and no ore of economic interest occurs in the drift.

1215 Drift West - See Sketch No. 4A

As described elsewhere, this drift is on a well defined fault with no observable ore.

Sample No. 86

Au Tr

Ag .4 oz.

1215 Drift East - See Sketch 4B

This east drift follows the same fault as the drift west. The strike is not exactly the same but undoubtedly both east and west drifts are on the same fissure.

Sample No. 85 - across 18" silicified streak in the hanging of heavy fault gauge.

Au 0.01 oz.

Ag 0.8 oz.

1528 Drift North-West - See Sketch No. 5

Sample No. 75 - across 20" in the face of stub drift south-east.

Au .02 oz.

Ag 1.0 oz.

Pb Tr

Zn 2.9%

Cu 0.2%

At sample No. 75 there is a well defined slip and some ore is left on the north-east corner of the drift-crosscut intersection from which sample No. 76 was obtained.

Sample No. 76 - across 24" of ore left on corner

Au .02 oz.

Ag 6.3 oz.

Pb 2.2%

Zn 2.1%

Cu 1.4%

The 24" width is the width of ore left and not a vein width.

Sample No. 77 - from the north-west corner of the drift-crosscut intersection. Width of sample, but not of vein - 20".

Au .16 oz.

Ag 27.4 oz.

Pb Tr

Zn 1.6%

Cu 2.7%



This sample illustrates the occurrence of fairly good silver values with only a trace of lead but it will be noted the sample assayed 2.7% copper which probably accounts for the better silver values. The few samples we obtained on this trip and many samples taken from the old operation suggest that the silver associated with the copper is of greater importance than the gold. We do not remember any cases of very high gold values, even with copper, but we do remember a number of cases of very high silver values associated with copper.

Sample No. 78 - across 24" - in back of drift - about 45 ft. from the crosscut.

Au	.01 oz.	Ag	2.0 oz.
Pb	0.3%	Zn	0.2%
Cu	0.8%		

with nearly 1% copper, higher silver values might have been expected.

Sample No. 79 - across 23" - from back of drift - about 20 ft. north-west of No. 78.

Au	.02 oz.	Ag	4.4 oz.
Pb	0.3%	Zn	0.2%
Cu	0.9%		

Sample No. 82 - across 26" between the streak of sample No. 79 and the foot wall. Altered country showing only very slight mineralization.

Au	Tr	Ag	Tr
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Sample No. 83 - across 44" - 50 ft. from samples Nos. 79 and 82.

Au	Tr	Ag	1.0 oz.
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Sample No. 84 - taken across back of drift from wall to wall - 8 ft. in width. Most of the sample only altered country with no visible sulphides but includes 14" of slightly mineralized material.

Au	Tr	Ag	0.8 oz.
Pb	Tr	Zn	Tr

About 25 feet north-west from sample No. 84 the porphyry dyke is encountered and after passing through the dyke the drift swings into a crosscut and the vein is picked up again at point shown on sketch.

Sample No. 81 - across 24" of altered country with very sparse mineralization - face of 1528 drift north.

Au	.01 oz.	Ag	.4 oz.
Pb and Zn not assayed.			

It will be noted that this fissure has neither strike nor dip characteristic of the veins as a whole.

2655 Drift - See Sketch No. 6

This showing is the most interesting of any showings north of the portal veins as the drift west exposes a strong vein about 11 feet in width, fairly well mineralized. The walls are well defined and strike and dip are characteristic of the veins exposed on the surface.

The vein is well defined in the west drift but the east is in badly broken country and no ore although there is a block of ore on the east side of the crosscut which does not show in the drift.

Sample No. 68 - from block of ore on the east side of the crosscut - width - 46"

Zu	.02 oz.	Ag	6.4 oz.
Pb	Tr	Zn	11.9%
Cu	1.4%		

While values are not economic, the occurrence of copper is interesting to note.

On the west side of the crosscut, opposite sample No. 68, the vein shows up clearly and is well defined with strong walls.

Sample No. 69 - across 36" 0 ft. to 36" from H. W. of vein.

Au	.04 oz.	Ag	0.8 oz.
Pb	Tr	Zn	11.6%
Cu	0.2%		

Sample No. 70 - continuation of sample No. 69 to foot wall - width 6 ft.

Au	0.2 oz.	Ag	0.6 oz.
Pb	Tr	Zn	8%
Cu	Tr		

The north-west corner of the drift-crosscut intersection is not mineralized but is in the vein.

Sample No. 71 - taken along the side of the drift along a length of 4.5 ft.

Au	.02 oz.	Ag	6.0 oz.
Pb	5.7%	Zn	10.9%
Cu	Tr		

Sample No. 72 - continuation of sample No. 71 - along a length of 5 ft.

Au	0.2 oz.	Ag	1.4 oz.
Pb	Tr	Zn	6.5%
Cu	0.1%		

Sample No. 73 - from face of drift - sparsely mineralized - width - 6 ft.

Au	.02 oz.	Ag	2.6 oz.
Pb	2.3%	Zn	6.6%
Cu	0.1%		

Sample No. 74 - from south-west side of the drift along a length of 6 ft. 0 to 6 ft. from foot wall - slightly mineralized.

Au	.02 oz.	Ag	4.2 oz.
Pb	5.7%	Zn	12.3%
Cu	0.1%		

By reference to the sketch it will be noted that samples Nos. 71, 72, 73 and 74 combined give a section across the vein but do not have equal weight per foot of lineal length and, therefore, no average value across the vein can be determined. The samples must be considered as individual samples and cannot be combined for an average.

The following samples were taken by the foreman when the tunnel was cleaned out:

Sample No. 393 - same width and location as our sample No. 68

Au	.16 oz.	Ag	7.5 oz.
Pb and Cu	- not assayed	Zn	11.9%

Sample No. 394 - same width and location as our sample No. 69

Au	.14 oz.	Ag	0.6 oz.
Pb, Zn and Cu	- not assayed		

Sample No. 395 - same width and location as our Sample No. 70

Au	.06 oz.	Ag	1.0 oz.
Pb and Cu	- not assayed	Zn	6.0%

Sample No. 396 - same length and location as our sample No. 71

Au .02 oz. Ag 4.0 oz.  
Pb, Zn and Cu - not assayed.

Sample No. 397 was also taken but we have not the particulars of it. It assayed .02 Au and .06 Ag. From what information we can gather it was taken in the fault gouge near the hanging wall of the vein.

There is no known vein on the surface which, by projection, may be considered the same vein as this one exposed in the tunnel at 2655 ft. from the portal.

FILE NO. 7811  
 CABLE ADDRESS: "ELDRICO"  
 HEAD OFFICE AND LABORATORIES:  
 567 HORNBY STREET  
 VANCOUVER, B. C.  
 PHONE TATLOW 1267

# Certificate of Assay

## G. S. ELDRIDGE & CO. LTD.

G. S. ELDRIDGE, B.Sc.  
 MEMBER OF  
 CHEMICAL INSTITUTE OF CANADA  
 CANADIAN INSTITUTE OF MINING AND  
 METALLURGY  
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 AMERICAN CHEMICAL SOCIETY  
 AMERICAN SOCIETY OF METALS

PROVINCIAL ASSAYERS, ANALYTICAL AND CONSULTING CHEMISTS  
 METALLURGICAL AND CEMENT INSPECTORS

We hereby Certify that the following are the results of assays made by us upon samples of ore  
 herein described and received from Messrs. Canadian Exploration Ltd. June 30, 1949.

MARKED NO.	GOLD		SILVER		LEAD		ZINC		COPPER		TOTAL VALUE PER TON (2000 LBS.)
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	VALUE PER TON	PER CENT.	VALUE PER TON	PER CENT.	VALUE PER TON	Per cent	VALUE PER TON	
51 E	0.04	\$ 1.40	21.4	\$	5.4	\$	22.8	\$			\$
52	0.04	1.40	15.2								
53	0.04	1.40	25.4								
54	0.04	1.40	90.9		58.4						
55	0.12	4.20	39.0		14.4		5.3				
56	0.04	1.40	4.5		1.5		2.1				
57	0.12	4.20	23.9		11.8		Trace				
58	0.02	0.70	1.8		Trace		2.5				
59	0.03	1.05	10.7		3.4		12.6				
60	0.02	0.70	2.3		1.1		5.9				
61	0.05	1.75	9.1		2.3		5.7				
62	0.03	1.05	4.9		2.7		6.6				
63	0.02	0.70	1.7		0.2		2.1				
64	0.04	1.40	8.3		5.4		10.1		Trace		
65	0.03	1.05	5.4		1.5		11.0		Trace		
66	0.02	0.70	9.1		4.4		17.1		Trace		
67	0.04	1.40	6.4		3.7		9.3				
68	0.02	0.70	6.4		Trace		11.9		1.4		
69	0.04	1.40	0.8		Trace		11.6		0.2		

Gold calculated at \$ 35.00 per ounce.

Calculated at \_\_\_\_\_ cents per lb.

Silver calculated at \_\_\_\_\_ per ounce.

Calculated at \_\_\_\_\_ cents per lb.

NOTE.—Samples only retained 3 months unless otherwise specified.

*G. S. Eldridge* Provincial Assayer

FILE No. 7811 (2)

CABLE ADDRESS: "ELDRICO"

HEAD OFFICE AND LABORATORIES:  
567 HORNBY STREET  
VANCOUVER, B. C.

PHONE TATLOW 1267

# Certificate of Assay

## G. S. ELDRIDGE & CO. LTD.

PROVINCIAL ASSAYERS, ANALYTICAL AND CONSULTING CHEMISTS  
METALLURGICAL AND CEMENT INSPECTORS

G. S. ELDRIDGE, B.Sc.  
MEMBER OF  
CHEMICAL INSTITUTE OF CANADA  
CANADIAN INSTITUTE OF MINING AND  
METALLURGY  
AMERICAN SOCIETY FOR TESTING  
MATERIALS  
AMERICAN CHEMICAL SOCIETY  
AMERICAN SOCIETY OF METALS

We Herby Certify that the following are the results of assays made by us upon samples of ore  
herein described and received from Messrs. Canadian Exploration Ltd. June 30, 1949.

MARKED NO.	GOLD		SILVER		LEAD		ZINC		COPPER		TOTAL VALUE PER TON (2000 LBS.)
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	VALUE PER TON	PER CENT.	VALUE PER TON	PER CENT.	VALUE PER TON	Per Cent	VALUE PER TON	
70 E	0.02	\$ 0.70	0.6	\$	Trace	\$	8.0	\$	Trace		\$
71	0.02	0.70	6.0		5.7		10.9		Trace		
72	0.02	0.70	1.4		Trace		6.5		0.1		
73	0.02	0.70	2.6		2.3		6.6		0.1		
74	0.02	0.70	4.2		5.7		12.3		0.1		
75	0.02	0.70	1.0		Trace		2.9		0.2		
76	0.02	0.70	6.3		2.2		2.1		1.4		
77	0.16	5.60	27.4		Trace		1.6		2.7		
78	0.01	0.35	2.0		0.3		0.2		0.8		
79	0.02	0.70	4.4		0.3		0.2		0.9		
80	0.01	0.35	6.7		0.3		1.6		0.4		
81	0.01	0.35	0.4								
82	Trace		Trace								
83	Trace		1.0								
84	Trace		0.8		Trace		Trace				
85	0.01	0.35	0.8								
86	Trace		0.4								
87	Trace		Trace								

Gold calculated at \$ 35.00 per ounce.

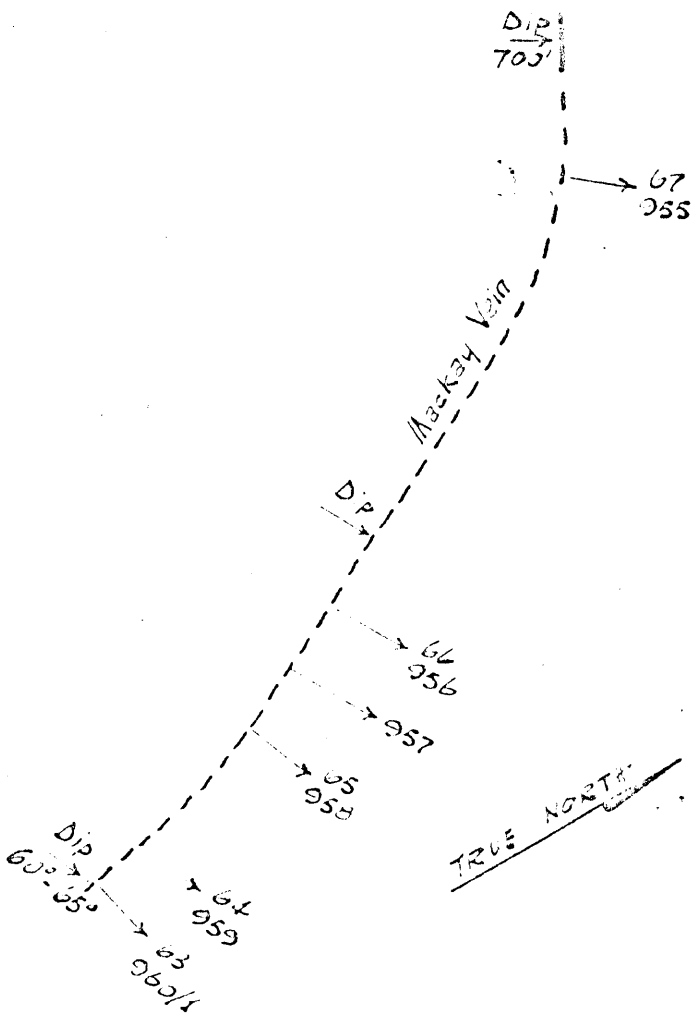
Calculated at \_\_\_\_\_ cents per lb.

Silver calculated at \_\_\_\_\_ per ounce.

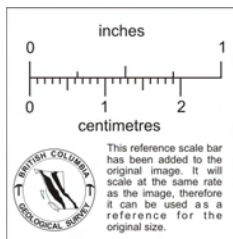
Calculated at \_\_\_\_\_ cents per lb.

NOTE.—Samples only retained 3 months unless otherwise specified.

*G. S. Eldridge* Provincial Assayer

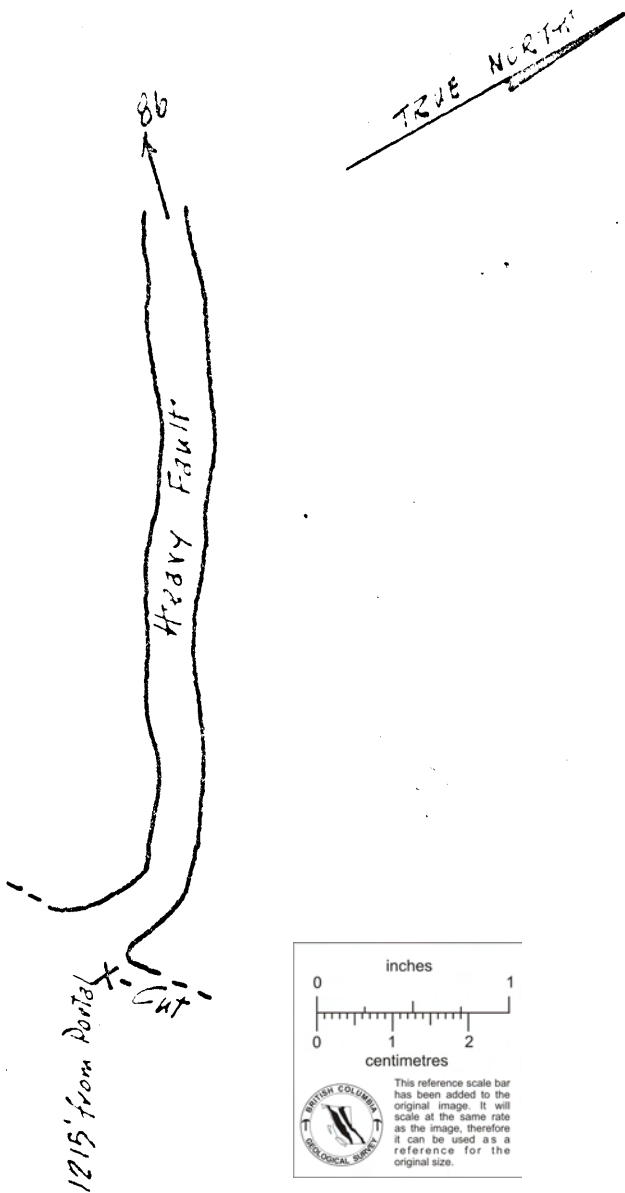


⊙ NE CORNER  
I. X. L. M. C.



SKETCH ~ MACKAY VEIN  
Scale ~ 100 ft : 1"

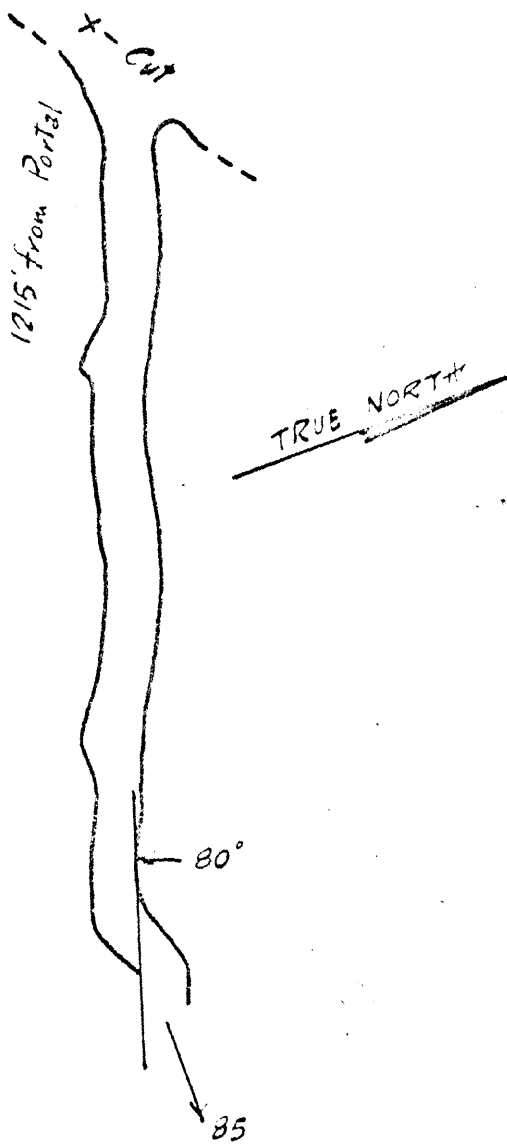




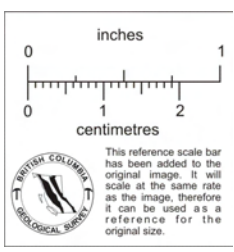
SKETCH ~ 1215 DRIFT. W.  
 Scale ~ 30ft : 1"

4A

Owan Lake Resort 30.6.29.



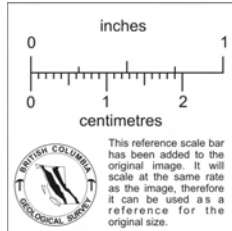
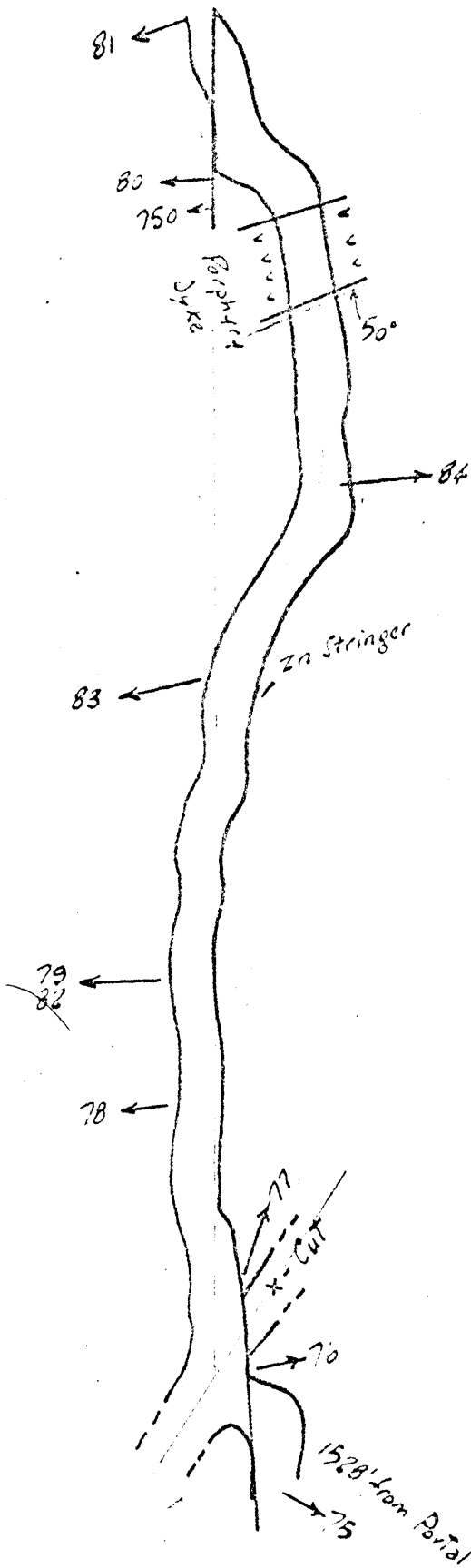
SKETCH - 1215 DRIFT. E  
 Scale ~ 30ft = 1"



(48)

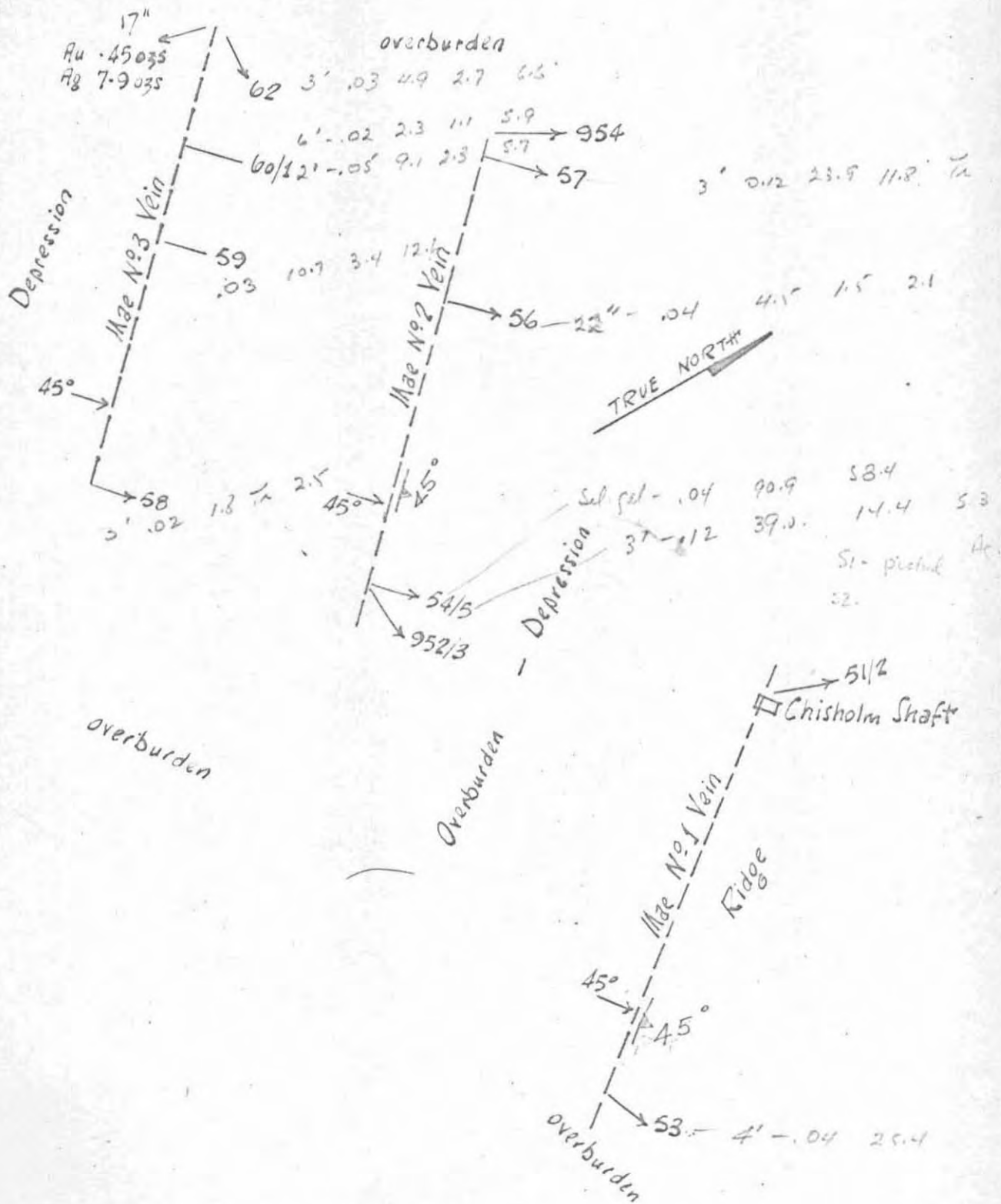
Queen Lake Summit 3.7 in. 1.0

TRUE NORTH



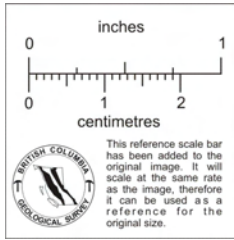
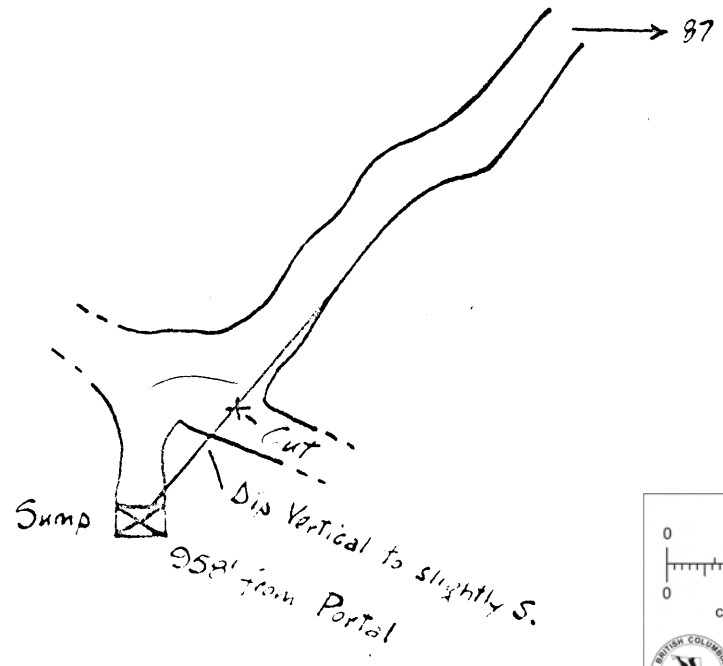
SKETCH ~ 1528 DRIFT  
Scale ~ 30ft : 1"

5

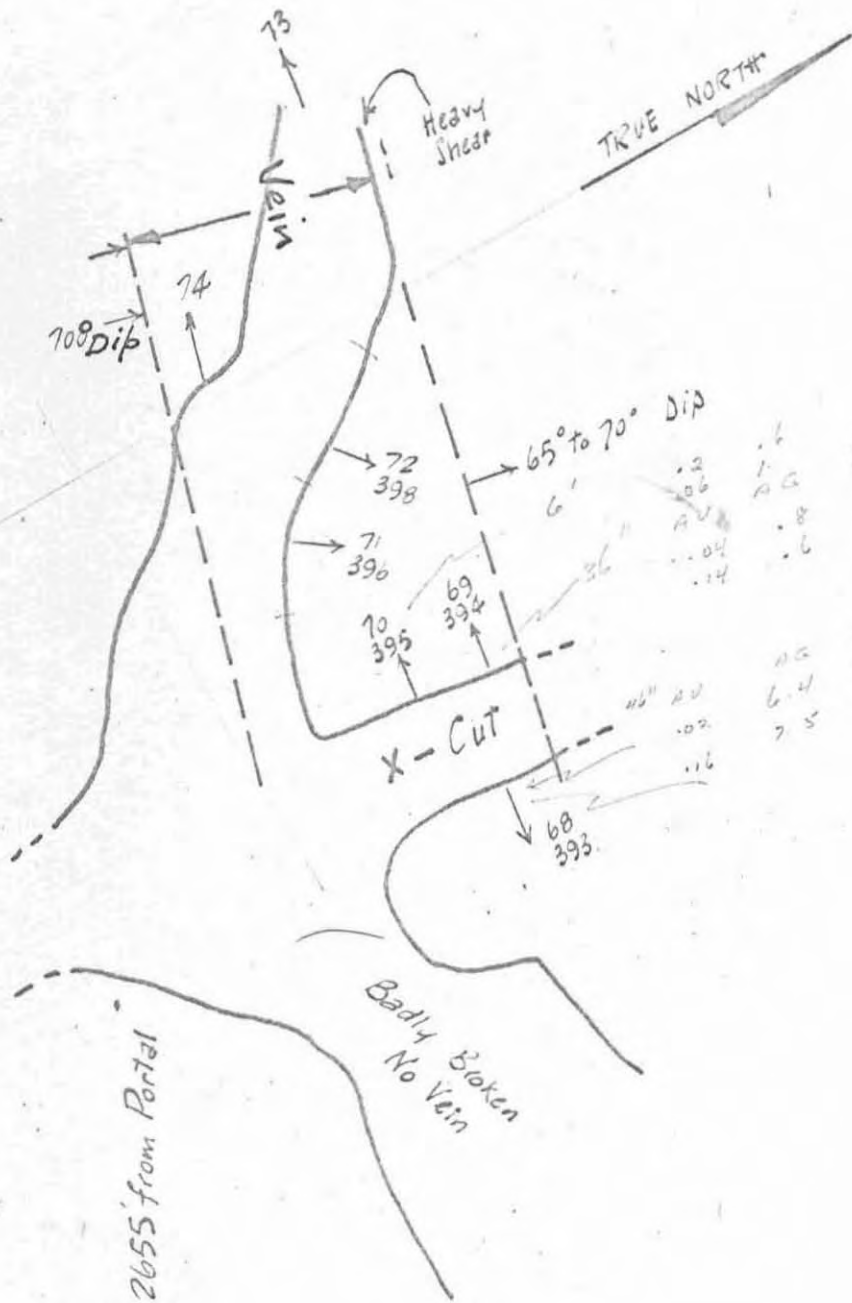


SKETCH ~ MAE VEINS  
 Scale ~ 30ft = 1"

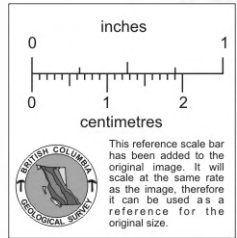
TRIE ~~TRIE~~



SKETCH ~ 958 DRIFT  
Scale ~ 30ft : 1"



72 ZN CU  
 TR 11.6 .2  
 NA .6  
 AG .2  
 AV .06  
 .04  
 .14  
 .8  
 .6  
 72 ZN CU  
 TR 11.9 1.4  
 NA 11.9 NA  
 NA 6.4  
 TR 7.5



SKETCH ~ 2655 DRIFT  
 Scale ~ 10ft : 1"

(6)