

T. E. ARNOLD

REGISTERED PROFESSIONAL ENGINEER

861873
Received Feb 12/87

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January 30, 1987.

Mr. R. Terry Heard,
818 Clements Avenue,
North Vancouver, B. C. V7R - 2K7

Dear Terry: Massive and Disseminated Sulphides on J&L.

I may be wrong about the disseminated sulphide carrying considerable zinc? No doubt Fegg would be able to tell you almost immediately, or with very little work?

I took three representative samples of the massive sulphide taken at the Creek Level tunnel; the old J&L Tunnel, and further to the south along old drift. The width of sulphide was approximately the same at all three locations, so figured the average should be reasonably close to what the Massive averaged, at least in the old workings. Unless the vein changes materially in the new workings one should be able to assume that average is in the ball park. It is as follows:

<u>Creek Level</u>	Au Oz	Ag oz	As %	Pb %	Zn %
	0.30	2.80	7.91	4.0	6.94
<u>J&L Tunnel</u>	0.37	5.70	9.39	7.25	13.85
<u>#2 Shaft Area</u>	0.36	6.73	7.28	9.18	15.68
	1.03	15.23	24.58	20.48	36.47
	Divide by 3 to get average				
Massive Sulphide Average	0.34	5.1	8.19	6.84	12.16

Your Average of Disseminated and Massive sulphide.

0.14 1.22 3.55 1.46 2.95

Assume Massive one-third of total Tonnage gives Massive Sulphide: (Assuming nothing in Disseminated Fraction)

0.42 3.66 10.65 4.38 8.85

This indicated the Disseminated Sulphide carries:

Gold (0.34 to 0.42) As above average.

Arsenic (8.19 to 10.65) As above average.

This indicates the Disseminated ores carry some auriferous Arsenopyrite, but virtually nothing else

R. T. Heard,
J&L Massive &
Disseminated Sulphides

-- 2 --

Jan 30/87

On the other hand there appears to be little silver, lead and zinc in the Disseminated Material, if any.

Silver (5.1 against 3.66) Too much in Massive Average

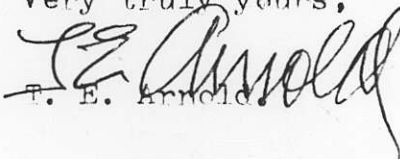
Lead (6.84 against 4.38) Too Much in Massive Average.

Zinc (12.16 against 8.85 Too Much in Massive Average.

The above analysis indicates that if the ores from latest work are similar to those in old workings the Disseminated Sulphide contains ARSENOPYRITE AND SOME GOLD, but VIRTUALLY NO SILVER, LEAD AND ZINC.

I would like to clarify this matter soon as possible.

Very truly yours,


E. E. Arnold

LAKEFIELD RESEARCH OF CANADA LIMITED
LAKEFIELD, ONTARIO
CANADA

Certificate of Analysis

Date: December 1, 1970

Received: November 10, 1970

From:

Creek Tunnel

Our Reference No. 7019368

Sample submitted to us show results as follows:

Invoice No. 9066

*Creek Tunnel Tunnel
Samples full width of tunnel
mixed. Submitted to M. Scobie*

Sample Number	% Cu	% Zn	% Pb	% As	% WO ₃	% Sb
JL No. 1	0.08	7.06	5.17	8.39	0.007	0.033
JL No. 2	0.03	4.09	2.25	6.81	0.007	0.023
JL No. 3	0.06	9.72	1.84	12.07	0.007	0.033
JL No. 4	0.07	6.29	4.06	5.26	0.003	0.061
JL No. 5	0.18	6.97	4.84	4.01	0.008	0.115
JL No. 6	0.03	0.10	0.07	0.25	0.008	0.005
JL No. 7	0.10	11.24	1.49	17.18	0.008	0.025
JL No. 8	0.18	10.66	9.79	1.32	0.006	0.071
JL No. 9	0.13	4.67	1.93	22.23	0.013	0.043
JL No. 10	0.19	8.56	8.52	1.58	0.006	0.124

Sample Number	Au oz/ton	Ag oz/ton
JL No. 1	0.320	2.86
JL No. 2	0.350	1.21
JL No. 3	0.290	1.33
JL No. 4	0.160	2.84
JL No. 5	0.160	3.99
JL No. 6	0.005	0.07
JL No. 7	0.480	0.88
JL No. 8	0.110	6.65
JL No. 9	0.890	2.11
JL No. 10	0.230	6.11

To: Mr. S. Sisco (2)

SIGNED

A.G. Scobie

A.G. Scobie, P. Eng.

Analysis and Assaying • Mineral Processing Research • Pilot Plant Investigations

Arithmetic Average

Cu-----0.110%

As-----7.910%

Zn-----6.936%

WO₃-----0.0078%

Pb-----3.996%

Au-----0.2995 Oz/T

Sb-----0.0553%

Ag-----2.8050 Oz/T

FILE No. 21793

CABLE ADDRESS: "ELDRICO"
 HEAD OFFICE AND LABORATORIES:
 633 HORNBY STREET
 VANCOUVER 1, 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 Hereby Certify that the following are the results of assays made by us upon samples of ORE

herein described and received from Old Tunnel Workings (Mr. T. E. Arnold) March 2, 1957

Massive Sulphide
 Old Tunnel

MARKED	GOLD		SILVER		LEAD		ZINC		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	
16502	0.40	14.00	6.7		5.30		13.20	Iron-----	18.55%
16503	0.32	11.20	7.5		6.60		13.05	Arsenic-----	9.39%
16504	0.32	11.20	5.0		8.45		13.30	Insoluble-----	16.85%
16505	0.32	11.20	5.7		8.05		15.05	Sulphur-----	28.80%
16506	0.32	11.20	5.3		8.65		13.70	Copper-----	0.20%
16507	0.28	9.80	6.2		7.05		12.10	Cadmium-----	0.07%
16508	0.32	11.20	6.0		8.90		15.20	Antimony-----	0.10%
16509	0.44	15.40	5.6		6.70		14.95	Bismuth-----	Large Trace
16510	0.44	15.40	4.9		7.05		13.10	Tungsten-----	" "
16511	0.36	12.60	5.2		6.95		14.65	Tin-----	" "
16512	0.36	12.60	5.0		6.15		15.20		
16513	0.44	15.40	4.9		6.45		13.15		
16514	0.48	16.80	5.6		7.00		13.45		
Massive Sulphides ONLY. Mine grade one-half of above Samples taken 20 feet apart.									
ARITHMETIC AVERAGE	0.37		5.7		7.25		13.85		

3M-MP

Gold calculated at \$ 35.00 per ounce.
 Silver calculated at _____ per ounce.

Calculated at _____ cents per lb.
 Calculated at _____ cents per lb.

NOTE.—Samples only retained 3 months unless otherwise specified

R. H. McIntosh

Provincial Assayer

For Testing

August 23rd, 1963
Swastika, Ont.,

SWASTIKA LABORATORIES LIMITED

Certificate of Analysis

No. 35390

We have assayed one samples of ore
Received Aug. 14th, 1963 and submitted by T. E. Arnold, Esq., P. O. Box 362,
PLAINFIELD, NEW JERSEY, with the following results:

Sample Number - Not Indicated.

*Representative ore from tunnel
Fresh primary ore (massive sulphide)*

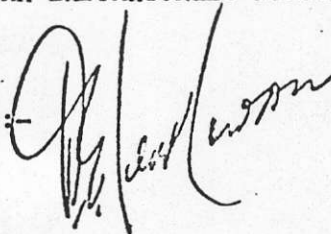
GOLD PER TON	SILVER PER TON	COPPER	LEAD	ZINC	IRON	ARSENIC	INSOLUBLE
Ozs. Value @ \$35.00	Ozs.	%	%	%	%	%	%
0.36 \$12.60	6.73	0.31	9.18	15.68	22.64	7.28	14.22

NOTE:-

The whole sample, weighing 67 pounds, was crushed and rolled to pass a ten mesh screen, and a portion representing one eighth of it (about eight pounds) was cut from it using a Jones riffle. This portion was ground to pass forty mesh, and cut into two parts with the Jones riffle. Each part was further reduced by riffing until it represented one eighth of the original eighth, or about one pound. Each of these pound fractions was pulverized for assay, forming Pulp A and Pulp B. Pulp A and Pulp B were each assayed for gold and silver, and gave identical results, indicating that the sampling procedure was adequate for the type of ore involved.

SWASTIKA LABORATORIES LIMITED,

Per:-



Swastika, Ont., October 11, 1940.

SWASTIKA LABORATORIES LIMITED

Certificate of Analysis

No. 35390-A

We have assayed _____ samples of _____

Received _____ and submitted by T. E. Arnold, Esq.

_____ with the following results:

Sample No.	Cadmium %	Sulphur %
Bulk Sample	0.10	27.10

SWASTIKA LABORATORIES LIMITED,

per: *S. C. ...*