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Received Feb 12/87

T. E. ARNOLD
REGISTERED PROFESSIONAL ENGINEER

446 Roosevelt Avenue,
OAKHURST, N. J. 07755
(201) 531-2426

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 wreng about the disseminated sulphide carrying considerable zinc? No doubt Pegg would be able to tell you almost immeciately, 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:

	Au Oz	Ag oz	As %	Pb %	Zn %
Creek Level	0.30	2.80	7.91	4.0	6.94
J&L Tunnel	0.37	5.70	9.39	7.25	13.85
#2 Shaft Area	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 Sulphid: (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

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 Sulpside 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,

T. E. Arnold

PHONE: 652-3341 P.O. BOX 430

LAKEFIELD RESEARCH OF CANADA LIMITED

LAKEFIELD, ONTARIO

CANADA

Certificate of Analysis

Date: December 1, 1970

Received: November 10, 1970

Our Reference No. 7019368

Invoice No. 9066

From:

Creek Tunnel

Samples submitted to us show results as follows:

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	0.008	0.081
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. Siscoe (2)

SIGNED A.G. Scobie

MANAGER

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%

WO_3----0.0078%

Pb------3.996%

Au--------0.2995 Oz/T

Sb------0.0553%

Ag--------2.8050 Oz/T

Creek Level Tunnel

Samples full width of tunnel

mixed: disseminated & massive

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* O R E

herein described and received from Old Tunnel Workings. (Mr.T.F.Arnold) March 2, 19 57

Massive Sulphide
Old [illegible] Tunnel

MARKED	GOLD Ounces per ton	GOLD Value per ton	SILVER Ounces per ton	SILVER Value per ton	LEAD Per cent.	LEAD Value per ton	ZINC Per cent.	ZINC Value per ton		Value per ton	TOTAL VALUE Per ton (2000 lbs.)
		$		$		$		$		$	$
16502	0.40	14.00	6.7		6.30		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				
ARITHMETIC AVERAGE	0·37		5·7		7·25		13·85				

Massive Sulphides ONLY.
Mine grade one-half of above

Samples taken 20 feet apart.

3M-MP

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 R. H. McIntosh *Provincial Assayer*

Ore Testing

WM. GERRIE. M.A.
D. KERR-LAWSON. B.A. PH.D.

TELEPHONE 306
P.O. DRAWER 10

Swastika, Ont., August 23rd, 1963 19

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 Ozs.	Value @ $35.00	SILVER PER TON Ozs.	COPPER %	LEAD %	ZINC %	IRON %	ARSENIC %	INSOLUBLE %
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 riffling 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:- W. Kerr Lawson

WM. GERRIE, M.A.
D. KERR-LAWSON, B.A. PH.D.

TELEPHONE 306
P.O. DRAWER 10

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: [illegible]