

GEOCHEMICAL AND GEOLOGICAL REPORT

- ON THE -

KENTUCKY CLAIM (L-2121)
GREENWOOD MINING DIVISION
BRITISH COLUMBIA

- FOR -

BARRIER REEF RESOURCES LTD.,
#904-675 WEST HASTINGS STREET,
VANCOUVER, B. C. V6B 1N2.

COVERING: KENTUCKY MINERAL CLAIM (L-2121)

WORK PERFORMED: NOVEMBER 25 & 26, 1979.

LOCATION: (1). $49^{\circ} 10.7'N$; $119^{\circ} 01'W$.
(2). NTS MAP 82 E/3E.
(3). 3.2 KM. WNW OF WESTBRIDGE, B. C.

PREPARED BY

KERR, DAWSON & ASSOCIATES LTD.

1 - 219 Victoria Street

Kamloops, B.C.

W. Gruenwald, B. Sc.,

December 21, 1979.

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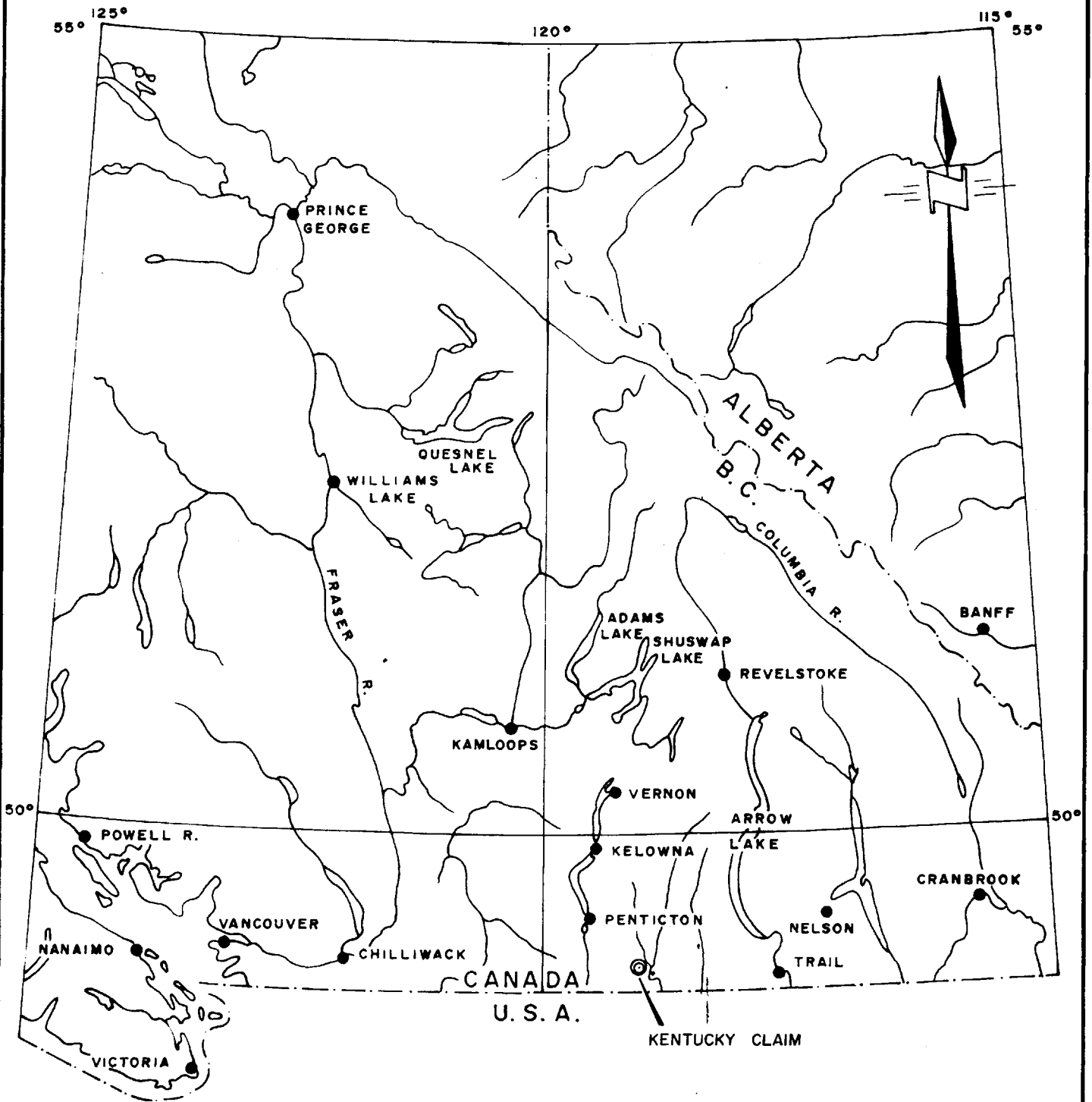
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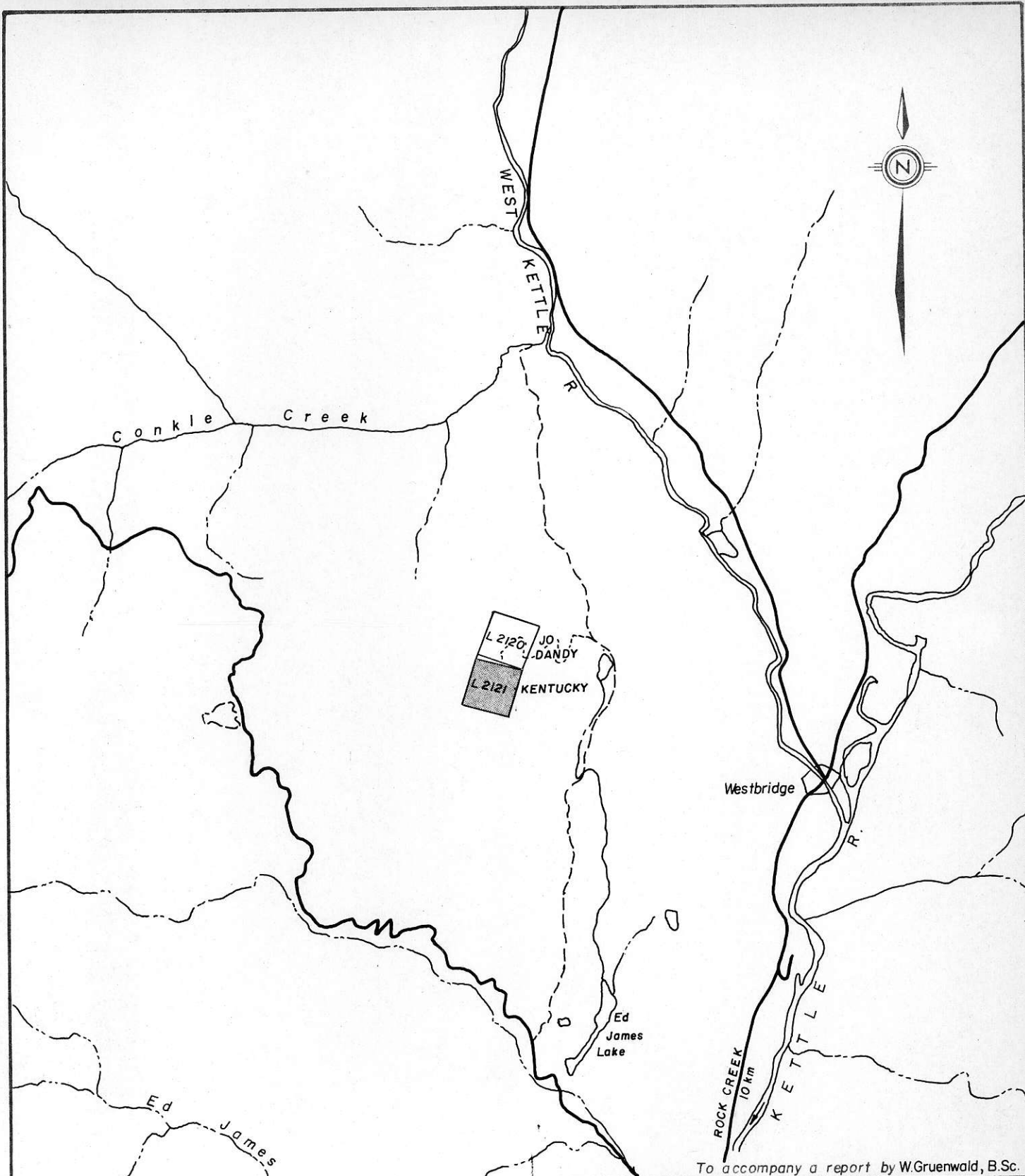


BARRIER REEF RESOURCES LTD.	
LOCATION MAP	
KENTUCKY CLAIM	
GREENWOOD MINING DIVISION, B.C.	
Date: DEC. 1979	Scale: 1" = 64 Miles
Dwn by: W.G.	Dwg no. 156-1

INTRODUCTION

During the period November 25 & 26, 1979, the writer assisted by M. Dawson, carried out a programme of geochemical sampling and geological mapping on the Kentucky claim (L-2121) and part of the Jo Dandy claim (L-2120).

The claims cover an area of metasedimentary and metavolcanic rocks that contain several small occurrences of lead and zinc mineralization. This programme was carried out to determine whether conditions exist that may indicate the presence of more extensive and unexposed mineralization (ie. volcanogenic massive sulphide type mineralization) within the Kentucky claim. The results of the above surveys are described in this report and the appended maps.



To accompany a report by W.Gruenwald, B.Sc.

BARRIER REEF RESOURCES LTD.	
INDEX MAP	
KENTUCKY CLAIM	
GREENWOOD MINING DIVISION, B.C.	
Tech. Work By: Kerr, Dawson & Assoc. Ltd.	Scale: 1:50,000
Drawn By: W.G.	Date: Dec. 1979.
Approved By: J.M.Dawson, P.Eng.	Fig No. 156-2

N.T.S. NO.
82 E/3E

LOCATION AND ACCESS

The Kentucky claim is situated in southern British Columbia approximately 3.2 km. west northwest of the village of Westbridge, B. C. The geographic center of the claim is approximately 49°10.7' North latitude and 119° 01' West Longitude on NTS Map sheet 82 E/3E.

The claim is accessible from Rock Creek along Highway #33 to the Zamora Ranch turnoff at Ed James Creek. From here a series of gravel roads provide access to the main showings on the Jo Dandy claim. The total distance from Rock Creek to the property is approximately 18 kilometers.

PROPERTY

The property consists of one crown granted mineral claim - the Kentucky claim L-2121. The Jo Dandy crown granted claim (L-2120) is situated along the north boundary of the Kentucky claim.

The registered owner of the Kentucky claim is Barrier Reef Resources Ltd.

PHYSIOGRAPHY AND VEGETATION

The property covers the west flank of a small north - south trending valley located immediately west of the confluence of the West Kettle and Kettle Rivers. Topographic relief on the Kentucky claim is approximately 240 meters from the southwest corner (1,128m) to the northeast corner (884m) of the claim. The western portion of the claim is quite steep and traversing was done with difficulty due to the presence of 4-6 cm of snow. No creeks transect the property; however, a small seepage area was found at B/L 1+50S.

Vegetation, primarily coniferous is found throughout the claim with the exception of the seepage area where dense alders and related deciduous undergrowth was found.

HISTORY

The presence of lead and zinc mineralization in this area was indicated in the 1920's and explored by a shaft and three short adits. In 1948 the Granby Mining Company examined the property; however, no additional work was done. Bulldozer trenching was carried out by Canex in 1957 in the area of the adits with no significant mineralization being delineated. The most recent recorded work on the property area was an examination by A. F. Reeve in 1966 for Erin Exploration Ltd.

GEOLOGY

The geology of the property area is described by H. W. Little (1959) as a sequence of Permian meta-sedimentary and volcanic rocks that are intruded by intermediate plutonic rocks of the Nelson and Valhalla intrusions. Mixed sediments and volcanic rocks of Cenozoic age are found throughout the area especially to the west of the property area.

The local stratigraphic sequence is described in detail in a report by A. F. Reeve (1966) as follows: "Several hundreds of feet of white to light gray quartzite is underlain by an intermittent horizon of pink intrusive material described by Fahrni (1948) as a syenite porphyry. This is up to 10m thick and overlies an irregular layer of unaltered intermediate volcanic fragmental and flow rock. Immediately beneath this is a zone of schistose meta-sedimentary and volcanic rocks in which the mineralization is included. Locally the latter horizon is at least 80% covered by overburden."

The majority of the rock types observed by the writer consisted of metavolcanics (often schistose) and minor meta-sedimentary rocks described above.

The mineralized zones for the most part situated in the southern portion of the Jo Dandy claim contain sphalerite, galena, pyrite, and chalcopyrite in order of abundance. Combined lead-zinc values were seldom over 3.0% with silver values generally less than 0.5 oz./ton (Reeve 1966).

The mineralization in the Jo Dandy workings is contained in a stratigraphic sequence of over 30m. The host rock is described by A. F. Reeve (1966) as chloritic metavolcanics containing quartz bands from a few centimeters to a meter or so in thickness. These quartz bands are well fractured and locally brecciated. The sulphide mineralization is found in shear planes in the metavolcanics and in the brecciated quartz.

The adit on the Kentucky claim (L-3S ; 0+70E) was reportedly driven along a 0.6m thick quartz band in platy paragneiss and metavolcanics carrying values of 0.3% Pb and 0.4% Zn. (Fahrni 1948).

The trenches observed on the Jo Dandy claim contained poor rock exposures and those rocks exposed contained no significant mineralization.

GEOCHEMISTRY

Geochemical soil and rock chip sampling was carried out on a flagged grid totalling 2.96 km. A total of 89 soil and 8 rock samples were collected over this grid. Soil sample spacing was 30 m along lines spaced 100 m apart.

The geochemical soil samples were generally collected from the upper "B" horizon (20-25cm) when possible; however, snow cover and frozen ground made sample collection difficult in many places.

The soil samples were placed in Kraft paper envelopes, marked with the appropriate grid co-ordinates, and shipped to the Bondar Clegg and Co. Ltd. laboratory in Vancouver for analysis. Samples were dried and sieved with the -80 mesh fraction being retained. This fine grained fraction was subjected to hot aqua regia extraction and analysed by atomic absorption. The results for lead, zinc, and silver were stated in parts per million (ppm), and plotted on base maps at a scale of 1:2,500 (1 cm= 25m).

A statistical analysis of the geochemical results yielded the following data and geochemical categories for each metal:

	<u>Lead (Pb)ppm</u>	<u>Zinc (Zn) ppm</u>	<u>Silver (Ag) ppm</u>
No. of Sample(s)	84	82	87
Mean (\bar{x})	8.07 ppm	66.44 ppm	0.26ppm
Standard Deviation	10.91	35.66 ppm	0.17ppm
Negative	8.07 ppm	66.4 ppm	0.26ppm
Possibly Anomalous	8.07-18.98	66.4-102.1	0.26-0.43
Probably Anomalous	18.98-29.89	102.1-137.8	0.43-0.60
Definitely Anomalous	> 29.89	> 137.8	> 0.60

The extremely high values for lead, zinc, and silver were omitted from the above calculations to avoid unrealistic geochemical categories.

The geochemical results plotted on Figures 156-4, 5, & 6, are outlined as follows:

(i). Lead: (Figure 156-4):

- vast majority of anomalous values are located on and around the Jo Dandy workings (L-0).
- only one probably anomalous value in the Kentucky claim (L-3S; 0+30W), which is found below a carbonate rich horizon in metasedimentary rocks.
- this particular sample also returned anomalous zinc and silver values.
- the remainder of the Kentucky claim is essentially negative.

(ii) Zinc: (Figure 156-5).

- again the Jo Dandy workings are well outlined.
- scattered possibly to definitely anomalous values in the Kentucky claim probably partially due to zinc's greater mobility.
- a north-south trending area of possibly to definitely anomalous values found in the eastern portion of the Kentucky grid L-2S to L-5S. (east of Kentucky adit).
- no definite correspondence of these north-south trending values to lead or silver values or to any mineralized and/or altered rocks.
- the remainder of the Kentucky claim has scattered anomalous values; however, no pattern or other metal correspondence exists.

(iii). Silver: (Figure 156-6).

- greatest concentration of high values in the Jo Dandy showing area.
- only 4 anomalous values in the Kentucky claim, two of which correspond to samples anomalous in zinc and lead (B/L 3+50S; L-3S; 0+30W).
- these two samples probably reflect the "carbonate horizon" mentioned in the lead category (i) above.

In summary the geochemical survey readily outlined the Jo Dandy mineralized area; however, failed to delineate any such well defined area in the Kentucky claim. The rock geochemistry failed to return any significant metal values for the various rock types tested except for one sample from the mineralized area in the Jo Dandy claim.

SUMMARY AND CONCLUSIONS

- (1). The Kentucky claim (L-2121) consisting of one two post claim is situated in southern British Columbia approximately 3.2 km. west northwest of Westbridge, B. C.

- (2). The local geology is described as a sequence of quartzites underlain by a 10 meter thick horizon of syenite porphyry which is in turn underlain by a layer of unaltered intermediate volcanic rocks. Beneath this layer is a zone of metasedimentary and metavolcanic rocks. Contained in this lower horizon is a 30 meter thick zone of fractured and locally brecciated quartz bands which along with the surrounding sheared metavolcanic contain sphalerite, galena, pyrite and chalcopyrite mineralization. Grades for the known mineralization on both the Jo Dandy and Kentucky claim are considered uneconomic even at present metal prices.

- (3). The geochemical survey readily delineated the known Jo Dandy mineralized zone; however, did not outline any such area in the Kentucky claim.

RECOMMENDATIONS

In light of the lack of any significant geochemical response in the Kentucky claim area, it is felt that little further work can be recommended. A small VLF-EM survey could be conducted on the Kentucky claim if the known mineralized zone gave a definite EM response.

Respectfully Submitted By:

KERR, DAWSON & ASSOCIATES LTD.,



W. Gruenwald

W. Gruenwald, B. Sc.,
GEOLOGIST

December 21, 1979,

KAMLOOPS, B. C.

APPENDIX A

GEOCHEMICAL RESULTS



BONDAR-CLEGG & COMPANY LTD.

130 PEMBERTON AVE., NORTH VANCOUVER, B.C.

PHONE: 985-0681

TELEX: 04-352667

Geochemical Lab Report

Attraction Hot Aqua Regia

Report No. 29 - 2577 PROJECT: W. Gruenwald

Method Atomic Absorption

From KERR-DAWSON & ASSOCIATES

Reaction Used _____

Date December 4 19 79

SAMPLE NO.	Pb ppm	Zn ppm	Ag ppm		SAMPLE NO.	Pb ppm	Zn ppm	Ag ppm	
BL 0+50S	280	740	8.4		L-2S BL	17	70	0.2	
1+50S	9	26	0.5		0+30W	< 2	20	0.2	
3+50S	10	143	0.4		0+60W	8	66	0.2	
4+50S	2	43	0.4		0+90W	16	165	0.2	
5+00S	4	30	0.2		1+20W	2	33	0.2	
L-0 BL	7	48	0.2		1+50W	4	109	0.2	
0+30W	12	74	0.2		1+80W	10	130	0.2	
0+60W	9	52	0.2		0+30E	11	72	0.2	
0+90W	2	45	0.2		0+60E	9	99	0.2	
1+20W	12	62	0.2		0+90E	13	112	0.2	
1+50W	8	69	0.2		1+20E	5	86	0.2	
0+30E	12000	9600	40.		1+50E	5	52	0.2	
0+60E	640	1280	1.0		1+80E	2	28	0.2	
0+90E	1900	12400	1.0		2+10E	4	86	0.2	
1+20E	310	5600	0.5		2+40E	< 2	69	0.2	
1+50E	93	570	0.3		L-3S 0+00	< 2	30	0.2	
L-0 2+40E	40	330	0.2		0+30W	26	113	1.0	
L 1S BL	5	20	0.2		0+60W	6	51	0.2	
0+30W	2	11	0.2		0+90W	3	62	0.2	
0+60W	<2	60	0.2		1+20W	< 2	27	0.2	
0+90W	9	85	0.6		1+50W	7	59	0.2	
1+20W	9	66	0.2		1+80W	5	56	0.2	
1+50W	13	58	0.2		0+30E	8	72	0.2	
0+30E	3	9	0.2		0+60E	3	67	0.2	
0+60E	4	49	0.2		0+90E	3	73	0.2	
0+90E	16	30	0.8		1+20E	3	52	0.2	
1+20E	5	55	0.2		1+50E	2	123	0.2	
1+50E	5	58	0.6		1+80E	8	164	0.2	
1+80E	6	32	0.4		2+10E	< 2	60	0.2	
2+10E	5	36	0.2		2+40E	< 2	85	0.2	

APPENDIX B

PERSONNEL

PERSONNEL

Field:

W. Gruenwald, B. Sc.	November 25, 26, 1979	- 2 days
M. Dawson, Assistant	November 25, 26, 1979	- 2 days

Office:

W. Gruenwald, B. Sc.	November 27, 30, December 3-5, 13, 18-20, 1979	- 3 1/4 days
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APPENDIX C

STATEMENT OF EXPENDITURES

COST STATEMENT

(1). Labour:

Field:	W. Gruenwald, Geologist,		
	2 days @ \$125.00/day . . .	\$250.00	
	M. Dawson, Assistant,		
	2 days @ \$95.00/day . . .	190.00	
Office:	W. Gruenwald, Geologist,		
	3 1/4 days @ \$125.00/day .	406.25	
	J. M. Dawson, P. Eng.,		
	1/2 day @ \$160.00/day . . .	<u>80.00</u>	\$ 926.25

(2). Expenses:

(a).	Truck Rental:		
	2 1/2 days @ \$25.00/day	\$62.50	
	610 mi. @ 25¢/mile	<u>152.50</u>	
			215.00
(b).	Room and Board		119.45
(c).	Geochemical Analyses		354.75
(d).	Freight		8.70
(e).	Map enlargements, xeroxing, printing, report binding, and secretarial		172.25
(f).	Miscellaneous field equipment	<u>73.20</u>	<u>943.35</u>

TOTAL HEREIN \$1,869.60

APPENDIX D

REFERENCES

REFERENCES

- | | | |
|---------------|------------|--|
| Little, H. W. | 1958, 1959 | - Kettle River (W half)
Geological Map
1"=4 mi. |
| Reeve, A. F. | 1966 | - Report on the Jo Dandy
and Kentucky Mineral Claims.
Greenwood Mining Division,
for Erin Explorations Ltd. |

APPENDIX E

WRITER'S CERTIFICATE

WRITER'S CERTIFICATE

I, W. GRUENWALD, OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY
THAT:

- (1). I am a geologist residing at #1 - 1255 Pleasant Street,
Kamloops, British Columbia, and employed by Kerr, Dawson
and Associates Ltd. of Suite #1 - 219 Victoria Street,
Kamloops, B. C.
- (2). I am a graduate of the University of British Columbia,
B. Sc. (1972), and a fellow of the Geological Association of
Canada. I have practised my profession for 7 1/2 years.
- (3). I am the author of this report, which describes the results
of a programme of geochemical sampling and geological
mapping carried out by myself on the Kentucky Mineral Claim
(L-2121), Greenwood Mining Division, British Columbia.

KERR, DAWSON AND ASSOCIATES LTD.,



W. Gruenwald

W. Gruenwald, B. Sc.,
GEOLOGIST

December 21, 1979,
KAMLOOPS, B. C.

APPENDIX F

MAPS