

GEOCHEMICAL REPORT
on the
VAGAS MINERAL CLAIMS

for

HIGHLAND MERCURY LTD.

by

John R. Poloni, P. Sc., P. Eng.

November 15, 1972

49°54'N, 120°34'W 92H/15E

4087

GEOCHEMICAL REPORT

On The

VAGAS MINERAL CLAIMS

for

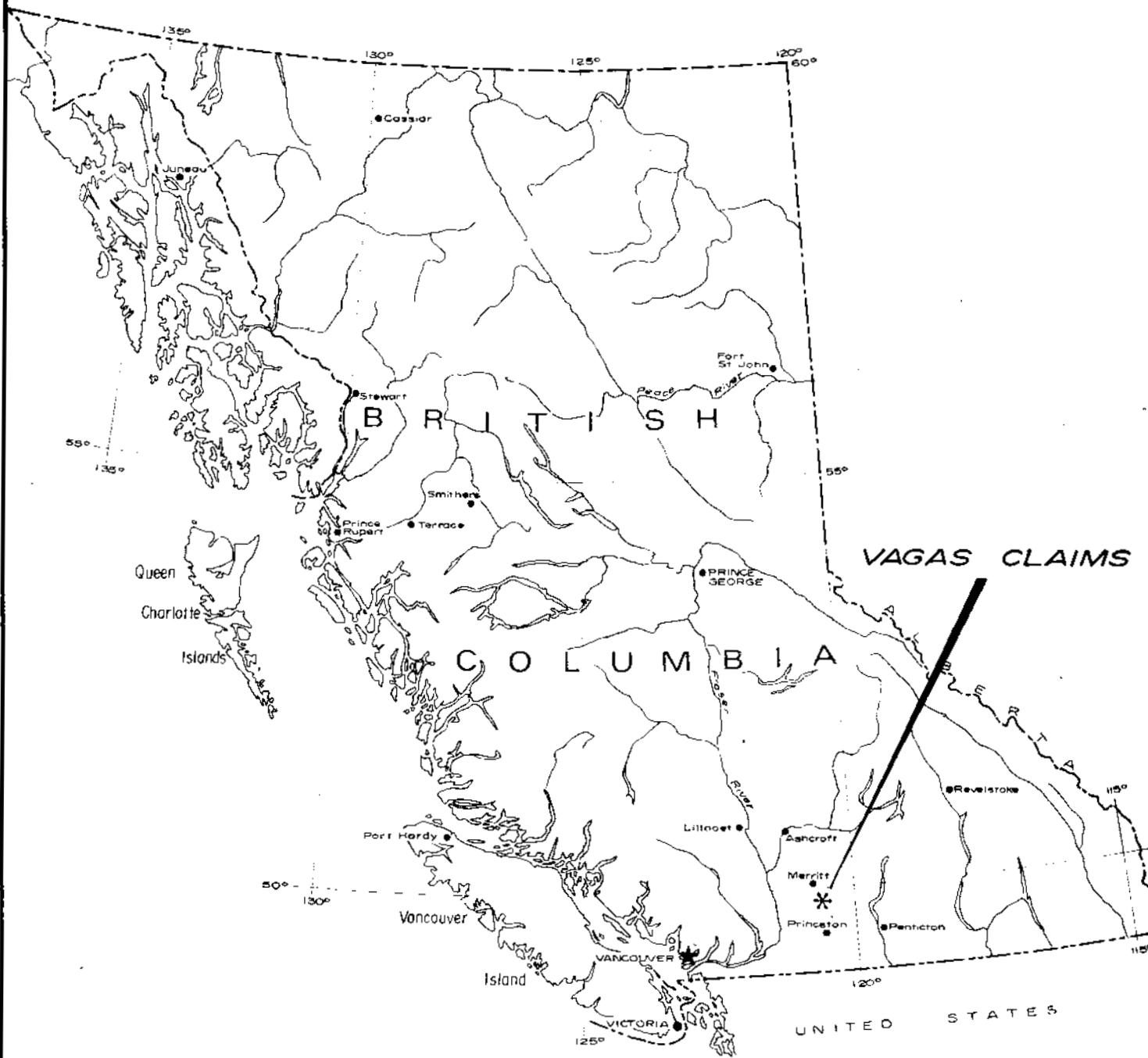
HIGHLAND MERCURY MINES LTD.

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Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 4087 MAP.....
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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

No. 4087 MAP #6

HIGHLAND MERCURY MINES LTD.
VAGAS (I-28)
PROPERTY LOCATION MAP
NICOLA M.D.

JOHN R. POLONI B.Sc., P. Eng.

SCALE: 1" = 136 Miles DATE: NOV. 15, 1972

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- #1 Location Map
- #2 General Compilation
- #3 Geochemical Plan
- #4 Histogram of Copper
- #5 Histogram of Zinc
- #6 Property Location Map

SUMMARY AND CONCLUSIONS

The Vagas (l-28) mineral claims are located in the Aspen Grove Copper Camp near Alleyne and Kentucky Lake. The author knows of no copper occurrences as existing on the property although showings occur to the immediate west.

The geochemical soil survey, reported on, covers approximately 15 of the Vagas claims. Anomalous conditions for copper, and an extensive zone of molybdenum interest, in part, coincident, are indicated in the survey. Five copper anomalies, generally one station in extent, are indicated which warrant follow-up examination. A continued program of soil geochemistry and geology is recommended.

INTRODUCTION

Highland Mercury Mines Ltd. owns by outright purchase, 28 contiguous mineral claims called Vagas (l-28) located at Alleyne and Kentucky Lakes approximately 2½ miles east of Aspen Grove B.C.

This report is prepared as a summary of the preliminary geochemical soil survey conducted by the author during the period October (8-20) 1972. A two man field crew was utilized in completing the program which covered approximately 15 claims.

LOCATION MAP

Fig. #1

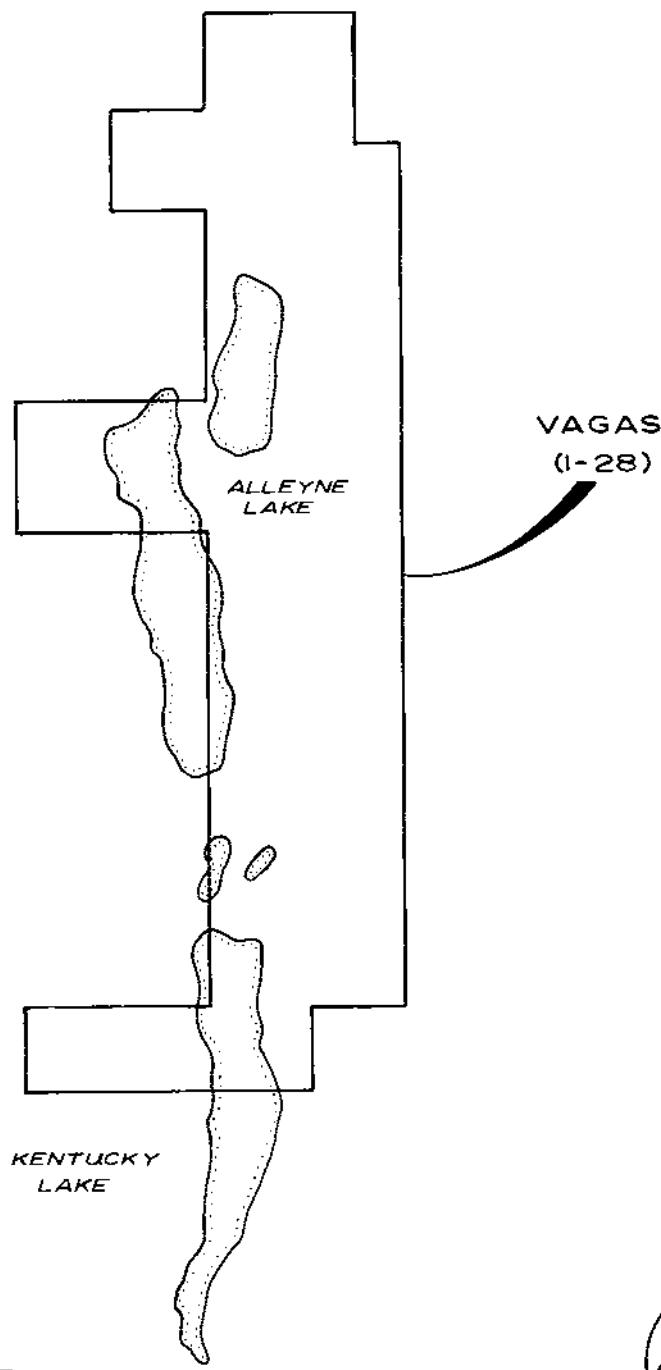


FIG 1

A handwritten signature in cursive script that reads "John R. Poloni".

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. <u>4087</u> MAP #1

HIGHLAND MERCURY MINES LTD.	
VAGAS (I-28)	
LOCATION MAP	
NICOLA M.D.	
JOHN R POLONI B.Sc., P. Eng.	
SCALE 1" = 3000'	DATE NOV. 15, 1972

PROPERTY

The Vagas claim group consists of 27 full sized unsurveyed claims and one fractional claim, located at Alleyne and Kentucky Lakes near Aspen Grove B.C. The property is located at Latitude $49^{\circ} 47' N.$, and Longitude $120^{\circ} 35' W.$

Claims data obtained from Highland Mercury Mines Ltd. is as follows:

<u>Claim Name</u>	<u>Tag No.</u>	<u>Record No.</u>	<u>Expiry Date</u>
Vagas (1-28)	(323987-324015)M	(52584-611)	May 18, 1973

The claim posts for Vagas (1-6) and (14-21) were located during the survey and it appears that the staking was done according to the regulations of British Columbia Department of Mines and Petroleum Resources.

LOCATION AND ACCESS

Located at Alleyne and Kentucky Lakes, two miles east of Aspen Grove B.C. the claims are readily accessible from Vancouver via Provincial Highways and secondary logging roads. Alleyne and Kentucky Lakes are frequently used by vacationers during the summer season.

Numerous old logging roads cross the claims making access to most of the property fairly easy.

Hydro electric power, natural gas and railway facilities are available in the Princeton and Merritt area.

Highway #5, the main Princeton - Merritt road is located at 2½ miles west of the claim group.

PHYSIOGRAPHY

The Vagas claims lie within the Interior Plateau region of Central British Columbia. Generally flat or level surfaces have been cut by moderately deep stream valleys which, in turn, have been subjected to deep scouring by moving continental ice.

Alleyne and Kentucky Lakes appear to occupy a valley which is caused by a strong zone of faulting. The Otter Creek faults zone, 2 miles to the west is a parallel system traceable for over 16 miles in a north-south direction.

Fir, spruce, aspen and alder are generously distributed on the claims. Areas of open ranch land are common. Most of the merchantable timber has been removed by past logging operations.

GLACIATION

During Pleistocene Time, the Continental Ice Sheet covered all of the Princeton - Merritt area. Valleys such as the Alleyne - Kentucky Lake system, which are north-south were scoured by moving ice. Glacial detritus a few 10's of feet thick cover most of the claims except along a westerly facing scarp east of Alleyne and Kentucky Lakes.

CLIMATE

Summers are generally long and arid. Winters are moderate with only light accummulations of snow. During the 1971-72 winter, a unusual snowfall total of 10-12 feet accummulated.

HISTORY

The Vages claims are located in the heart of the Aspen Grove copper camp. This camp covers an area some 8 miles long and 2 - 2½ miles wide extending northerly from Missezula Lake.

Initially copper was discovered in 1899 on the Big Sioux claim. Several properties have been examined via shafts and adits, by extensive surface trenching and more recently by diamond drilling, but to date none has reached successful production.

The area has, since its discovery, been an active one for exploration with the most recent

stimulation being supplied by Amax Explorations Ltd., White River Mines Ltd., Adonis Explorations and Teck Mining Corporation, who are actively examining both the Aspen Grove Camp and the Princeton areas.

GEOLOGY

No geological mapping was undertaken on the Vagas claims, however specimens of numerous outcrops were gathered during the soil survey and examined by the author. These specimens consisted principally of fresh grey to green, medium to fine textured tuffs, generally barren of sulfides. Minor pyrite and pyrrhotite were seen and only two specimens had evidence of epidote alteration.

G.S.C. map 888A shows that the Aspen Grove area, in general, is underlain with Nicola Group rocks of Triassic Age. To the east of Alleyne and Kentucky Lakes a sinuous north-south band of vesicular basalt is mapped.

A summary and description of the rock specimens follows:

<u>Location</u>	<u>Description</u>
0 + 00N - 10E - 13E	Fine textured grey-green tuff, barren Fine textured grey-green tuff, barren
4 + 00N - 7 50E	Medium-fine textured grey tuff, barren with minor epidote alteration

<u>Location</u>	<u>Description</u>
- 8E	Medium-fine textured grey tuff, barren
- 11E	Medium-fine textured grey tuff, barren
- 12E	Medium-fine textured grey tuff, barren
8 + 00N - 12E	Fine textured grey tuff, barren
- 14E	Fine textured grey tuff, barren
32 + 00N - 12E	Fine textured grey tuff, barren
40 + 00N ~ 3 70E	Medium textured grey-green tuff barren
- 8E	Medium textured grey-green tuff barren
- 20E	Medium textured grey-green tuff barren
(41N-44N)- 10E	Medium-fine textured grey tuff, barren
44 + 00N - 3E	Fine textured grey-green tuff, barren
- 8E	Fine textured grey-green tuff, barren
48 + 00N - 2 50E	Fine textured grey-green tuff, barren
- 8E	Fine textured grey-green tuff, barren
- 9 25E	Fine textured grey-green tuff, barren
- 9 50E	Fine textured grey-green tuff, barren
- 10E	Fine textured grey-green tuff, barren
52 + 00N - 7 50E	Cse-medium textured tuff, barren
56 + 00N - 5 50E	Fine textured grey tuff
- 7 50E	Vesicular basalt containing limonite, - one fine speck of chalcopyrite - minor pyrite visible
(56-60N) - 10E	Fine textured grey tuff, barren
- 8E	Grey fine textured tuff
- 5 25E	Grey fine textured tuff slight slickensides
- 4E	Fine textured tuff, barren
	Cse tuff slightly fractured, with minor pods, pyrite pyrrhotite
64 + 00N - 7E	Fine textured grey tuff, barren
68 + 00N - 6E	Fine textured grey-green tuff, barren
- 3 70W	Fine textured grey-green tuff, barren
72 + 00N - 5W	Med textured grey-green tuff, barren
- 3E	Fine textured grey-green tuff, barren
- 4 50S	Fine textured grey-green tuff, barren
74 + 00N - 10W	Fine textured grey-green tuff, barren

<u>Location</u>	<u>Description</u>
80 + 00N - 8E - 8 25E	Epidote rich specimen Cse textured grey tuff, barren
104 + 00N - 2W	Cse volcanic grey-green, barren

G.S.C. Map 838A shows a regional fault system, the Otter Creek fault as occurring approximately 2 miles east of the Vagas claims. It is felt that the Alleyne - Kentucky Lakes valley may represent a parallel north-south system.

In the Aspen Grove camp, chalcopyrite, bornite, chalcocite, pyrite and hematite mineralization occurs in shear zones and at the intersection of shear zones in volcanic rocks of the Nicola Group. These zones of mineralization have not been found to be extensive, to date. Copper mineralization found disseminated through the lava in the interstices between fragments of flow breccias has been investigated, but grades, to date, generally tend to be non commercial in nature.

GEOCHEMICAL PROGRAM

During the period October (8-20) 1972, a geochemical soil sampling program was undertaken by a two man field crew supervised by the author. A north south base-line 10,400 feet long was cut, flagged and chained. Chain and compass grid lines at 400 foot intervals, with stations being established at 200 foot intervals

were completed over approximately 15 claims. A total of 12.8 line miles of grid and 14.8 line miles of survey including base line was done.

RESULTS OF GEOCHEMICAL PROGRAM

B-horizon material was collected, where possible, at 339 sample locations and analyzed for molybdenum, copper and zinc using the following methods:

Mesh size	- 80
Analytical method	- Atomic Absorption
Digestion method	- $\text{HClO}_4 + \text{HNO}_3$

The results of the assaying are plotted on the Geochemical Plan Fig. #3. A copy of the analytical data is included in Appendix C.

An examination of the analytical data and calculation of means, and standard deviations gave the following geochemical parameters used in establishing anomalous conditions.

	<u>Copper</u>	<u>Zinc</u>
Mean	37 P.P.M.	81 P.P.M.
Threshold	75 P.P.M.	160 P.P.M.
Possibly Anomalous	110 P.P.M.	240 P.P.M.
Probably Anomalous	150 P.P.M.	320 P.P.M.

Five one station copper anomalies exist on the claims surveyed. Of these, four have coincident molybdenum anomalies. All five copper anomalies have only background values in zinc.

Anomalies

<u>Location</u>	<u>No</u>	<u>Mo</u>	<u>Cu</u>
12N - 2W	28	2	125
56N - 18W	178	5	160
72N - 8W	215	-2	112
80N - 8E	325	2	125
100N - 16W	268	4	150

Generally, the background value for molybdenum p.p.m. was -2. A Y-shaped zone of higher than average molybdenum content in the soils is found to exist in the Alleyne - Kentucky Lakes valley extending northerly from line 28N - 16W, splitting into two sections along line 48N and continuing to line 80N. Coincidence exists between anomalous and possibly anomalous copper zones and this zone of molybdenum interest as shown in Fig. 3.

The copper anomalies are weak and generally one station anomalies, are located in the lakes system valley, and in themselves would appear to warrant only cursory follow up work, however, in that, an extensive area of molybdenum interest is in part, coincident, a more thorough examination is necessary.

RECOMMENDATIONS

The geochemical survey should be completed to cover all of the Vaggs claims. Reconnaissance survey lines should be run westerly across the Alleyne - Kentucky Lakes Valley to determine if similar conditions exist westerly. Attention should be given in geological examination of the anomalous areas and upslope from these areas.

COST OF THE GEOCHEMICAL PROGRAM

Period October (8-20) 1972

Personnel D. Blanchat Field Crew

P. Wallace Field Crew

J. Poloni Supervision

Costs

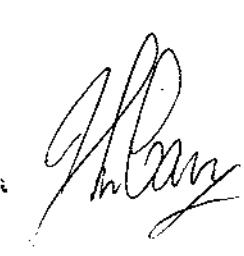
Assays	\$ 534.40
Auto 15 days @ \$7.00	105.00
Mileage @ \$.07	81.25
Meals, supplies, food	181.18
Skye Blue Lodge	289.50
Wages (2 men 15 days @ \$90.00)	1,350.00
Supervision and Report	<u>400.00</u>
Total Cost	\$2,941.33

Respectfully submitted,



John R. Poloni,
B. Sc., P. Eng.

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this
day of Dec. 1972, A.D.



APPENDIX A

References

REFERENCES

1. Cockfield, W.E. (1961) G.S.C. Memoir 249, Geology and Mineral Deposits of the Nicola Map Area, British Columbia.
2. Rice, H.M.A. (1960) G.S.C. Memoir 243, Geology and Mineral Deposits of the Princeton Map Area, British Columbia.
3. Geology Exploration and Mining in British Columbia 1969, 1970. British Columbia Department of Mines and Petroleum Resources.

APPENDIX B

Writer's Certificate

CERTIFICATE

I, John R. Poloni, of 5502 - 8B Avenue, in Delta,
in the Province of British Columbia

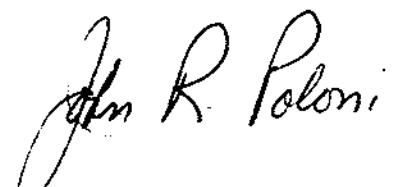
DO HEREBY CERTIFY THAT:

1. I am a Consulting Geologist.
2. I am a graduate of McGill University of Montreal, Quebec, where I obtained a B. Sc. degree in Geology in 1964.
3. I am a registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia.
4. I have practiced my profession since 1964.
5. I am a Fellow of the Geological Association of Canada and a member of the Canadian Institute of Mining and Metallurgy.
6. I am a member of the Association of Geologists of Quebec.
7. I have supervised the geochemical program reported on in this report.

CERTIFICATE con't.

8. I have no interest in the properties or Securities
of Highland Mercury Mines Ltd., nor do I expect
to receive or acquire any.

Dated this 15th Day of November 1972.



John R. Poloni, B.Sc., P. Eng.

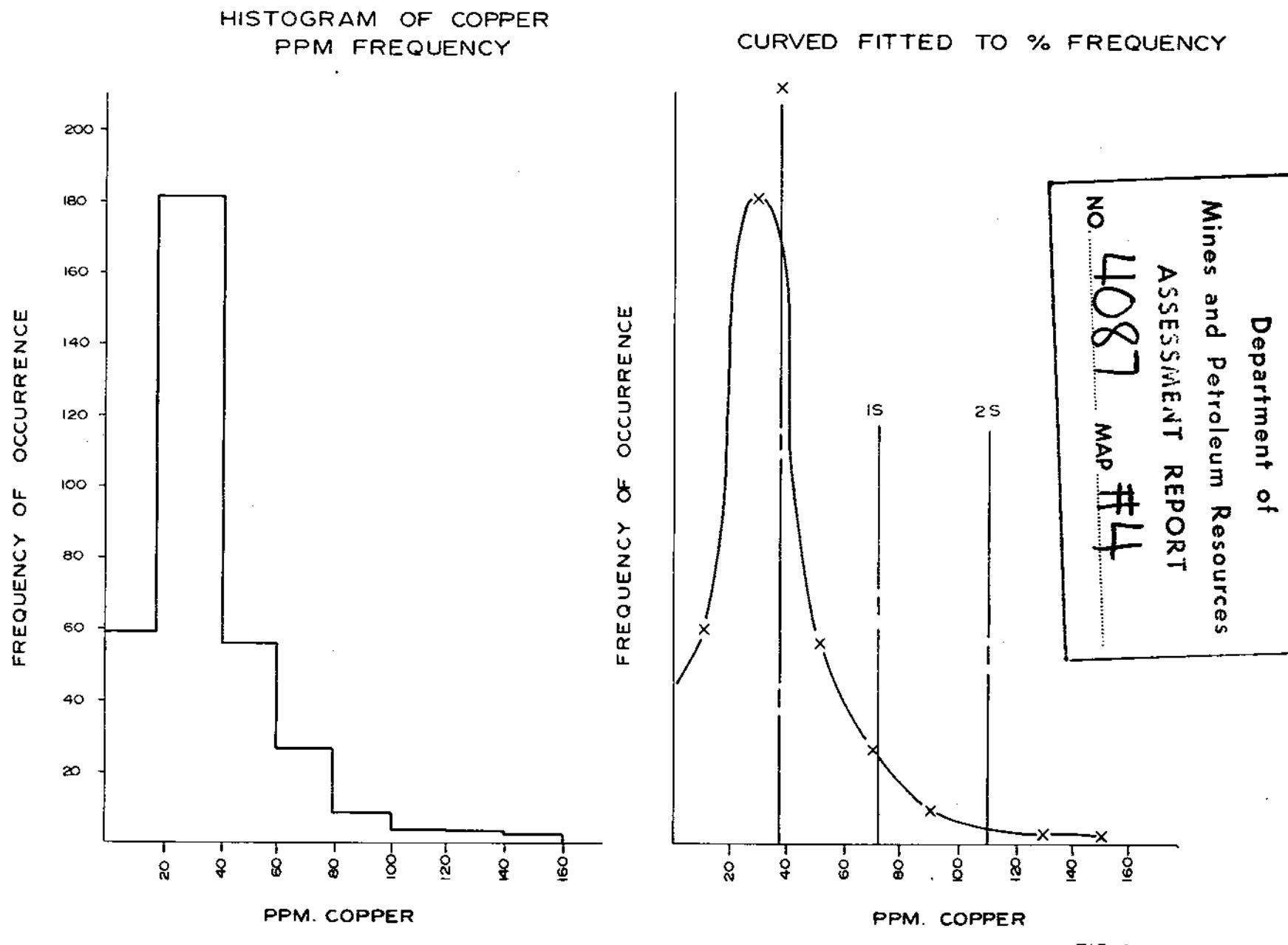


FIG. 4

VAGAS CLAIMS

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Mines and Petroleum Resources

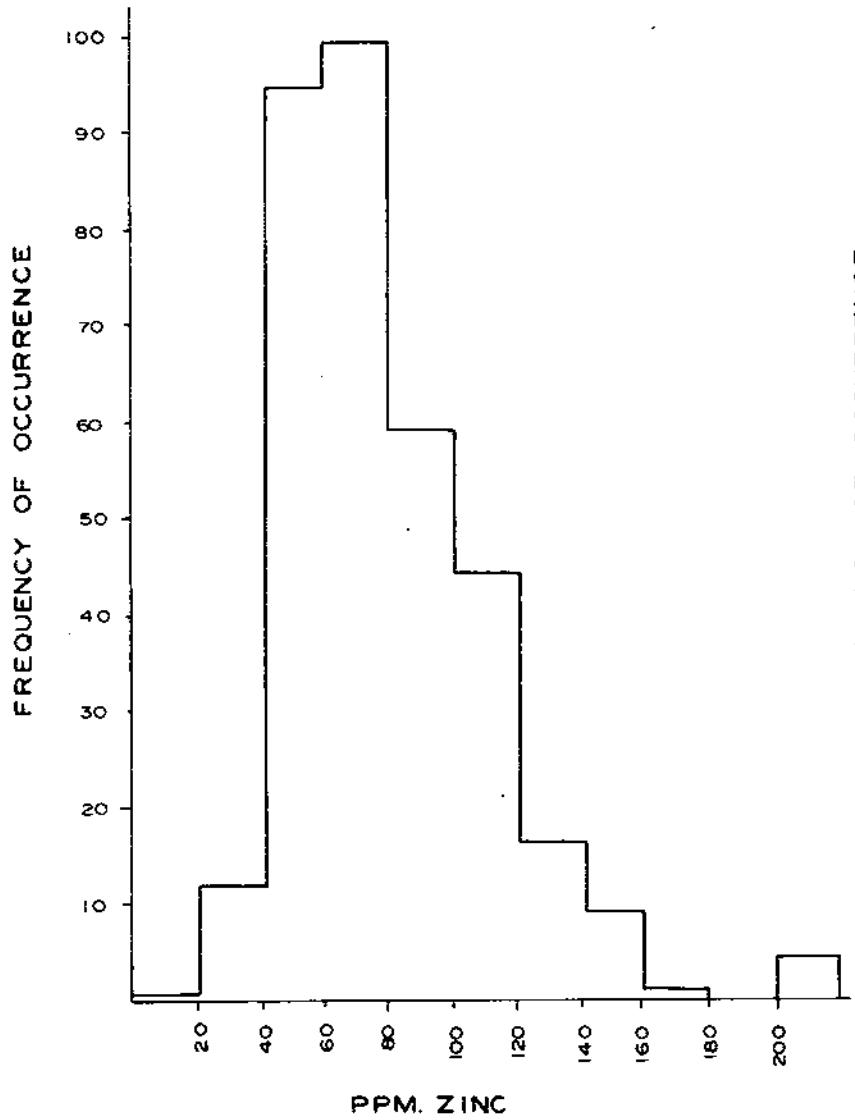
ASSESSMENT REPORT

NO. 4087 MAP #5

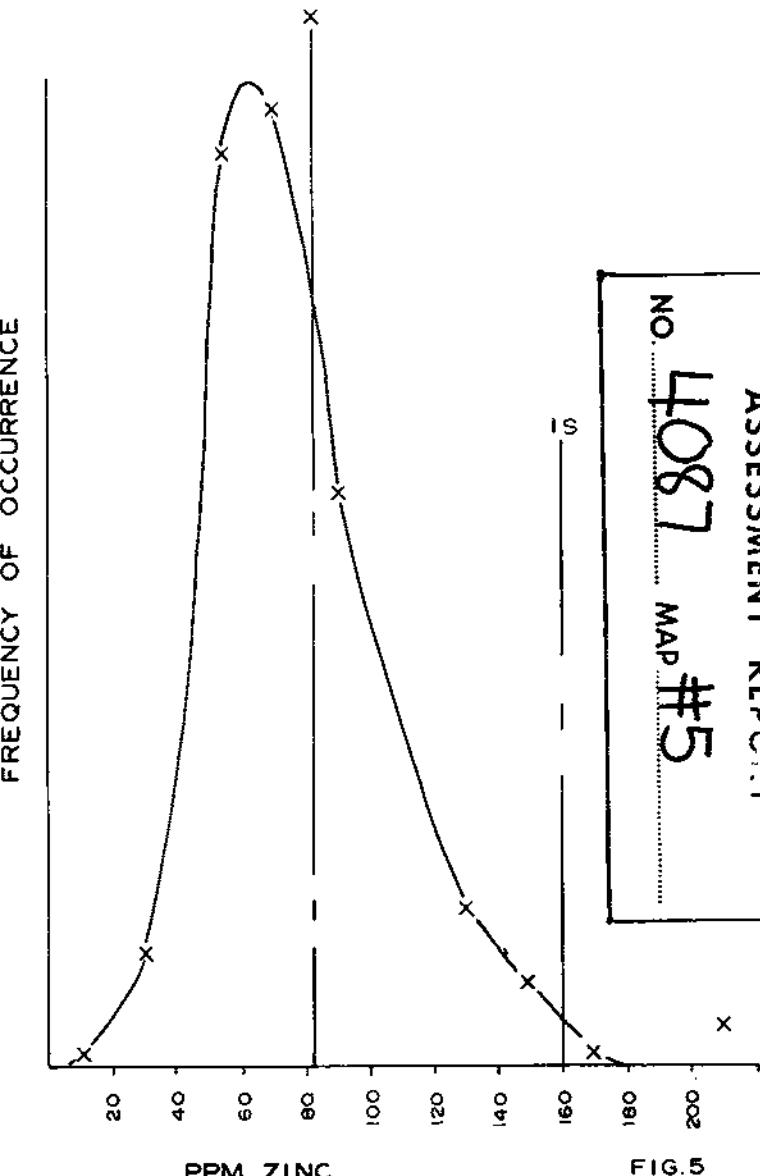
VAGAS CLAIMS

JOHN R. POLONI, B.Sc., P.Eng.

HISTOGRAM OF ZINC
PPM FREQUENCY



CURVED FITTED TO % FREQUENCY



John R. Poloni

FIG. 5

APPENDIX C

Geochemical Data

CREST LABORATORIES (B.C.) LTD.

B.C. REGISTERED ASSAYERS
GEOCHEMISTS

1068 HOMER STREET,
VANCOUVER 3, B.C.

November 10, 1972

Mr. John Poloni,
5502 8B Avenue,
DELTA, B.C.

Lab 952G Geochemical analysis for molybdenum, copper and zinc

Mesh Size: Analytical Method: Digestion Method:				- 80 Atomic Absorption HClO ₄ + HNO ₃					
Sample Marked:		Moly ppm	Copper ppm	Zinc ppm	Sample Marked:		Moly ppm	Copper ppm	Zinc ppm
T	1	-2	22	73	T	27	-2	53	93
	2	-2	17	68		28	2	125	65
	3	-2	20	95		29	-2	26	73
	4	-2	60	75		30	-2	24	83
	5	-2	56	148		31	-2	30	70
	6	-2	25	103		32	-2	64	75
	7	-2	42	63		33	-2	30	50
	8	-2	42	50		34	-2	24	78
	9	-2	26	115		35	-2	16	38
	10	-2	32	45		36	-2	30	43
	11	-2	22	100		37	-2	62	95
	12	-2	16	55		38	-2	46	50
	13	-2	18	70		39	-2	56	75
	14	-2	24	53		40	-2	37	88
	15	-2	26	73		41	-2	16	60
	16	-2	20	50		42	-2	26	45
	17	-2	27	50		43	-2	60	78
	18	-2	34	53		44	-2	23	70
	19	-2	16	75		45	-2	30	70
	20	-2	22	60		46	-2	32	65
	22	3	31	53		47	-2	24	50
	23	-2	30	115		48	-2	22	45
	24	-2	22	58		49	-2	27	63
	25	-2	28	60		50	-2	29	60
T	26	-2	30	68	T	51	-2	28	85

Sample Marked:	Moly ppm	Copper ppm	Zinc ppm	Sample Marked:	Moly ppm	Copper ppm	Zinc ppm
T 52	-2	54	88	T 90	2	24	60
53	-2	52	120	91	-2	14	75
54	-2	48	145	92	-2	16	26
55	3	64	105	93	-2	16	80
56	-2	52	53	94	-2	20	75
57	-2	32	80	95	-2	14	90
58	-2	21	78	96	-2	26	65
59	-2	26	100	97	-2	27	90
60	-2	20	53	98	-2	12	105
61	-2	28	50	99	-2	18	105
62	-2	30	53	100	-2	28	85
63	-2	29	6	101	-2	20	220
64	-2	28	65	103	-2	25	98
65	-2	20	60	104	-2	18	90
66	-2	17	80	105	-2	38	55
67	3	32	125	107	-2	22	53
68	3	38	78	108	-2	26	115
69	-2	34	45	109	-2	22	80
70	2	30	70	110	-2	18	78
71	5	78	35	111	-2	26	85
72	3	57	83	112	-2	22	100
73	6	44	110	113	-2	16	78
74	5	52	80	114	-2	26	78
75	2	41	80	115	-2	26	75
76	2	24	110	116	2	24	83
77	2	22	70	117	-2	16	85
78	2	30	55	118	-2	12	90
79	2	40	100	119	-2	16	60
80	2	18	70	120	-2	20	60
81	2	18	70	121	-2	18	60
82	2	28	75	122	-2	20	40
83	3	15	105	123	-2	26	68
84	-2	20	85	124	-2	22	215
85	2	46	80	125	-2	48	88
86	2	18	110	126	-2	27	85
87	2	20	55	127	-2	22	105
88	2	18	140	128	-2	32	83
T 89	2	14	110	T 129	-2	22	115

Sample Marked:				Sample Marked:			
	Moly ppm	Copper ppm	Zinc ppm		Moly ppm	Copper ppm	Zinc ppm
T	130	-2	24	75	T	168	3
	131	3	30	60		169	2
	132	2	34	90		170	-2
	133	2	24	53		171	3
	134	2	24	53		172	4
	135	2	92	70		173	4
	136	4	60	85		174	2
	137	2	66	110		175	2
	138	2	48	105		176	3
	139	2	42	55		177	5
	140	2	34	58		178	5
	141	2	28	55		179	3
	142	4	74	125		180	5
	143	4	74	135		181	3
	144	-2	56	115		182	4
	145	-2	28	110		183	2
	146	2	40	95		184	2
	147	-2	40	60		185	3
	148	2	34	58		186	2
	149	3	32	70		187	3
	150	2	30	70		188	2
	151	-2	24	73		189	-2
	152	2	40	95		190	-2
	153	2	42	125		191	-2
	154	6	44	155		192	2
	155	2	46	125		193	3
	156	4	86	150		194	-2
	157	4	92	110		195	2
	158	4	64	68		196	2
	159	4	69	40		197	3
	160	3	48	78		198	-2
	161	2	66	120		199	2
	162	2	48	140		200	4
	163	3	56	155		201	3
	164	4	30	115		202	3
	165	5	53	115		203	-2
	166	2	46	90		204	-2
T	167	-2	28	50	T	205	-2

Sample Marked:				Sample Marked:			
	Moly ppm	Copper ppm	Zinc ppm		Moly ppm	Copper ppm	Zinc ppm
T	206	2	52	110	T	244	-2
	207	4	104	115		245	-2
	208	-2	33	35		246	-2
	209	2	52	150		247	-2
	210	-2	18	75		248	-2
	211	-2	16	60		249	-2
	212	-2	25	115		250	-2
	213	-2	24	80		251	-2
	214	-2	59	100		252	-2
	215	-2	112	60		253	-2
	216	4	48	55		254	-2
	217	3	92	85		255	-2
	218	3	108	65		256	-2
	219	-2	36	80		257	-2
	220	-2	31	110		258	-2
	221	-2	33	130		259	-2
	222	-2	16	60		260	-2
	223	-2	26	73		261	-2
	224	-2	19	50		262	-2
	225	2	39	105		263	-2
	226	5	29	120		264	-2
	227	2	93	98		265	-2
	228	-2	41	50		266	2
	229	-2	34	45		267	2
	230	-2	66	73		268	4
	231	-2	22	68		269	2
	232	3	34	105		270	-2
	233	-2	20	75		271	-2
	234	-2	16	55		272	-2
	235	-2	22	35		274 *	-2
	236	-2	26	95		274 *	-2
	237	-2	26	60		275	2
	238	-2	32	63		276	2
	239	-2	53	80		277	2
	240	-2	27	55		278	-2
	241	-2	60	75		279	-2
	242	-2	58	85		280	-2
T	243	-2	26	65	T	281	-2

* Two samples labelled 274

Sample Marked:	Moly ppm	Copper ppm	Zinc ppm	Sample Marked:	Moly ppm	Copper ppm	Zinc ppm
T 282	-2	25	80	T 321	-2	52	45
283	2	31	245	322	-2	28	70
284	-2	22	80	323	-2	22	43
285	-2	18	130	324	-2	18	60
286	-2	38	100	325	2	125	65
287	-2	18	60	326	-2	18	60
288	-2	30	73	327	-2	24	55
289	-2	30	63	328	-2	24	43
291	-2	28	25	329	-2	26	63
292	-2	44	125	330	-2	34	50
293	-2	27	83	331	-2	28	70
294	-2	14	75	332	-2	32	45
295	-2	62	145	334	-2	19	80
296	-2	11	70	335	-2	29	65
297	-2	22	110	336	-2	21	90
298	-2	21	68	337	-2	30	60
299	-2	31	110	338	-2	27	90
300	-2	32	55	339	-2	25	55
301	-2	26	95	340	-2	20	55
302	-2	23	135	341	-2	16	28
303	-2	40	100	342	-2	66	145
304	-2	50	68	343	-2	24	65
305	3	42	40	T 344	-2	34	60
306	-2	31	105				
307	-2	15	65				
308	-2	36	125				
309	-2	24	55				
310	-2	25	60	Yours truly,			
311	-2	22	65	CREST LABORATORIES (B.C.) LTD.,			
312	-2	17	95				
313	-2	30	90	F.C. Burgess			
314	-2	22	68	Chief Assayer			
315	-2	30	55				
316	-2	36	55				
317	-2	15	60				
318	-2	22	60				
319	4	20	30				
T 320	-2	18	55				

APPENDIX D

(In Pocket)

General Correlation Plan

Geochemical Plan

