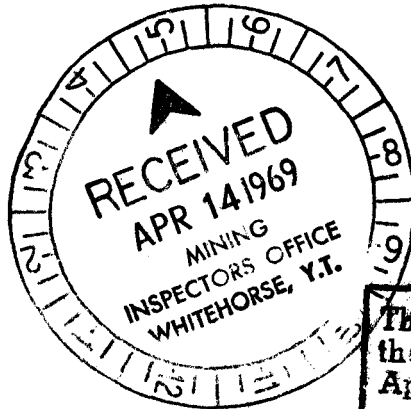


HART RIVER MINES LTD.
Report on a Geochemical Survey
on the Mark 39 - 76 Claims
Hart River Area, Y. T.

ALRAE ENGINEERING LTD.



February 27, 1969

This report has been examined by
the Geological Evaluation Unit.
Approved as to technical worth by:

D.R. Gray
RESIDENT GEOLOGIST

Approved as to cost in the amount
of: \$ 7061.82

R.F. Neelken
RESIDENT MINING ENGINEER

Accepted as representation work
under Section 53(4) Yukon Quartz
Mining Act.

[Signature]
COMMISSIONER OF YUKON

TO PROTECT OUR CLIENTS, THE PUBLIC AND OURSELVES, ALL REPORTS ARE SUBMITTED AS UNCONFIDENTIAL. AUTHORIZATION FOR PUBLICATION OF STATEMENTS, CONCLUSIONS AND EXTRACTS FROM OUR REPORTS MUST RECEIVE OUR WRITTEN APPROVAL.

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MAPS

	Scale
Figure 1 Geochemical Survey - Copper	1" = 500'
Figure 2 Geochemical Survey - Lead	1" = 500'
Figure 3 Geochemical Survey - Zinc	1" = 500'

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Report on a Geochemical Survey
on the Mark 39 - 76 Claims
Hart River Area, Y. T.

INTRODUCTION

The Mark 39 - 76 group of claims consists of 38 contiguous, full sized mineral claims situated in the Hart River area 80 miles northwest of Mayo, Y.T. These claims were staked in June of 1968.

The survey was conducted at the request of Hart River Mines Ltd. to investigate locations of possible sulphide zones in the group.

Field work was carried out from August 14th to August 20th, 1968.

CONCLUSIONS AND RECOMMENDATIONS

There are several anomalous areas associated with the stain on this group. The one meriting further investigation lies on coordinates 8E 10S to 20E 8S. This appears to be a migratory train of values in lead and zinc from the dolomite and dark grey limestone at higher elevations.

The investigation of this area could be by either gravity or magnetic geophysical methods to determine what further work should be done in this area.

LOCATION AND ACCESS

The claims are located at approximately latitude 64°38'N and longitude 136°50'W on claim sheet 116A-10. This site is 80 air miles northwest of Mayo and 80 air miles northeast of Dawson.

Access to the property was by Cessna 185 from Dawson, Y.T. to Mark Lake then by helicopter to the property, 12 miles southwest of Mark Lake. Chapman Lake and the Dempster Highway lies approximately 50 miles to the west. A winter road has been constructed from the Dempster Highway to the property during December 1968.

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TOPOGRAPHY AND VEGETATION

The relief in the area varies from broad 'U' shaped valleys to steep unstable talus slopes. The valleys are mainly swampy and covered by buckbrush and willows. Spruce, the predominant tree type, are sparcely scattered throughout the valley to an elevation of approximately 3,500 feet.

CLAIM DATA

The block of 38 full size contiguous claims is shown on claim sheet 116A-10. These claims are all held by Hart River Mines Ltd.

HISTORY

These claims were staked in June 1968 and this is the first record of work carried out on the block.

GEOLOGY

The detailed geology of the area was mapped during 1968 and a full report on this will be issued, on completion, by A. MacDonald and J.L. Usher.

Regional geology in the vicinity of the claims is taken from Map 116A, the Larsen Creek 4 mile sheet, which accompanies G.S.C. paper 62-7 by L.H. Green and J.A. Roddick.

Table of Formations (from Sheet 116A)

<u>Cretaceous</u> 20	orange to brown weathering, diorite and gabbro and altered equivalents.
<u>Cambrian, Ordovician and Silurian</u> 8	Dolomite and limestone, thick bedded, grey-buff weathering.
Unconformity	
<u>Precambrian</u> 2	orange weathering, platy, grey-green dolomite, dark slate, minor phyllite and quartzite.

- | | |
|----|--|
| 2d | buff, orange and pink dolomite, black shale, minor black limestone. Red dolomite; green argillite, maroon quartzite and shale, and greenstone. |
| 1 | mainly dark grey, grey-green, and black thin bedded argillite, slate and phyllite. |

Relatively narrow bands of sediments of map units 1, 2 and 2d trending easterly and dipping southerly outcrop in the area. These are surrounded by andesitic flows which, in places, become coarse grained approaching a diorite. In places, these units are capped by limestone and dolomite of unit 8. Small diorite stocks (unit 20) intrude the above units at several locations in the area.

Cursory examination indicates that the area is highly faulted in easterly and northerly directions. The easterly faults, which appear to parallel the bedding strike, predominate.

GEOCHEMICAL SURVEY

(1) Control Grid

Approximately ten line miles of baseline and crosslines were marked with flagging as outlined in fig. 1, 2 and 3. Lines were put in using compass and nylon chain at 400 foot intervals and sampling stations at 200 feet along the lines.

(2) Field Procedure

The geochemical survey carried out was a program of soil sampling. Samples were collected along crosslines, consisting of residual soil immediately underlying the organic layer. A total of ten line miles of grid lines were sampled.

(3) Laboratory Procedure

All samples were analyzed for copper, lead and zinc. Laboratory work was performed by the Whitehorse assay office,

Whitehorse, Y.T.

After drying and screening to -80 mesh the metals were extracted by a hot $\text{HNO}_3\text{-HCl}$ solution. The quantities of each metal in the sample were determined by atomic absorption spectrographic analysis. Contoured laboratory results for lead, zinc and copper are shown in figures 1, 2 and 3.

INTERPRETATION

Mark II Group

There are several small anomalous areas associated with stain on this group but only one would appear to be of interest. This is the one on the co-ordinates of 8E10S to 20E8S which appears to be a migratory train of values from the hills with dolomite and dark grey limestone. This anomaly is in lead and zinc.

The other anomalies are on the valley flat and are generally one or two sample highs and so are not thought to indicate potential areas of interest.

Respectfully submitted:



G. Trowsdale, P. Eng.

TIME AND COST DISTRIBUTION

Mark II

LABOUR

<u>Name</u>	<u>Days</u>	<u>Position</u>	
Dr. J. L. Usher	3	Supervision	\$ 183.84
G. Trowsdale	8	Supervision and Report	640.36
J. S. Bennett	14	Grid line, soil sampling	326.90
L. Altman	8	Soil sampling	198.56
R. A. Bennett	9	Soil sampling	276.75
P. Cumberbirch	4	Soil sampling	70.64
R. Gee	9	Grid lines, soil sampling	155.97
G. D. House	4	Interpretation	200.00
M. Payne	4	Drafting	221.24
R. G. Jury	2	Consulting	200.00
D. L. McKelvie	2	Consulting	<u>200.80</u>
			\$ 2,675.06
 Camp costs	 52 @ \$12.36		 643.76
 Transportation			
Air fare	33-1/3 x 6 x 230		460.00
Cessna	14 @ \$65.00		910.00
Helicopter	10 @ \$150.00		1,500.00
 Laboratory charges			 623.00
 Miscellaneous drafting and field supplies			 <u>250.00</u>
			\$ 4,386.76
		TOTAL	\$ <u><u>7,061.82</u></u>

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And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."



Declared before me at the City
of Vancouver, in the } G. Trowsdale
Province of British Columbia, this 5
day of March 1969, A.D. }

P. Earl Spelt
A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.



NO.1 MARK 65
NO.1 MARK 66
NO.2 MARK 63
NO.2 MARK 64

NO.1 MARK 67
NO.1 MARK 68
NO.2 MARK 65
NO.2 MARK 66

ANOMALY - 
AREA OF INTEREST - 

To accompany Geochemical
Report on Mark 39-76 claims
Hart River Area Y.T.


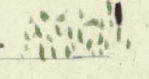
G. Trowsdale

HART RIVER MINES LTD.	
GEOCHEMICAL SURVEY	
MARK 2 CLAIMS "COPPER"	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
DESIGNED L. A.	SCALE: HOR. 1" = 500
DRAWN M. P.	VERT.
CHECKED D. L. M.	
DATE NOV. 68	DWG. No. 701-47



NO.1 MARK 65
NO.1 MARK 66
NO.2 MARK 63
NO.2 MARK 64

NO.1 MARK 67
NO.1 MARK 68
NO.2 MARK 65
NO.2 MARK 66

ANOMALY - 
AREA OF INTEREST - 

To accompany Geochemical Report
on Mark 39-76 Claims Hart
River Area Y.T.



G. Trowsdale

HART RIVER MINES LTD.	
GEOCHEMICAL SURVEY	
MARK 2 CLAIMS "LEAD"	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
DESIGNED... L. A.	SCALE: HOR. 1" = 500
DRAWN... M. P.	VERT.
CHECKED... D. L. M.	DWG. No. 701-4G
DATE... NOV. 68	



NO.1 MARK 65
NO.1 MARK 66
NO.2 MARK 63
NO.2 MARK 64

NO.1 MARK 67
NO.1 MARK 68
NO.2 MARK 65
NO.2 MARK 66

ANOMALY - 
AREA OF INTEREST - 

To accompany Geochemical Report
on Mark 39-76 claims Hart River
Area Y.T.

G. Trowsdale

HART RIVER MINES LTD.	
GEOCHEMICAL SURVEY	
MARK 2 CLAIMS "ZINC"	
ALRAE ENGINEERING LTD. GEOLOGISTS AND ENGINEERS VANCOUVER, B. C.	
DESIGNED: L. A.	SCALE: HOR. 1" = 500'
DRAWN: M. P.	VERT.
CHECKED: D. L. M.	
DATE: NOV. 68	DWG. No. 701-45