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PLATE

Dem Claims Geology Folder

This report has been examined by the
 Geological Production Unit and is recom-
 mended to the Commissioner to be consider-
 ed as representation work in the amount of
 \$ 4207-50

[Signature]
 Resident Geologist or
 Resident Mining Engineer

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

[Signature]
 W. BAXTER
 Supervising Mining Recorder

[Signature]
 Commissioner of Yukon Territory

INTRODUCTION & SUMMARY

During the summer months of 1974, Hudson Bay Exploration and Development Company Limited, conducted a reconnaissance geochemical and prospecting program over the Proterozoic formation which is centered 50 miles north of Dawson City, Yukon Territory. A base camp was established on the Dempster Highway near the north end of Chapman Lake and two-man parties worked from fly camps with full time helicopter support.

On investigating anomalous silt sample values, minor galena and shalerite mineralization was located and 42 DEM claims were staked over the area of interest. Geological studies were carried out in the claim area during the period June 19th to July 3rd, 1975. The expenditure of \$4,207.50 on this program is being applied towards one year's assessment work on each of the 42 DEM claims.

LOCATION & ACCESS

The 42 DEM claims are located in the Dawson Mining Division at $139^{\circ} 49'$ longitude $64^{\circ} 45'$ latitude on the boundary between claim sheets 116 B12 and 116 B13. The group is situated on a tributary of Coal Creek approximately 45 miles north of Dawson City, Yukon Territory.

The claim area is readily accessible only on helicopter.

PERSONNEL

The geological mapping on the Dem Claims which is the subject of this report was carried out by R. Bennett and G. Billingsley. Field supervision was provided by E.W. Yarrow and overall supervision by R. T. McIntosh.

The following details the qualifications of these personnel:

R. T. McIntosh

- BSc graduate in geology, University of Manitoba, 1933
- continually employed in all phases of mineral exploration since 1933 in central Canada and the Yukon
- has been the Resident Geologist in charge of exploration programs in the Yukon Territory and adjoining Northwest Territory for Hudson Bay Exploration & Development Company Limited since 1965
- Home Address: 62 Klondike Road
Whitehorse, Yukon Territories
- member of Geological Association of Canada

E. W. Yarrow

- BSc graduate in geology, University of British Columbia, 1970.

- 1970 - 1972 employed by American Smelting and Refining Company (ASARCO) in Ireland and British Columbia.
- employed by Hudson Bay Exploration and Development Company Limited in B.C. and Yukon since 1973
- Field supervision of 1975 program in Ogilvie Mountains area including program on DEM claims
- home address: 15387 - 20A Avenue
Surrey, B.C.

R. Bennett

- BSc graduate in geology, University of Saskatchewan 1970
- employed by Hudson Bay Exploration & Development Company Limited since 1970 in Manitoba, Saskatchewan, and Yukon
- geologist of 1975 program on DEM claims
- home address: Flin Flon, Manitoba

G. Billingsley

- B.Sc graduate in geology, University of Saskatchewan
- employed by Hudson Bay Exploration and Development Company Limited in Manitoba and Yukon Territory including assistant geologist, DEM claims
- home address: 3157 West 33rd Avenue
Vancouver, B.C.

CLAIM OWNERSHIP

Details concerning the staking, recording, and status

of the 42 DEM claims is presented in the claim record on page 10 of this report. These claims were transferred (100%) to Hudson Bay Exploration and Development Company Limited, 1695 - 555 Burrard Street, Vancouver, B.C., on August 29th and September 4th, 1974.

For assessment purposes the 42 DEM claims have been divided into two groups of 16 claims and one group of 10 claims.

GEOLOGICAL PROGRAM

The geological mapping was carried out in June and July 1975 by R. Bennett and G. Billingsley. Topographic features were used for control with the assistance of enlarged air photographs of the area. The following report was prepared by R. Bennett.

GENERAL GEOLOGY

The rocks of the DEM claims have been mapped in eight units, which correlate across the claim block. The unit contacts strike roughly 120° .

Unit 1. Black Shales & Argillites

Unit 1 is exposed only in Dem Creek. To the west and

east along strike this unit is covered by talus from unit 2 and pleistocene gravel.

Unit one is composed of a dark grey, finely laminated, calcareous argillite and one band of highly fractured, rusty, black shale, which contains the Dem showing.

Unit 2 Buff Weathering Dolomite & Argillite

Unit 2 is composed of interlayered buff weathering dolomite and grey weathering dark grey argillite.

The buff weathering dolomite is a grey, well bedded ($\frac{1}{2}$ " to 6" thick beds) dolomite and the argillite is dark grey and finely laminated.

Unit 3 Buff Weathering Dolomite & Siltstone

Unit 3 is composed of the same buff weathering dolomite seen in unit 2 and 2" to 8" interlayers of brown weathering (lt. brown on fresh surface) siltstone. Locally the dolomite is quite silty.

Unit 4 Orange to Buff Weathering Dolomite & Siltstone & Argillite

Unit 4 is composed of a poorly bedded, buff to orange

weathering, grey dolomite, that contains 1" to 4" interlayers of grey weathering argillite and brown siltstone.

Within this unit 3 small bands of red shale 10' to 30' thick occurs. These red shales are isolated to 3 ridges and are discontinuous across strike.

Locally unit 4 contains rhodochrosite and siderite infilling small shears in the dolomite.

Unit 5 Shales & Siltstones

Unit 5 is composed of a series of inter-bedded black shales, olive shales, blue-green shales, pink-shales, and locally some thin bands of red shale.

None of the shales in this sequence contain hydrozincite.

Unit 6 Grey Dolomite

The basal member of unit 6 is a 35' - 40' thick bed of fine-grained, poorly bedded, massive, light brown (light grey on fresh surface) quartzite. This basal member is overlain by a well-bedded, massive, grey weathering dolomite (medium grey on fresh surface) that contains 1" to 6" bands of chert and flint that are discontinuous along strike.

Unit 7 Massive Stromatolitic Dolomite

Unit 7 is only exposed in the south-east corner of the claim group.

Unit 7 is composed of a massive, poorly-bedded, grey weathering (medium grey on fresh surface) dolomite that contains small irregular blebs (3" - 16" long) of black flint. Local outcrops of unit 7 contain fossilized stromatolites on weathered surfaces.

Unit 8 Basic Dykes

Unit 8 is composed of a series of green, very-fine to medium-grained diabase to dolerite dykes. These dykes are 5' to 100' thick and 50' to 1600' long.

STRUCTURAL GEOLOGY

The general trend of bedding in units 1 to 7 on the DEM claims is 110° to 150° and dip is 40° to 60° to the south-west.

The South one-third of the claim group contains a major anticline (axis bearing roughly 090°). This resulted in severe minor folding and shearing of units 3, 4, and 5.

Locally, units 3, 4 and 5 are faulted. This results in 5 to 15' thick discontinuous (along strike) bands of slightly mineralized bands of dolomite breccia.

MINERALIZATION

Mineralization found during prospecting and mapping of the DEM claim block occurred in the following environments:

(1) Greenstone dykes:

The diabase to dolerite dykes contain scattered specks of pyrite and chalcopyrite in trace amounts.

One diabase dyke in claims 10 and 31 contained minor chrysotile (fiber length 1/10" to 1/2") infilling small discontinuous fractures.

(2) Quartz - Carbonate Veins

Local, discontinuous shears in unit 3 are infilled with quartz-carbonate (2" to 30" wide) These infilled shears contain scattered specks of pyrite, malachite, chalcopyrite, galena, and minor hydrozincite flecks.

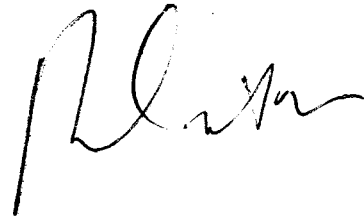
(3) Dolomite Breccia

Minor shears in units 3 and 4 contain scattered specks of galena, pyrite and traces hydrozincite in the matrix of the dolomite breccia.

CONCLUSIONS

Most of the DEM claims group has been prospected and

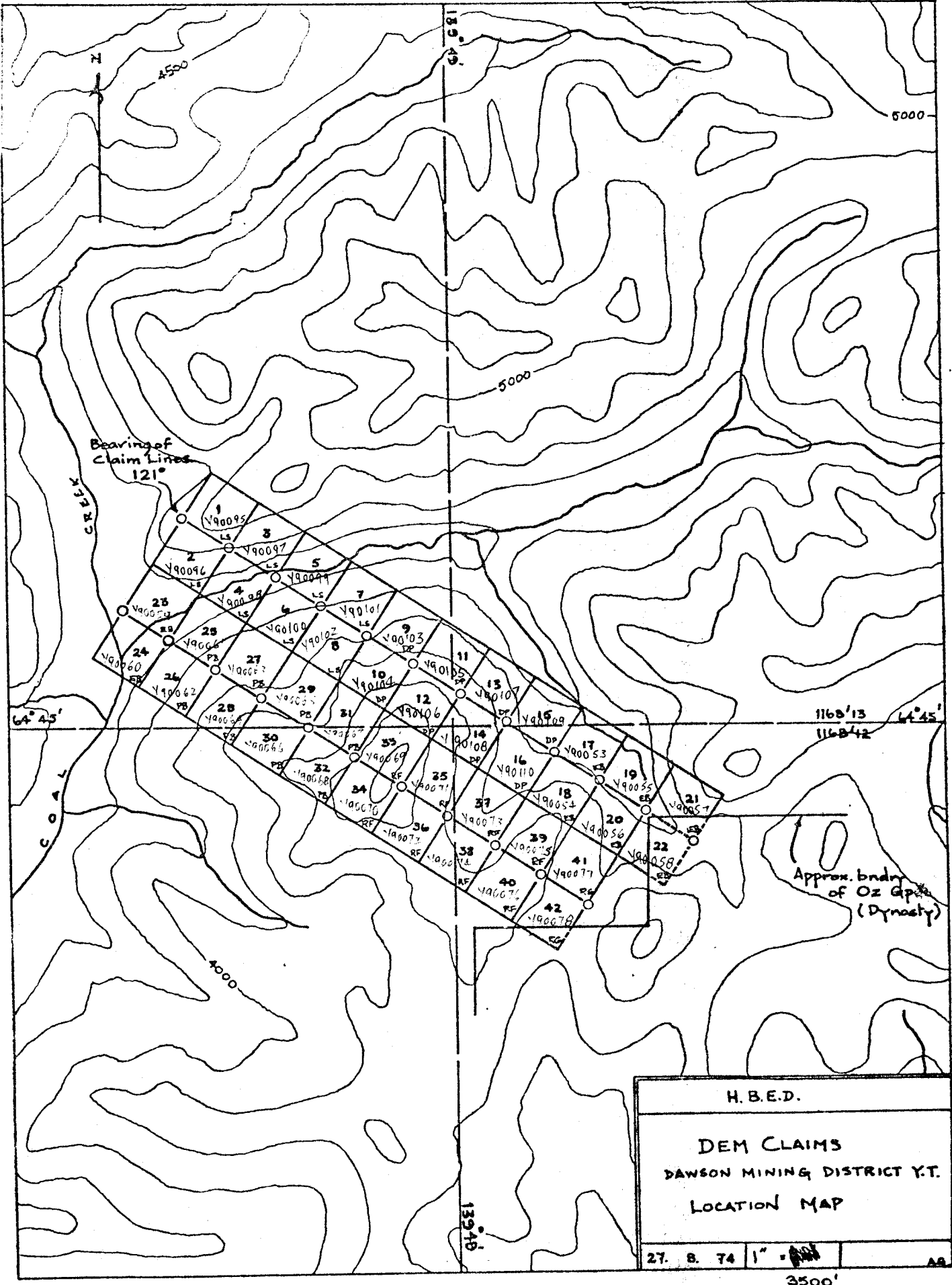
geologically mapped. During this work only scattered specks of malachite, chalcopyrite, galena, and hydrozincite were found in mafic dykes, quartz-carbonate fracture infilling, and local patches of dolomite breccia. However due to its favourable geological environment in relation to other occurrences in the area further work is recommended which would include detailed silt sampling, soil sampling and detailed geological mapping.

A handwritten signature in black ink, appearing to read 'R. T. McIntosh', written in a cursive style.

R. T. McIntosh B.Sc FGAC

Resident Geologist

APPENDICES



H.B.E.D.
DEM CLAIMS
DAWSON MINING DISTRICT Y.T.
LOCATION MAP
27. B. 74 1" = 3500'
3500'

UNPATENTED MINERAL CLAIMS

LOCATION Mt. Harper (116B13) Dawson M.D......

PROPERTY Dem. Claims.....

NAME	GRANT NUMBER	DATE STAKED	DATE RECORDED	STAKED BY	DATE OF TRANSFER	TRANSFEREE	DATE REGISTERED	EXPIRY	ASSESSMENT					
								MONTH	75	76	77	78	79	
Dem-1	90095	Aug 27/74	Sep.6/74	L. Smale	Sep 4/74	H.B.E.D.	Sep 6/74	September	x					
-2	90096	"	"	"	"	"	"	"	x					
-3	90096	"	"	"	"	"	"	"	x					
-4	90098	"	"	"	"	"	"	"	x					
-5	90099	"	"	"	"	"	"	"	x					
-6	90100	"	"	"	"	"	"	"	x					
-7	90101	"	"	"	"	"	"	"	x					
-8	90102	"	"	"	"	"	"	"	x					
-9	90103	"	"	D Poynton	"	"	"	"	x					
-10	90104	"	"	"	"	"	"	"	x					
-11	90105	"	"	"	"	"	"	"	x					
-12	90106	"	"	"	"	"	"	"	x					
-13	90107	"	"	"	"	"	"	"	x					
-14	90108	"	"	"	"	"	"	"	x					
-15	90109	"	"	"	"	"	"	"	x					
-16	90110	"	"	"	"	"	"	"	x					
-17	90053	"	Aug 29/74	E. Bennett	Aug 29/74	"	Aug 29/74	August	x					
-18	90054	"	"	"	"	"	"	"	x					
-19	90055	"	"	"	"	"	"	"	x					
-20	90056	"	"	"	"	"	"	"	x					
-21	90057	"	"	"	"	"	"	"	x					
-22	90058	"	"	"	"	"	"	"	x					
-23	90059	"	"	"	"	"	"	"	x					
-24	90060	"	"	"	"	"	"	"	x					

RECORD OF EXPENDITURES

1. Wages

R. Bennett, 18 days @ \$1185.00/month	\$711.00	
G. Billingsley, 15 days @ 950./month	450.00	
E. Yarrow, Supervisor		
- 2 days @ 1150.00/month	<u>76.00</u>	
	1237.00	
Overhead & fringe benefits @ 20%	<u>247.00</u>	\$1484.00

2. Camp Costs

35 man days @ \$12.50/day 437.50

3. Helicopter Costs Transwest Helicopters (1965) Ltd.

10.4 hours @ \$130.00/hr.	1352.00	
Fuel 10.4 x 20 x 1.00	<u>203.00</u>	1560.00

4. Mobilization Costs

Air fare - G. Billingsley- Whitehorse- Clinton Creek	138.00	
- R. Bennett-Whitehorse- Clinton Creek	138.00	

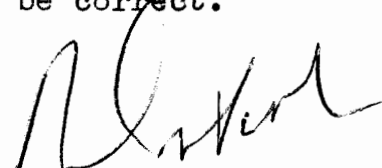
Helicopter-Clinton Cr. to base camp(50%)

June 16, 3 hrs. @ 130.00/hr.	390.00	
Fuel: 3 x 20 x 1.00	<u>60.00</u>	<u>726.00</u>

TOTAL EXPENDITURES

\$4207.50

I R. T. McIntosh hereby certify the above to be correct.


R. T. McIntosh, B.Sc F.G.A.C.

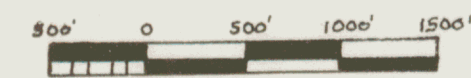
Resident Geologist

DEMPSTER PROJECT-1975

DAWSON MINING DIVISION Y.T.

DEM CLAIMS

DATE: 27/7/75



- LEGEND**
- OLIVE SHALE: [Color swatch]
 - BUFF DOLOMITE & SHALE: [Color swatch]
 - GREY DOLOMITE: [Color swatch]
 - BLUE-GREEN, OLIVE, BLACK, SHALE: [Color swatch]
 - BUFF DOLOMITE & SILTSTONE: [Color swatch]
 - BUFF DOLOMITE, SILTSTONE, ARGILLITE: [Color swatch]
 - BUFF DOLOMITE & MINOR SILTSTONE: [Color swatch]
 - BLACK ARGILLITE & SHALE: [Color swatch]
 - DIABASE: [Color swatch]

- SILT SAMPLE: ● 10/120/800
- TALUS: T.T.T.T.T.
- CONTACT: — — — — —
- POSSIBLE CONTACT: - - - - -
- FOLD: ⚡ ⚡
- FAULT: ~ ~ ~ ~ ~
- UNCONFORMITY: U - U - U - U

LOCATION MAP
SCALE: 0 2 4 miles

