



WELCOME NORTH MINES LTD. (N.P.L.)

1027 - 470 Granville St., Vancouver, B.C. V6C 1V5 Telephone (604) 687-1658

A GEOLOGICAL-GEOCHEMICAL INVESTIGATION

OF THE

MAT MINERAL CLAIMS

(MAT 1-16 and 18-24)

Latitude 61°32'N

Longitude 132°35'W

N.T.S. 105F-10

WATSON LAKE MINING DIVISION

YUKON TERRITORY

During the Period July 1, 1976 to September 7, 1976

Prepared by

John S. Brock



Geological Geochemical Report MAT Claims 105-F-10 1976

09050



This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of \$ 2638.23

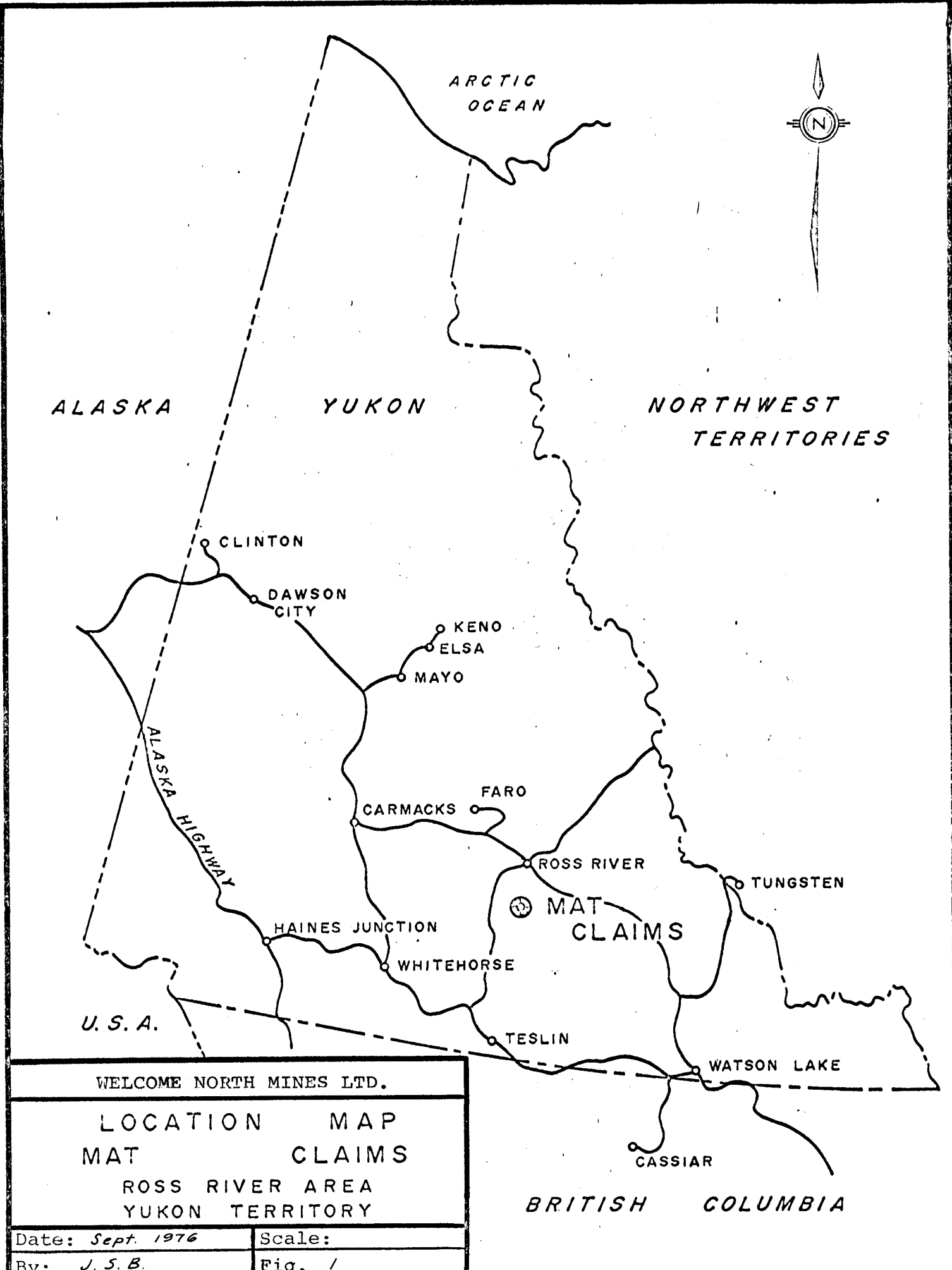
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a/ Resident Geologist or
Resident Mining Engineer

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

[Handwritten signature]
B.R. BAXTER
Supervising Mining Recorder

[Handwritten initials]
Commissioner of Yukon Territory



ALASKA

YUKON

NORTHWEST
TERRITORIES

ARCTIC
OCEAN



CLINTON

DAWSON
CITY

KENO
ELSA
MAYO

ALASKA
HIGHWAY

CARMACKS FARO

ROSS RIVER

TUNGSTEN

MAT
CLAIMS

HAINES JUNCTION

WHITEHORSE

U. S. A.

TESLIN

WATSON LAKE

CASSIAR

BRITISH COLUMBIA

WELCOME NORTH MINES LTD.

LOCATION MAP
MAT CLAIMS

ROSS RIVER AREA
YUKON TERRITORY

Date: Sept. 1976

Scale:

By: J. S. B.

Fig. 1

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INTRODUCTION

The MAT mineral claims were acquired by Welcome North Mines Ltd. under the provisions of an option agreement with Marvin Sherman of Whitehorse, Yukon.

The property was acquired due to the recognition of a volcano-genic massive sulphide environment, which geologic evidence was further supported by the findings of other companies exploring adjacent properties within the Seagull Creek area.

Preliminary exploration of the property involved geochemical sampling, assaying and prospecting.

CLAIMS STATUS

Claim No.	Grant Numbers	Staker	Recording Date	Due Date
MAT 1-4	Y83159-Y83162	M. Sherman	August 8, 1974	Aug. 8, 1977
MAT 5-12	Y93734-Y93741	K. Linille	Sept. 8, 1975	Sept. 8, 1976
MAT 13-16	Y93742-Y93745	G. Robbins	Sept. 8, 1975	Sept. 8, 1976
MAT 18-24	Y93701-Y93707	M. Saville	Sept. 17, 1975	Sept. 17, 1975

LOCATION AND ACCESS

The claims are located in south-central Yukon Territory about 25 miles south of Ross River and roughly 100 miles northeast of the city of Whitehorse, Yukon Territory. The approximate geographic location of the claims is 61°32' north latitude and 132°35' west longitude. The South Canal Road between Ross River and Johnson's Crossing on the Alaska Highway is located about 16 miles west of the property.

Access to the property is possible by helicopter directly to the property. Ross River is equipped with an all-weather landing strip and helicopters and fixed wing aircraft can be chartered there.



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MAT GROUP

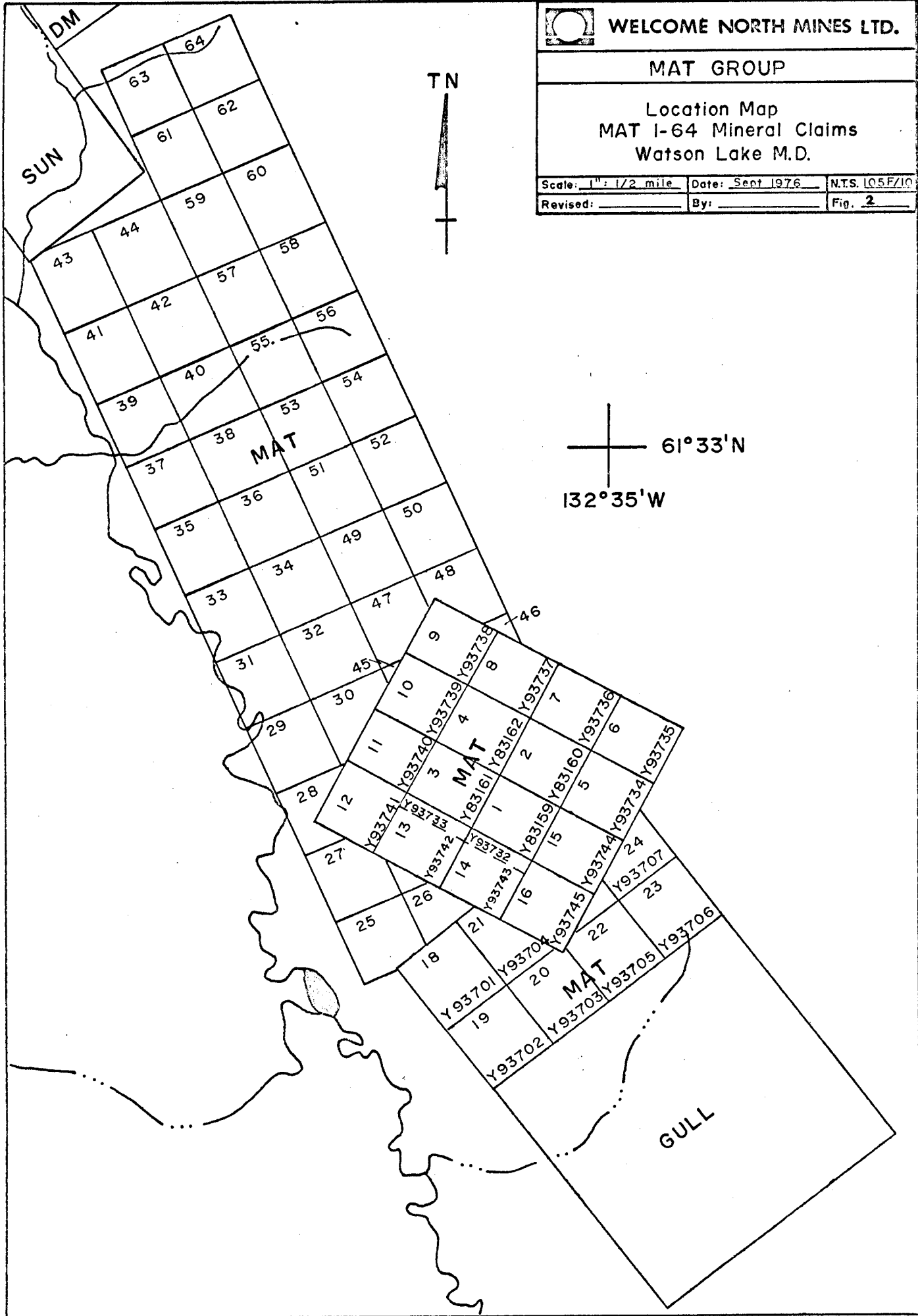
Location Map
MAT 1-64 Mineral Claims
Watson Lake M.D.

Scale: 1" = 1/2 mile Date: Sept 1976 N.T.S. 1:50,000
Revised: By: Fig. 2

TN



61°33'N
132°35'W



PHYSIOGRAPHY AND VEGETATION

The claim groups occupy portions of the westerly slope of a prominent north-northwesterly trending ridge. The MAT claims cover portions of a small cirque which drains westerly to Seagull Creek. The GULL claims lie near the extreme south end of the prominent ridge east of Seagull Creek. Topography on both properties is moderate and elevations vary from 4,000 to 5,200 feet A.S.L.

Vegetation consists of scattered, spruce and fir trees with frequent clumps of buckbrush. Treeline occurs at approximately 4,500 feet A.S.L. with grass and minor shrubs above this elevation. Travel to any part of the properties is not difficult in this relatively open country.

HISTORY AND PREVIOUS WORK

The following summary of previous work has been derived from the Archer-Cathro Northern Cordillera Mineral Inventory - 1972:

"Staked as Box cl(88443) in Sept/63 by O. Haug for Conwest, which explored with hand trenching in 1964. Restaked as MC cl(Y2879) in April/66 by J.K. Campbell and optioned in 1966 to Tay River ML (controlled by Silver Standard ML, Copper Ridge ML and Utica ML), which trenched, sampled, and mapped the showings in Aug/66. In 1968, the claims were optioned by Canol ML but no further work was done. Restaked as Mat cl (Y83159) in Aug/74 by Nithex E & Dev L, which added the Gull cl (Y83155) two miles SE and conducted mapping and trenching later in the year and optioned the property in 1975 to a joint venture between Northern Homestake ML and Royal Agassiz ML. The joint venture added more Mat and Gull cl (Y93701) in Sept/75 and conducted more mapping and trenching. Northern Homestake changed its name to Robbins EL early in 1976. "

REGIONAL GEOLOGY

Within the Pelly Mountain region (N.T.S. 105F - Quiet Lake) Mississippian to Permian acid to intermediate submarine explosive volcanic rocks have been mapped by the Geological Survey of Canada. The volcanic centres would appear to be located in and to the north of the

Seagull Creek area and the whole pile (900 meters plus) is composed of a number of coalescing sheets of ejecta extruded from several centres. Further to the north and southwest a thinner (100 meter) sequence of volcanoclastic and sedimentary rocks are facies equivalents of the units described above. Syenites, presumably a subvolcanic relative of the extrusive rocks, occur as several small plugs within the volcanic pile.

These rocks are underlain by 500 meters of Devonian to Mississippian black siliceous slate and minor wacke representing quiet deeper water sedimentation.

Overlying the volcanic sequence are several hundred meters of laminated strongly bioturbated shales and siltstones which are in turn overlain by 500 meters of Middle to Upper Triassic silty sandy medium grey, thin-bedded limestones.

PROPERTY GEOLOGY

The main showing area is exposed on the walls and bottom of a shallow gorge cut by a north-northwesterly flowing creek. A 5-foot wide bed of massive galena is exposed in the creek bottom. The mineralization strikes northerly and dips moderately east. A selected sample taken from this zone assayed 19.40% lead, 11.63 oz. silver and 0.046 oz. gold per ton.

The creek appears to follow a fault or shear zone as the graphitic slate and foliated quartz-eye tuffs exposed there are highly brecciated and altered. Pyrite is scattered throughout the outcrop area as fine-grained disseminated material and as larger semi-massive lenses. An area about 75 feet long is exposed in the creek walls and scattered stringers and nests of medium to coarse-grained galena cubes are found throughout this area. The pyrite mineralization surrounds the bed of massive galena and seems to be part of a northwesterly-trending zone of unknown width which follows the creek.

Grab samples were taken of typical mineralization encountered within the "pyrite zone".

TABLE OF FORMATIONS

ERA	PERIOD OR EPOCH	FORMATION & THICKNESS		LITHOLOGY
MESOZOIC	MID TO UPPER TRIASSIC	8	500M	Silty sandy, medium grey thin-bedded limestone
	PERMIAN MISSISSIPPIAN	6b,6c	200M	Laminated strongly bioturbated shale and siltstone
			100M	Orange weathering, thin-bedded, pale green tuffaceous chert
			900M	Acid to intermediate volcanic and volcanoclastic rocks and shale
MISSISSIPPIAN DEVONIAN	5	500M	Black siliceous slate with minor greywacke and barite	
LOWER TO UPPER DEVONIAN		2400+	Dolomite and orthoquartzite dolomitic mudstone	
UNCONFORMITY				
PALEOZOIC	LOWER TO MIDDLE SILURIAN	4	1000M	Laminated thin-bedded dolomite siltstone. Crinoidal packstone and wackestone, dolomite
	LOWER TO UPPER ORDOVICIAN	3	1000M	Fissile black graptolitic slate. Thin-bedded orthoquartzite. Dolomitized mudstone.
			1500-2000M	Medium grey noncalcareous phyllites and volcanic rocks
	UPPER CAMBRIAN	2	1000M	Calcareous slate, phyllite and argillaceous limestone
	UNCONFORMITY			
LOWER CAMBRIAN	1c	1500+M	Orthoquartzite, slate and phyllite, limestone and dolomite.	
UNCONFORMITY				
PROTEROZOIC	HADRYNIAN	1b,1a	700+M	Green argillite, fine-grained, thin-bedded crosslaminated greenish argillaceous quartzite

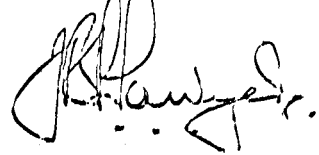
<u>SAMPLE</u>		<u>Cu</u>	<u>Zn</u>	<u>Pb</u>	<u>Au</u>	<u>Ag</u>
812	massive bedded pyrite, some botryoidal texture and flow structures		.05	2.06	.068	11.12
813	massive bedded coarse-grained pyrite		.02	1.72	.034	6.54
814	botryoidal (?) pyrite with galena matrix		.25	21.0	.03	46.22
815	massive fine-grained pyrite		.05	.68	.089	1.25
816	graphitic breccia with minor barite			32 ppm	816 ppm	
817	massive coarse-grained pyrite		.03	.25	.044	0.24
818	felsic gossan		1204 ppm	132 ppm		
819	chert breccia with calcite-barite matrix		89 ppm	688 ppm		
820	andesite with 10% pyrite		648 ppm	132 ppm		
821	quartz-eye tuff		24 ppm	1000 ppm		
822	felsic tuff	33 ppm	400 ppm	104 ppm		

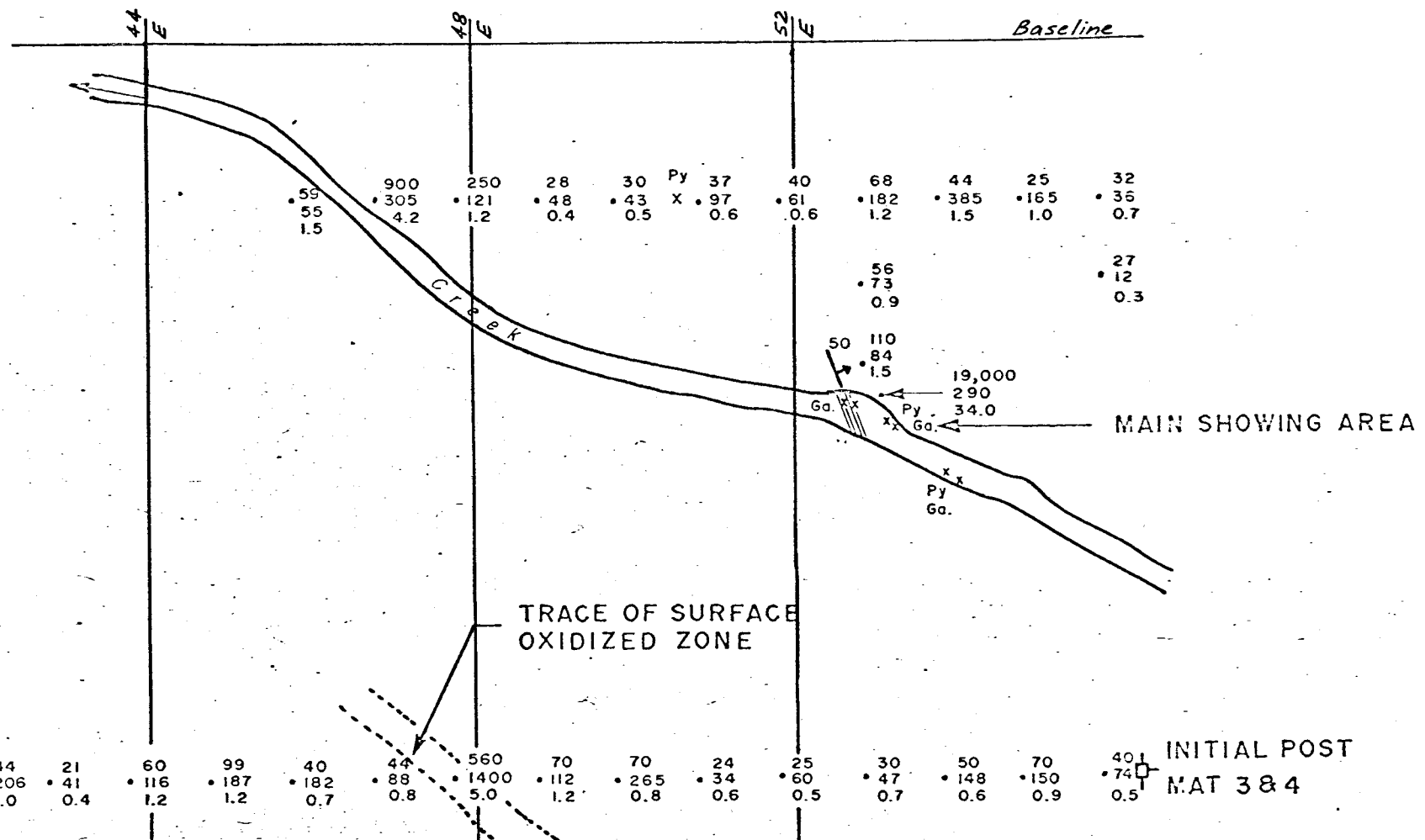
A parallel gossan zone which is now completely oxidized occurs about 400 feet west of the zone exposed in the creek. Portions of the gossan zone have been traced over a strike length of 1200 feet. The gossan appears to be transported and cements fragments of a felsic tuff.

The property was examined by an independent geological consultant, Dr. Paul Sawyer. An excerpt from his report is tabled on the following page.

Mineralization in the upper showing is a very heavy gossan which is possibly transported. The rocks are fairly acid, green to green grey volcanics, in which very little sulphide is visible but the weathered surfaces show good limonite development. In one or two places we do find small seams of pyrite and possibly minor amounts of zinc and some pyrrhotite in place. The strike of the cleavage here is about 095° .


On the lower showing down in the creek, there are exposures of grey schists or phyllites with abundant pyrite. The strike again is about 095° to about 105° . In the creek bed also there is heavy pyrite associated with quartz veins. Higher up the creek there is more schists, sometimes quite graphitic. The strike appears to be about 125° , dipping south. There is galena in some of the schists and in places fairly massive pyrite with galena, and again some green staining which may or may not be copper staining. The impression is still of a fairly flatly dipping band. Overall dip might be of the order of 30° - 35° to the south."





- LEGEND -

- 44
- 206 SOIL SAMPLE LOCATION WITH ZINC VALUES IN P.P.M.
1.0 LEAD SILVER
- Claim Posts
- Py, Ga MINERAL OCCURRENCE: PYRITE, GALENA.

 WELCOME NORTH MINES LTD.		
MAT MINERAL CLAIMS		
<h1>GEOLOGY</h1>		
Scale: 1" = 200'	Date: Sept. 1976	NTS/05F/10
Revised:	By: J.S.B.	Fig. 3

GEOCHEMICAL SURVEY

1. Method of Survey

The geochemical survey was carried out under the direction of Dr. Paul Sawyer, P.Eng. Soil sampling was confined to a previously cut picket-line grid. All soil samples were obtained with a prospector's grub hoe from the "B" soil horizon.

2. Method of Analysis

All samples were analyzed by Bondar-Clegg Limited at Whitehorse, Yukon. The samples received were dried, screened to -100 mesh, weighed out to 0.5 grams and digested in hot aqua regia. Samples were then diluted, clarified for 20 hours and tested for copper, lead, and zinc on an atomic absorption spectrophotometer.

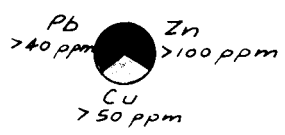
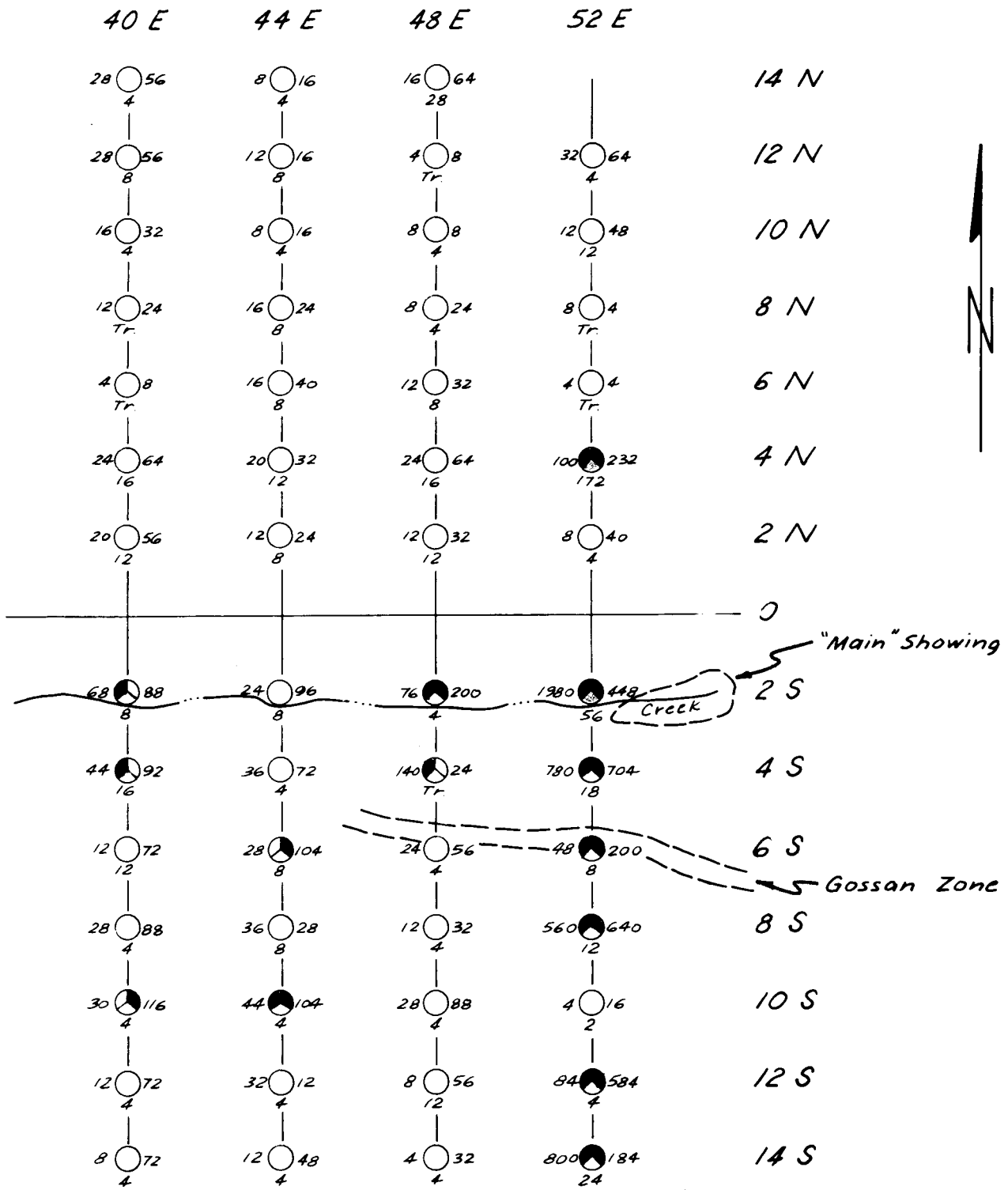
Accuracy of the instrument ideally is 1 percent of the amount of metal present. Individual cathode lamps are used for each element determined and a direct readout in parts per million are given.


3. Treatment of Data

All results of the geochemical soil samples were treated statistically to determine background-threshold-anomalous values. Values are presented on Figures 3 and 4. Values are colour coded on the maps to aid in distinguishing anomalous areas. Threshold values of 40, 100 and 50 ppm were determined respectively for lead, zinc and copper.

4. Interpretation of Results

Lines 48E and 52E (ref. Figure 4) contain anomalous values in lead and zinc which have been interpreted as reflecting extensions of known sulphide mineralization located at station 2S on line 52E. Weakly anomalous areas south of the creek between lines 40E and 48E could either reflect extensions of the main zone whose geochemical sequence is marked by noticeably deeper overburden or downslope



 WELCOME NORTH MINES LTD.		
MAT MINERAL CLAIMS		
GEOCHEMICAL SURVEY		
Scale 1:400'	Date Sept. 1976	NTS 105E/10
Revised	By J S B.	Fig 4

migration of metal ions from the known sulphide occurrence on line 52E.

Two reconnaissance lines of soil samples were run parallel to topographic slope (ref. Figure 3) by Marvin Sherman in 1975. These soils, analyzed for lead, zinc and silver, reflect underlying metal concentrations related to the gossan zone as well as a westerly extension of the main showing area.

CONCLUSIONS AND RECOMMENDATIONS

Known exposures of sulphide mineralization coupled with the presence of related geochemical anomalies and a gossan zone, present an exploration target that warrants further investigation.

Recommendations for further work would include:

Phase 1:

- 1) Geologically map the claim groups at a scale of 400 feet equals 1 inch.
- 2) Soil sample the claim area on a 400 x 100 grid and analyze for lead, zinc, copper, and silver. Anomalous areas should be detailed by closer spacing of samples.
- 3) Trench with a bulldozer those areas which are significantly anomalous and where geological mapping indicates possible extension of mineralized zones.

Respectfully submitted,



John S. Brock

APPENDIX A

BIBLIOGRAPHY

- Archer Cathro & Assoc. Ltd., Northern Mineral Inventory.
- Templeman-Kluit, D.J., Report of Activities, 1973, 1974, 1975, 1976.
Open file mapping and personal communication.
- G.S.C. Bulletin 208, 1972, Geology and Origin of the Faro, Vangorda,
and Swim Lake Concordant Zinc-Lead Deposits Central Yukon
Territory.
- Wheeler, J.P. et al, 1960, Geology of Quiet Lake, Yukon Territory,
G.S.C. Map 7 - 1960.
- Personal Communication, Mr. M. Sherman, Whitehorse, Yukon Territory.
- Templeman-Kluit, D.J., Abbot, G., Read, B., Stratigraphy and Structure
of Pelly Mountains.
G.S.C. Paper 74-1, Part A, Page 43
G.S.C. Paper 75-1, Part A, Page 45
G.S.C. Paper 76-1, Part A, Page 97
- Gabrielse, H. and Wheeler, J.O., 1961, Tectonic framework of Southern
Yukon and Northwestern B.C., G.S.C. Paper 60-24
- Sinclair, A.J., 1974, Journal of Geochemical Exploration, Vol. 3,
Page 129-149, Selection of Threshold Values in Geochemical
Data using Probability Graphs.
- Gordey, S.P., G.S.C. Paper 76-1, Part B, Page 1.

APPENDIX B

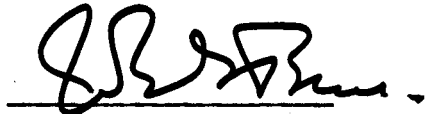
STATEMENT OF COSTS

WAGES - John S. Brock 7 days @ \$110/day	\$ 770.00
HELICOPTER SUPPORT - Terr-Air Ltd.	712.38
ASSAYS	130.20
CONSULTING - J. Pau, Sawyer	600.00
EXPEDITING	11.65
CAMP COSTS - 7 man days @ \$25/day	175.00
ADMINISTRATION - @ 10%	<u>239.00</u>
TOTAL COSTS	<u><u>\$2,638.23</u></u>

APPENDIX C

AFFIDAVIT SUPPORTING SUMMARY OF COST

I, JOHN S. BROCK, President of Welcome North Mines Ltd.
(N.P.L.) of Vancouver, B.C., do hereby state that, to the
best of my knowledge and belief the Statement of Costs
presented in this report (A Geological-Geochemical
Investigation of the MAT Mineral Claims) is both correct
and true.



John S. Brock

SWORN BEFORE ME at the City of
Vancouver, in the Province
of British Columbia, this
28 day of October, 1976.



A Notary Public in and for the
Province of British Columbia.

CERTIFICATE

I, JOHN S. BROCK, of 3029 Procter Avenue, West Vancouver, British Columbia, DO HEREBY CERTIFY:

1. That I am a geologist and geophysicist with a business office at 1027 - 470 Granville Street, Vancouver, B.C.
2. That I am a graduate in geology and geophysics of the University of British Columbia (B.Sc. - 1964).
3. That I am a Fellow of the Geological Association of Canada (1967), a member of the Canadian Institute of Mining and Metallurgy (1966), and a member of the Society of Exploration Geophysicists (1968).
4. That I have practiced my profession as a geologist and geophysicist for the past twelve years.
5. That the information, opinions, and recommendations in the attached report are based on personal knowledge of the property gained from work in the field during the period July 1 to September 7, 1976 and on general knowledge of the Pelly Mountains, Yukon gained over the past thirteen years.



John S. Brock

DATED at Vancouver, British
Columbia this 28
day of October, 1976.