WELCOME NORTH MINES LTD. (N.P.L.)
Suite 8, 1161 Melville St., Vancouver, B.C. V6E 2X7 Telephone (604) 687-1658

ARCTIC RED PROJECT

GEOLOGICAL REPORT

ON THE

AXE AND NEST CLAIM GROUPS

Latitude 64° 34'N. Longitude 132° 32'W.

MAYO MINING DISTRICT

N.T.S. 106-C-9, 10

YUKON TERRITORY
CANADA

Work Conducted: May 18th, 1974-December 31st, 1974

by

J.S. Brock,
and
J.D. Guild, B.Sc., P.Eng.,

January 31st, 1975

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 $ 8500.00

D.B. Craig
Resident Geologist or
~~Resident Mining Engineer~~

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

Commissioner of Yukon Territory

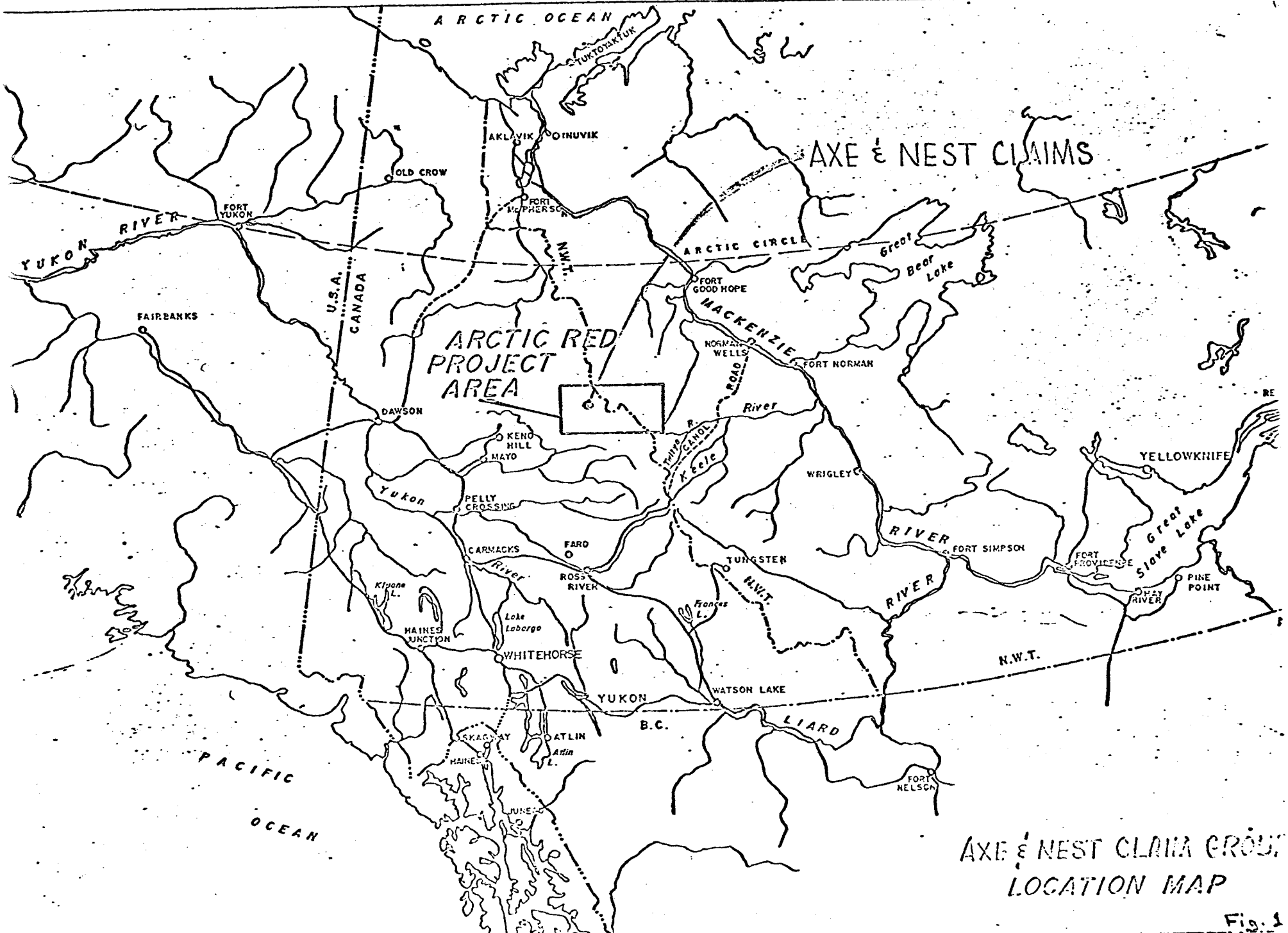
TABLE OF CONTENTS

AXE AND NEST CLAIM GROUPS

LIST OF ILLUSTRATIONS

APPENDICES

- - - - - - - - - - - - - - - - - -



AXE & NEST CLAIM GROUP
LOCATION MAP

Fig. 1

LIST OF CLAIMS

AXE AND NEST CLAIM GROUPS

MAYO MINING DISTRICT
N.T.S. 106-C-9 & 10
YUKON TERRITORY

Claims	Grant Numbers	Recording Date
AXE 1-24	Y88428-Y88451	May 16, 1974
AXE 25-40	Y86502-Y86517	Feb. 15, 1974
NEST 1-6	Y89141-Y89146	July 12, 1974

Total 46 Mineral Claims

AXE AND NEST CLAIM GROUPS

INTRODUCTION

Welcome North Mines Ltd., on behalf of the Arctic Red Joint Venture, entered into an agreement to acquire the AXE Claim Group in early 1974. The group was acquired on the basis of a favourable geologic setting within the sphere of known and actively explored mineral occurrences. Furthermore, lead-zinc mineralized float had been found within the claim boundaries.

A preliminary evaluation of the AXE Group was made by a three-man party during the period May 27 - June 2, 1974. The program, consisting of geological mapping and prospecting both within the claim group and into the favourable rock adjoining the group, was successful in eastablishing sufficient mineralization to fully warrant the recommendation of an on-going program. The recommendation of further work was considered especially appropriate as during the initial examination, snow covered approximately 40 percent of the mineral-bearing dolomites on the property.

The discovery of zinc mineralization to the east of the AXE Claim Group resulted in the staking of NEST Mineral Claims 1-6 as a tie-on block.

SUMMARY AND CONCLUSIONS

The AXE Property was acquired by the Arctic Red Joint Venture in early 1974. The contiguous NEST Claim Group was staked by Welcome North personnel in the course of a brief property examination in May of 1974.

Lead-zinc mineral occurrences within a favourable carbonate environment have been found on the property. These occurrences are considered sufficiently interesting to maintain the property in good standing subject to a further examination by representatives of the joint venture partners. Although no exposures discovered to date can be considered of economic tenor (the best being an estimated 3-5% zinc over a 10 foot thickness), mineral concentrations in float do suggest possible local improvements in grade. The indicated increase in zinc content along the unprospected lower band, on the south side of the property, is considered particularly interesting. The NEST showings are also considered to illustrate a local improvement in grade within the same general stratigraphic sequence.

A program of prospecting and grid soil geochemistry is recommended.

LOCATION AND ACCESS

The AXE-NEST Claim Group straddles parts of the broad valley formed by an upper tributary of the Snake River. Elevations on the property range from 4,000 feet in the valley floor to a maximum of 5,500 feet on the west side of the claim block. Treeline extends to 4,300 feet, while snow in late May covers the ground to 5,000 feet plus the lower shaded ravines. Ample water for drill purposes is conveniently located on the property.

Access can best be gained by helicopter from Mayo, Yukon Territory, which is located some 140 miles to the west (Figure 1). The claim group is situated in the Mackenzie Mountains of the Yukon, at latitude 64° 34'N. and longitude 132° 32'W., approximately 8 miles to the north of the Barrier Reef, Goz Creek Property.

MINERAL CLAIMS

The AXE-NEST Property consists of the following 46 located, contiguous mineral claims in the Mayo Mining District of the Yukon Territory (Figure 2):

Claims	Grant Numbers	Recording Date
AXE 1-24	Y88428-Y88451	May 16, 1974
AXE 25-40	Y86502-Y86517	Feb. 15, 1974
NEST 1-6	Y89141-Y89146	July 12, 1974

CLAIMS	TAG Nos.
AXE 1-24	Y 86428-451
AXE 25-40	Y 86502-517
NEST 1-6	Y 69141-146

WELCOME NORTH MINES LTD.

AXE & NEST MINERAL CLAIMS

NTS 106 C/10

CLAIM MAP

CORRELATED GEOLOGIC LEGEND

MACKENZIE MOUNTAINS REGION

PREPARED FROM PUBLISHED GSC DATA COVERING
NTS AREAS 105 N,O,P & 106 A,B,C,F

Era	Period	105 P SEKWI MAP SHEET (BLUSSON 1972)	106 A,B,C 105 N,O (BLUSSON 1974)	106 A (AITKEN 1974)	106 B (AITKEN 1974)	BONNET PLUME BASIN (NORRIS)
CENOZOIC	PLEISTOCENE AND RECENT	32 UNCONSOLIDATED GLACIAL AND ALLUVIAL DEPOSITS				
CENOZOIC	TERTIARY		Tv ANDESITE, BASALT, DACITE AND PYROCLASTIC			15 BONNET PLUME FORMATION SHALE, SANDSTONE, CONGLOMERATE AND COAL
MESOZOIC	CRETACEOUS	31 BIOTITE-HORNBLENDE, QUARTZ MONZONITE, GRANODIORITE INTRUSIVE CONTACT 30 BLACK SHALE, ARGILLITE, SANDSTONE COAL FAULT CONTACT	Kg QUARTZ MONZONITE, GRANODIORITE Kd DIORITE			14 EAGLE PLAIN FORMATION SANDSTONE AND SHALE 13 SHALE AND SANDSTONE
MESOZOIC	TRIASSIC		Trq QUARTZITE, SHALE			12 LIMESTONE
MESOZOIC	CARBONIFEROUS OR PERMIAN	29 DOLOMITE, ORTHOQUARTZITE, LIMESTONE, SHALE UNCONFORMITY (?)	CP DOLOMITE, ORTHO-QUARTZITE, SHALE			
PALEOZOIC	DEVONIAN AND MISSISSIPPIAN: UPPER DEVONIAN AND(?) MISSISSIPPIAN	28 BLACK SHALE, ARGILLITE 27 ORTHOQUARTZITE, SANDSTONE, CONGLOMERATE, SHALE 26 BESA RIVER FORMATION SHALE, ARGILLITE, SILTSTONE	DMsc ORTHOQUARTZITE, SAND, CHERT PEBBLE CONGLOMERATE AND SHALE DMcgl CHERT PEBBLE & COBBLE CONGLOMERATE DM CHERT, ARGILLITE, ARENITE, CONGLOMERATE DMs BESA RIVER FORMATION BLACK SHALE AND SILTSTONE	Di IMPERIAL FORMATION SHALE, SANDSTONE, MINOR LIMESTONE, MARINE Dhc HARE INDIAN AND CANOL FORMATIONS AND BASAL IMPERIAL SHALES, UNDIFFERENTIATED SHALE, LIMESTONE, SILTSTONE, MARINE Dihc Di, Dhc, UNDIFFERENTIATED	Dhci HARE INDIAN, CANOL & IMPERIAL FORMATIONS, UNDIFFERENTIATED	11 BASAL BESA RIVER SHALE, SANDSTONE AND LIMESTONE
PALEOZOIC	MIDDLE DEVONIAN: GIVETIAN	25 NAHANNI FORMATION GREY LIMESTONE 24 HEADLESS FORMATION ARGILLACEOUS & SILTY LIMESTONE, DOLOMITE	Dn NAHANNI FORMATION GREY LIMESTONE Dh HEADLESS FORMATION ARGILLACEOUS AND SILTY LIMESTONE	Dh HUME FORMATION LIMESTONE, MINOR SHALE, MARINE	Dh HUME FORMATION	
PALEOZOIC	MIDDLE DEVONIAN: EIFELIAN & GIVETIAN	23 LANDRY FORMATION LIMESTONE, MINOR BIOCLASTIC REEFOID & HEMATITE 22 ARNICA FORMATION DOLOMITE, MINOR LIMESTONE	Dl LANDRY FORMATION GREY TO WHITE & GREY TO BLACK LIMESTONE Da ARNICA FORMATION DOLOMITE, LIMESTONE, VUGGY BRECCIA Ps BLACK SHALE, CHERT, CONGLOMERATE, ARGILLITE, GREY QUARTZITE, LIMESTONE	Dl LANDRY FORMATION LIMESTONE, MARINE Da ARNICA FORMATION DOLOMITE, MINOR SOLUTION BRECCIA, MARINE Db BEAR ROCK FORMATION DOLOMITE, BRECCIA, ANHYDRITE, GYPSUM	Dl LANDRY FORMATION D CARBONATE FORMATIONS UNDIFFERENTIATED Da ARNICA FORMATION	10 LIMESTONE, DOLOMITE AND SHALE
PALEOZOIC	LOWER DEVONIAN	21 SOMBRE FORMATION DOLOMITE	Ds SOMBRE FORMATION DOLOMITE Dc CANSELL FORMATION LIMESTONE BRECCIA		SD DELORME AND/OR CANSELL FORMATION AND EQUIVALENTS	
PALEOZOIC	SILURIAN AND DEVONIAN	20 DELORME FORMATION DOLOMITE, LIMESTONE, BRECCIA	SDd DELORME FORMATION DOLOMITE AND LIMESTONE SDc DOLOMITE, MINOR LIMESTONE	Dd DELORME FORMATION DOLOMITE; MARINE		
PALEOZOIC	ORDOVICIAN AND SILURIAN	19 WHITTAKER FORMATION DOLOMITE, BLACK CHERT BANDS 16 ROAD RIVER FORMATION PLATY LIMESTONE, CALCAREOUS SHALE	OSk MOUNT KINDLE FORMATION DOLOMITE, LOCALLY VUGGY REEFOID ODu UNDIVIDED ODSr ROAD RIVER FORMATION SHALE, SILTSTONE, LIMESTONE	OSk MOUNT KINDLE FORMATION DOLOMITE, MINOR CHERT, MARINE €Dr ROAD RIVER FORMATION SHALE, LIMESTONE & DOLOMITE, THIN BEDDED	OSk MOUNT KINDLE FORMATION €Dr ROAD RIVER FORMATION SHALE, SILTSTONE, LIMESTONE, DOLOMITE €Drc – CARBONATE	8 DOLOMITE, LIMESTONE & SHALE 9 ROAD RIVER FORMATION SHALE AND LIMESTONE
PALEOZOIC	MIDDLE ORDOVICIAN	18 SUNBLOOD FORMATION DOLOMITE, LIMESTONE	Ov VOLCANIC CONGLOMERATE, GREYWACKE			
PALEOZOIC	CAMBRIAN AND ORDOVICIAN	17 SILTY DOLOMITE, LIMESTONE (LIMY PHASES OF ROAD RIVER) UNCONFORMITY	€Or SILTY DOLOMITE & LIMESTONE	€Of FRANKLIN MOUNTAIN FORMATION DOLOMITE, POLYGENIC, PARTLY SANDY, SILTY, ARGILLACEOUS €Ofs— "BASAL RED BEDS" €Of FACIES TRANSITIONAL BETWEEN FRANKLIN MOUNTAIN AND ROAD RIVER FORMATIONS	€Of FRANKLIN MOUNTAIN FORMATION TRANSITIONAL FACIES AS €Of, INCLUDING EQUIVALENTS OF MOUNT KINDLE FORMATION: €Ofu – UPPER CARBONATE, €Ofl – LOWER SHALE	
PALEOZOIC	MIDDLE CAMBRIAN	15 SHALE, SILTY ARGILLACEOUS LIMESTONE, MINOR DOLOMITE UNCONFORMITY				
PALEOZOIC	LOWER CAMBRIAN	14 SEKWI FORMATION DOLOMITE, LIMESTONE, MINOR SHALE 13 SANDSTONE, SILTSTONE, MINOR ORTHOQUARTZITE	€s SEKWI FORMATION DOLOMITE, LIMESTONE, SHALE & SANDSTONE	€sk SEKWI FORMATION LIMESTONE, DOLOMITE, POLYGENIC, MINOR SHALE SANDSTONE, MARINE	€sk SEKWI FORMATION	7 LIMESTONE, SILTSTONE, CONGLOMERATE
PALEOZOIC	CAMBRIAN AND EARLIER	12 ORTHOQUARTZITE, SILTSTONE, SHALE, QUARTZITE 11 DOLOMITE, SANDSTONE 10 10a SLATE, DOLOMITIC SHALE 10b LIMESTONE, DOLOMITE (REEFOID)	€q QUARTZITE, SILTSTONE, SHALE €dq DOLOMITE €c[1] DOLOMITE, IN PART PISOLITIC €c[2] POROUS FINE GRAINED DOLOMITE €bpc BACKBONE RANGES FORMATION	€b BACKBONE RANGES FORMATION SANDSTONE, QUARTZITE, MINOR DOLOMITE	€b BACKBONE RANGES FORMATION	
PROTEROZOIC	HADRYNIAN & (?) CAMBRIAN	9 SHALE, ARGILLITE, SILTSTONE	H€sc SHEEPBED FORMATION SLATE, SILTSTONE, MINOR QUARTZITE, CONGLOMERATE, CARBONATE	Hs Hsc SHEEPBED FORMATION SHALE, SILTSTONE, MARINE sc - CARBONATE	Hs SHEEPBED FORMATION	6 SHALE, SANDSTONE AND LIMESTONE
PROTEROZOIC	HADRYNIAN	8 SANDY DOLOMITE, LIMESTONE BRECCIA LOCAL UNCONFORMITY 7 UPPER RAPITAN GROUP SILTSTONE, SANDSTONE ANGULAR UNCONFORMITY 6 MIDDLE RAPITAN GROUP MUDSTONE, GREENSTONE, SANDSTONE, CHERT ANGULAR UNCONFORMITY 5 LOWER RAPITAN GROUP MUDSTONE, LIMESTONE, SANDSTONE, CHERT ANGULAR UNCONFORMITY 4 LIMESTONE, DOLOMITE	Hk KEELE FORMATION SILTY & SANDY DOLOMITE Hd / Hdgl 1 DOLOMITE, CONGLOMERATE 2 GREY DOLOMITE, POROUS - F.G. Hru UPPER RAPITAN GROUP SHALE & SILTSTONE Hrm MIDDLE RAPITAN GROUP MUDSTONE, CONGLOMERATE Hg "GRIT UNIT" Hs – DOLOMITE Hv – VOLCANICS Hsq Hsc SHALE, SILTSTONE, CONGLOMERATE, DOLOMITE sc - INCLUDES SHALE & SANDSTONE Hsfs SLATE, SANDSTONE, CONGLOMERATE Hc DOLOMITE, LIMESTONE	Hk KEELE FORMATION DOLOMITE, LIMESTONE, QUARTZITE, SHALE, CONGLOMERATE Hru UPPER RAPITAN GROUP ARGILLITE, SILTSTONE, SANDSTONE, MUDSTONE, LIMESTONE, CONGLOMERATE; MARINE Hrm MIDDLE RAPITAN LIMESTONE, DOLOMITE, CONGLOMERATE Hrl LOWER RAPITAN CONGLOMERATE, MUDSTONE, ARGILLITE SANDSTONE; MARINE Hr RAPITAN GROUP UNDIFFERENTIATED	Hk KEELE FORMATION Hr RAPITAN GROUP ARGILLITE, SILTSTONE, SANDSTONE, CONGLOMERATE MUDSTONE, LIMESTONE; ( ) MARINE	5 MUDSTONE, CONGLOMERATE, DOLOMITE AND IRON FORMATION
PROTEROZOIC	HELIKIAN	3 LIMESTONE 2 DOLOMITE, (STRAMATOLITIC) VUGGY DOLOMITE 1 ARGILLITE, SHALE, DOLOMITE, SILTSTONE, QUARTZITE	NOT CORRELATED: Hc Hs c – DOLOMITE s – SLATE, SILTSTONE, DOLOMITE Hsd SLATE, ARGILLITE, QUARTZITE, LIMESTONE Hss ARGILLITE, LIMESTONE, MINOR BIOTITE HORNFELS	Hg GABBRO Hld LITTLE DAL FORMATION DOLOMITE, LIMESTONE, POLYGENIC, SANDY, SILTY H5 H5c UNNAMED MAP UNIT H5 SHALE, PARTLY RED, NODULAR LIMESTONE, DOLOMITE, MARINE c – CLIFF FORMING LIMESTONE & DOLOMITE g – PARTLY GYPSUM Hku UPPER KATHERINE GROUP QUARTZITE, DOLOMITE, SHALE; MARINE Hkl LOWER KATHERINE GROUP QUARTZITE, MINOR SHALE, DOLOMITE Ht TSEZOTENE FORMATION SHALE, SANDSTONE, DOLOMITE, LIMESTONE MARINE; GABBRO SILLS	Hld LITTLE DAL FORMATION H5 H5c UNNAMED MAP UNIT #5 Hku UPPER KATHERINE GROUP Hkl LOWER KATHERINE GROUP	NOT CORRELATED: 4 SANDSTONE, DOLOMITE, SHALE 3 ORANGE DOLOMITE 2 SLATE & QUARTZITE 1 PHYLLITE

REGIONAL GEOLOGY

The geology in the Bonnet Plume area is marked by abrupt thickening of the carbonates and abrupt facies changes from carbonate to shale and back into carbonate over relatively short distances. A trough filled with shallow marine Ordovician to Middle Devonian calcareous shale opens toward the southeast but is overthrust by Hadrynian clastics before large exposures of Summit Lake-type shale environment is encountered. At the base of the Hadrynian there is a large hiatus where the Rapitan Formation overlies Helikian algal dolomites.

The AXE Property is located within the Ordovician to Middle Devonian shale and carbonate sequences and covers mainly limestones and shales of Road River and Besa River Formation.

PROPERTY GEOLOGY AND MINERAL OCCURRENCES

The geology of the AXE-NEST Property has been mapped on a preliminary basis and together with the mineral occurrence locations, is presented on a scale of 1 inch=1,000 feet (plate 1). Bedrock exposure of the most significant rock type on the property is limited by talus and overburden cover to about 40 percent. Large sections of the area were snow covered at the time of the writers' examination.

The lower elevations of the property are predominantly underlain by a monotonous, gently undulating, flat-lying, light grey, well bedded dolomite. This dolomite, which is exposed for a thickness of some 1,000 feet in the area, is included in Unit SDc, mapped by the Geological Survey of Canada as Silurian and Devonian. It contains undifferentiated sequences of fossiliferous and vuggy beds alterating with thickly bedded, dense and locally platy weathering beds. The valley sides are marked by a series of grass-covered steps and steep rises averaging some 30 feet in height. There is little scree build-up and any float is thought to have travelled only short distances.

Above the 5,000 foot contour, the property is covered by an interbedded, recessively weathering, grey to black shale, DMs Devonian and (?) Mississippian, Besa River Formation. The shale, which was not observed in-place, is masked by a shallow soil build-up and/or seasonally by snow and appears to lie conformably upon the carbonates below. Rills of shale generally cover the uppermost series of carbonate rocks.

The southeast corner of the claim block is underlain by undifferentiated shales mapped by the Geological Survey of Canada as OSDr + DMs (Road River Formation and Besa River Formation).

Several east-west-trending, steep angle cross faults were observed to cut through rock successions each being marked by small canyons in the valley side and by lateral displacement of the shale-carbonate contact of some hundreds of feet (Plate 1).

On a broader scale, it is surmised that the property lies near the axis of broad, open and possibly eastward plunging anticlinorium.

Two separate bands of mineralization were discovered and partly traced within the boundaries of the AXE Property (Plate 1).

The upper mineralized band was not observed in place, but was indicated by a continuous but erratically mineralized series of float occurrences which are believed to have travelled no more than 100 feet downslope. The mineralization, which appears to be confined to a particular bed, can be observed quite consistently at the 4,400 feet elevation, along the valley side. Partly oxidized, resinous yellow sphalerite and smithsonite encrustations rim the coarse, calcite-filled voids in the dolomitic rock. Locally, the calcite with subordinate sphalerite forms irregular veinlets in the rock. Judging by the distribution of mineralization in the float and the lack of "in-place" material, it is concluded that this mineralized float was derived from a bed of very limited thickness, probably as little as a few feet.

The upper mineralized band can be traced for some 1,400 feet along the western side of the valley.

The lower mineralized band lies near the valley floor, in general within 100 vertical feet of the creek.

Mineralization can be seen "in-place" only locally where it takes the form of irregular sphalerite rims around crystalline calcite-filled voids and fractures in the carbonates. Colloform sphalerite is exposed in a cliff face and found at various locations in the talus along the band.

Mineralization appears to be confined to a dolomite band some 20-40 feet in thickness and discontinuously traceable for about 2,000 feet along the lower valley edge. The lower band was discovered late in the time allotted for the property examination and was, therefore, not prospected in the southern part of the property. Mineralized float that was found to the south along the projection of the lower band, tentatively indicates an improvement in grade in this direction.

The NEST Showing is located across the creek to the east of the AXE Property (Plate 1). Exposure is poor with isolated outcrop intermittently exposed in moss and overburden cover.

Mineralization appears to occur in the same stratum as that which contains the lower mineralized band on the AXE Group.

Sphalerite can be found in outcrop for some 500 feet along a band with a possible thickness of 150 feet. The latter thickness is far from proven, but rather is indicated if it can be assumed that mineralization is continuous between the intermittent exposures. The mode of mineral occurrence in the NEST showings is similar to that on the AXE Group but the suggested tenor of mineralization is better than that observed on the AXE.

No systematic sampling of the AXE-NEST showings has been carried out; however, selected grab samples assayed as follows:

Sample Number	Width	Lead %	Zinc %	Comments
WN 15	Specimen	Tr	7.32	AXE - Upper Showing: dolomite fragments cemented with calcite and smithsonite matrix.
WN 16	Specimen	0.30	5.52	NEST: Black fine grained cryptocrystalline dolomite, typical specimen - Upper Showing.
WN 17	Specimen	0.73	58.4	AXE - Lower Band: Brown sphalerite selected specimen.
13004	Specimen	0.34	24.80	AXE - Float occurrence: Selected sample.
13005	Specimen	0.13	23.70	AXE - Float occurrence: Selected sample.
0023A	13.0'	Tr	0.18	AXE: Sample through thick calcite lens, minor sphalerite.

In the course of regional prospecting of the area, rounded boulders of cream dolomite containing vugs and fractures filled with coarse crystalline, honey coloured sphalerite with lesser galena were found in a creek to the east of the BAR Claim Group. The mode of mineral occurrence appears different than that on the AXE-NEST Group and, judging by the float specimens, the zinc content is greater. This float was not followed to its source due to snow filling of the upper creek.

RECOMMENDATIONS

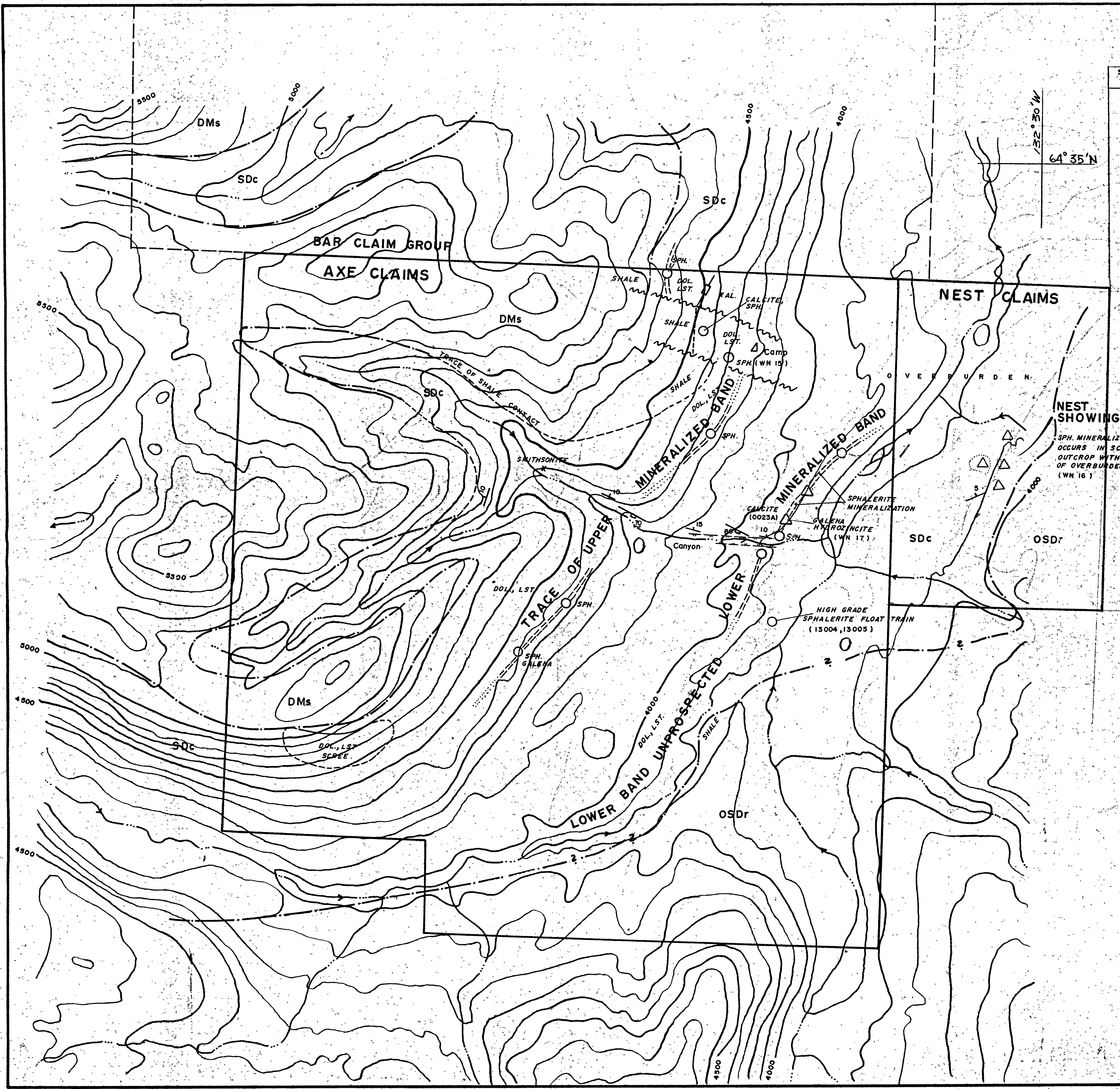
If time permits during the 1975 field season, a low priority program of prospecting is recommended for the AXE Group. As this property is not within the general Arctic Red area of interest and as the claims are in good standing for at least another year, no immediate follow-up is recommended.

Respectfully submitted,

John S. Brock,
Vice-President Exploration.

J.D. Guild, P.Eng.
Geologist

February 24th, 1975



ASSAYS

SAMPLE No.	Pb %	Zn%	WIDTH	COMMENTS :
WN 15	Tr	7.32	SPEC.	UPPER SHOWING : CARBONATE FRAGMENTS CEMENTED W. CALCAREOUS MATRIX AND SMITHSONITE COATING
WN 16	0.30	5.52	SPEC.	BLACK F.G. CRYPTOCRYSTAL-LINE DOLOMITE, TYPICAL SPECIMEN, UPPER SHOWING .
WN 17	0.73	58.4	SPEC.	BROWN SPHALERITE SELECTED SPECIMEN, LOWER BAND.
13004	0.34	24.80	SPEC.	SELECTED SAMPLE, FLOAT OCCURRENCE.
13005	0.13	23.70	SPEC.	SELECTED SAMPLE, FLOAT OCCURRENCE.
0023A	Tr	0.18	13.0'	SAMPLE THROUGH THICK CALCITE LENS, MINOR SPHALERITE.

TABLE OF FORMATION

DEVONIAN & (?) MISSISSIPPIAN

DMs — BESA RIVER FORMATION
BLACK SHALE AND SILTSTONE, LOCALLY PYRITIC

SILURIAN & DEVONIAN

SDc — LIGHT GREY, WELL BEDDED DOLOMITE

ORDOVICIAN, SILURIAN & LOWER DEVONIAN

OSDr — ROAD RIVER FORMATION
BLACK SHALE, COMMONLY CALCAREOUS

NOTE : REGIONAL GEOLOGY IS TAKEN FROM PUBLISHED GSC MAPS. CONTACTS ARE APPROXIMATE.

LEGEND

- FAULT (ASSUMED/ DEFINED)
- CONTACT(" / ")
- SPH — SPHALERITE
- MINERALIZED BAND (PROJECTED / ASSUMED / / DEFINED)
- MINERAL FLOAT ZONE
- MINERAL IN PLACE
- OUTLINE OF OUTCROP
- (13004, WN 16) — SAMPLE No.

PLATE I

WELCOME NORTH MINES LTD.

ARCTIC RED PROJECT

AXE & NEST MINERAL CLAIMS

NTS 106 C/10

PROPERTY GEOLOGY & MINERAL OCCURRENCES

SCALE : 1" = 1000'　　DATE: OCTOBER 1974

061277

APPENDIX I

AXE AND NEST CLAIM GROUPS

(Arctic Red Project)
N.T.S. 106-C-9 & 10, Y.T.
Mayo Mining District

CLAIM SUMMARY AS AT DECEMBER, 1974

Claims	Grant Numbers	Recording Date
AXE 1-24	Y88428-Y88451	May 16, 1974
AXE 25-40	Y86502-Y86517	Feb. 15, 1974
NEST 1-6	Y89141-Y89146	July 12, 1974

Total 46 Mineral Claims

APPLICATION FOR CERTIFICATES OF WORK - MAYO MINING DISTRICT

In accordance with the provisions of the Quartz Mining Act in the Yukon Territory, we the recorded owners of the mineral claims listed below, hereby apply for the following certificates of Work, as per Appendix III of this report:

"Statement of Costs", attached hereto:

Total Representation Work - As per Appendix III $ 8,503.02

ALLOCATION OF REPRESENTATION WORK - AXE-NEST CLAIM GROUPS

AXE 1-24	Y88428-Y88451	
AXE 25-33	Y86502-Y86510	
NEST 1-6	Y89141-Y89146	
39 Mineral Claims -2 years each		$ 7,800.00
AXE 34-40	Y86511-Y86517	
7 Mineral Claims- 1 year each		$ 700.00
TOTAL AXE-NEST - 46 claims - Applied		$ 8,500.00
Balance Unapplied		$ 3.02

APPENDIX II

AXE AND NEST CLAIM GROUP

PERSONNEL AND DATES WORKED

The following pages tabulate the personnel and dates worked on the AXE-NEST MINERAL CLAIMS.

Please note that "Camp Operation" and "Expediting" wages have been pro-rated and are included in the costs for individual claim groups under Camp Costs and Expediting (see Appendix III, "Statement of Costs").

Also, the OEX (Outside Exploration) costs have been pro-rated to individual claim groups, as shown in Appendix III.

AXE-NEST GROUP

PERSONNEL AND DATES WORKED

1974 FIELD SEASON

C.L. (Pete) Risby, Ross River, Y.T. Chief Prospector $1200/month	June 2.
Harold Barker, c/o General Delivery, Whitehorse, Y.T. Field Assistant $800/month	May 27-31. June 1.
Richard F. McLoughlin, c/o #1010, 2055 St. Matthew St., Montreal, PQ. Geologist, $1200/month	May 27-31. June 1.
John D. Guild, 13291 Woodcrest Drive, White Rock, B.C. Party Chief, $65/day	May 27-31. June 1, 2. July 5. Nov. 21, 22.
Joan Stickney, c/o General Delivery, Whitehorse, Y.T. Cook, $900/month	Duration of Program. Wages pro-rated over all projects - under camp costs.

CAMP OPERATION

PERSONNEL AND DATES WORKED

1974 FIELD SEASON

Joan Stickney, c/o General Delivery, Whitehorse, Y.T. Cook $900/month	May 13-31. June 1-16, 21-30. July 1-19, 25-31. Aug. 1-6, 13-31. Sept. 1.
C.L. (Pete) Risby, Ross River, Y.T. $1200/month	May 19, 29. July 27.
Arthur John, Ross River, Y.T. $1100/month	July 26, 27.
Robert Etzel, Ross River, Y.T. $1100/month	July 1, 26, 27.
Esau Dick, Ross River, Y.T. $800/month	July 1, 26, 27.
Walter Etzel, Ross River, Y.T. $800/month	July 1, 26, 27.
Harold Barker, c/o General Delivery, Whitehorse, Y.T. $800/month	June 2-8, 11-23. July 1, 4, 13, 16, 22-25,31. Aug. 1, 3, 5-7, 13-20, 22.
Richard McLoughlin, c/o #1010, 2055 St. Matthew St., Montreal, PQ. $1200/month	July 26, 27.

N.B. Wages pro-rated to all projects worked under 1974 program - under camp costs.

APPENDIX II

EXPEDITING

PERSONNEL AND DATES WORKED

1974 FIELD SEASON

C.L. (Pete) Risby, Ross River, Y.T.	Aug. 20-24. Sept. 7-8.

$1200/month

N.B. Wages prorated to projects worked.

OEX

PERSONNEL AND DATES WORKED

1974 FIELD SEASON

C.L. (Pete) Risby, Ross River, Y.T. Chief Prospector, $1200/month	May 1-8, 20-28, 30-31. June 1, 3-12, 25-30, July 1-19, 21-26, 28-31. Aug. 1-4, 12-19, 25, 27, 30. Sept. 3-6, 9-13.
Arthur John, Ross River, Y.T. Prospector, $1100/month	May 16-31. June 1-16, 25-30. July 1-25, 31. Aug. 1-29, Sept. 3-8.
Robert Etzel, Ross River, Y.T. Prospector, $1100/month	May 16-31. June 1-3, 5-12, 14-25, 30. July 2-25, 31. Aug. 1-11, 13-31. Sept. 1.
Esau Dick, Ross River, Y.T. Prospector $800/month	May 16-31. June 1-11, 13-16, 30. July 2-21, 24, 25. Aug. 1-11, 13-22. Sept. 1.
Walter Etzel, Ross River, Y.T. Prospector, $800/month	May 15-31. June 1-25, 30. July 2-21, 24, 25, 31. Aug. 1-11, 13-20.
Joan Stickney, General Delivery, Whitehorse, Y.T. Cook $900/month	Duration of Program - salary pro-rated over all projects.- under camp costs.

N.B. Costs pro-rated over individual claim groups

OEX

PERSONNEL AND DATES WORKED

1974 FIELD SEASON

Harold Barker, c/o General Delivery, Whitehorse, Y.T. Field Assistant $800/month	May 15-26. June 25, 30.
Richard F. McLoughlin, c/o #1010, 2055 St. Matthew St., Montreal, PQ. Geologist $1200/month	May 15-26. June 2-4, 10, 14, 22, 25, 30. July 1, 19, 20, 24, 31. Aug. 22, 31. Sept. 3, 23-27, 30. Oct. 1-4.
John D. Guild, 13291 Woodcrest Dr., White Rock, B.C. Party Chief, $65/day	March 26-29. April 1-5, 8-12. May 7-10, 13-17, 20-26. June 3, 5, 9-11, 19, 20, 22-30. July 1-4, 8, 10-11, 14-15, 19-21, 23-36, 30, 31. Aug. 6, 8, 10, 14-15, 18, 20, 23, 30-31. Sept. 3, 4, 5, 7, 10-17. Dec. 10, 11, 13.
John S. Brock, 3029 Procter Ave., West Vancouver, B.C. Field Supervisor, $71/day	Jan. 3-5, 16-18, 21-22. Feb. 18, 21, 25-28. March 14-16, 21-22, 25-26, 29-30. April 1-5, 22-26. May 6-10, 13, 29, 31. June 3-4, 9-12, 25, 31, 22. Aug. 1-2, 8, 13-14, 17-18, 20-21. Sept. 3-4, 10, 13, 16, 23, 24-25. Oct. 1, 3, 4, 13, 16, 23, 27, 28, 29, 31.

N.B. Costs pro-rated over individual claim groups

APPENDIX III

AXE-NEST CLAIM GROUP
STATEMENT OF COSTS

The following pages show a distribution of the total costs incurred by Welcome North Mines Ltd. (N.P.L.) on behalf of the Arctic Red Venture in carrying out exploration work on the AXE-NEST claims during the 1974 field season. These costs can be invoice supported or in the case of internal costs documented.

The costs can be summarized as follows:

Claim Group	Direct Property Costs	Outside Exploration Related to Property	Total
AXE-NEST	$ 3,690.50	$ 4,812.52	$ 8,503.02

The allocation of these costs for purposes of representation work, as shown in Appendix I of this report is as follows:

AXE 1-24	Y88428-Y88451	- 2 years each
AXE 25-33	Y86502-Y86510	- 2 years each
NEST 1-6	Y89141-Y89146	- 2 years each
AXE 34-40	Y86511-Y86517	- 1 year each

Total Representation Work Applied for	$ 8,500.00
Balance Unapplied	$ 3.02

AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, John S. Brock, Vice-President Exploration, Welcome North Mines Ltd. (N.P.L.), of Vancouver, British Coumbia, do hereby state that, to the best of my knowledge and belief, the Statement of Costs presented in this report (Geological Report on the AXE-NEST Mineral Claim Group) is both correct and true.

John S. Brock,
Vice-President Exploration
WELCOME NORTH MINES LTD. (N.P.L.)
February 24th, 1975

APPENDIX III

ARCTIC RED PROJECT - 1974

GROUP: AXE & NEST

EXPENDITURES - AXE & NEST

	GEOLOGY/ GEOCHEM $	PROSPECTING $	DRILLING $	STAKING & ACQ. $	PROPERTY MAINT. $	CAMP OP. $	EXPEDI-TING $	ADMIN $	SUB-TOTAL $	GRAND TOTAL $
SALARIES										
Wages	859.46	184.80	-	195.58	-	227.68	8.71	-	1,476.23	
Finder Fees	-	-	-	-	-	-	-	-	-	1,476.23
CONTRACT PAYMENTS	-	-	-	12,000.00	-	-	67.50	289.92		12,357.42
FIELD & MISC. EXP.	-	-	-	60.00	-	467.06	50.64	21.03		598.73
MAPS/PRINTS/ DRAFTING	50.41	-	-	-	-	-	-	-		50.41
ASSAYS/ ANALYSES	54.75	-	-	-	-	-	-	-		54.75
FREIGHT/ TRANSPORT										
Helicopter	1,470.63	-	-	-	-	-	-	-	1,470.63	
Fixed Wing	-	-	-	-	-	143.28	-	-	143.28	
Major Transp.	-	-	-	-	-	55.34	-	-	55.34	
Misc.Freight	-	-	-	-	-	50.24	-	-	50.24	1,719.49
TOTAL $	2,435.25	184.80	-	12,255.58	-	943.60	126.85	310.95		16,257.03

		12,566.53
Less:	Total Costs not Allowed (Staking & Acq., Admin)	3,690.50
	Balance of Applicable Direct Costs	4,812.52
Plus:	Pro-rated Portion of OEX Costs (Summary Attached)	
	TOTAL APPLICABLE AS REPRESENTATION WORK - AXE-NEST	$ 8,503.02

Costs related to properties - distributed among 400 Yukon Mineral Claims as follows:

AXE-NEST	CLAIMS	= 46 claims	x $104.62	= $ 4,812.52
CAB	CLAIMS	314 claims	x $104.62	$ 32,850.68
AB	CLAIMS	40 claims	x $104.62	$ 4,184.80
				$ 41,848.00

ARCTIC RED PROJECT - 1974 — GROUP: OEX

EXPENDITURES - OEX

	GEOLOGY/ GEOCHEM $	PROSPECTING $	DRILLING $	STAKING & ACQ. $	PROPERTY MAINT. $	CAMP OP. $	EXPEDI-TING $	ADMIN $	SUB-TOTAL $	GRAND TOTAL $
SALARIES										
Wages	14,027.52	19,615.39	-	-	-	6,721.34	257.11	-	40,621.36	
Finder Fees	-	-	-	-	-	-	-	-	-	40,621.36
CONTRACT PAYMENTS	-	-	-	-	-	-	1,992.81	8,558.80		10,551.61
FIELD & MISC. EXP.	-	-	-	-	-	13,789.15	1,495.01	621.02		15,905.18
MAPS/PRINTS/ DRAFTING	3,487.29	-	-	-	-	-	-	-		3,487.29
ASSAYS/ ANALYSES	595.81	-	-	-	-	-	-	-		595.81
FREIGHT/ TRANSPORT										
Helicopter	30,971.30	-	-	-	-	-	-	-	30,971.30	
Fixed Wing	4,948.59	-	-	-	-	4,229.70	-	-	9,178.29	
Major Transp.	-	-	-	-	-	1,633.86	-	-	1,633.86	
Misc.Freight	-	-	-	-	-	1,483.37	-	-	1,483.37	43,266.82
TOTAL $	54,030.51	19,615.39	-	-	-	27,857.42	3,744.93	9,179.82		114,428.07

Less: Total Costs not Allowed (Admin Costs) ..... - 9,179.82

BALANCE APPLICABLE AS REPRESENTATION WORK ..... $ 105,248.25

Note: Costs related to properties distributed on pro-rata basis among 400 Yukon Mineral Claims and 606 N.W.T. mineral claims $105,248.25 / 1006 claims = $104.62052 per claim

WELCOME NORTH MINES LTD. (N.P.L.)
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AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, Irene Wilson, Secretary, Welcome North Mines Ltd. (N.P.L.) of Vancouver, British Columbia, do hereby state that, to the best of my knowledge and belief, the Statement of Costs presented in this report (GEOLOGICAL REPORT ON THE AXE-NEST MINERAL CLAIMS) is both true and correct.

Irene Wilson,
Secretary.
WELCOME NORTH MINES LTD. (N.P.L.)

SWORN BEFORE ME this 25th day
of February, 1975

A commissioner for Oaths
for the Yukon Territory.

NOTARY PUBLIC (YUKON)