[illegible]

on the

[illegible]

Plate Sheet 105-[illegible]-1

Watson Lake Mining Division

Yukon Territory

located

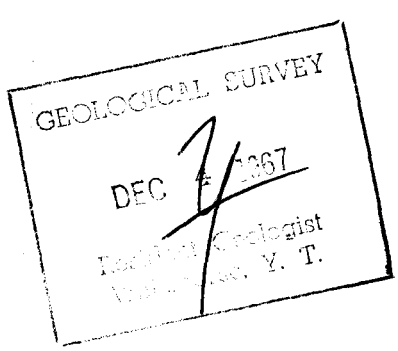
2 1/2 miles south of Mile 701, Alaska Highway

at

Latitude: 60°02'07"
Longitude: 130°22'13"

Work done between 15 Aug - 15 Sept /67

R.A. Hageath, P. Eng.



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

RESIDENT GEOLOGIST

Approved as to cost in the a. mount of: $ 2000.00

RESIDENT MINING ENGINEER

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

COMMISSIONER OF YUKON

TABLE OF CONTENTS

Item		Page
I.	SUMMARY	1
II.	CONCLUSIONS AND RECOMMENDATIONS	2
III.	INTRODUCTION	3
IV.	PROPERTY, LOCATION AND ACCESS	4
V.	PREVIOUS WORK:	5
VI.	PRESENT WORK:	6
	A. Picket Lines	6
	B. Geochemical Survey	6
	C. Geophysical Survey:	7
	1. Method	7
	2. Results	7
	3. Interpretation	7
	4. Recommendations	7
	D. Geological Survey:	8
	1. Topographic Mapping	8
	2. Regional Geology	9
	3. Local Geology:	9
	(a) Table of Formations	9
	(b) Description	9 - 12
	(c) Structure	12
	4. Economic Geology	13
VII.	COSTS	16
VIII.	CERTIFICATE	-
IX.	MAPS:	-
	A. Location Map	In Pocket
	B. Geophysical Map	In Pocket
	C. Topographic Map	In Pocket
	D. Geological Map	In Pocket
	E. Geochemical Map	In Pocket

I.

SUMMARY

The Andrew Claim Group lies in a belt of sediments of Cambrian to Jurassic Age along the east side of the Cassiar Batholith. Lead-silver occurrances have been discovered on this group. Exploration work was done in August and September of 1967 and consisted of geochemical, geophysical and geological surveys. These surveys have shown that the area is worthy of further exploration.

II.

CONCLUSIONS AND RECOMMENDATIONS

Although no veins of mineable widths and length have yet been found on the property, the widespread occurrence of galena and probable halos or indications of galena mineralization make this property worthy of serious exploration. No such work appears to have been done to date, The large amount of trenching done in the past being ineffective, due to inability to penetrate the permafrost.

The geochemical survey, already conducted, should provide important information for further exploration.

The next step in an exploration program should be a geophysical survey, preferably an I.P. Survey. At the same time, shallow pits, to depths of about 10' should be made in areas of abundant gossans and on known veins.

If results warrant, the property should then be explored by diamond drilling.

Silver is, at present, a much sought-after metal, and its price is almost certain to continue increasing. A high-grade silver deposit therefore deserves particular attention.

III.

INTRODUCTION

The Andrew Claim Group lies in a belt favorable for lead-silver occurrences. Several such occurrences are known on the claim group. Exploratory work consisting of line-cutting, and geochemical, geophysical and geological surveys were carried out on the property between August 5 and September 5, 1967. The present report is a description of the work done and of the results of these surveys.

IV.

PROPERTY, LOCATION AND ACCESS

The Andrew Claim Group consists of 8 contiguous claims situated in the Watson Lake Mining Division, and shown on Claim Sheet 105-B-1. Six of these claims were staked in August, 1966 and bear the claim numbers Y 13746 to Y 13751 inclusive. The two additional claims were staked in September 1967, on the west boundary of the six claims first staked. These claims are held jointly by A. Alfoldy, A. Meszaros, S. Papp and A. Parker.

The claim group is two claims wide and four claims long, with a claim line, of azimuth 123°, along the centre of the group. The centre of the claim group is 2 1/2 miles south of Mile 706 on the Alaska Highway.

An access road to the Silverknife Mine approaches to within two miles from the claim group. This road is suitable for ordinary vehicles, provided that the Rancheria River can be forded, where the water is ordinarily about 2 feet in depth. The road branches off the Alaska Highway at Mile 701, just east of Veronica Lake, and is followed for about 8 miles. From this point access is by foot.

At present no other claims are located within 2 miles of this property.

V.

PREVIOUS WORK

In the past the area has received some attention by prospectors and exploration companies. The first serious work was done shortly after World War II, but from then on nothing further appears to have been done. The work at that time consisted mainly of trenching. The trenching was ineffective because a small bull-dozer was used and this could not penetrate the permafrost 2 to 3 feet below the surface. Several small veins of galena were found, however; one of these veins was followed for a distance of about 100 feet and to a depth of about 5 feet.

The property was previously staked as Yukon Quartz Claims, having among others, the claim numbers 60554, 60555, 60556, 60557.

VI.

PRESENT WORK

In the period, 15 Aug - 15 Sept /67, four men were at work on the property. Picket lines were cut for the purpose of geochemical, geophysical and geological surveys. The names and addresses of the men who did the work are as follows:

Andrew Meszaros, Mission City, B.C.
Steve Papp, Mission City, B.C.
Andrew Alfoldy, Mission City, B.C.
Edward Tagseth, General Delivery, Whitehorse, Y.T.

A. PICKET LINES:

A total of 28,000 feet of picket lines were cut. Cross-lines were made at intervals of 400 feet along a baseline with a length of 6,000 feet. Stations were marked at 100-foot intervals along all lines.

B. GEOCHEMICAL SURVEY:

Two hundred forty-eight (248) soil samples were collected and sent in for lead assays at the Whitehorse Assay Office. The samples were taken at each 100-foot station on the picket lines. Mention is made of the geochemical survey for record purposes only since results will not be available in time for submission for this year's assessment work.

C. GEOPHYSICAL SURVEY:

1. Method

A Sharpe MF-1 floxgate magnetometer, which has an accuracy of 10 (plus/minus) gammas, was used in the survey. Readings were taken at all stations on the picket lines, using baseline stations as controls. The resulting data was plotted on the magnetic contour map included in this report.

2. Results

Magnetic relief in the area surveyed was found to be fairly low, the maximum being about 500 gammas. This corresponds with the results of a regional aerial survey by the Geological Survey of Canada over this area. Although the relief is small, two trends are indicated by the 900 gamma contours, as shown on the magnetic map in the present report.

3. Interpretation

Because of the nature of the rocks present on the property a low magnetic relief is to be expected. The highest readings, 1,000 gammas may be significant. Both of these are located over schists, and one of these is also near a syenite intrusion.

3. Interpretation (continued)

Readings taken over areas covered by a heavy limonite gossan failed to produce anomalies. These gossans are thought to be associated with lead mineralization and it was considered the magnetite content would be sufficient to locate such areas.

4. Recommendations

The area covered by the magnetic survey should be extended to cover one of the anomalies which is only partly defined. An attempt should be made to discover the cause of the two anomalies found by the survey.

D. GEOLOGICAL SURVEY:

1. Topographic Mapping

Since the maximum topographic relief on the claim group was over 700 feet, a topographic map was prepared so that geological data could be plotted and interpreted more accurately. This work was carried out by Brunton compass and chain, with readings taken at 100-foot centres wherever possible. All picket lines were surveyed by Brunton compass. The accuracy of this work is about 20 (plus/minus) feet in both vertical and horizontal measurements.

1. Topographic Mapping (continued)

The resulting topographic map forms a part of this report.

2. Regional Geology

The only published geological literature on the area is preliminary Map 10-1960, Wolf Lake, by the Geological Survey of Canada.

The geological map shows that the claim group lies in an area where Jurassic-Cretaceous granitic rocks intrude sediments of Cambrian to possibly Jurassic age. Other than the granitic rocks, igneous rocks are not common in the region.

3. Local Geology

(a) Table of Formations:

Granodiorite
Syenite
Dolomite, crystalline, massive, breccia
Dolomite, well-bedded, shaly partings
Schists, dolomitic and slaty

(b) Description

Outcrops are numerous on the claim group, although most of the upper parts of mountains are covered with rubble and glacially-deposited boulders.

(b) Description (continued)

The predominant rock-type is a massive, crystalline dolomite which outcrops in all the higher areas. Below the massive dolomites are well-bedded dolomites and finally crumpled and drag-folded schists. A syenite intrusion cuts all the above rocks. Granodiorite of the Cassiar batholith lies along the western boundary of the claim group.

The schists are found on the lower north-easterly slopes of the mountains. The schists are slaty and dolomitic, severely drag-folded, flat-dipping rock. These rocks appear to underlie the mountains. They were originally well-bedded dolomites or limestones with narrow shale interbeds, but folding and metamorphism have caused the development of micaceous minerals.

From the schists upwards there is a gradational change to massive dolomites. Above the schists are very well-bedded, flatly dipping dolomite with shaly partings along bedding planes. The shaly partings become discontinuous and finally disappear so that the rock becomes a massive dolomite.

(b) Description (continued)

The dolomite is usually a buff-weathering, pale, blue-gray, medium-grained, crystalline, massive rock. The color of the weathered surface shows great variation, from white, to pale blue, yellow and reddish-brown, but the fresh surface varies only from pale blue to deep blue. In many places, a dolomite which is brown on both fresh and weathered surfaces, forms zones in the massive dolomites. Grain-size in the dolomites varies from fine-grained to fairly coarse-grained. Seams of coarse crystalline calcite are common in the dolomites, sometimes containing large vugs filled with carbonate crystals.

Within the dolomites small outcrops are found which consist of a dolomite breccia or angular conglomerate. These are probably collapse breccias.

The rock named syenite is not a true syenite since it contains small, rounded grains of quartz. The syenite is white to yellowish on fresh and weathered surfaces, medium-grained, and frequently occurs in outcrops in thin slabs

(b) Description (continued)

an inch or two in width. The syenite probably represents assimilation of carbonate by granitic intrusions.

Massive, coarse-grained, levcogratic granodiorite, with biotite and horneblende in moderate amounts lies a few hundred feet west of the western boundary of the claim group. The contact appears to swing to the northeast and so may be present in the northwest corner of the claims.

(c) Structure

The sedimentary rocks on the claim group are generally flat-dipping, and where measurements were possible, were found to strike at about 150°. The granodiorite contact near the west boundary strikes approximately due north.

A fault is shown, on the Wolf Lake geological map, about 1/2 mile east of the property. No faults could be established in the area presently mapped but the deep ravine along which a small creek runs may be a surface expression of faulting. The breccias on the property may be due to faulting, but are more probably collapse breccias.

D. GEOLOGICAL SURVEY: (continued)

4. Economic Geology

Three veins containing galena have been found at widely separated locations on the property. These veins strike at about 150°, and have varying dips.

The largest showing has been trenched for about 100 feet along strike and to a depth of about 5 feet. From this trench about 10 tons of galena has been hand-cobbed and bagged, and most probably represents all the galena which occurred in the vein, in the trench. This amount of galena would indicate a vein with a width of about 6 inches. The vein strikes at 100° and dips 80°N.

A similar vein, also about 6 inches in width, and striking at 135°, occurs near the west boundary of the claim group. It dips 35°S and has been opened up for about 15 feet to a depth of 3 to 4 feet.

A third vein on the east side of the claims has a strike of 160° and a dip of 35°N. Only small amounts of galena were found in this vein but it has not been trenched for any length. The vein is about 2 feet wide.

D. GEOLOGICAL SURVEY: (continued)

4. Economic Geology (continued)

In all of these veins, most of the galena has been oxidized and leached away, leaving a brown residual material which contains a core of galena. In the third vein most of the vein material is a black powdery talc. It is believed that fresh veins would be found at depths of less than 10 feet below the surface, and that massive galena would make up most of the veins.

Large quantities of black to brown gossans are found near all the galena occurrences. Such gossan is fairly widespread on the surface of the claims and in many of the shallow trenches. The dolomite near the showings has a brownish color on both fresh and weathered surfaces, and is more or less micaceous. The gossan and brownish dolomite frequently occur in linear depressions of a few feet in depth. All of these features may be indications of veins, and so be used to guide exploration.

In several locations, a heavy, botryoidal, bladed limonite occurs in large amounts. Individual

D. GEOLOGICAL SURVEY: (continued)

4. Economic Geology (continued)

pieces are as much as a foot in diameter. The origin of this limonite is unknown but may also be an ore indicator. It occurs in bodies of brown dolomite which strike in a direction which appears to be unrelated to the normal strike of the rocks.

Galena can be found in small amounts in many places on the claims, usually in trace amounts. Blebs of galena were found in one specimen of unaltered pale-blue dolomite.

The galena occurrences on the Andrew Claim Group are similar to those on the Silverknife Mine, located about 10 miles to the east. The galena has a high content of silver, an assay at the mine of 400 ounces of silver to the ton having been obtained. The galena at the Andrew Claims has not assayed as high in silver, but still carries enough silver to make it the metal of chief economic importance in the ore. The results of assays on grab samples taken recently are not yet available.

VII.

COSTS

The Cost of work covered by this report is outlined as follows:

Geochemical Survey:		
(Survey lines and stations, and sampling) 2 Technicians @ $30 per day for 30 days		$ 1,800.00
Geological & Topographical Survey:		
1 Geologist for 20 days @ $1,400.00 per month (20/31)(1400)		940.00
Geophysical Survey:		
1 Technician & Geologic assistant @ $35 per day for 9 days		315.00
magnetometer rental		161.50
Formal Report - including drafting, interpretation, printing and steno.		600.00
Transportation:		
Chopper:	$135.00	
Car: 210 miles (4)(0.1) per mile)	84.00	
Bus: Whitehorse to MP 701	27.00	246.00
Assaying:		
Geochemical samples:	$307.00	
Rock samples:	12.50	319.50
Food:		
78 man days		391.60
T O T A L :		$ 4,773.60

CERTIFICATE

I, Edward A. Tagseth, of Whitehorse, Yukon Territory,

do certify that:

1 - I am a Bachelor of Science in Applied Geology, University of Toronto, Toronto, Ontario, graduating in 1959.

2 - I am a member in good standing of the Association of Professional Engineers of Ontario.

3 - I have practiced my profession for the last eight years.

4 - I have no direct or indirect interest in THE ARCTIC GOLD GROUP described in the accompanying report or in any securities relating to the said property.

5 - This certificate is part of the attached Engineer's report, on THE ARCTIC GOLD GROUP of mineral claims, dated September 19, 1967. The attached property map shows the location of the claims group which have been located in compliance with the Yukon Quartz Mining Act.

6 - The report is based on field work done on the property described herein in August and September 1967 and to the best of my knowledge and belief the costs outlined on page 16 of this report represents the work covered by this report.

Whitehorse, Y.T.
September 19, 1967

E. A. Tagseth, P. Eng.

GROUND MAGNETIC GEOPHYSICAL SURVEY of the ANDREW GROUP

WATSON LAKE MINING DISTRICT
YUKON TERRITORY

ACE R. PARKER & ASSOCIATES
Mineral Industry Consultants & Contractors
Whitehorse Yukon

INSTRUMENT	Sharp MF-1	Survey & Interpretation by
SCALE	As shown	E.A.TAGGETH P.Eng.
DATE	15 Sept. 1967	Professional Geologist

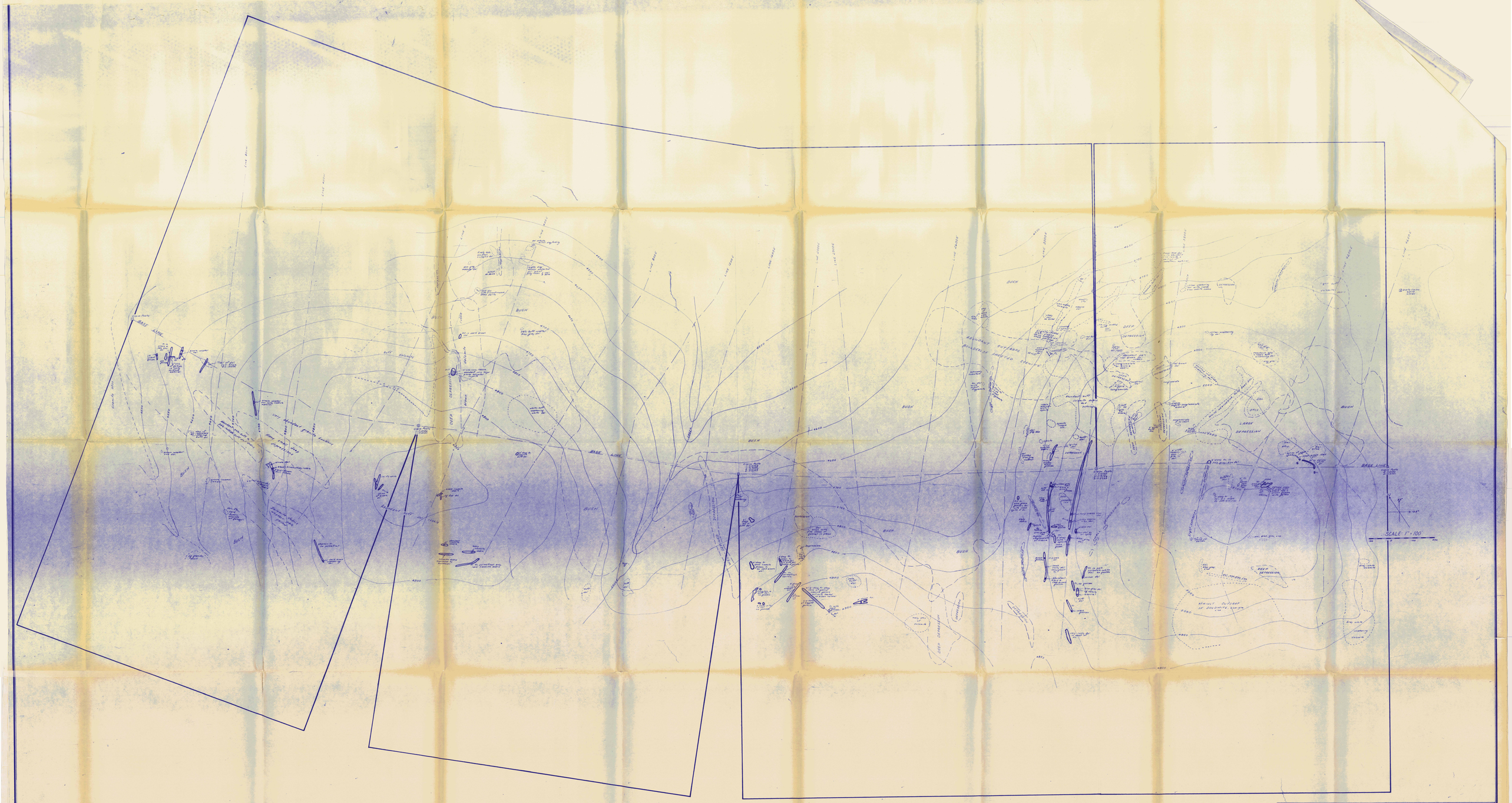
TOPOGRAPHIC MAP
of the
ANDREW GROUP

WATSON LAKE MINING DISTRICT

YUKON TERRITORY

ACE R. PARKER & ASSOCIATES
Mineral Industry Consultants & Contractors
Whitehorse, Yukon

ACCURACY	± 20'	Topography by
SCALE	As Shown	E.A. TIDERETH P.Eng
DATE	13 Sept 1967	Professional Geologist



LEGEND

- Dol — Dolomite
- Sch — Schist
- Gr — Granodiorite
- Sy — Syenite
- Outcrop
- Contact
- Topographical Features
- Trenches and Pits
- Dip and Strike

GEOLOGIC MAP of the ANDREW GROUP

WATSON LAKE MINING DISTRICT

YUKON TERRITORY

ACE R. PARKER & ASSOCIATES

Mineral Industry Consultants & Contractors

Whitehorse Yukon

SCALE	As shown	Geology by E.A. Togwell P.Eng. Professional Geologist
DATE	13 Sept. 1967	

GEOCHEMICAL SURVEY FOR LEAD of the ANDREW GROUP

WATSON LAKE MINING DISTRICT
YUKON TERRITORY

ACE R. PARKER & ASSOCIATE
MINERAL INDUSTRY CONSULTANTS & CONTRACTORS
WHITEHORSE YUKON

SCALE	AS SHOWN
DATE	13 SEPT. 1967

GEOCHEMICAL SURVEY BY:
E.A. TAGGETT B.Sc.
PROFESSIONAL GEOLOGIST

061803

CANADA

MINES AND TECHNICAL SURVEYS

NATIONAL TOPOGRAPHIC SERIES 1:50,000 SURVEYS AND MAPPING BRANCH *FIRST EDITION* CANADA SHEET 105 B/1 WEST HALF

130°30′ 25′ 20′ 130°15′

60°15′ 10′ 05′ 60°00′

Whitehorse 210 m

Watson Lake 60 m

PROPERTY LOCATION MAP

ANDREW CLAIM GROUP

Surveyed, compiled, drawn and printed by the Army Survey Establishment R.C.E. 1952-54
Aerial photography by the R.C.A.F. 1948

Copies may be obtained from The Map Distribution Office, Dept. of Mines and Technical Surveys, Ottawa, at 25 cents each.

SPENCER CREEK

YUKON TERRITORY

Scale 1:50,000

1.25 Inches to 1 Mile approximately

1 0 1 2 3 Miles

1000 500 0 1000 2000 3000 4000 Metres

1000 500 0 1000 2000 3000 4000 Yards

MAGNETIC DECLINATION 32° 47′ EAST AT CENTRE OF SHEET, 1954
Annual magnetic change 4·5 westerly

Contour Interval 100 Feet
All Elevations in Feet above Mean Sea Level.

North American Datum 1927
Preliminary 1952

INDEX TO ADJOINING SHEETS

130°30′		129°30′
105 B/7	105 B/8	105 A/5
105 B/2 DAUGHNEY LAKE	105 B/1 SPENCER CREEK	105 A/4 BIG CREEK
104 O/15 McNAUGHTON CREEK	104 O/16	104 P/13

60°15′ 59°45′

REFERENCE

Roads:
- hard surface, all weather — more than 2 lanes
- hard surface, all weather — 2 lanes — Route No. 18 — less than 2
- loose surface, all weather — 2 lanes wide or more
- " less than 2 lanes — all weather — dry weather
- Cart Track, Trail — Cart Track — Trail

Railways:
- normal gauge, multiple track — Station
- normal gauge, single track — Stop
- abandoned, or under construction — Siding
- narrow gauge, single track
- Bridge, underpass or overpass
- Tunnel

Boundary, International
" Province
" County or District
" Township or Parish
" City or Town
" Reservation, Indian, Military, etc
Power Transmission Line
Telephone or Telegraph, trunk route
Horizontal Control Point
Boundary Marker
Bench Mark — BM 3025′
Spot Elevation, (in feet) — 4582
Mine or Pit

REFERENCE

House, Building
School
Church
" with conspicuous Tower or Spire
Post Office — P
Tower, Radio Mast, Lookout, etc.
Cemetery — Cem
Quarry
Sand or Gravel Pit
Cliff
Cutting
Embankment
Dry River Bed

Lighthouse
Wharf or Pier
Foreshore Flats — Mud
Swamp or Marsh
Lake or Pond, intermittent
Glacier or Snowfield
Stream, intermittent
Irrigation Canals, Ditches
Inundated Land, seasonal
Contours, elevation — 500 400
" depression — 500 400
" approximate — 500 400
Forest, unclassified, Scrub

inches 0 1 2
0 1 2 3 4 5 centimetres

YUKON GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

SPENCER CREEK

105 B/1 WEST HALF

FIRST EDITION

061863