

ASSESSMENT REPORT

for

EXPLORATION

on the

**MIKE 1 and MIKE 8
QUARTZ MINING
CLAIMS
(YB66369-YB66374)
(YB58019, YB58020)**

**MARSH LAKE,
YUKON TERRITORY**

**NTS 105 D/8
ZONE 8
6704100N, 542450E
LATITUDE 60-29 N
LONGITUDE 134-17W**

**between
SEPTEMBER, 1996
And JULY, 1997**

**WHITEHORSE MINING DISTRICT
YUKON TERRITORY**

by

**JOSEPH A. J. CLARKE
MARSH LAKE, YUKON
AUGUST, 1996**

093747



This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 2400.00.

M. B. L.
Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

TABLE OF CONTENTS

INTRODUCTION	1
LOCATION, AND ACCESS,	2
TOPOGRAPHY AND CLIMATE,	2
EXPLORATION HISTORY	2
REGIONAL GEOLOGY	3
PROPERTY GEOLOGY	3
CONCLUSIONS	5
RECOMMENDATIONS	6
<u>APPENDIX I LIST OF FIGURES</u>	
FIGURE 1.; LOCATION MAP (1:6,000,000)	7
FIGURE 2.; CLAIM MAP (1:30,000)	8
FIGURE 3.; REGIONAL GEOLOGY (1:250,000)	9
FIGURE 4.; PROPERTY GEOLOGY (1:9000)	10
APPENDIX II	13
STATEMENT OF EXPENDITURES	
APPENDIX III	14
STATEMENT OF QUALIFICATIONS	
APPENDIX IV	15
ACKNOWLEDGMENTS	

INTRODUCTION

This report describes the exploration work carried out on the claims Mike 1-8 from September, 1996 and July, 1997. This work consisted of 2 days of grassroots prospecting, 2 days of hand trenching, and 5 days of flagged and picketed gridding. Total value of work submitted for assessment is \$2500. The property has potential for mesothermal Motherlode gold, PGE, and Rare Earth/gemstone deposits.

Prospecting revealed a small syenite body intruding cherty sediments and mafic volcanics, and several new lamprophyre dykes. Age relationships are not clear to date but it is expected that the lamprophyre dykes may intrude the syenite and may be of possible Tertiary age. Prospecting and trenching revealed moderate sulfide mineralization at the contact a lamprophyre dike intruding cherty sediments of the Cache Creek Group. Trenching in the 2000m listwanite alteration fault zone revealed intense shearing and brecciation of Cache Creek mafic volcanics and cherts. Further trenching in talus is required to enable sampling across this fault zone. Establishment of a baseline and several cross lines has set the stage for future geological mapping and geophysical surveys.

LOCATION, AND ACCESS

The Mike 1-8 claims are located just east of the south entrance of Old Constabulary Subdivision, 65km south of Whitehorse along the Alaska Highway. Access is possible by 4-wheeler, snowmachine, or small 4-wheel drive truck to most areas of the claims.

TOPOGRAPHY, CLIMATE

The topography of the immediate area consists of small 50m-100m hills and valleys running parallel to Marsh Lake. The terrain rises gently from Marsh Lake (elev 2200') for an average of 3km NE of the Alaska Highway then rises steeply reaching 5800 ft at the peak of Mt. Mitchie. Several periods of glaciation have rounded the hills and have resulted in moderate to deep deposits of till, clay, and ancient raised beaches. Outcrop exposure is 35% on the property.

The climate of the area varies from a high of +30C in the summer to lows of -40C during the winter. Typical are long hot summers (May to September) with up to 18 hours of daylight and moderate to harsh winters (October to April) with less than 7 hours of daylight.

Black spruce is the most common tree species on the property. These favor the NE side of valleys and are a common indicator of local permafrost. More exposed areas have a

mixture of white and black spruce with occasional pine. In the most exposed areas aspen colonies are well established. Willows are abundant in the valleys and low areas. Wildlife inhabiting the area are typical of the Southern Yukon and include moose, wolves, and various small birds and mammals.

EXPLORATION HISTORY

Hard rock exploration in the Marsh Lake area dates from 1895 on the nearby Rossbank property. Only scattered prospecting was performed until 1988 when exploration activity increased with discovery of the Diamond zone by Bill LeBarge, a geologist with DIAND. The zone is now covered by the Mike 1-8 Claims. Further activity was seen on the Bug, Tog, and Rossbank properties. Mr. Gary Reynolds staked the original Mike 1-8 claims in 1989 and filed one years assessment work. The 1994 Jakes Corner Helicopter EM survey revealed several strong EM conductors resulting in the prospector staking the Uchi 1-12 claims to the 1.5 km to the northeast. Several other claim groups in the area are active.

REGIONAL GEOLOGY

The geology of the NE side of Marsh Lake consist of a tectonic assemblage of island arc mafic volcanics, cherts, and up-thrusted and altered ultramafic bodies known collectively as the Cache Creek Group. Intruding these are various Cretaceous felsic and mafic bodies. The NW-SE trending Marsh Lake fault is the prominent feature and includes many oblique splay faults forming drainage basins into the lake. These splay fault features are observable at outcrop scale. Latter fresh gabbros, lamprophyre, and diabase dikes are common.

PROPERTY GEOLOGY

Geology of the Mike 1-8 claims consists of an accreted assemblage of oceanic mafic volcanics, cherts, limestone and ancient serpentinitized peridotites intruded by mafic to ultramafic dykes, pods and sills. These are possible related to mid to late Cretaceous felsic intrusions located 3km to the east.

Structure

Structure of the property is dominated by two NW trending, steeply dipping splay faults-known as the Highway Fault, and the Pipeline fault. Both parallel the Alaska Highway and the base line of the claim block. A large mafic volcanic package forming a distinct ridge separates the two fault systems by. 200-400m may be a horst block thrust up by faulting along Marsh Lake or during Cretaceous intrusion. Similarly the large chert

packages that predominate in the valleys formed by fault systems may be graben structures. Oblique splay faults on a smaller scale are common as well as a strong lineament running along the ridge between the two fault systems. Trenching across the Highway Fault revealed brecciation, quartz veining and small scale folding across 10m. The fault zone continues under talus cover. A strong lineament runs NS on the SE corner of the property.

Lamprophyre mKl

Four different lamprophyre bodies intrude have been mapped on the property.

A small (< 1m) EW trending vertical dike intrudes CPu along the west side of the Pipeline Fault. It is of medium to coarse-grained mafic composition containing well rounded, black easily weathered grains of a micaceous mineral up to 2mm in diameter.

A irregular shape body of lamprophyre intrudes or is in part accreted to CPv, mKg, and TJs. It is light colored with large biotite crystals in a potassium feldspar/Pyroxene medium grained matrix. Further mapping is required to determine the true attitude of this body.

Two small irregular lamprophyre dikes intrude CPv. One is located on the east side of the large CPv unit between the two fault systems. The are both medium grained with large hypershene megacrysts up to 2cm in size. The seem to follow narrow, recessive areas which appear to be splays off the main faults. Further trenching in these areas is required.

Syenite Ksy

Located at the SE corner of the property is a small body of medium grained syenite. It is feldspar rich with hornblende and biotite mica. This body may be of Cretaceous age and related to the large syenite pegmatite intrusion located ~4 km to the north. It is possible however that the syenite is temporally related to the mKl. Trenching is required to answer this question.

Diabase mKd

Several small (< 1m) diabase dikes occur and have been identified intruding both CPv, CPu, TJs. They appear unaltered and are moderately silicified. The dikes trend EW and are vertical. Further trenching and mapping of the dikes are required as some may be older representing mafic hypabyssal intrusion with in CPv or CPu.

Gabbro mKg

A large irregular gabbro body intrudes CPv and TJs. It is unaltered, medium grained showing a weak columnar structure. Mapping of the contact is required as it is possible this unit may be a interflow intrusion within CPv.

Chert TJs

This unit occurs throughout the property and is comfortable with CPv representing seafloor deposition during a long period of volcanic quiescence. The chert is highly silicified well ribboned and varies from light gray-green to dark gray in color. Quartz flooding has resulted in 1-2cm fracture filled veinlets. Hand trenching has revealed an area of brittle fracturing of chert in the center of the property and west of the Highway Fault. This good represent a fault contact with a CPU outcrop to the south. Only the occasional grain of pyrite can be found in this unit except where altered to listwanite near faulted zones where up to 1% pyrite occurs as fine grained brass to silver crystals. A thin bed of blue-gray fine grained silicified tuff is commonly found along these zones and may represent a basal unit of the chert beds or a upper unit of CPv.

Mafic Volcanics CPv

This is the most well exposed unit on the property. It is an uplifted and accreted package of deep sea andesite and basalts. The package itself may represent several separate accreted volcanic sequences. The volcanics are moderately to highly chloritized. Silicification varies from low to locally high. These unit is also well silicified along the hanging wall on the east side of the Highway Fault. Fracture of the unit at right angles has resulted in a stockwork of >1cm quartz veining with an average distance of 5m east of the fault. This is well exposed in trench 95-1. This package also shows weak remnant flow banding and pillow margins.

Serpentinized peridotites CPU

This unit is exposed in several NS predominant narrow outcrops east of the Alaska highway. It is carbonate altered with may bright patches of serpentinite. Quartz veining and mineralization is rare.

Limestone CPc

Dirty light brown limestone is exposed in a small out crop at the north end of the property. It has a shallow dip to the NE. This package may be part of CPv or a older unit. Further investigation for fossils is required to better date this unit. This unit may be covered with overburden in other areas of the property.

CONCLUSIONS

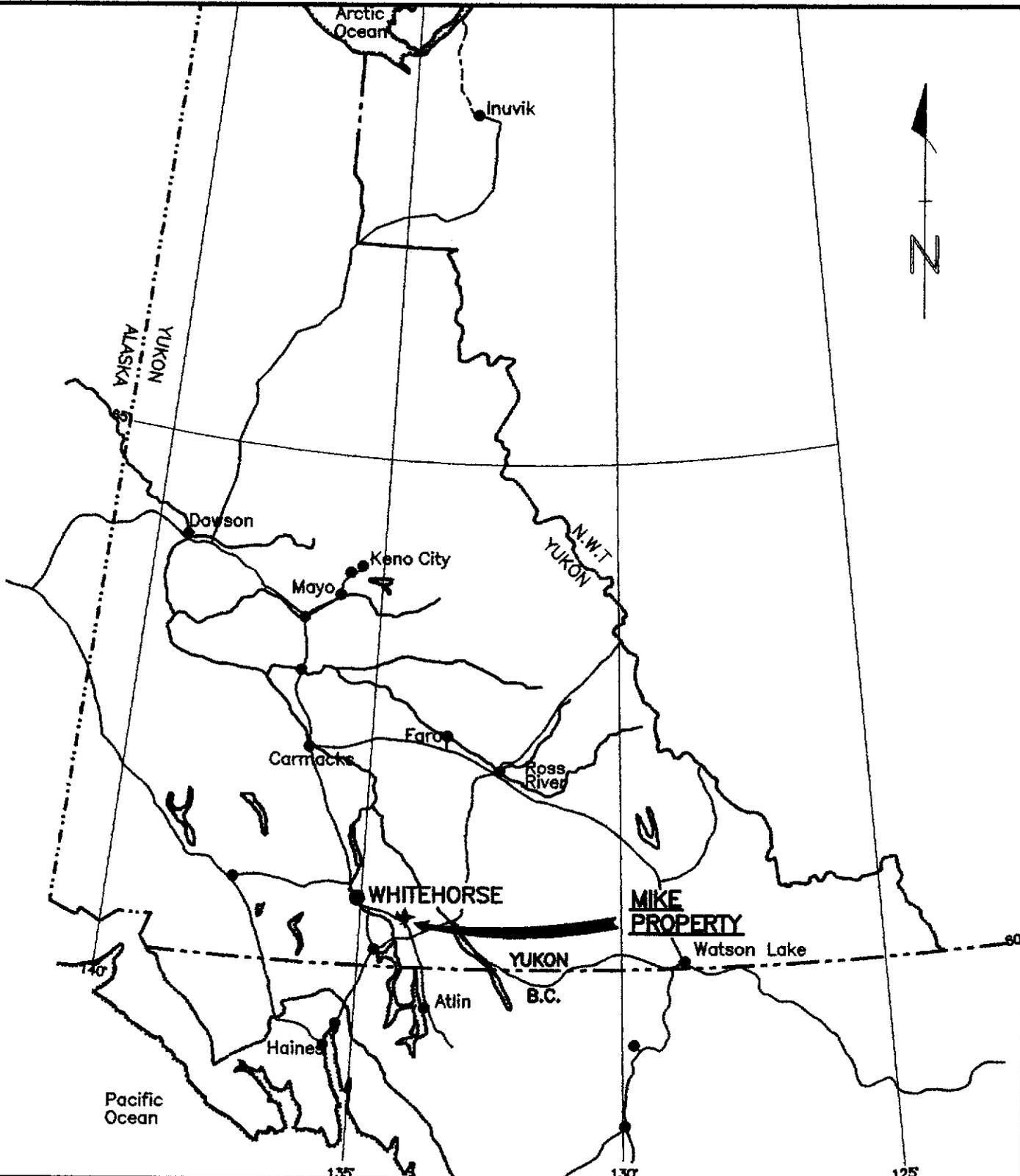
Anomalous gold and pathfinder element assay results from two strong parallel fault systems were obtained in 1995. Zones showing pervasive listwanite alteration in fractured brecciated units similar in mineralogy and age to those in a geological setting similar to Mother Lode style gold camps have been exposed. Mineralization at lamprophyre contacts shows that some metals are in the system. The newly discovered syenite body may have provided a heat source for hydrothermal fluids and potential mineralization. This gives significant justification to continue exploring the Mile 1-8 claims next year.

RECOMMENDATIONS

A 1:2500 compilation basemap should be produced for the property. This should be based on airphotos at a scale to 1:5000. Flagged gridlines should be run east and west of the existing Highway Fault BL and the new Pipeline baseline. An EDM survey instrument should be brought in to tie the two baselines together, survey in cultural features and stake out marker pins on prominent outcrops.

Hand trenching should be performed along contact and faulted areas. Following this all outcrops should be mapped at a detailed scale and sampled with Au+30 element assaying. Soil samples should be taken in overburden covered areas and along the small recessive splays with a sample kept for panning and heavy mineral identification. A VLF-Mag geophysical unit should be used to provide further information on geology, structure and mineralization in overburden covered areas. After further compilation a small backhoe should be brought in to expose areas of contacts, faults, and potential mineralization. The cost of this work would be approximately \$20,000 over two seasons.

APPENDIX I**FIGURE 1 to FIGURE 4**



MIKE 1-8 CLAIMS
 WHITEHORSE MINING DISTRICT, YUKON TERRITORY

PROPERTY LOCATION MAP

J. CLARKE, MARSH LAKE, YUKON | DATE: AUGUST, 1997
 NTS 105 D/8 | DRAWN BY: JC | SCALE: 1:6,000,000 | FIGURE 1

15°

JIC 929-1982
LOT 470
LOT 784
LOT 785
LOT 786

S-58B/D

OC 929-1982
LOTS 735-747

OC 929-1982
LOTS 748-776

OC 929-1982
LOTS 1-61

LOTS 61-72

S-19B LOTS 1010-1012

LOT 1079

LOT 477

Legend


 CLAIM #
 GRANT#



MIKE 1-8 CLAIMS
WHITEHORSE MINING DISTRICT, YUKON TERRITORY

CLAIM LOCATION MAP

J. CLARKE, MARSH LAKE, YUKON	DATE: AUGUST, 1996
NTS 105 D/8	DRAWN BY: JC
SCALE: 1:30,000	FIGURE 2

APPENDIX II**STATEMENT OF EXPENDITURES****Prospecting, Line-cutting, and Hand Trenching
1996/97**

Transportation:	Truck 6 day	\$150.00
	Quad 4 day	\$150.00
Personnel:	Joseph Clarke, prospector 6 days \$200/day (line-cutting, hand-trenching, prospecting)	\$1200.00
Report		\$200.00
Miscellaneous:	Food, Equipment, Flags, Gas	\$150.00
TOTAL COST		<u>\$1850.00</u>

APPENDIX II

STATEMENT OF EXPENDITURES

**Prospecting, Line-cutting, and Hand Trenching
1996/97**

Transportation:	Truck 4 day	\$200.00
	Quad 6 day	\$300.00
Personnel:	Joseph Clarke, prospector 6 days \$250/day (line-cutting, hand-trenching, prospecting)	\$1500.00
Report		\$200.00
Miscellaneous:	Food, Equipment, Flags Gas	\$200.00
TOTAL COST		<u>\$2400.00</u>



APPENDIX III**STATEMENT OF QUALIFICATIONS**

I, Joseph A. J. Clarke, of Marsh Lake Yukon Territory with mailing address of General Delivery, Whitehorse, Yukon hereby certify:

That I have graduated from the Haileybury School of Mines in 1985 with a diploma in Mining Engineering Technology;

That I have been engaged in prospecting in the Yukon on a full time basis since May of 1993 and have been engaged in prospecting and in the mineral industry for 15 years elsewhere in Canada;

That I have a commitment to prospect in a gentlemanly manner with respect for others who use the land.

Signed at Whitehorse, Yukon Territory on the 14 day of June, 1997. ⁹⁸ 


Joseph A. J. Clarke

APPENDIX IV

ACKNOWLEDGMENTS

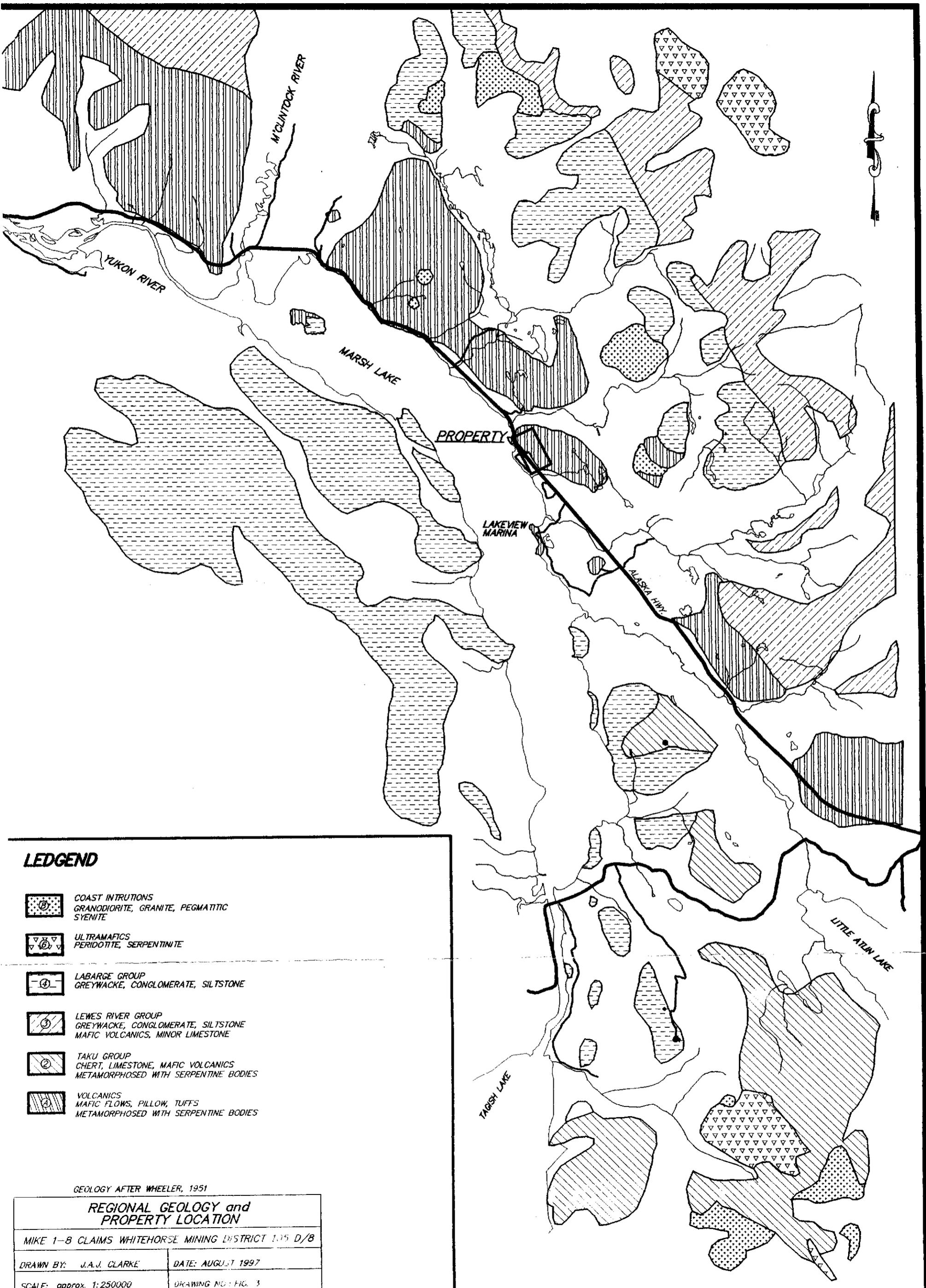
Assessment Report 092965 by Gary Reynolds

The Liswanite-Lode Gold Association of British Columbia
Ash and Arksey
Geological Fieldwork 1989, paper 1990-1

Airborne EM and MAG Survey
Jakes Corner Project
DIAND Open File 1994 - 10 (G)
by Dighem I Power

Notes to Prospectors - Jakes Corner
Dighem Survey Interpretation
DIAND Open File 1995 - 12 (G)
by M.A. Power Msc, Amerok Geophysics

Special thanks for geological discussions with the staff of the MDA and DIAND offices in Whitehorse, the staff Aurum Geological and Amerok Geophysics, and local prospectors.



LEDGEND

- COAST INTRUSIONS
 GRANODIORITE, GRANITE, PEGMATITIC
 SYENITE
- ULTRAMAFICS
 PERIDOTITE, SERPENTINITE
- LABARGE GROUP
 GREYWACKE, CONGLOMERATE, SILTSTONE
- LEWES RIVER GROUP
 GREYWACKE, CONGLOMERATE, SILTSTONE
 MAFIC VOLCANICS, MINOR LIMESTONE
- TAKU GROUP
 CHERT, LIMESTONE, MAFIC VOLCANICS
 METAMORPHOSED WITH SERPENTINE BODIES
- VOLCANICS
 MAFIC FLOWS, PILLOW, TUFFS
 METAMORPHOSED WITH SERPENTINE BODIES

GEOLOGY AFTER WHEELER, 1951

**REGIONAL GEOLOGY and
PROPERTY LOCATION**

MIKE 1-8 CLAIMS WHITEHORSE MINING DISTRICT 1:15 D/8

DRAWN BY: J.A.J. CLARKE

DATE: AUGUST 1997

SCALE: approx. 1:250000

DRAWING NO.: FIG. 3

LEGEND

CRETACEOUS

- mKd DIABASE; FINE TO MEDIUM GRAINED
- mKsy SYENITE; MEDIUM GRAINED
- mKl LAMPROPHYRE; MEDIUM TO COARSE GRAINED. LOCALLY MUSCOVITE RICH WITH CRYSTALS > 1cm.
- mKg GABBRO; MEDIUM TO COARSE GRAINED WITH FRESH APPEARANCE.

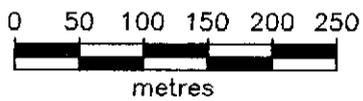
PERMIAN TO TRIASSIC

- TJts CHERT; LIGHT COLORED RIBBON CHERT LOCALLY BRECCIATED AT FAULT CONTACTS.
- CPv MAFIC VOLCANICS; LIGHT TO HEAVY CHLORITE ALTERED. REMNANT FLOW BANDING AND WEAK PILLOW MARGINS.
- CTu SERPENTINIZED PERIDOTITE; VARIABLY ALTERED AND SHEARED.
- CPc LIMESTONE; DIRTY CRYSTALLINE WITH OCC. CHERT CLASTS.

- OUTCROP BOUNDARY
- GEOLOGICAL CONTACT
- TRENCH (HAND)
- LISTWANITE VEINING/BRECCIATION
- ROCK SAMPLE, 1995/96
- SOIL SAMPLE, PRE-1995
- FAULT
- STRIKE AND DIP

MINERALIZATION

- Py PYRITE
- Cp CHALCOPYRITE
- Gn GALENA
- Bx BRECCIA



GEOLOGY AFTER WHEELER, 1951

PROPERTY GEOLOGY

MIKE 1-8 CLAIMS WHITEHORSE MINING DISTRICT 105 D/8

DRAWN BY: J.A.J. CLARKE

DATE: AUGUST 1997

SCALE: approx. 1:9000

DRAWING NO.: FIG. 4

