

**ASSESSMENT REPORT**

**for**

**TRENCHING**

**on the**

**ANNE 1 to 4  
QUARTZ MINING  
CLAIMS  
(YC26740-YC26743)**

**MARSH LAKE,  
YUKON TERRITORY**

**NTS 105 D/8  
ZONE 8  
6704100N, 542450E (NAD27)  
LATITUDE 60-29 N  
LONGITUDE 134-17W**

**between  
APRIL, 2008  
and MARCH, 2009**

**WHITEHORSE MINING DISTRICT  
YUKON TERRITORY**

**by**

**JOSEPH A. J. CLARKE  
MARSH LAKE, YUKON  
APRIL, 2009**



**095080**

080300

Costs associated with this report have been approved in the amount of \$ 400.00 for assessment credit under Certificate of Work No. QW28381

M. J. Samwick  
Mining Recorder  
Whitehorse Mining District

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## **INTRODUCTION**

This report describes the exploration work carried out on the claims Anne 1-4 from April, 2008 to March, 2009. This work consisted of 4 hours of Kubota excavator trenching. Total value of work performed is \$400. No samples were taken for assay.

Trenching at TR95-1 (see figure 4) exposed a 2-3 meter wide zone of quartz stockwork with weak sulphide mineralization on the footwall of the >1 km long Highway Fault.

## **LOCATION, AND ACCESS**

The Anne 1-4 claims are located just east of the south entrance of Old Constabulary Subdivision, 65km south of Whitehorse along the Alaska Highway at Marsh Lake. 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 Anne 1-4 Claims( Fig 2.). Further activity was seen on the Bug , Tog, and Rosbank 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 claims to the 1.5 km to the northeast. Several other claim groups in the area are active.

## **EXPLORATION WORK**

A small Kubota excavator was mobilized to the claims in September of 2008 for one day. TR95-1 was extended into the talus slope at the base of an exposure of the listwanite Highway fault zone. Trench dimension was 8m (l) x 4m (w) x 3m (d), 96 cubic meters. A 2-3 meter wide zone of quartz stockwork with weak sulphide mineralization on the footwall of the >1 km long Highway Fault was exposed. No samples were taken for assay. Further trenching, sampling and mapping will occur in the summer of 2009.

As well further prospecting was conducted on all 4 claims over the course of 2 days, with the intent of outlining future excavator trenching sites.

This work will credit the Anne 1-4 for 1 years assessment work with a total excavator cost of \$400 (4 hours at \$100/hour).

## **REGIONAL GEOLOGY**

The geology of the NE side of Marsh Lake consist of a tectonic assemblage **OPHILITE** of island arc mafic volcanics, cherts, and up-thrusted and altered ultramafic bodies known collectively as the Cache Creek Group (fig 3). 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 Anne 1-4 claims consists of an accreted assemblage of oceanic mafic volcanics, cherts, limestone and ancient serpentized peridotites intruded by felsic, 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. 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 20m. 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 CHROME DIOPSIDE 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 PLAGIOGRANITE???**

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 outcrop 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 syenite body may have provided a heat source for hydrothermal fluids and potential mineralization. Further hand trenching in 2005/2006 and 2006/2007 indicates the continuous nature of the listwanite alteration in the Highway Fault.

Excavator trenching in 2008 of TR95-1 exposed an interesting quartz stockwork similar to mineralization found at the TOG, Bug and Beavis (Atlin Camp). This gives significant justification to continue exploring the Anne 1-4 claims next year.

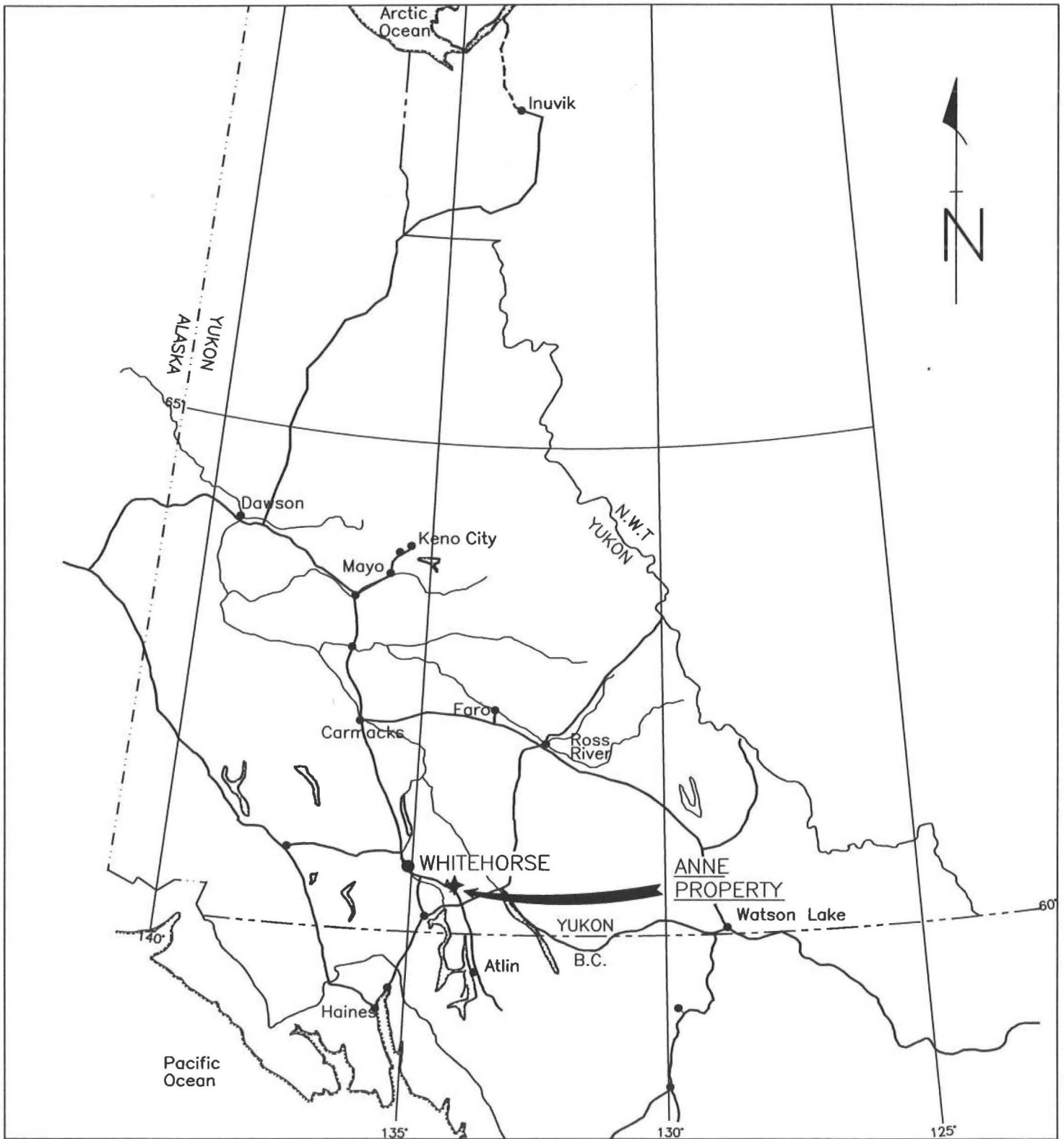
## **RECOMMENDATIONS**

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 extended east and west of the existing Highway Fault BL and the new Pipeline baseline. A differential GPS survey should be brought in to tie the two baselines together, survey in cultural features and stake out marker pins on prominent outcrops.

Small backhoe trenching should be performed along contact and faulted areas followed by mapping and sampling. Further outcrop mapping at a detailed scale should be conducted 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. The cost of this work would be approximately \$10,000 over two seasons.

**APPENDIX I**

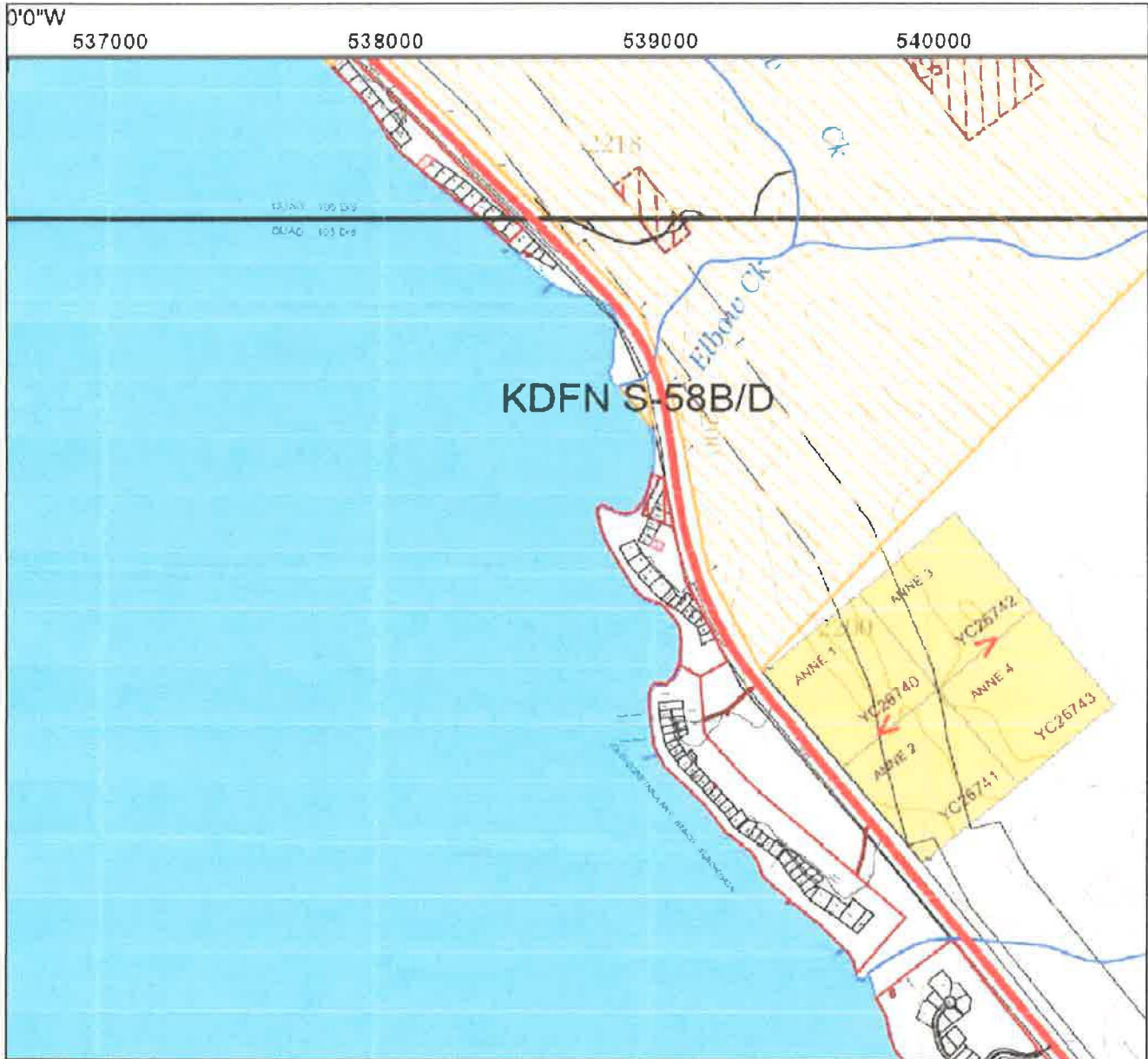
**FIGURE 1 to FIGURE 5  
PHOTOS**



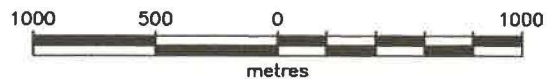
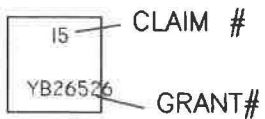
ANNE 1-4 CLAIMS  
WHITEHORSE MINING DISTRICT, YUKON TERRITORY

PROPERTY  
LOCATION  
MAP

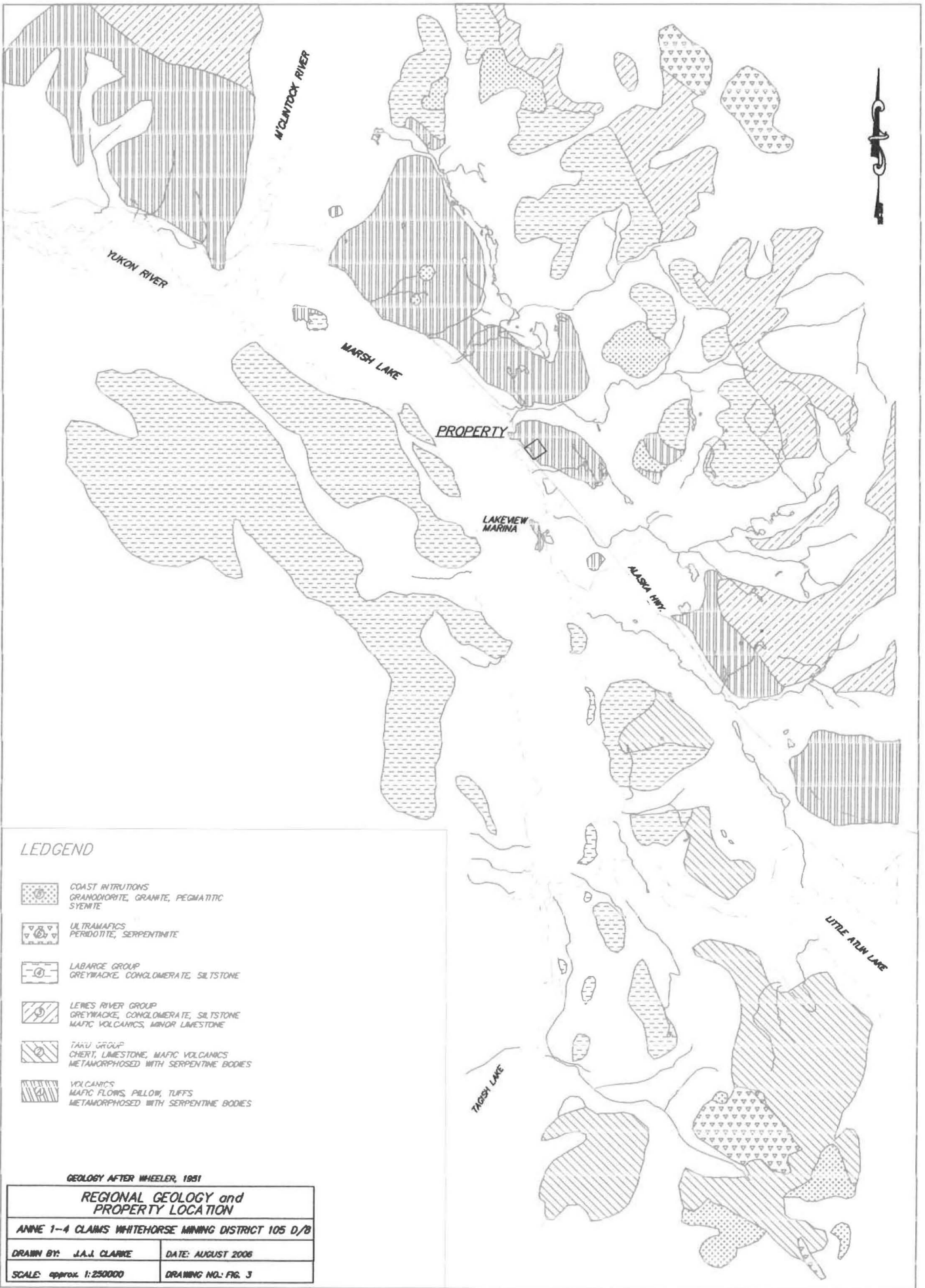
J. CLARKE, MARSH LAKE, YUKON	DATE: AUGUST, 2006
NTS 105 D/B	DRAWN BY:JC SCALE: 1:6,000,000 FIGURE 1









Legend



ANNE 1-4 CLAIMS WHITEHORSE MINING DISTRICT, YUKON TERRITORY			
<h1>CLAIM LOCATION MAP</h1>			
J. CLARKE, MARSH LAKE, YUKON		DATE: AUGUST, 2006	
NTS 105 D/B	DRAWN BY: JC	SCALE: 1:30,000	FIGURE 2



**LEDGEND**

- 
 COAST INTRUSIONS  
 GRANODIORITE, GRANITE, PEGMATITIC  
 SYENITE
- 
 ULTRAMAFICS  
 PERIDOTITE, SERPENTINITE
- 
 LABARGE GROUP  
 GREYWACKE, CONGLOMERATE, SILTSTONE
- 
 LEMES 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

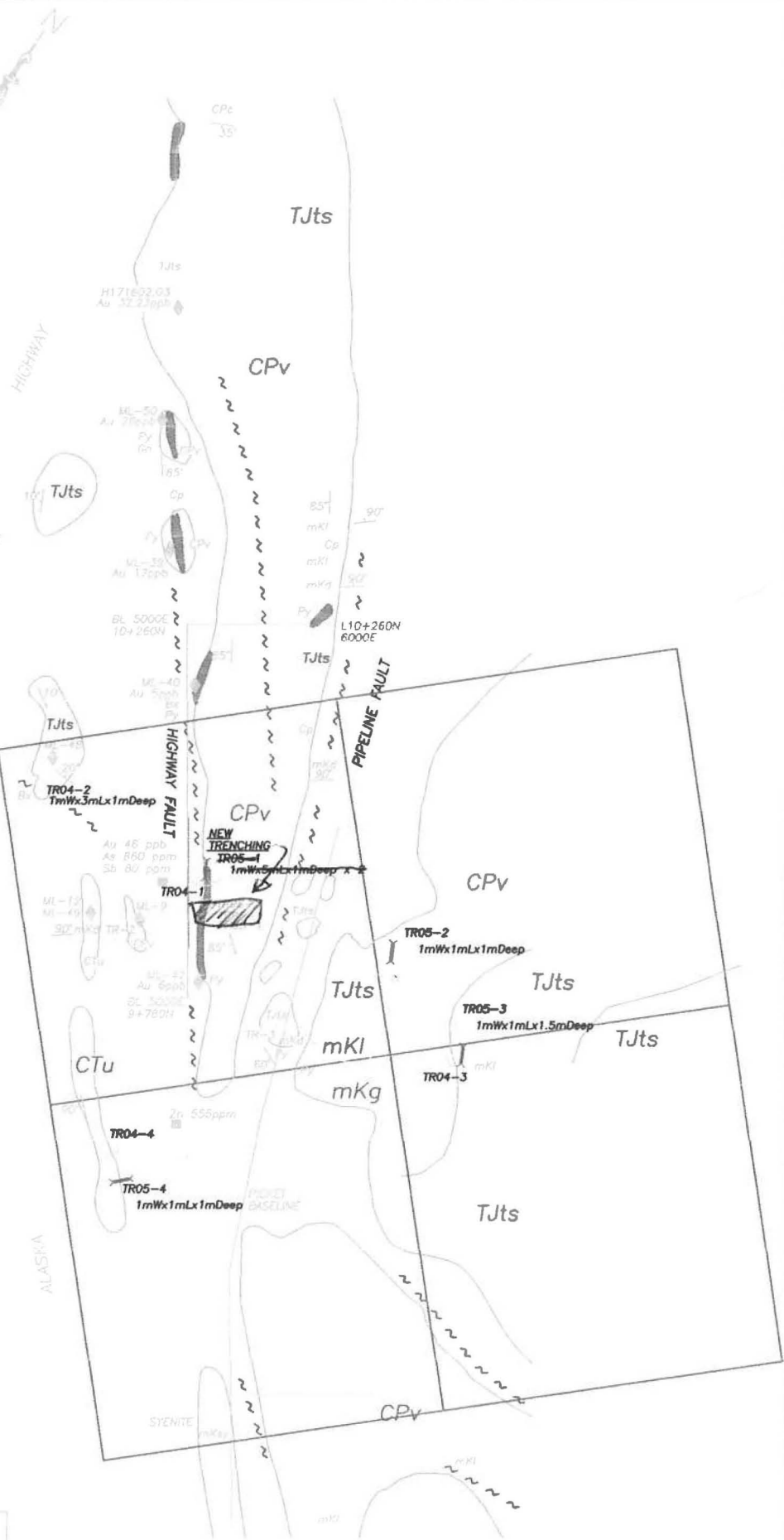
<b>REGIONAL GEOLOGY and PROPERTY LOCATION</b>	
ANNE 1-4 CLAIMS WHITEHORSE MINING DISTRICT 105 D/B	
DRAWN BY: J.A.J. CLARKE	DATE: AUGUST 2006
SCALE: approx. 1:250000	DRAWING NO.: FIG. 3

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

- TJts CHERT; LIGHT COLORED RIBBON CHERT LOCALLY BRECCIATED AT FAULT CONTACTS.
- CPv MAFIC VOLCANICS; LIGHT TO HEAVY CHLORITE ALTERED PERMIANT FLOW BANDING AND WEAR PILLOW MARGINS.
- CTu SERPENTINIZED PERIDOTITE; VARIABLY ALTERED AND SHEARED.
- GPc 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

ANNE 1-4 CLAIMS WHITEHORSE MINING DISTRICT 105 D/8	
DRAWN BY: J.A.J. CLARKE	DATE: AUGUST 2006
SCALE: GRAPHIC 1:8000	DRAWING NO.: DS 4

**TR5** CHERT, LIGHT COLORED RIBBON CHERT  
LOCALLY DECELTATED AT FAULT CONTACTS.

**CPV** MAFIC VOLCANICS, LIGHT TO HEAVY CHLORITE  
ALTERED, REMNANT FLOW BANDING AND WEAK  
FOLLOW MARGINS.

**LISTWANITE VEINING/BRECCIATION**

**◆** ROCK SAMPLE, 1995/96  
ASSAY RESULT Au ppm

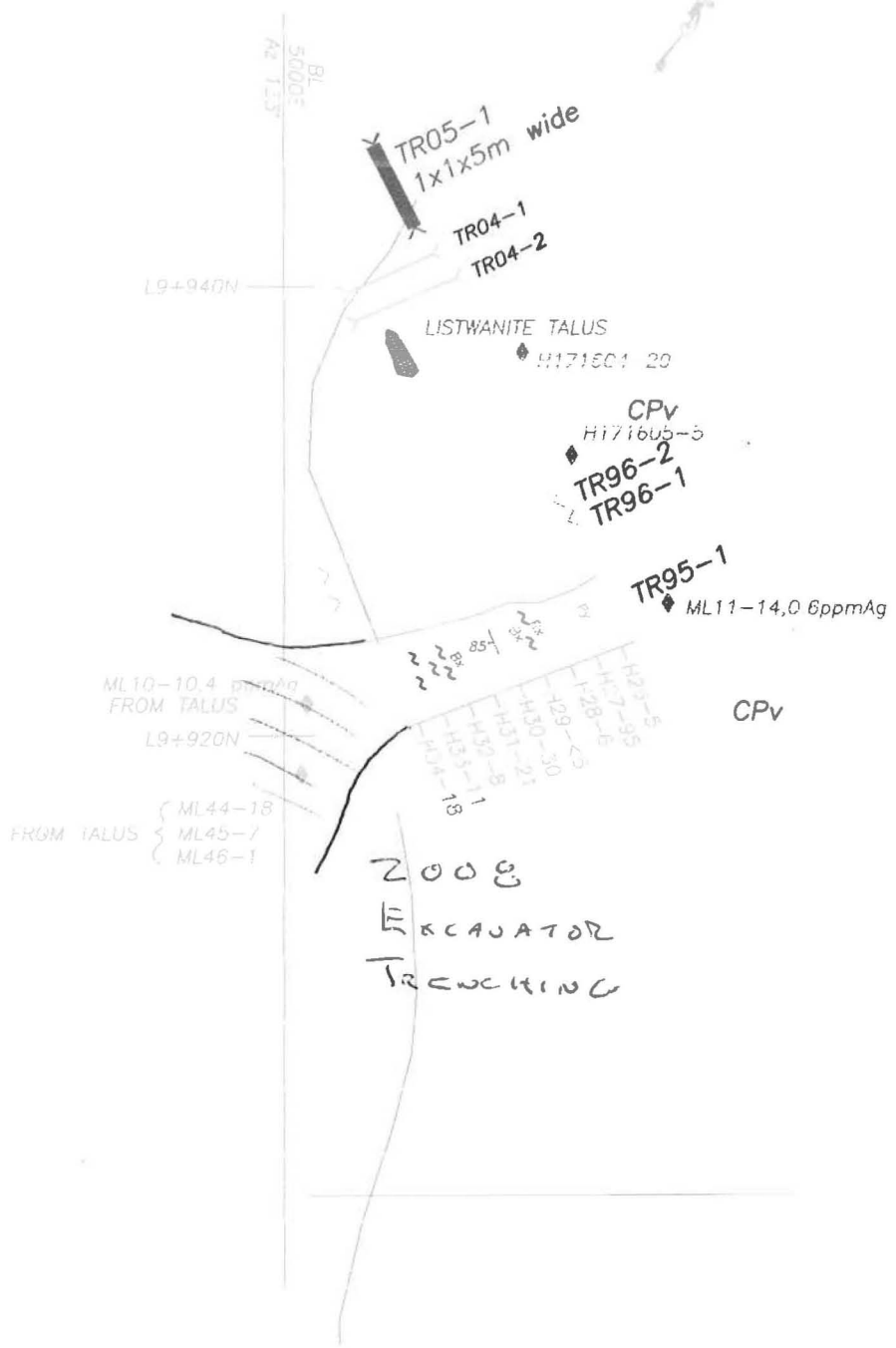
**T** ROCK CHIP SAMPLE, 1996  
ASSAY RESULT Au ppm  
(H = HEMLO GOLD MINES)

**~ ~** FAULT

**20°** STRIKE AND DIP

MINERALIZATION

Py PYRITE  
Bx BRUCCIA



GEOLOGY AFTER WHEELER, 1951

**PLAN MAP  
TRENCH TR05-1**

ANNE 1-4 CLAIMS WHITEHORSE MINING DISTRICT 105 D/B

DRAWN BY: J.A.J. CLARKE

DATE: AUGUST 2008

SCALE: approx 1:350

DRAWING NO.: FIG. 5



**APPENDIX II**  
**STATEMENT OF EXPENDITURES**

**Mini Excavator Trenching**  
**2008**

Kubota Excavator KX121-3	4 hours at \$100/hour	\$400.00
 <b>TOTAL COST</b>		 <b><u>\$400.00</u></b>

**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 20 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 1 day of April, 2009.



Joseph A. J. Clarke

**APPENDIX IV****REFERENCES**

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 Yukon Geological Survey office in Whitehorse, the staff at Aurum Geological, Aurora Geoscience and local prospectors.