

ASSESSMENT REPORT

TRENCHING PROGRAM

on the

**LOBO 1 to 10
QUARTZ MINING
CLAIMS
(YE41086-YE41077)**

**MARSH LAKE,
YUKON TERRITORY**

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

**Conducted between
JULY, 2012
and JUNE, 2013**

**WHITEHORSE MINING DISTRICT
YUKON TERRITORY**

by

**JOSEPH A. J. CLARKE
MARSH LAKE, YUKON
SEPTEMBER, 2013**

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INTRODUCTION

This report describes small excavator trenching conducted on existing trenches at the Anne 1 quartz mineral claim for required assessment work on the LOBO 1-10 Claims, 105D08, Marsh Lake, Yukon between June, 2011 and June, 2012.

The work consisted of excavating two trenches in talus slope on top of and below the Main Zone mesothermal listwanite fault zone on the Anne 1 claim with a 4 ton Kubota tracked excavator. TR-1 was an extension of existing trenching to the NW and TR-2 was trenched at right angles to TR-1 to better cut the fault zone.

TR-2 - 3m (w) x 40m (l) x 4m (d) = 640 m³

TR-1 - 3m (w) x 25m (l) x 4m (d) = 400 m³

Total = 1040 m³

Total cost for the project was \$1000

Trench slopes and spill piles were contoured and organic material spread to facilitate natural regrowth.

No rock or soil geochemical samples were taken.

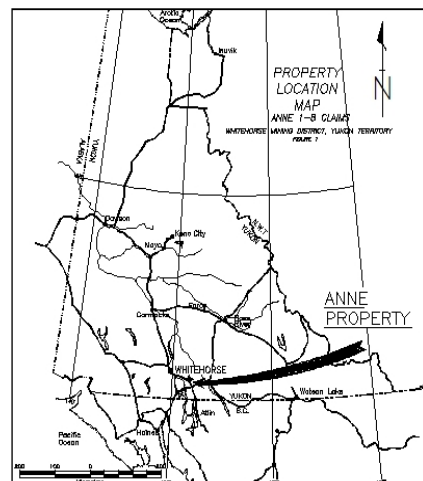
Further exploration work, including geological mapping, prospecting, soil sampling and focused mechanical trenching with a small tracked excavator should be conducted on the property. Additional claims should be staked to cover other known listwanite fault zones and a contact between Cache Creek units and a large syenite body to the east and northeast.

Most importantly recent mapping by Luke Bickerton (Simon Fraser), Maurice Colpron (YGS) and Dan Gibson (Simon Fraser) has greatly improved the knowledge of the geology and geology of the area including the introduction of a new slioclastic package in the Cache Creek rocks. This new work will be incorporated into future geological mapping of the LOBO and ANNE claim blocks.

LOCATION AND ACCESS

The LOBO 1-10 claims are located 1 km east of the north entrance of Old Constabulary Subdivision, 65km south of Whitehorse along the Alaska Highway at Marsh Lake.

With the exception of a few rocky hills, all areas of the claims are accessible from a numerous networks



of local ATV/ 4x4 trails and open bush. No camp was required.

TOPOGRAPHY, CLIMATE

The topography of the immediate area consists of small 25m to 50m hills and valleys generally running parallel to Marsh Lake. The terrain rises gently from Marsh Lake (elev 2200 ft) 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 the formation of ancient raised benches. Outcrop exposure is 35% on the property. The entire region was ice covered during the last ice age.

The climate of the area varies with highs 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) and less than 7 hours of daylight.

Overall the climate of the Southern Lakes is considered to be pleasant.

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. Willow and alder are abundant in the valleys and low areas. Birch can be found in a few isolated locations on the north side of steep cliffs where they are exposed to little sunlight.

Wildlife inhabiting the area is typical of the Southern Yukon and includes moose, wolves, and various small birds and mammals. No large animals were encountered over the summer.

EXPLORATION HISTORY

Hard rock exploration in the Marsh Lake area dates from 1895 on the nearby Rossbank Property. Only scattered prospecting was performed until the 1980's when exploration activity increased with work on the Bug, Tog, and Rossbank properties.



Mr. Gary Reynolds staked the original Mike 1-8 claims in 1989 and filed one year assessment work. Mr. Reynolds conducted prospecting and geochemical surveys. Grab samples returned up to 86ppb Au.

The 1994 Jakes Corner Helicopter EM survey revealed several strong EM conductors resulting in the prospector staking the Uchi claims 1.5 km to the northeast. Several other claim groups in the area are active.

YMIP grassroots prospecting grants have been received and successfully completed in 1995, 1997 and 2009 on this and nearby prospects in the Marsh Lake area.

Exploration work by the author to date has consisted of prospecting, geological mapping and hand trenching on the claims. Hand trenching has focused on the Highway Fault Zone in the area of TR95-1 (Main Trench). Other small trenches were dug to expose small splays and to look for various contacts. Results up to 233ppb Au were obtained in the immediate area.

In October, 2008 a small Kubota excavator was used to trench at TR95-1, now known as the 'Main Trench'. A 1-2 meter wide quartz stockwork, with 1% primarily pyrite mineralization was discovered below the main listwanite vein. The stockwork continues into the fault footwall buried by talus. No assays were taken on this trench extension prior to 2009.

The LOBO 1-10 claims were staked in June, 2011 with prospecting and mapping conducted between 2011-2013.

The area has also recently seen a small staking rush including staking of a large block of claims hosting nickel-iron awaruite and PGE elements.

REGIONAL GEOLOGY

The LOBO claims are located within the Intermontaine Belt of the Yukon Territory. The geology of the NE side of Marsh Lake consist of a tectonic ophiolite assemblage of mafic and ultramafic submarine volcanics, cherts, and up-thrusted and altered ultramafic bodies known collectively as the Cache Creek Group (see fig. 3). Johnston and Borel give an excellent history of the Cache Creek Terrane in their 2006 Earth and Planetary Science Letters article, The Odyssey of the Cache Creek Terrane.

Intruding the Cache Creek may be 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.

The Cache Creek terrane is typified by an oceanic assemblage of massive limestone, ribbon cherts and ophiolite dominantly of mantle harzburgite tectonite,

serpentinite mélange, minor gabbro and volcanic rocks. Sequences of chert and limestone accumulated from Mississippian to early Jurassic age. Felsic intrusions in the ophiolite have Permian crystallization ages (Mihalynuk et al., 2003).

PROPERTY GEOLOGY

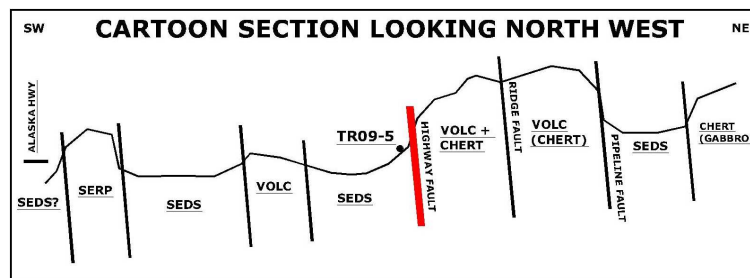
Geology of the LOBO 1-10 claims consists of an accreted assemblage of oceanic mafic and ultramafic volcanics, cherts, limestone and ancient serpentinitized peridotites intruded by felsic, mafic to ultramafic dykes, pods and sills, all of the Cache Creek Group (see fig. 4). The intrusive bodies will be considered to be part of the Cache Creek ophiolite suite but there exists a possibility that some could be related to mid to late Cretaceous felsic intrusions located 3 km to the east. Figure 1 is a compilation showing geological mapping to date.

Note: Geology is taken from 2009 mapping of the ANNE 1-8 claims and is representative of that found on LOBO 1-10. A re-interpretation to incorporate recent government regional mapping is required and is not in the scope of this report. This work will be done over the winter of 2012-13 and used for next year's mapping.

Structure

Structure of the property is dominated by three vertical, NW trending, steeply dipping faults known as the Highway Fault (HFZ Az135deg), and Pipeline Fault (PFZ Az

160deg). A large mafic package forming



the
Zone

the
Zone
160deg).
volcanic
a distinct

ridge separates the two fault systems by 200-400m. A third strong fault occurs within the mafics just below the crest of the large prominent ridge that is known as the Ridge Fault Zone (RFZ Az 135deg). These three fault zones are splays off the regional Marsh Lake Fault. A strong lineament located at the south east corner of the property runs NS.

Numerous oblique splay faults occur on a smaller scale throughout the property. Further mapping is required to fully understand the structural geology of the property.

Trenching across the Highway Fault revealed brecciation, quartz veining as well as small-scale faulting and folding across 20m. The fault zone continues under talus cover into the sediments, north into Marsh Lake and is clay covered to the south.

Geology

The following units have mapped on the property and in the local area. All are considered to be part of the Cache Creek Terrane. Ash, MacDonald and Arksey suggest that many of the mafic intrusions found in listwanite altered mesothermal gold intrusions are tectonically emplaced slivers rather than intrusions. Unless intrusion contacts are identified it can be assumed on the Anne Claims, that the larger intrusion listed below are in fact faulted into place. The smaller dikes mapped show intrusion contacts.

Unit 9 – Diabase Several small (< 1m) diabase dikes occur and have been identified intruding both the mafic volcanics, ultramafics and chert units. They appear fresh, unaltered and are moderately silicified. The dikes trend EW and are vertical. The dikes are believed to be mafic hypabyssal intrusion within the ophiolite package. They could also be later post-accretion intrusions.

Unit 8 – Lamprophyre Three different lamprophyre bodies have been mapped on the property. These dikes are assigned to the Cache Creek ophiolite package but could be younger and related to Cretaceous or even Eocene intrusive events.

- A small (< 1m) EW trending vertical dike intrudes serpentinite along the west side of the Pipeline Fault. It is of medium to coarse-grained mafic composition containing well rounded, ocular, easily weathered grains of a micaceous mineral up to 2mm in diameter.
- An irregular shape body of lamprophyre intrudes or is in part accreted to the mafic volcanics, gabbro, and chert. 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 the volcanics, located on the east side of the large volcanic unit between the two fault systems. They are both medium grained with large chrome diopside megacrysts up to 2cm in size. They seem to follow narrow, recessive breaks which appear to be crosscutting shears off the main faults. Further trenching and mapping in these areas is required.

Unit 7 - Limestone 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 unit is considered to be part of the Cache Creek group.

Unit 6 - Siltstone/Mudstone This unit occurs in low lying areas and is mostly covered by overburden. It is exposed along the Pipeline Fault and in TR09-01-03 and TR09-05-07. It consists of sometimes limey and later silicified siltstones and/or mudstones. This unit represent basinal sediments or interbedded or intercalated sediments. There is also a chance that this unit could be related to the Whitehorse Trough as mapped at the Bug showing at Judas Creek or rocks that outcrop on the northwest side of the large island at the north end of Marsh Lake.

Unit 5 - Chert This unit occurs throughout the property and is part of the ophiolite package. 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.

Trenching (TR09-04) has revealed an area of brittle fracturing and brecciation of chert in the center of the property west of the Highway Fault. This could represent a fault contact with a serpentinite (Unit 3) outcrop to the south. The occasional grain of pyrite can be found in this unit except where listwanite altered near faulted zones, where up to 1% pyrite occurs as fine grained brass to silver crystals.

Unit 4 – Mafic/Ultramafic Volcanics This is the most well exposed unit on the property. This is the main bulk of the Cache Creek ophiolite package found on the Anne claims. The volcanics are moderately to highly chloritized. Silicification varies from low to locally high. This unit is also well silicified along the hanging wall on the east side of the Highway Fault. Fracturing of the unit at right angles has resulted in a stockwork of >1cm quartz veining with an average distance of 15m east of the fault on the hanging wall. This is well exposed in Trench TR09-06. This package also shows flow banding and occasional pillow margins. It is not uncommon to find bounded slivers of banded chert 1 to 10 meters wide. In some areas it appears as if the mafic volcanics perhaps conformably overlies the chert but more work must be done to determine this relationship.

Unit 3 - Serpentinized Peridotite This unit is exposed in several NS narrow outcrops east of the Alaska highway. It is carbonate altered with many green patches of serpentinite. Quartz veining and mineralization are rare.

Unit 2 – Plagiogranite Located at the SE corner of the property is a small body of medium grained plagiogranite. It is feldspar rich with hornblende and biotite mica. It also has the appearance of comendite. This body is most likely part of the ophiolite package. Trenching and mapping will be required to define the contacts of this intrusion and determine their nature.

Unit 1 – Gabbro A large irregular gabbro body intrudes or is faulted against both the mafic volcanics and the chert units. 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 mafic volcanics.

Vein Geology and Mineralization

The Highway Fault Zone separates Unit 6 (Siltstone/Mudstone) and Unit 4 (Mafic Volcanics). The sediments occur in the footwall at the toe of the slope with mafic volcanics on the hanging wall forming the ridge. Fuchsite alteration is commonly found across the fault.

Note: Geology and mineralization described below from the ANNE 1-8 claims is typical of that seen and expected on the LOBO 1-10 claims.

In the fault zone from hanging wall to foot wall (NE-SW);

a) Mafic Volcanics – The unit forms the prominent ridge and consist of mostly of mafic volcanics as well as ultra-mafic volcanics and wedges of chert. Close to the listwanite, 1-2 cm quartz veins occurs in fractures. Pyrite occurs in fine disseminations and blebs up to 1%.

b) Listwanite – This 1-2 meter wide unit is composed of white bull quartz and quartz breccia with intense listwanite and dolomite alteration. Fuchsite is pervasive throughout. It contains breccia fragments up to 10cm, vuggy quartz veins and occasional pyrite cubes up to 3mm in size many of which are rusted out. It is the classic listwanite float that occurs throughout the area.

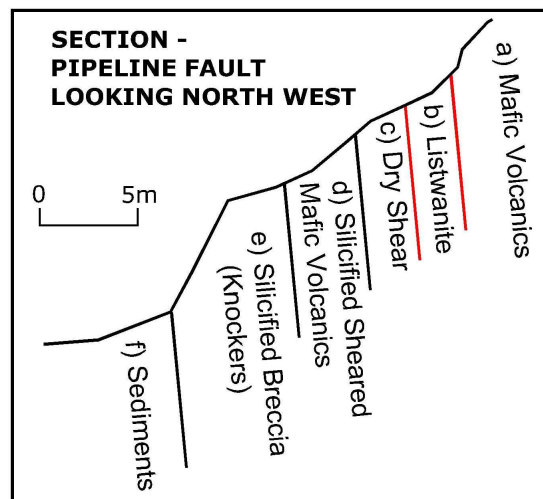
c) Sheared Mafic Volcanics (Dry Shear) – This unit consists of friable very highly sheared mafic volcanics. It is consistently 1 meter wide and lies directly below the listwanite. This sub-unit seems to contain the highest gold values.

d) Silicified Sheared Mafic Volcanics – This unit consists of lightly to highly sheared mafic volcanics. Blocks greater than 1m occur.

e) Silicified Breccia (Mélange/Knockers) – consisting of clasts of massive volcanics, sheared volcanics, chert, sediments. Relatively large (>2m) slabs of massive volcanic hanging wall are common. A highly silicified breccia occurs consisting of 1mm to 3cm angular fine grained fragments in a dark quartz rich matrix. It has the appearance of a pseudotachylite over a 5-20 cm scale.

Fine grained pyrite varies between 0.5 – 3% with occasional 1-3mm blebs.

f) Sediments This unit consists of 0.5-4cm beds of a grey to dark brown sometimes cherty mudstone to siltstone sediment. It is highly silicified and contains up to 3% pyrite within the fault zone or where a quartz stockwork has developed. Overall this unit contains 0.5-1% pyrite, is limonite stained, well fractured and occurs at the bottom of scraps adjacent to recessive lows.



Discussion

Ash, MacDonald and Arksey note the importance of structure in listwanite altered mesothermal gold deposit models in ophiolitic terranes;

“The locus of significant mineralization is typically associated with silicified zones (veins or stockworks) at the core of the structural zone or in its related splays.” (Ash, MacDonald, Arksey – BCGS Geological Fieldwork 1991, Paper 1992-1)

The HFZ matches this description with strong silicification, veining and stockworks within and on either side of the fault zone. The overall width is up to 20 meters. At least two generations of quartz veining and brecciation occur.

Pyrite is the most common sulphide present. In the listwanite, sub-unit b), it occurs as cubes and blebs up to several millimetres in size, often weathered out near the surfaces. In the brecciated zones in the footwall it occurs as finely disseminated silver to bronze coloured grains, with the occasional larger bleb. Chalcopyrite and galena are rare and generally fine grained. Bright green fuchsite can occur throughout the zone but is strongest in the main listwanite vein.

It is recommended in the future that more samples are analysed under a microscope. There are several other minerals that the prospector was unable to identify,

EXPLORATION WORK PROGRAM

The work consisted of excavating two trenches in talus slope on top of and below the Main Zone mesothermal listwanite fault zone on the Anne 1 claim with a 4 ton Kubota tracked excavator (see fig 4.). TR-1 was an extension of existing trenching to the NW and TR-2 was trenched at right angles to TR-1 to better cut the fault zone.

TR-1 - 3m (w) x 40m (l) x 4m (d) = 640 m³

TR-2 - 3m (w) x 25m (l) x 4m (d) = 400 m³

Total = 1040 m³

Total cost for the project was \$1000. No rock samples were taken to date.

SUMMARY AND RECOMMENDATIONS

Results from the trenching, prospecting and mapping to date on the LOBO and Anne claims, the 2009 YMIP work program, as well as sampling under YMIP programs in 1995 and 1997, indicated that the Highway Fault Zone contains elevated gold values (up to 240 ppb Au). Gold values are higher in the sheared mafic volcanics in the footwall, directly below the listwanite quartz vein. The HFZ has a strike length of over 1.5km and a width of 15 meters. It is a large, deep seated system that has the potential to host mesothermal gold at economic grades. As well there are several other known similar fault

zones of similar dimension and with similar mineralization, within three kilometers distance. Further work is recommended for the Anne Claims including:

- Staking of 20 to 40 claims to cover other listwanite fault zones, helicopter EM anomalies and the area adjacent to the large pegmatitic syenite to the northeast. Previous sampling by the prospector has returned gold results of over 200ppb Au.
- Further mini-excavator trenching should be done at the Main Trench area to better expose the sheared mafic volcanics below the listwanite. This section of the zone should be excavated along strike to the NW and SE.
- Whole-rock analysis should be performed on all intrusive rocks and in particular the coarse grained lamprophyre with chrome diopside megacrysts. Thin section work should also be done. It is recommended that YGS geologists investigate the relationship of these intrusives with age dating and geochemical analysis. The work done on the property provides good exposures of the Cache Creek ophiolite geology and it is hoped that it is taken advantage of.
- Further trenching should be done northeast of the Pipeline Fault to investigate contact relationship, search for further listwanite alteration and potential skarn mineralization.
- Detailed geological mapping should be performed at the Highway Fault Zone at a various scales.
- Detailed prospecting and geological mapping should be done at a property scale.
- Advice should be sought for the best way to perform geophysical and geochemical surveys. While soil sampling may be hindered by the glacial till, modern methods and GIS applications may overcome this.
- If a low cost auger drill is available it should be used to better define depth to bedrock and bedrock type. Resulting samples reached from below the clay should be panned and sent for assay.
- Finally, new geological and structural interpretations by Bickerton, Colpron and Gibson will be used to refine property geology and mineralization. This will help focus on the thrust faults that may have the most potential.

The above recommendations, less drilling, could be conducted over one summer month with a crew of one geologist and two prospectors. Estimated cost for such a project would be \$25,000 to \$50,000.

APPENDIX I – FIGURES and Photos

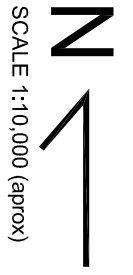
Fig. 1 Location Map

Fig. 2 Claim Location Map

Fig. 3 Regional Geology

Fig. 4 Property Compilation

Fig 5. Anne Claims Compilation



SCALE 1:10,000 (approx)

○ Au45

LEGEND

- GEOLOGICAL CONTACT
 - FAULT
 - LISTWANITE F.Z.
 - TRAIL
 - CLAIM LINE-LOBO
 - CLAIM LINE-ANNE
 - Au (unless otherwise indicated)
 - 95/97 SAMPLES Au ppb
- See text for geological legend

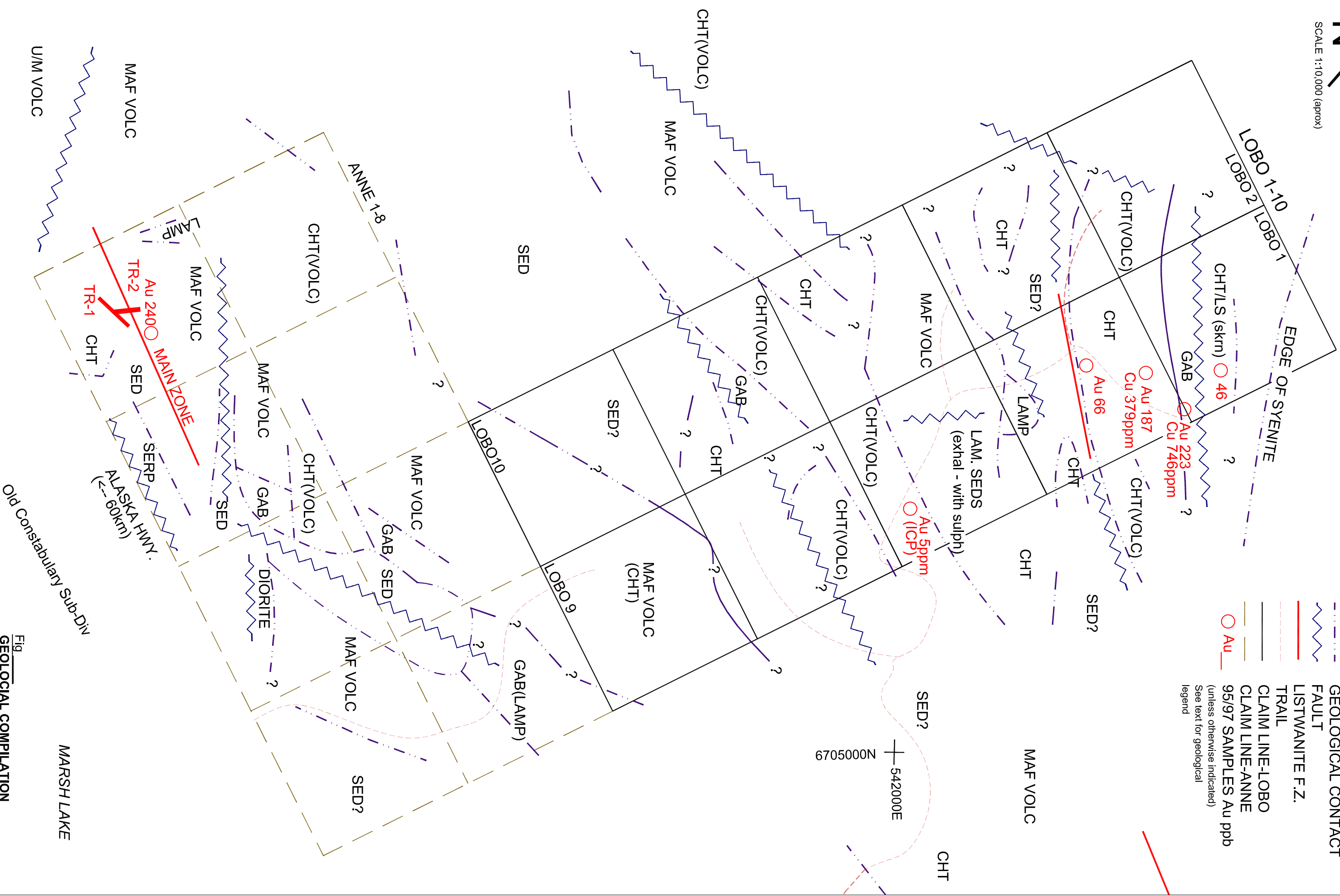


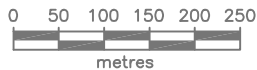
Fig
GEOLOGICAL COMPILATION
 LOBO 1-10 CLAIMS MARSH LAKE, YUKON
 WHITEHORSE MINING DISTRICT 105D08 (NAD83)
 J. Clarke, Aug. 2013

LEGEND

PERMIAN TO TRIASSIC

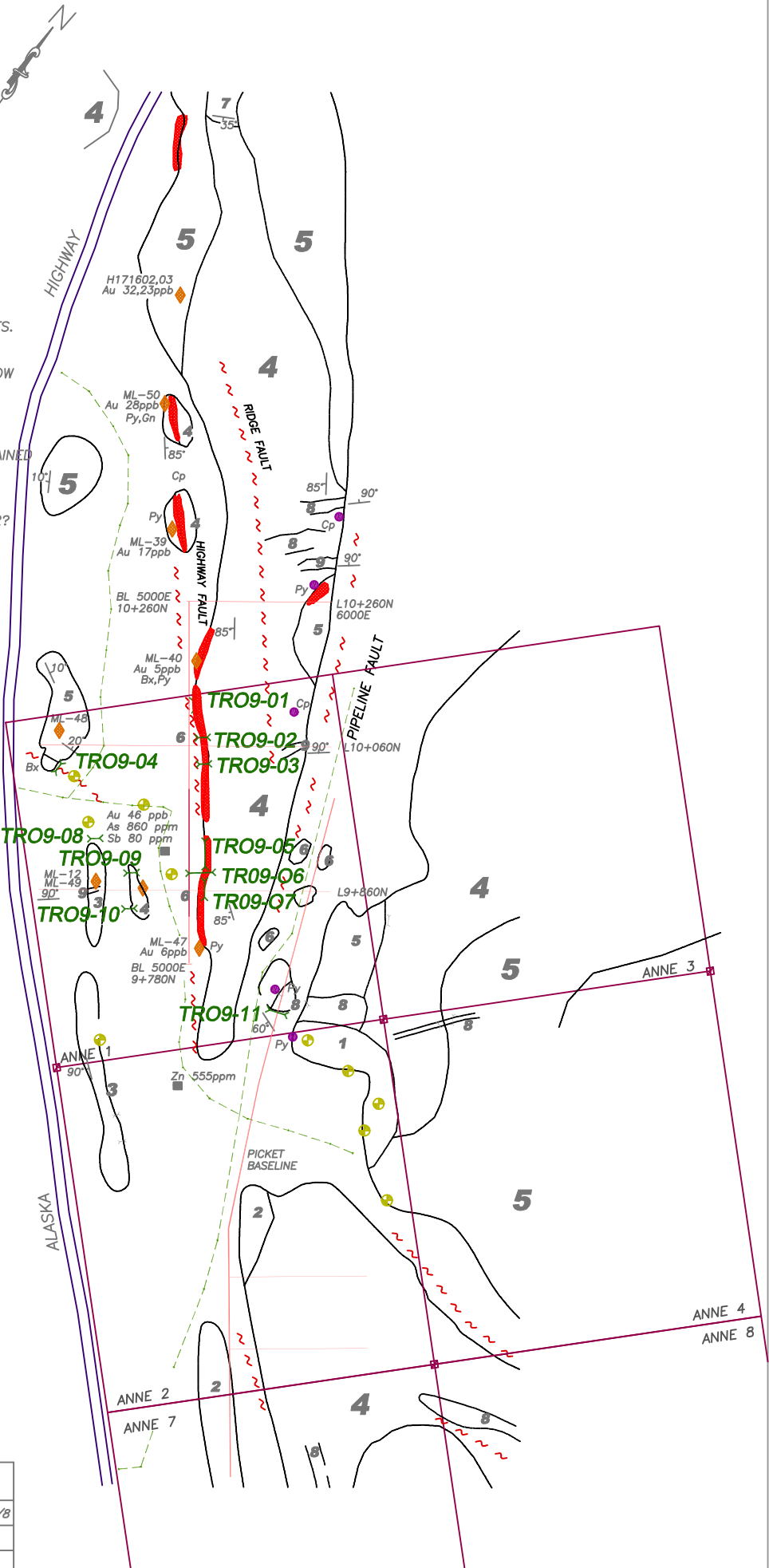
- 9 DIABASE; FINE TO MEDIUM GRAINED
- 8 LAMPROPHYRE; MEDIUM TO COARSE GRAINED.
- 7 LIMESTONE; DIRTY CRYSTALLINE WITH OCC. CHERT CLASTS.
- 6 SILTSTONE-MUDSTONE, GRAPHITIC PYRITIC
- 5 CHERT; LIGHT COLORED RIBBON CHERT LOCALLY BRECCIATED AT FAULT CONTACTS.
- 4 MAFIC/ULTRAMAFIC VOLCANICS; LIGHT TO HEAVY CHLORITE ALTERED, REMNANT FLOW BANDING AND WEAK PILLOW MARGINS.
- 3 SERPENTINIZED PERIDOTITE; VARIABLY ALTERED AND SHEARED.
- 2 PLAGIOGRANITE; MEDIUM TO COARSE GRAINED WITH FRESH APPEARANCE. MICACEOUS
- 1 GABBRO; MEDIUM TO COARSE GRAINED, FRESH TO ALTERED, RELATED TO UNIT 2?

- OUTCROP BOUNDARY
- GEOLOGICAL CONTACT
- TRENCH (OLDER)
- TRENCH (2009)
- TEST PIT 2009
- LISTWANITE VEINING/BRECCIATION
- ◆ ROCK SAMPLE, 1995/96
- SOIL SAMPLE, PRE-1995
- FAULT
- 20° STRIKE AND DIP
- CLAIM POST
- - - 4X4 TRAIL
- MINERALIZATION
 Py PYRITE
 Cp CHALCOPYRITE
 Gn GALENA
 Bx BRECCIA



GEOLOGY AFTER WHEELER, 1951

YMIP 2010	
PROPERTY GEOLOGY AND TRENCH LOCATION	
ANNE 1-4 CLAIMS WHITEHORSE MINING DISTRICT 105 D/B	
DRAWN BY: J.A.J. CLARKE	DATE: JANUARY 2010
SCALE: approx. 1:9000	DRAWING NO.: FIG. 4



APPENDIX IV – STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Joseph A. J. Clarke, of Marsh Lake Yukon Territory with mailing address of Box 2012, Marsh Lake, 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 25 years elsewhere in Canada;

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

Signed at Marsh Lake, Yukon Territory on the _____ day of _____, 2013.

Joseph A. J. Clarke

APPENDIX V – REFERENCES

REFERENCES

Thanks are in order for the many productive geological discussions with Al Doherty, Mike Power, Farrell Andersen, Jim McFaul, Mike Wark, Bill Mann, the staff of the Yukon Geological Survey. Equally important is the advice, tips and incentive provided by many professional Yukon prospectors.

Assessment Report 092965

by Gary Reynolds, Yukon (1991)

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

Geology of the Jakes Corner Geophysical Survey Area, Southern Yukon

By J.A. Hunt, C.J.R. Hart and S.P. Gordey

Open File 1995-5(G) INAC, Yukon

Notes to Prospectors - Jakes Corner

Dighem Survey Interpretation

DIAND Open File 1995 - 12 (G)

by M.A. Power Msc, Amerok Geophysics

Origin and tectonic setting of ophiolitic ultramafic and related rocks in the Atlin Area

BCGS Bulletin 94

By C. H. Ash (1994)