

097155

**ASSESSMENT REPORT  
FOR  
EXPLORATION WORK**

**ON THE**

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

**MARSH LAKE,  
YUKON TERRITORY  
WHITEHORSE MINING DISTRICT**

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

**Conducted between  
April, 2017 - May, 2018**

**By**

**JOSEPH A. J. CLARKE  
MARSH LAKE, YUKON  
JUNE, 2018**



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## **INTRODUCTION**

This report describes exploration work conducted on the Anne 1-4 claims which cover the orogenic gold target Minfile 105D196 at Marsh Lake, Yukon (105D/8) between April 2017 and May 2018. The claims are 100% owned by Joseph Clarke of Marsh Lake, Yukon, the author of this report.

Total cost of the exploration program was \$400.00.

The main focus of the exploration work was to perform detailed prospecting and geological mapping of narrow, vertical to sub-vertical lamprophyre dikes and faults to better understand the structure of the mafic volcanic and chert packages of the Hwy Fault Zone. No samples were taken during this work.

Mapping and prospecting shows that the Hwy Fault zone is a complex thrust system but that detailed structural mapping will be a good tool to better understand the complexity and also to tie this zone into a bigger picture view of how it relates to the larger regional Judas Mountain Thrust zone as defined by Bickerton and others.

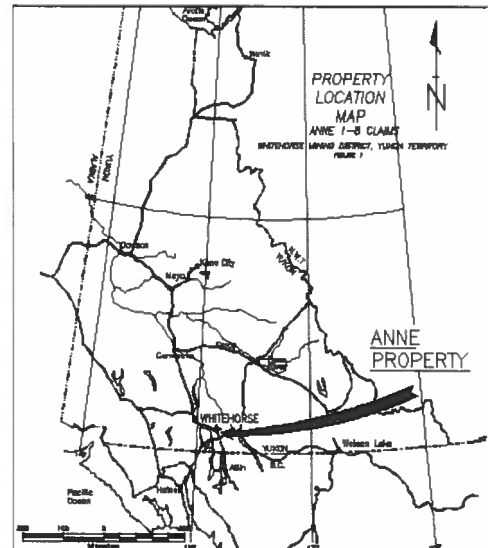
It is highly recommended that future work consists of 5 to 10 days of further detailed geological structural mapping on all mafic volcanic and chert exposures on the entire property.

## LOCATION, ACCESS and TENURE

The ANNE 1-6 and LOBO 1-10 claims (the Property) are located 1 km east of the north entrance of Old Constabulary Subdivision, 65km south of Whitehorse at Km 1329 on the Alaska Highway at Marsh Lake.

Whitehorse, Yukon is the Yukon's capital with a population of approximately 35,000 with all the services and amenities of much larger cities. Daily flights to Vancouver, Edmonton and Ottawa are provided by several major and local airlines.

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 will be required. Travel to and from the claims will be done by ATV due to the close proximity of the prospector's home to the property.



The property consists of the following quartz mining claims, 100% owned by the author.

Grant Number	Name	No.	Owner	Date		
				Recorded	Staking Date	Expire Date
YE41077	LOBO	10	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41078	LOBO	9	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41079	LOBO	8	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41080	LOBO	7	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41081	LOBO	6	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41082	LOBO	5	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41083	LOBO	4	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41084	LOBO	3	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41085	LOBO	2	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YE41086	LOBO	1	Joseph Clarke - 100%	28/06/2011	23/06/2011	28/06/2015
YC94753	ANNE	7	Joseph Clarke - 100%	30/07/2009	22/07/2009	30/07/2015
YC94752	ANNE	6	Joseph Clarke - 100%	30/07/2009	22/07/2009	30/07/2015
YC94751	ANNE	5	Joseph Clarke - 100%	30/07/2009	22/07/2009	30/07/2015
YC94754	ANNE	8	Joseph Clarke - 100%	30/07/2009	22/07/2009	30/07/2015
<b>YC26743</b>	<b>ANNE</b>	<b>4</b>	<b>Joseph Clarke - 100%</b>	<b>08/04/2004</b>	<b>28/03/2004</b>	<b>08/04/2015</b>
<b>YC26742</b>	<b>ANNE</b>	<b>3</b>	<b>Joseph Clarke - 100%</b>	<b>08/04/2004</b>	<b>28/03/2004</b>	<b>08/04/2015</b>
<b>YC26741</b>	<b>ANNE</b>	<b>2</b>	<b>Joseph Clarke - 100%</b>	<b>08/04/2004</b>	<b>29/03/2004</b>	<b>08/04/2015</b>
<b>YC26740</b>	<b>ANNE</b>	<b>1</b>	<b>Joseph Clarke - 100%</b>	<b>08/04/2004</b>	<b>29/03/2004</b>	<b>08/04/2015</b>

## **TOPOGRAPHY, CLIMATE**

The property is located in the Southern Lakes Region of the Yukon, Territory. This region is part of the headwaters of the 3200 km long Yukon River which empties in the Bering Sea in Alaska.

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.

## **EXPLORATION HISTORY**

For thousands of years, since the retreat of the last glacial ice, the Southern Lakes area was inhabited by both Dene (Athapaskan) and Tlingit peoples that prospered due to the bountiful hunting and trapping ecological resources of the area. As well, because of the strategic location between the Pacific Coast and the Interior the people of the Southern Lakes region were key players in an extensive historic trade. Their immense knowledge

of the land was invaluable to the European traders that entered the area in the mid-1800s and especially so when placer gold was discovered in 1896 on Bonanza Creek by George and Kate Carmack, Skookum Jim and Dawson Charlie, beginning the famed Klondike Gold Rush.

Hard rock exploration in the Marsh Lake area dates from pre-1886 on the nearby Rossbank Property where growth rings from a small spruce tree growing on the waste rock from a short adit were determined to pre-date the Gold Rush by several years. It can be assumed that early traders and prospectors in the area, familiar with the Motherload district of California, noticed the similarity of the geology and deposit style of the Cache Creek lithology and conducted exploration work.

Only scattered prospecting was performed until the 1980's when exploration activity increased with work on the nearby Bug, Tog, and Rossbank properties.

Mr. Gary Reynolds staked the original Mike 1-8 claims (now Anne 1-4) 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 after to 2009.

The LOBO 1-10 claims were staked in June, 2011 with prospecting and mapping conducted between 2011 and 2013. This area was previously covered by the author's Uchi claims.

The area has also recently seen a small staking rush after First Point Mineral's staking of the Mich Property hosting nickel-iron alloy mineral awaruite with nickel grades to 0.14%. First Point conducted a diamond drill program during the summer of 2014.

## **REGIONAL GEOLOGY**

The ANNE and 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, 3a).

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 mélangé, 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).*

*South-central Yukon contains multiple segments of terranes accreted to the Laurentian margin in the Cordilleran orogeny. In map-view, the late Paleozoic to early Mesozoic island arc terranes Stikina and Quesnellia, together with the affiliated peri-Laurentian Yukon-Tanana terrane, enclose at the northwestern end pelagic sedimentary rocks, oceanic seamount and ophiolite assemblages, as well as massive carbonate of the exotic Cache Creek terrane. (Bickerton et al. – Cache Creek Terrane, Stikinia, and Overlap Assemblages, Whitehorse and Teslin – Yukon Exploration and Geology 2012)*

## **PROPERTY GEOLOGY**

Geology of Property consists of an accreted assemblage of oceanic mafic and ultramafic volcanics, chert, limestone and ancient serpentized peridotites intruded by felsic, mafic to ultramafic dykes, pods and sills, all of the Cache Creek Group (see fig. 4). Cretaceous felsic intrusions occur in some parts of the property. Figure 4 is a compilation showing geological mapping to date. Fig 5 is a detailed map of the Anne Claims. Property geology described below is based on Anne claim mapping but is applicable to the overall geology of the property. Further work is recommended to better understand and describe the geology in future reports.

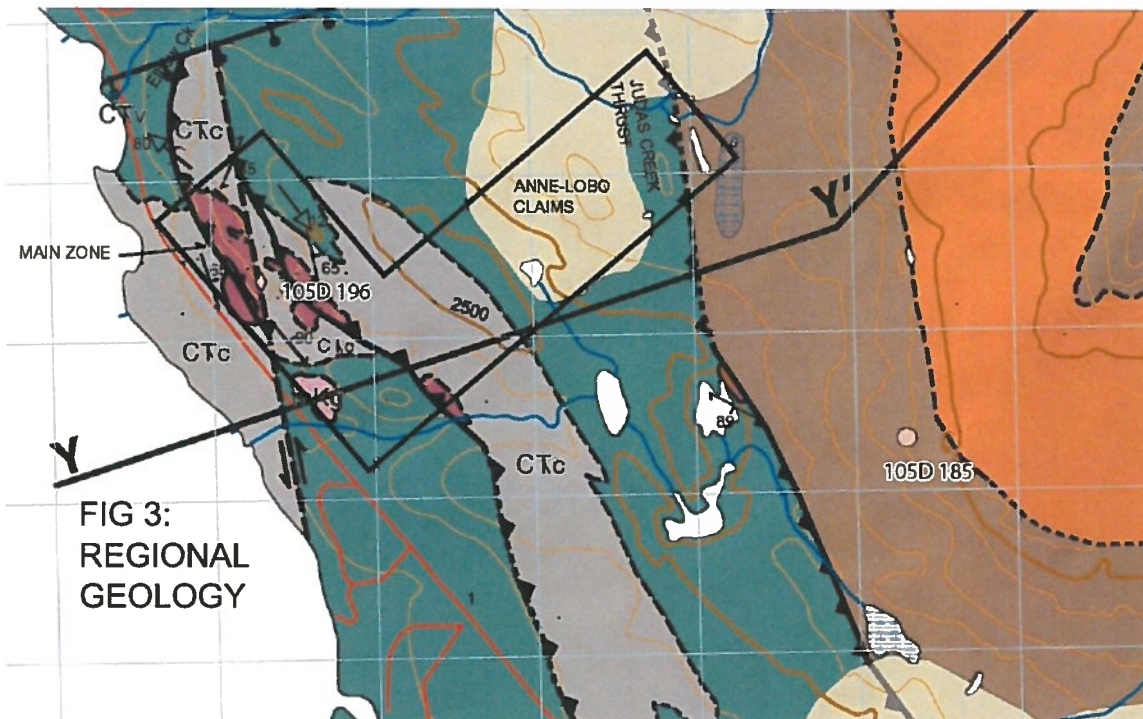
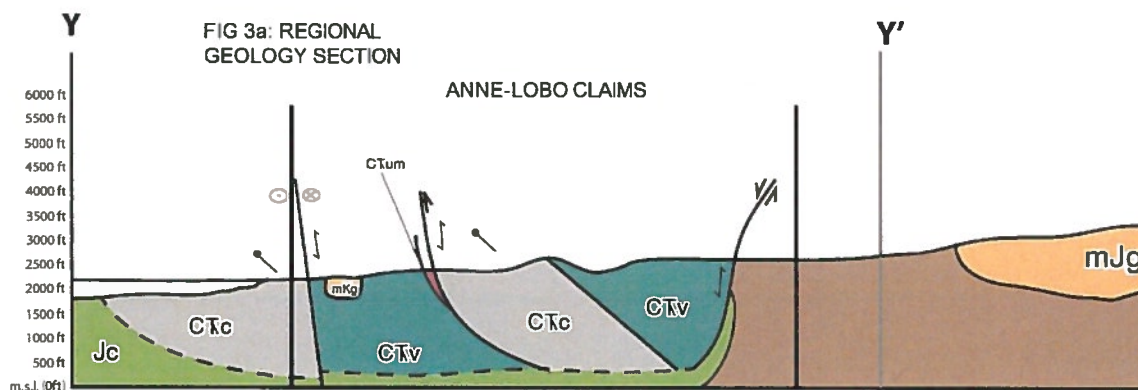


FIG 3:  
REGIONAL  
GEOLOGY



**LEGEND**

<p><b>Quaternary cover</b></p> <p>Q</p> <p><b>Intrusive rocks</b></p> <p>LPf felsic dike</p> <p>mKg granitoid</p>	<p><b>Layered rocks</b></p> <p><i>Whitehorse trough (Loberge Group)</i></p> <p>Jc Richthofen formation</p> <p><i>Stikinia (Lewes River Group)</i></p> <p>uTc Aksala formation (Casca member)</p> <p>uTh Aksala formation (Hancock member)</p>	<p><b>Cache Creek terrane</b></p> <p>mKk Michie formation</p> <p>CTm limestone</p> <p>CTc chert</p> <p>CTv volcanic rocks</p> <p>Pg gabbro/pyroxenite</p> <p>CTum ultramafic rocks</p>
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Fig 3: Regional Geology



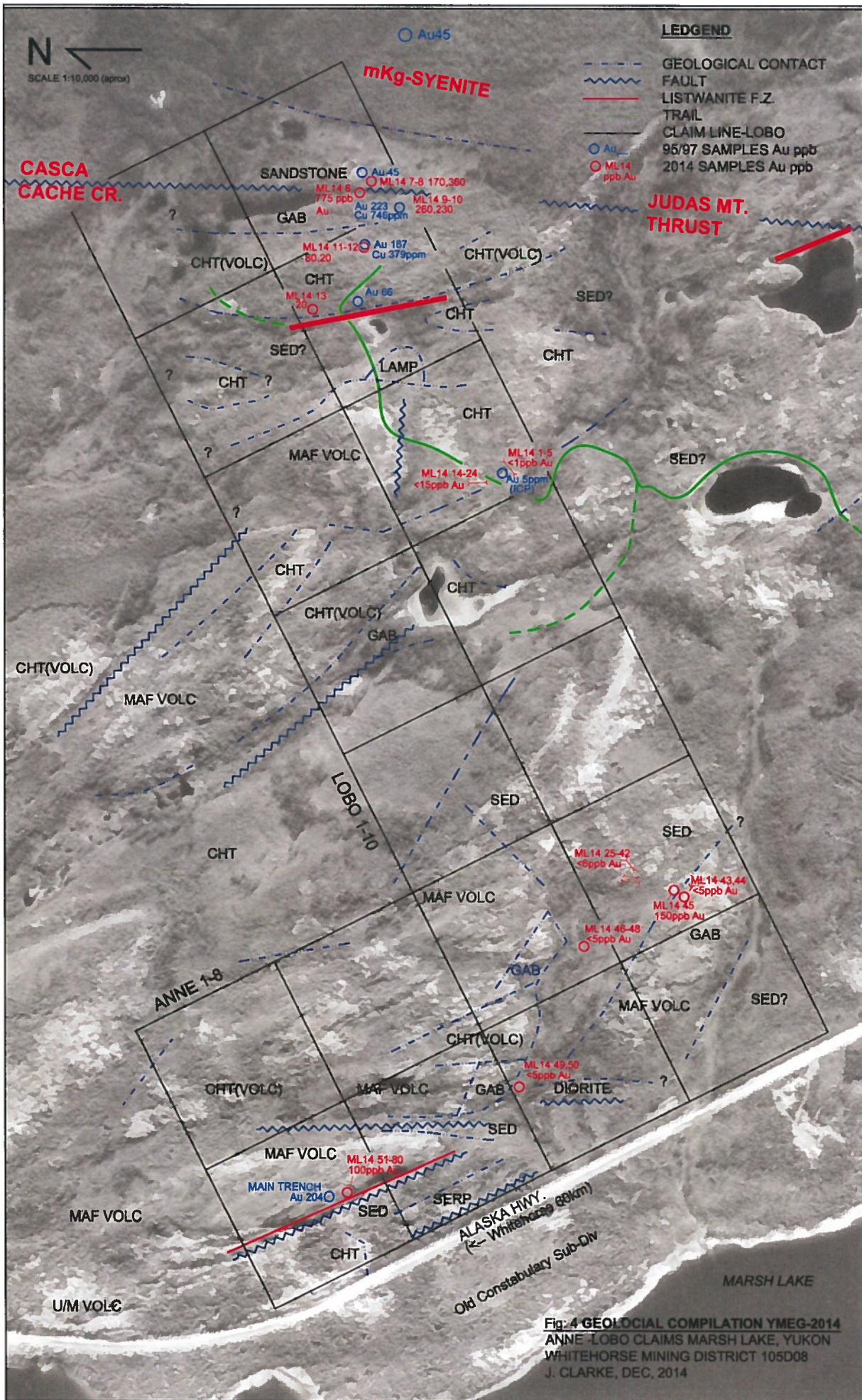


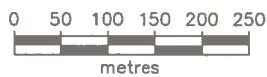
Fig. 4 GEOLOGICAL COMPILATION YMEG-2014  
 ANNE-LOBO CLAIMS MARSH LAKE, YUKON  
 WHITEHORSE MINING DISTRICT 105D08  
 J. CLARKE, DEC, 2014

**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 FLOW MARGINS.
- 3** SERPENTINIZED PERIDOTITE; VARIABLY ALTERED AND SHEARED.
- 2** PLAGIOGRANITE; MEDIUM TO COARSE GRAINED (NOW CRETACEOUS Mkg)
- 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
- STRIKE AND DIP
- CLAIM POST
- 4X4 TRAIL
- MINERALIZATION
  - Py PYRITE
  - Cp CHALCOPYRITE
  - Gn GALENA
  - Bx BRECCIA



GEOLOGY AFTER WHEELER, BICKERTON

Asses. 2018

**ANNE CLAIMS COMPILATION**

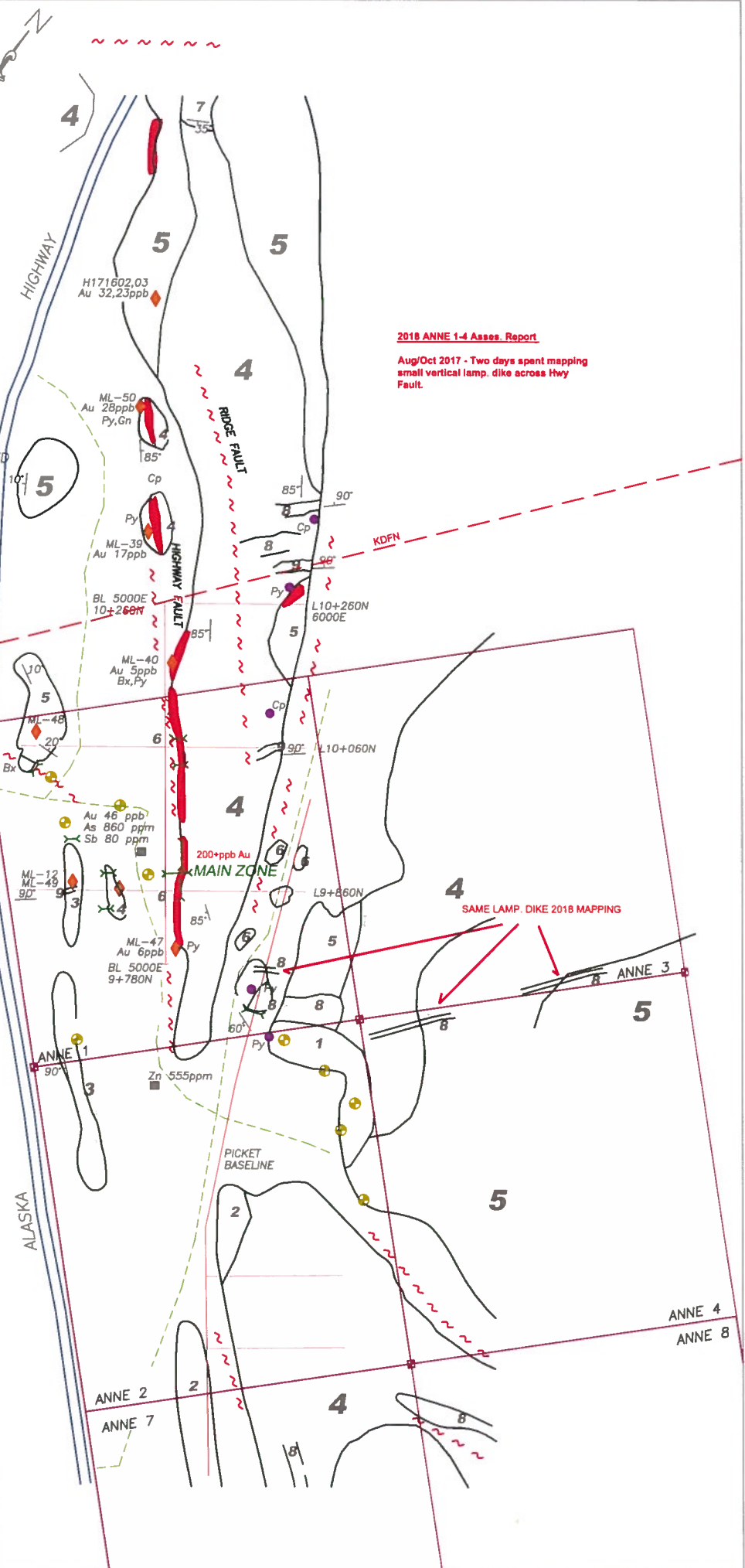
ANNE 1-4 CLAIMS WHITEHORSE MINING DISTRICT 105 D/B

DRAWN BY: J.A.J. CLARKE

DATE: JULY 2018

SCALE: approx. 1:10,000

DRAWING NO.: FIG. 5



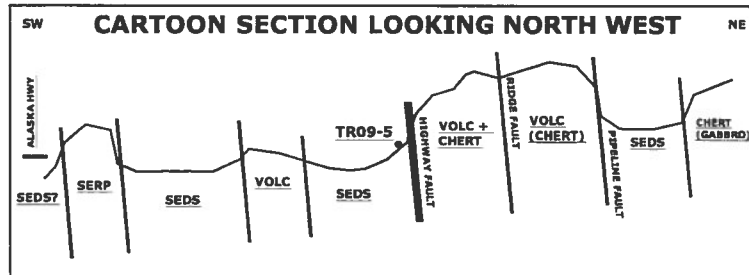
2018 ANNE 1-4 Asses. Report

Aug/Oct 2017 - Two days spent mapping small vertical lamp dike across Hwy Fault.

SAME LAMP DIKE 2018 MAPPING

## Structure

Structure of the property is dominated by three vertical, NW trending, steeply dipping faults known as the Highway Fault Zone (HFZ Az 135deg), and the Pipeline Fault Zone (PFZ Az 160deg). A large mafic volcanic package forming 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 with the exception of the granodiorite outcrops on the eastern Anne claims.

**Unit 9 – Granodiorite** Located at the SE corner of the property is a small body of medium grained Cretaceous granodiorite. It is feldspar rich with hornblende and biotite mica. Trenching and mapping will be required to define the contacts of this intrusion and determine their nature.

**Unit 8 – 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 7 – 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 6 - 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 5 - 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 basal sediments or interbedded or intercalated sediments.

**Unit 4 - 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 3 – 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 2 - 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 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 an interflow intrusion within mafic volcanics.

### Vein Geology and Mineralization – Main Zone

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.

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

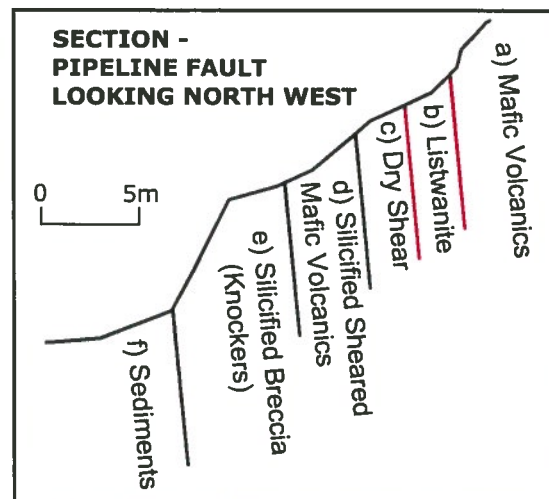
**a) Mafic Volcanics** The unit forms the prominent ridge and consist of mostly of mafic volcanics as well as ultra-mafic volcanics and wedges of chert. Close to the listwanite, 1-2 cm quartz veins occurs in fractures. Pyrite occurs in fine disseminations and blebs up to 1%.

**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.

### REASON AND RATIONAL

Significant assay results from past sampling program are listed below. It is obvious that elevated and significant gold values occur on the Property. Sample ML97-09 stands out with the high ICP assay of 5ppm Au.

#### Anne/LOBO Assay Summary – pre 2014

Sample Number	Location	ppb	ppm	ppm	ppm
		Au	Ag	Cu	As
ML97-09	LOBO	5ppm ICP	< .5	65	< 5
56602	Main Trench	240	1.2	33.9	82.4
ML97-22	LOBO	223	0.8	746	< 5
ML95-38	Marina	164	0.9	711	9
ML97-12	LOBO	147	0.5	312	< 5
26438	Main Trench NW	105	0.1	52.5	209.6
56603	Main Trench	75	0.3	30.3	40.5
ML97-24	LOBO	66	< .5	155	18
56601	Main Trench	65	0.2	29.4	68.2
ML97-15	LOBO	46	< .5	73	18
ML97-13	Syenite Peg.	44	< .5	65	10
26415	TR09-01	35	0.1	101.1	54.1
ML95-17	LOBO	29	0.6	54	17
ML95-50	LOBO	28	0.0	92	60
26412	TR09-01	25	0.1	44.8	194.9
26434	Main Trench NW	25	<0.1	26.6	116.7
26437	Main Trench NW	25	<0.1	4.2	13.6
56604	Main Trench	25	0.1	37.6	75.7
56611	Main Trench SE	25	0.1	19.5	174.0

26413	TR09-01	20	<0.1	21.3	149.6
56610	Main Trench SE	20	0.1	48.3	235.1
ML97-23	LOBO	20	0.9	379	< 5

Recent government mapping has showing that a major fault thrust exists between metavolcanic rocks of the Cache Creek Terrane and sediments of Stikinia on the LOBO 1-2 claims where past elevated Au samples were collected by the author (see Fig 4).

This thrust has the potential to be a major pathway for auriferous fluids. In light of this and previous assay results and the geology/structure of the property re-assay and detailed prospecting must be conducted to further study the nature of this significant thrust fault and potential economic gold mineralization.

As well, elevated assay results from the Main Zone Trench on the Anne 1-8 claims requires follow up check assays including screening for metallic gold.

General property mapping and compilation of data must be conducted to determine if other 'pathways' exist on the property.

It is expected that this work program will be able to bring the property to option status if significant assay results are returned.

## **2014 EXPLORATION WORK PROGRAM SUMMARY**

Presented in this report is details of the 2014 YMEG Property Evaluation work.

The purpose of the 2014 exploration work conducted was to;

- 1) Resampling of past samples to confirm elevated Au values (ML97-22 223 ppb Au and 746 ppm Cu / #56602 Main Zone 240ppb Au)
- 2) Detailed prospecting of the Judas Creek Thrust Fault on the LOBO 1-2 claims
- 3) General mapping of the property
- 4) Prospecting NW-SE along strike of the Judas Mt. Thrust Fault
- 5) Prospecting of untested EM conductors and magnetic anomalies revealed by the 1994 Jakes Corner Helicopter geophysical survey.
- 6) Compilation of new and existing data.

### **Area 1 – Judas Mt. Thrust (JMT)**

Previous sampling in 1995/97 in this area returned the following results:

- 1) 45ppb Au in sandstone on in the Casca NE of side of JMT
- 2) 223ppb Au (746ppm Cu) in gabbro in Cache Creek SW side of JMT
- 3) 187ppb Au in laminated cherty sediments in Cache Creek SW side of JMT

The author along with Mr. Bruce Bark of Marsh Lake spent a day prospecting this area and resampling the above locations with the following results:

- 1) ML14 6-8 775, 170, 360 ppb Au
- 2) ML14 9-10 260,230 ppb Au
- 3) ML14 11-12 80,20 ppb Au

These results show that the JMT has excellent potential to host an orogenic style Au deposit. Further prospecting, geological mapping, sampling and trenching is required across the JMT in this area as well as to the NW and SE.

As well several more claims should be staked to cover open ground along the strike of the JMT.

### **Area 2 – Chert-Argillite Contact**

Sampling in 1995 returned an assay value of 5ppm Au with ICP analysis so samples taken here were to done to confirm that result. Samples 2014 1-5 returned no significant results. It can be assumed that the 1995 elevated Au result is most likely due to a rare speck of native gold from surficial material contaminating the sample. This area covers the faulted contact between chert and argillite units. No significant mineralization or quartz veining was noted.

Also in this area, 50m to the NW, a number of samples were taken to cover the chert/argillite contact noted above. Samples ML14 14-24 returned no significant values with the highest value of 15 ppb Au.

This area should receive further mapping as structural contacts are significant but it is not expected to host significant mineralization or veining. Several EM conductors in this area found with the 1995 Jakes Corner Helicopter EM survey are most likely the result of these graphitic pyrite rich argillites which tend to be recessive.

It should be noted that in 1995/97 approximately 200m to the NW finely laminated bedding was noted in chert/argillite with v.f.g. pyrite up to 5% in layers. This may show that hot springs were possibly active on the sea floor during the time of chert formation. The extent of this sub-unit should be followed up in the future.



### **Area 3 – Jakes EM Conductor in Argillite**

This area was prospected and sample as the 1995 Jakes Helicopter EM survey revealed an EM conductor running NW-SE. Prospecting revealed that the EM conductor is the result of tight folding of graphitic argillite with up to 5% pyrite adjacent to a gabbro intrusive. Samples ML14 24-42 returned no significant results with the highest being 6ppb Au. No further work besides basic geological mapping is recommended here.

### **Area 4 – Gabbro Argillite Contact**

Samples ML14 43-45 were collected at what appears to be a faulted contact between the mica rich gabbro to the NW and argillite to the SE. The fault is subtle with no obvious quartz veining or mineralization. Samples ML14 43 and 44 taken in argillite returned <5ppb Au. However sample ML14 45 taken at the gabbro / argillite contact returned 150ppb Au.

This area has received little prospecting in the past and in the future should be given a more detailed look. The argillite to the SE is recessive and the ground slopes downhill to exposed mafic volcanic outcrop approximately 150m to the SE. This is most likely a faulted contact worthy of further investigation.

Four grab samples were taken along the trail between here and the Hwy Fault Zone. ML14 46-50 taken along the chert/argillite/gabbro contact returned no significant results. This area requires further detailed geological mapping but it is not expected to have much potential.

### **Area 5 – Hwy Fault Zone**

This trenched Listwanite Fault Zone discovered in 1995 and worked since was resampled with screened metallic Au analysis in 2014. No significant results were returned above 100ppb Au however there were a few results in the 20-80ppb Au range. This is in line with past sampling from this zone.

The coarser mesh analysis showed no significant results indicating that a 'nugget effect' most likely is not an issue in these listwanite fault zones.

No further work is recommended on this zone with the exception of detailed geological mapping to further add to the knowledge base. It should be noted that this zone is well exposed and is within easy walking distance from the Alaska Hwy and is an excellent example of listwanite fault zones typical of the Cache Creek Terrane in the area.

## **2017/18 EXPLORATION WORK PROGRAM SUMMARY**

Assessment work consisted of two days of detailed prospecting and mapping on the north side of the Hwy Fault Zone on the Anne 1-4 claims by the author. Work occurred on Aug15 and Oct 17, 2018.

It was found that several narrow (1-2m), vertical to sub-vertical lamprophyre dikes strike NE-SE are offset dextrally by the Hwy Fault Zone. These dikes cut both the mafic volcanics and chert packages but do not cut the argillites. This indicates that the dikes intruded both the mafic volcanic and chert units prior to faulting and stacking of the argillite unit in between the other two units.

It is recommended that structural mapping should be conducted on the entire property (Anne and Lobo claims) in order to identify potential fluid pathways which may host potential gold mineralization. As well, unit mapping done in conjunction with limited small excavator trenching is highly recommended.

**APPENDIX I – LIST OF 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**



**Main Zone Trenching – 2012**

**APPENDIX II – BUDGET**

Budget – ANNE 1-4 Claims – 2017

Joe Clarke – Prospecting and Geological Mapping - \$200/day

Aug 15/2017	\$200
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Oct 10/2017	\$200
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Total	\$400
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4 claims @ \$100/year required assessment = 1 years on ANNE 1-4

**APPENDIX III – 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 mineral exploration 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 20 day of July, 2018.



Joseph A. J. Clarke

**References:**

**Al Doherty – Aurum Geological Consultants – 867-667-4168**

**Tim Bissett – Minconsult Exploration Services – 250-542-4477**

## APPENDIX IV – REFERENCES

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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 and geologists.

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