

# **Jesse's Nap Flat 1-2 and C & R 1 Claims**

## **Assessment Report**

### **Vesuvianite Rock Sampling**

**Jesse's Nap Flat 1-2 and C & R 1 Claims,  
Grant #s YE85012 - YE85014**

**East of Porcupine Creek and 14 Km Northwest of Hasselberg Lake**

**UTM Center - 9V 444500 E, 6761700 N**

**Claims Ownership - 100% Everett Van Krichbaum**

**Aug. 21-26, 2013**

**Claim Map 105 B/16**

**Watson Lake Mining District**

**by Van Krichbaum**

## TABLE OF CONTENTS

1. INTRODUCTION	
A. LOCATION & ACCESS .....	3
B. CLIMATE, TOPOGRAPHY & VEGETATION .....	3
C. PROPERTY & CLAIM STATUS .....	4
D. PREVIOUS WORK HISTORY .....	5
E. WORK PROGRAM .....	10
F. SAMPLE PREPARATION & ANALYTICAL PROCEDURE .....	11
2. GEOLOGY	
A. REGIONAL GEOLOGY .....	12
B. PROPERTY GEOLOGY .....	17
3. ROCK SAMPLES	
A. PRESENTATION OF RESULTS .....	18
4. DISCUSSION .....	21
5. CONCLUSIONS & RECOMMENDATIONS .....	24
6. REFERENCES .....	24
7. STATEMENT OF EXPENDITURES .....	25
8. STATEMENT OF QUALIFICATIONS .....	25
9. APPENDICES	
A. Table 2. Vesuvianite Occurrence UTM Locations .....	25

## 1. INTRODUCTION

### LOCATION & ACCESS

The 'Jesse's Nap Flat' 1 & 2 (JNF 1 & 2) claims and the C & R 1 claim are located 14 Km west-northwest of Hasselberg Lake. All 3 claims will be collectively called the JNF claims for this report when not specifically referring to one claim. The east-facing basin is locally called 'Crystal Valley', and can be reached by a 15 Km hike or motorized ATV (Argo) overland to the 'Crystal Valley' camp site indicated on the map on page 11 in the Work Program section. Access to the JNF claims from the 'Crystal Valley' camp is by foot. A detailed traverse map is in the Rock Samples section of this report on page 19.

### CLIMATE

Most of the Yukon has a subarctic climate (Köppen climate classification Dfc), characterized by long cold winters and brief warm summers. The climate is generally very dry, with little precipitation, but is considerably wetter in the southeast. Precipitation is much greater in the mountains, and the snowpack continues to melt well into the summer, sometimes resulting in high water in July or August.

### TOPOGRAPHY

The JNF 1 & 2 claims cover the northern slope and the C & R 1 claim covers the southern slope of a somewhat pointed mountain on the north side of 'Crystal Valley'. The 2000 m mountain rises 500 m from the 'Crystal Valley' floor (1500 m) where camp is situated. The claims area slope is moderately steep where the rock sampling was done. Treeline is approximately 1400 m elevation.

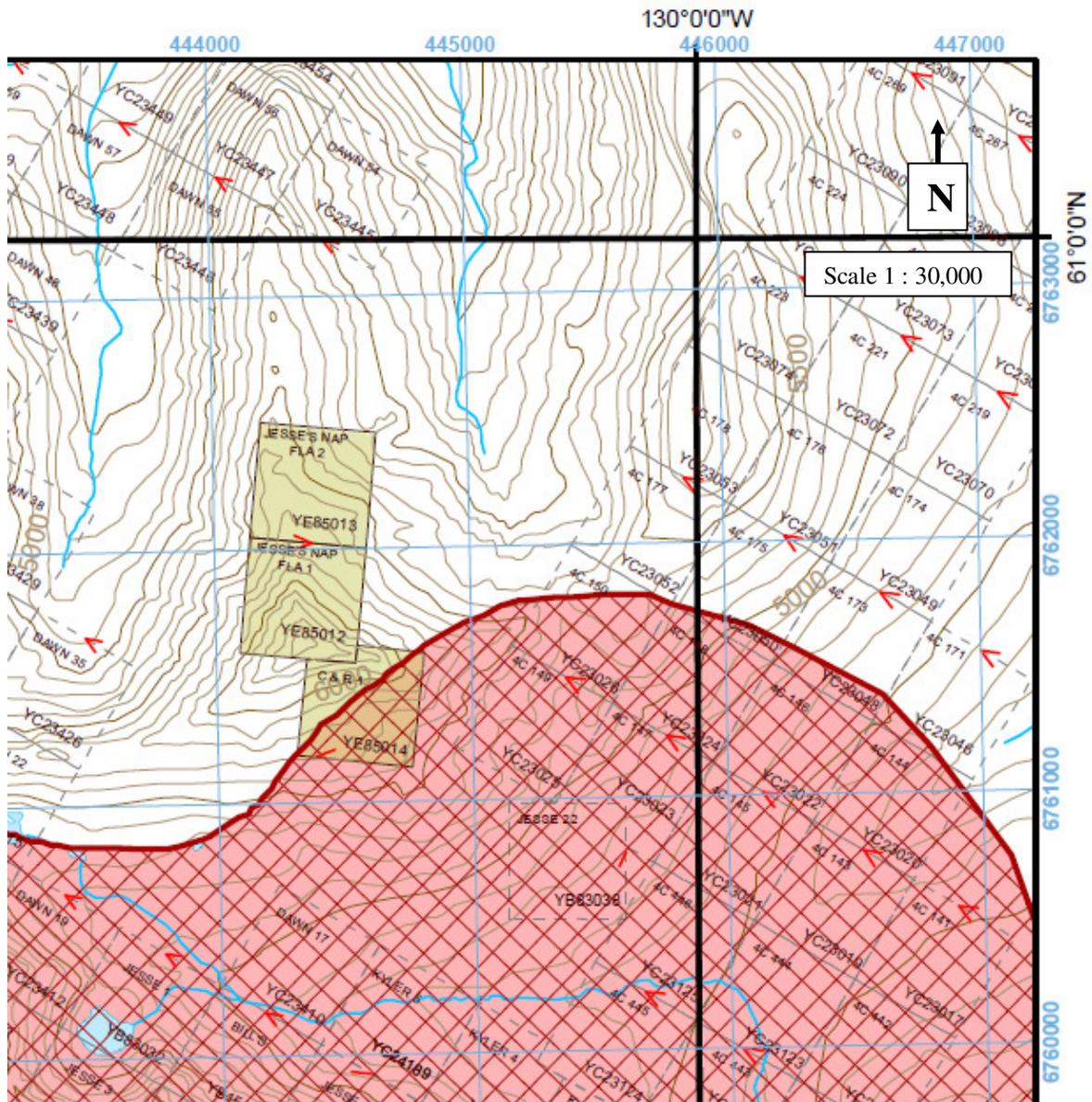
### VEGETATION

In southern Yukon, Black Spruce (*Picea mariana*), White Spruce (*Picea glauca*), Quaking Aspen (*Populus tremuloides*) and Balsam poplar (*Populus balsamifera*) are found throughout much of the territory. Although relatively uncommon, the Alaska birch (*Betula neoalaskana*) is also found in most areas. The Lodgepole Pine (*Pinus contorta*) reaches its northern extreme the south-central part of the territory, while Tamarack (*Larix laricina*) is found in the southeast and the Sub-Alpine fir (*Abies lasiocarpa*) is found at higher elevations in the southern part of the Territory.

## PROPERTY & CLAIM STATUS

Grant #	Claim Name	#	Claim Owner	Recording Date	Staking Date	Expiry Date
YE85014	C&R	1	Van Krichbaum - 100%	2012-07-30	2012-07-15	2019-07-30
YE85012	JESSE'S NAP FLAT	1	Van Krichbaum - 100%	2012-07-30	2012-07-15	2019-07-30
YE85013	JESSE'S NAP FLAT	2	Van Krichbaum - 100%	2012-07-30	2012-07-15	2019-07-30

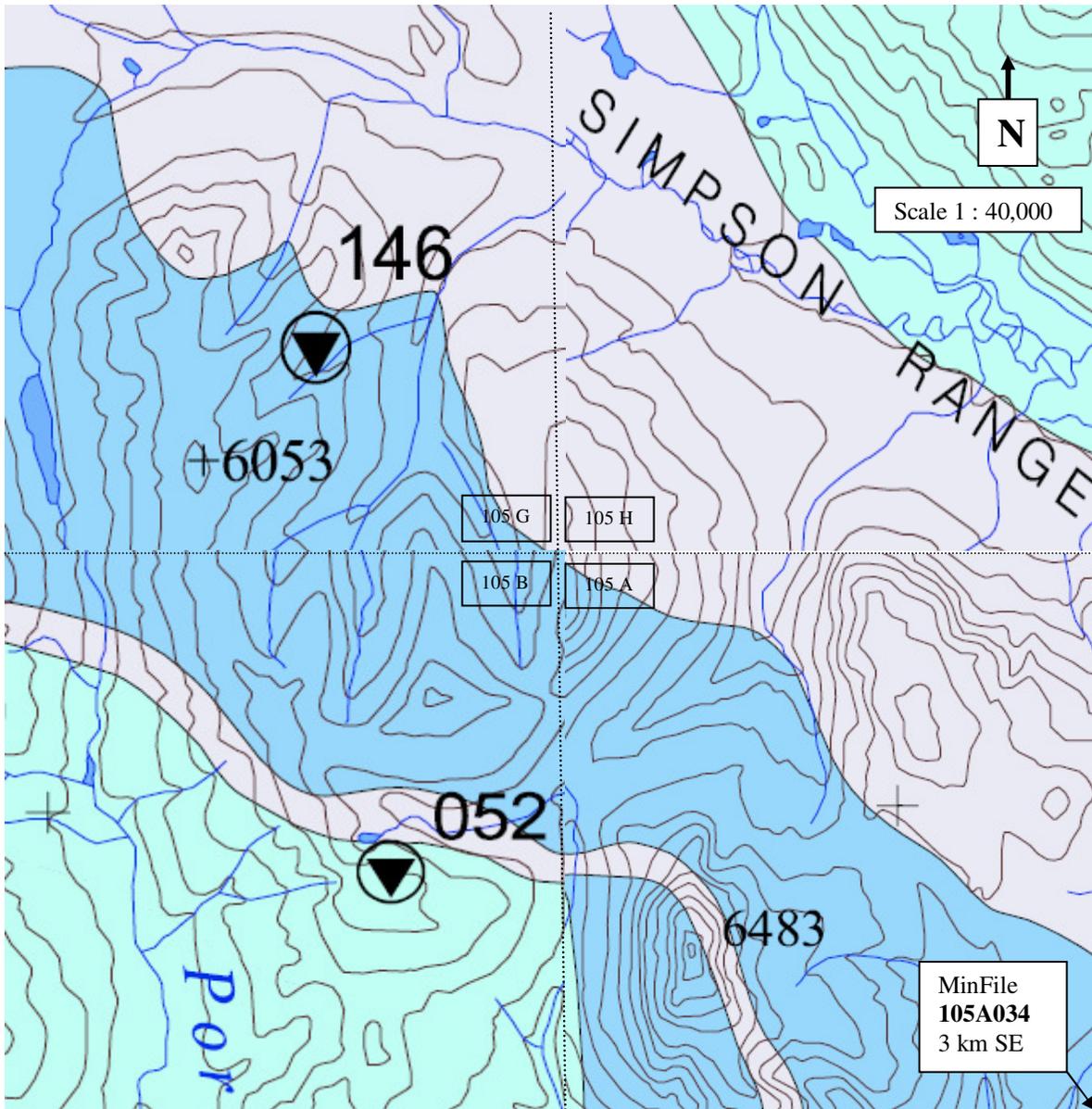
Table 1. Claim Status. *Jesse's Nap Flat 1 & 2, C&R 1.*



Map 1. JNF Claim Group Claims Map. *Northeast corner of 105 B/16.*

PREVIOUS WORK HISTORY

Please refer to the MinFile map below for the closest MinFile locations.



Map 2. Minfile Occurrence Map. *This map is a composite of 4 maps (105 A,B,G,H labelled) so the topo lines, streams and geology don't line up perfectly. There are 3 'local' Minfile occurrences near the JNF claim group. These are explained on the next 4 pages.*

**MINFILE:** 105B 052  
**NAME:** PORCUPINE  
**STATUS:** SHOWING  
**TECTONIC ELEMENT:** YUKON-TANANA TERRANE  
**DEPOSIT TYPE:** ULTRAMAFIC-HOSTED ASBESTOS

**NTS MAP SHEET:** 105B\16  
**LATITUDE:** 60° 57' 53" N  
**LONGITUDE:** 130° 2' 16" W

**OTHER NAME(S):** SPRUCE, MARK  
**MAJOR COMMODITIES:** ASBESTOS  
**MINOR COMMODITIES:** COPPER, ZINC  
**TRACE COMMODITIES:**

---

### **CLAIMS (PREVIOUS & CURRENT)**

BILL'S, BL, CHRIS, DAWN, JESSE, LAURA-CHRIS, MARK, SARAH-DAWN, SPRUCE

### **WORK HISTORY**

Discovered in 1967 by Frances Magun while on a hunting trip. Staked as Mark cl 4-5 (Y22890) in May/68 by B. Studer and examined by Dome Petroleum Ltd the following July during a brief option.

Restaked as Spruce cl 1-2 (YA67222) in Sep/81 by L. Desbiens and as Bill's cl (YB15134) in Aug/88 by V. Krickbaum, who prospected in 1989, and added the Chris cl (YB33290) and Dawn cl (YB33291) in Aug/90. The Chris and Dawn claims were allowed to lapse in 1991.

V. Krickbaum prospected and sampled Bill's cl in 1991, added the Laura-Chris cl (YB35007) and Sarah-Dawn cl (YB35008) in Aug/92 and transferred a half share in all three claims to R. Krickbaum. V. Krickbaum and R. Krickbaum stripped ground on the Laura-Chris and Sarah-Dawn claims in Aug/93 and mapped and sampled in Aug/94.

In Jan/96 Cominco Ltd staked BL cl 1-56 (YB72555) 2 km to the northwest. In May/96 V. Krickbaum staked 7 Jesse claims (1=YB83032) around the occurrence. In Jun/96 Cominco surrounded Krickbaum's claim group with Bl cl 57-93 (YB84117). Cominco carried out geological mapping and soil and silt sampling programs in 1996 and 1997.

### **GEOLOGY**

The area has not yet been re-mapped by the Yukon Geology Program however work completed by Cominco suggests the area is underlain by a sequence of Upper Devonian to Early Mississippian metasediments. In the east the sequence is intruded by massive, magnetic serpentinite bodies while to the west the sequence is intruded by a two mica granite.

The original occurrence consists of small lenses of spiky slip fibre asbestos in a sheet-like body of serpentinite and peridotite. The ultramafic bodies are cut by small, irregular bodies of gabbroic pegmatite and amphibolite. The fibre zones are less than 1 800 tonnes in size and consist of light green amphibole fibre up to 15 cm and averaging 2.5 to 5 cm in length. The gabbro contains up to 5% disseminated pyrrhotite but no copper or nickel. Several minor chrysocolla-chalcocite showings, each less than 0.25 square metres, were observed but not assayed.

---

Cominco staked the BL claims for their volcanogenic massive sulphide potential. Silt and contour soil sampling completed by Cominco identified a few single sample Cu (up to 167 ppm) and Zn (up to 425 ppm) anomalies scattered throughout the Bl claims. Follow-up sampling failed to identify any economic targets.

#### REFERENCES

COMINCO LTD, Apr/98. Assessment Report #093861 by V.L. Bannister and R.W. Holroyd.

COMINCO LTD, Apr/97. Assessment Report #093883 by D. Senft.

DOME PETROLEUM LTD, Jul/68. Assessment Report #018618 by K.D. Watson.

---

**MINFILE:** 105A 034

**NAME:** HOWARD

**STATUS:** UNKNOWN

**TECTONIC ELEMENT:** YUKON-TANANA TERRANE

**DEPOSIT TYPE:** UNKNOWN

**NTS MAP SHEET:** 105A\13

**LATITUDE:** 60° 55' 20" N

**LONGITUDE:** 129° 54' 43" W

**OTHER NAME(S):**

**MAJOR COMMODITIES:**

**MINOR COMMODITIES:**

**TRACE COMMODITIES:**

---

#### CLAIMS (PREVIOUS & CURRENT)

CHEN, EZ, HOWARD, JASPER, KAT, MAYLING, TIM, VIVI

#### WORK HISTORY

Staked as Howard cl (YA56487) in Sep/80 by Alex Black. Restaked as Tim cl 1-2 (YA91552) by T. Liverton in Sep/86. Jiyu Chen staked a single Chen cl (YB35009) 2 km to the southeast in Aug/92 and trenched in Aug/93.

S. Hearty staked Mayling cl 1-5 (YB35306) to surround the Chen claim in Jan/93, performing bulldozer trenching, prospecting and road building on the claims from July to Sept/93. S. Hearty then staked Jasper cl 1-8 (YB60248) just north of the occurrence in Aug/95.

In Jul/97 J.P. Ross staked Vivi cl 1-30 (YB89421) 4.5 km to the north and carried out geochemical sampling and prospecting in 1997 and 1998.

In Sep/97 S. Hearty restaked the Chen claim as Mayling cl 6 (YB8984), surrounded the original occurrence with EZ cl 1-71 (YB91288) in Apr/98, added the EZ cl 72-84 (YB91301) 2.5 km to the northeast in May/98 and the Kat cl 1-8 (YB92684) 2 km east in Apr/2000. During this period the Hearty's carried out an ongoing physical work program that included prospecting, geochemical sampling, hand and limited machine trenching. A geological reconnaissance of the EZ and Jasper claims, that included a compilation of previous data was carried out in Sep/2000.

---

S. Hearty staked Mayling cl 1-5 (YB35306) to surround the Chen claim in Jan/93, performing bulldozer trenching, prospecting and road building on the claims from July to Sept/93. S. Hearty then staked Jasper cl 1-8 (YB60248) just north of the occurrence in Aug/95.

In Jul/97 J.P. Ross staked Vivi cl 1-30 (YB89421) 4.5 km to the north and carried out geochemical sampling and prospecting in 1997 and 1998.

In Sep/97 S. Hearty restaked the Chen claim as Mayling cl 6 (YB8984), surrounded the original occurrence with EZ cl 1-71 (YB91288) in Apr/98, added the EZ cl 72-84 (YB91301) 2.5 km to the northeast in May/98 and the Kat cl 1-8 (YB92684) 2 km east in Apr/2000. During this period the Hearty's carried out an ongoing physical work program that included prospecting, geochemical sampling, hand and limited machine trenching. A geological reconnaissance of the EZ and Jasper claims, that included a compilation of previous data was carried out in Sep/2000.

## **GEOLOGY**

The occurrence lies within the Yukon-Tanana Terrane, a middle Paleozoic metamorphosed assemblage, that locally consists of basic and felsic volcanics and associated sediments that are overlain to the northwest by Permian aged diorite, gabbro and pyroxenite of the Campbell Range. Some areas of the ultramafic rocks are strongly serpentized and talc altered and nephrite jade has been produced from boulders found in the reworked glacial till on south facing slopes and creeks in the area.

Regional stream sediment geochemical data released in 1996 by the GSC is anomalous for Au and As in the creeks draining the high ground to the north. Prospecting in 1998, of the lower reaches of the main north tributary of Bourget Creek, uncovered steeply dipping, east-west striking quartz veins containing anomalous Au-As values.

---

## **REFERENCES**

GEOLGICAL SURVEY OF CANADA, Open File 3293.

HEARTY, S., Feb/01. Assessment Report #094192 by T. Liverton.

ROSS, J.P., Nov/98. Assessment Report #093912 by J.P. Ross.

ROSS, J.P., Oct/99. Assessment Report #094035 by J.P. Ross.

---

**MINFILE:** 105G 146

**NAME:** IC

**STATUS:** SHOWING

**TECTONIC ELEMENT:** YUKON-TANANA TERRANE

**DEPOSIT TYPE:** VOLCANOGENIC MASSIVE SULPHIDE - TYPE NOT DETERMINED

**NTS MAP SHEET:** 105G\1

**LATITUDE:** 61° 01' 12" N

**LONGITUDE:** 130° 03' 04" W

**OTHER NAME(S):**

**MAJOR COMMODITIES:** LEAD, ZINC

**MINOR COMMODITIES:** GOLD, SILVER

**TRACE COMMODITIES:**

---

## **CLAIMS (PREVIOUS & CURRENT)**

IC

## **WORK HISTORY**

Staked as IC cl 1-28 (YB89707) in Aug/97 by Cominco Ltd. The claims were staked to cover airborne geophysical targets identified during a Cominco survey flown in 1995. The company carried out preliminary geological mapping and soil and silt sampling later in the year. In 1998 Cominco continued exploring the claims with special attention given to the area surrounding the IC Creek showing.

## **GEOLOGY**

The area has not yet been re-mapped by the Yukon Geology Program, however mapping completed by Cominco and correlated to Murphy's (2001) to the north, suggests that the claims are underlain by: 1) a thick sequence (>300m) of dark green, fine grained chloritic and phyllitic mafic meta-volcanic tuffs and flows (unit DF); 2) ultramafic sills which intrude into the upper part of the mafic meta-volcanic sequence (unit Dum); and 3) underlying grey weathering, thin to medium banded meta-wackes comprised of quartz-biotite-feldspar-muscovite schists (unit Dq); and brown to tan weathering cherty aphanitic felsic volcanics (unit Dfv), host to the IC Showing (Murphy, pers. comm., 2002).

Prospecting in 1997 located the IC Showing (this occurrence) described by Cominco as a "stratiform" pyrite showing hosted within very siliceous felsic exhalite and argillite. It consists of rusty banded massive pyrite (1 to 15 cm bands) with trace sphalerite and galena. Grab samples collected from the showing returned values up to 0.8% Pb and 0.2 % Zn.

Follow-up soil sampling carried out in the vicinity and up slope of the showing identified a 300 m wide by 1 000 m long Pb-Zn-Ag anomaly that returned values up to 825 ppm Pb, 571 ppm Zn and 5.9 ppm Ag. Anomalous Cu values (up to 393 ppm) also occur locally.

## **REFERENCES**

COMINCO LTD, Apr/98. Assessment Report #093861 by V. Bannister and R. Holroyd.

COMINCO LTD, Feb/99. Assessment Report #093941 by D.A. Senft.

---

## WORK PROGRAM

Work on the JNF claims group was carried out by a 2 person crew on 2 separate days. The first traverse occurred on Aug. 23 and Aug. 24, 2013. Access was by 8 wheel Argo starting on Aug. 21, 2013 utilizing the gazetted road and trail from Km 108 of the Campbell Highway to the west to Hasselberg Lake, then over-land to "Camp CV #2", then the next day to Crystal Valley Camp south of the JNF claim group. Prospecting was carried out by walking the ground, observing outcrops, etc. using standard prospecting tools. The focus of the exploration was to map Vesuvianite occurrences and collect samples for cutting to test the quality for gemological applications.

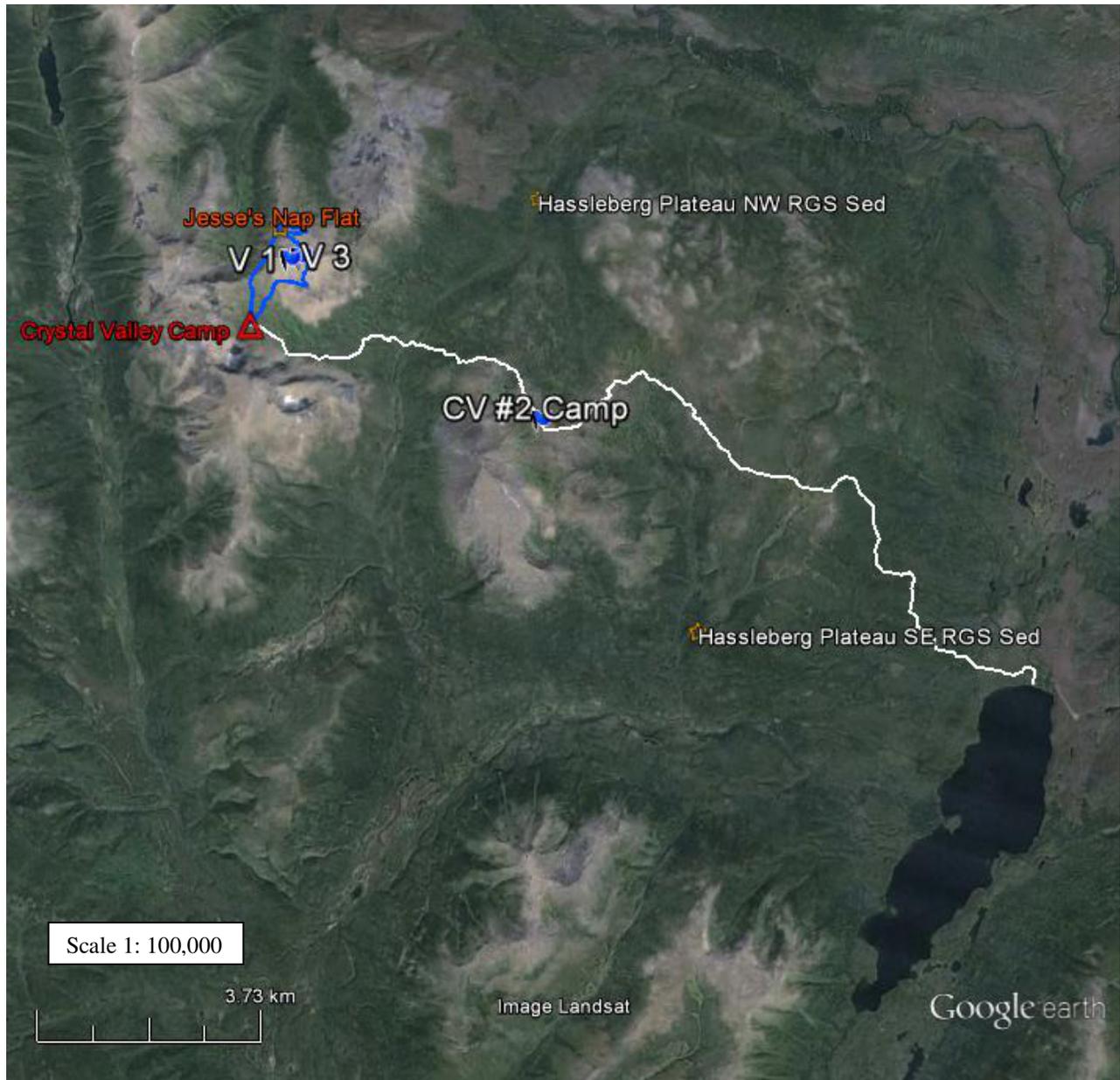
Observations and Vesuvianite occurrences were recorded as a GPS survey. Associated rocks were noted as well as the geological nature of the deposit. About 35 Kg of Vesuvianite rock samples were collected within the JNF 1 claim block, mostly collected on the north facing slope near the "rounded" ridge on the east side of the mountain. The mountain is distinctly 3 equal-sided, and is known locally as '**Pyramid Mountain**'. Rock samples were marked with an indelible pen by GPS location or placed into plastic sample bags marked by GPS Waypoint #. The UTM coordinate locations of larger Vesuvianite clusters and the vein?/pod?/lens?/ sources are given in the Appendix. Photos are used to show the typical characteristics of the Vesuvianite and in-situ sources.

The second traverse on Aug. 24, 2013, continued the survey objectives on the JNF 1 claim, while also scouting a possible access route for the Argo to get much closer to the Vesuvianite on JNF 1 claim on the north-facing slope of Pyramid Mountain.

The return route back to the Campbell Highway by Argo followed the same route back to Hasselberg Lake on Aug 25, 2013, then to the Campbell Hwy on Aug. 26, 2014 to finish the project work program.

Approximately 35 Kg of Vesuvianite rock samples were collected. Interesting highlights are noted in the Discussion section and photos are included in the Rock Samples section. Geophysical magnetic maps were examined "on line" from the Yukon MapPlace Online website and are presented in the Regional Geology section along with regional geology mapping using the Minfile Occurrence Map compilation (again). Please refer to the Property Geology section for the map showing the JNF claim group local area geology. Locations of the Vesuvianite occurrences are presented on a map in the Rock Samples section.

An overview of the Argo access from Hasselberg Lake, the 2 camp locations and day #1 traverse are shown on the Google Earth map on the next page. A detailed Day #1 and Day #2 traverse map with Vesuvianite locations is found on page 11.



Map 3. Overland Access Overview Map. *Argo access by gazetted trail to Hasselberg Lake and overland to 2 camp, plus Day 1 traverse. View looking north.*

### SAMPLE PREPARATION & ANALYTICAL PROCEDURES

Rock samples collected were marked with an indelible pen by GPS location or placed into plastic sample bags marked by GPS Waypoint #. Some of the Vesuvianite locations were photographed and are presented in the Discussion Section.

## 2. GEOLOGY

### REGIONAL GEOLOGY

The area lies within the Yukon -Tanana Terrane which in the Frances Lake area consists of several fault or unconformity-bound successions. These rock packages are bound to the southwest by the Tintina Fault zone and on the northeast by the Finlayson Lake Linear. Prominent regional scale thrust faults are along the Jules Creek Thrust.

Devine et al. (2004) reports the southern Campbell Range is underlain by greenschist facies volcanoclastic, epiclastic and sedimentary units of the Tuchtua River and Money Creek formations. Stratigraphy is deformed by at least three syn- to post-Early Permian folding events. Northwest-striking, high-angle faults imbricate the folded metasedimentary package with sheets of serpentinite. These rocks are juxtaposed against basinal rocks of the Fortin Creek group to the east, along the Jules Creek Thrust fault.

The area is underlain by a sequence of Devonian to Mississippian metavolcanic and metasedimentary rocks which have not yet been assigned a specific succession. These rocks are overlain by Pennsylvanian to Permian mafic and ultramafic rocks formerly believed to belong to the Slide Mountain Terrane, but recently assigned by Murphy and Piercey (2000) to the Campbell Range Succession. Murphy and Piercey's work suggests that the contact between the two units is depositional in nature and that the entire package, including the Campbell Range Succession represents a transitional island arc/continental arc to marginal basin/ocean (back-arc?) basin environment and together constitute Yukon-Tanana Terrane.

The area is located southeast of the Finlayson Lake massive sulphide district of southeastern Yukon. The area was last mapped by H. Gabriel (1967), who mapped the Watson Lake map sheet (topographic map sheet 105A) at 1:25 000 scale for the Geological Survey of Canada. The Yukon Geological Survey has not yet re-mapped the occurrence area, however Murphy and others have carried out varying amounts of geological field work on adjoining topographic map sheets 105H/3, 4, 5 and 105G/1 and 2. In 2004, Murphy published a compilation report summarizing results obtained from this work. Comparing Murphy's results with the Yukon Geology compilation published by Gordey and Makepeace in 2003 allows one to reasonably predict the geology underlying the occurrence area.

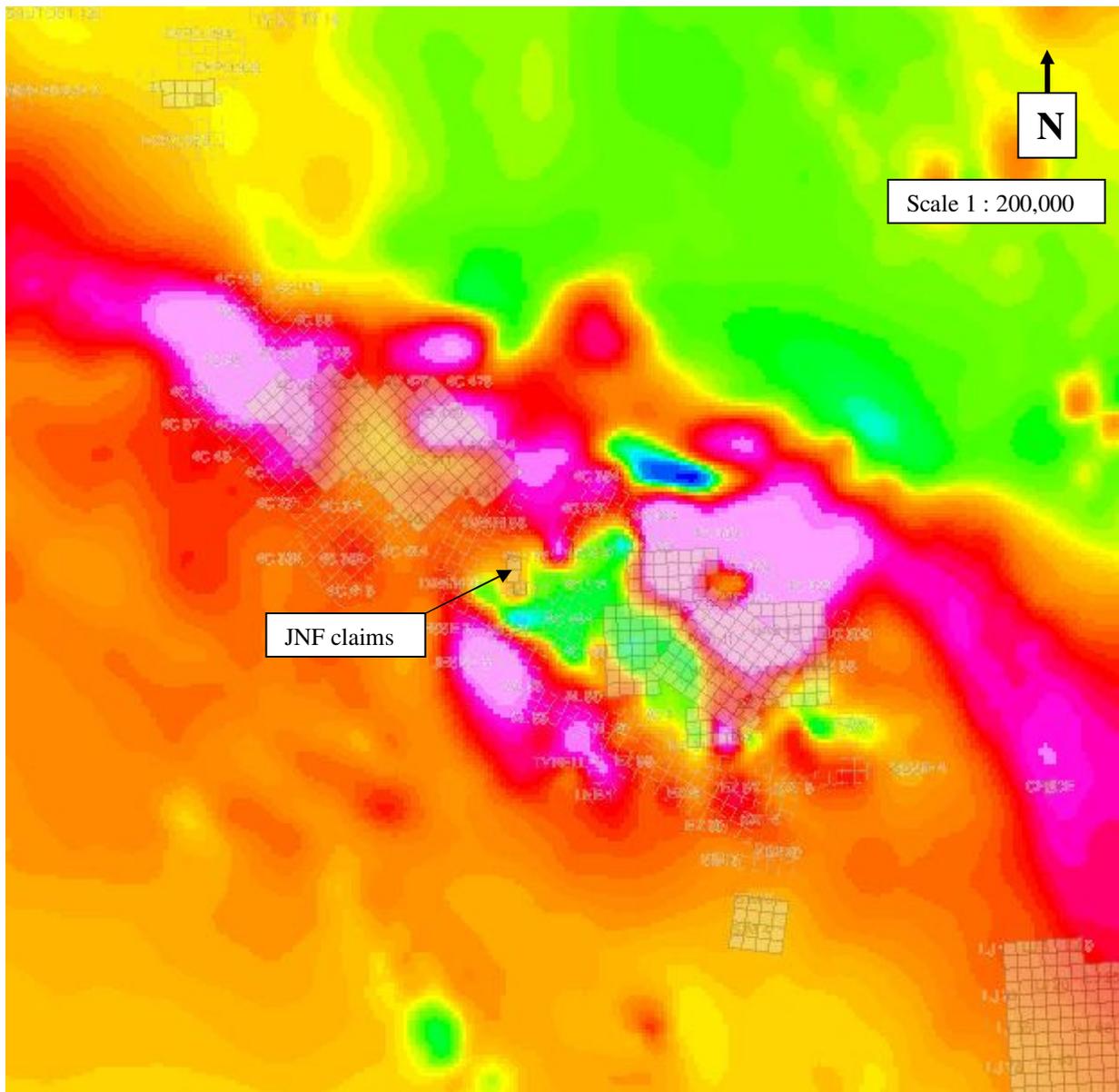
The area is located within the Big Campbell thrust sheet, one of several fault- and unconformity-bound metasedimentary and metavolcanic successions and affiliated metaplutonic suites proposed by Murphy (2004) for the Finlayson Lake massive sulphide district of the Yukon-Tanana Terrane. The Big Campbell thrust sheet contains the structurally deepest rocks and those that host the majority of

the volcanic hosted massive sulphide (VHMS) deposits of the district. It is bound below by the Big Campbell thrust, and above by the Money Creek thrust. The occurrence area hosts the same stratigraphic units that occur in the core of the Finlayson Lake massive sulphide district.

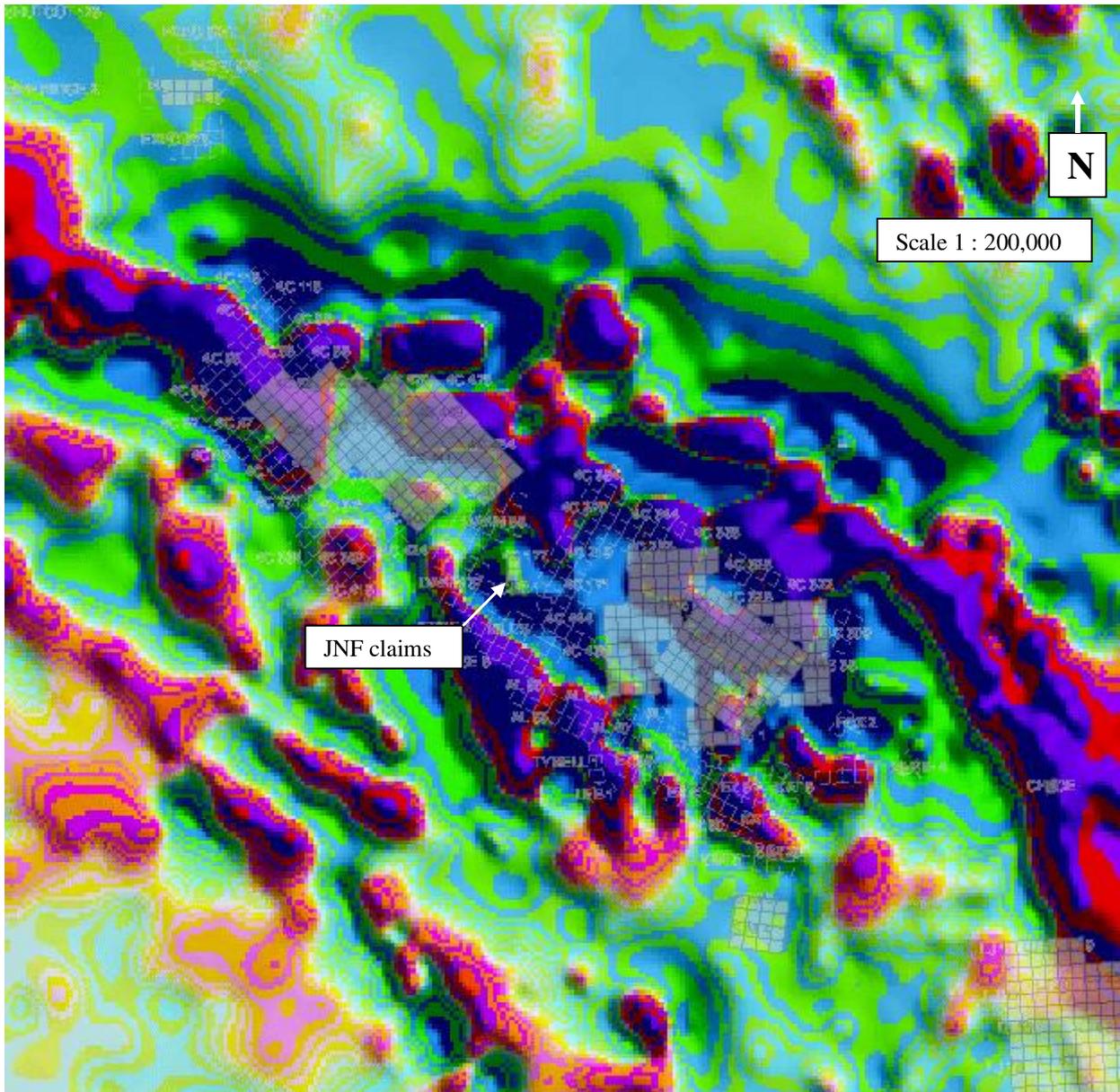
Based on geological mapping completed to the north, the oldest rocks are likely quartz-rich psammite (meta-sandstone), meta-pelite and marble of the pre-Upper Devonian North River formation. The North River formation is overlain by the Fire Lake formation, which consists primarily of chloritic phyllite or schist, and lesser carbonaceous phyllite or schist, and muscovite-quartz phyllite or schist of felsic volcanic protolith. As in the Finlayson Lake massive sulphide district, mafic and variably serpentinized ultramafic metaplutonic rocks are spatially associated with the Fire Lake formation. To the north the metaplutonic rocks form a several hundred-metre- thick sheet within the upper part of the formation. It is likely that the succession is intruded by one or more small mid-Cretaceous granitic intrusions.

The area has not yet been re-mapped by the Yukon Geology Program, however mapping completed by Cominco and correlated to Murphy's (2001) to the north, suggests that the claims are underlain by: 1) a thick sequence (>300m) of dark green, fine grained chloritic and phyllitic mafic meta-volcanic tuffs and flows (unit DF); 2) ultramafic sills which intrude into the upper part of the mafic meta-volcanic sequence (unit Dum); and 3) underlying grey weathering, thin to medium banded meta-wackes comprised of quartz-biotite-feldspar-muscovite schists (unit Dq); and brown to tan weathering cherty aphanitic felsic volcanics (unit Dfv), host to the IC Showing (Murphy, pers. comm., 2002).

The aeromag maps on the next 2 pages show prominent north-northwest to northwest linear trends in the regional geology. Both maps were acquired from the Yukon MapMaker Online website.



Map 4. Residual Total Field Aeromagnetics. *JNF claims identified. Regional north-northwest to northwest structural alignment is shown. High mag areas in red/violet/light pink are mafic to ultramafic rocks. (From Yukon MapMaker Online web site).*

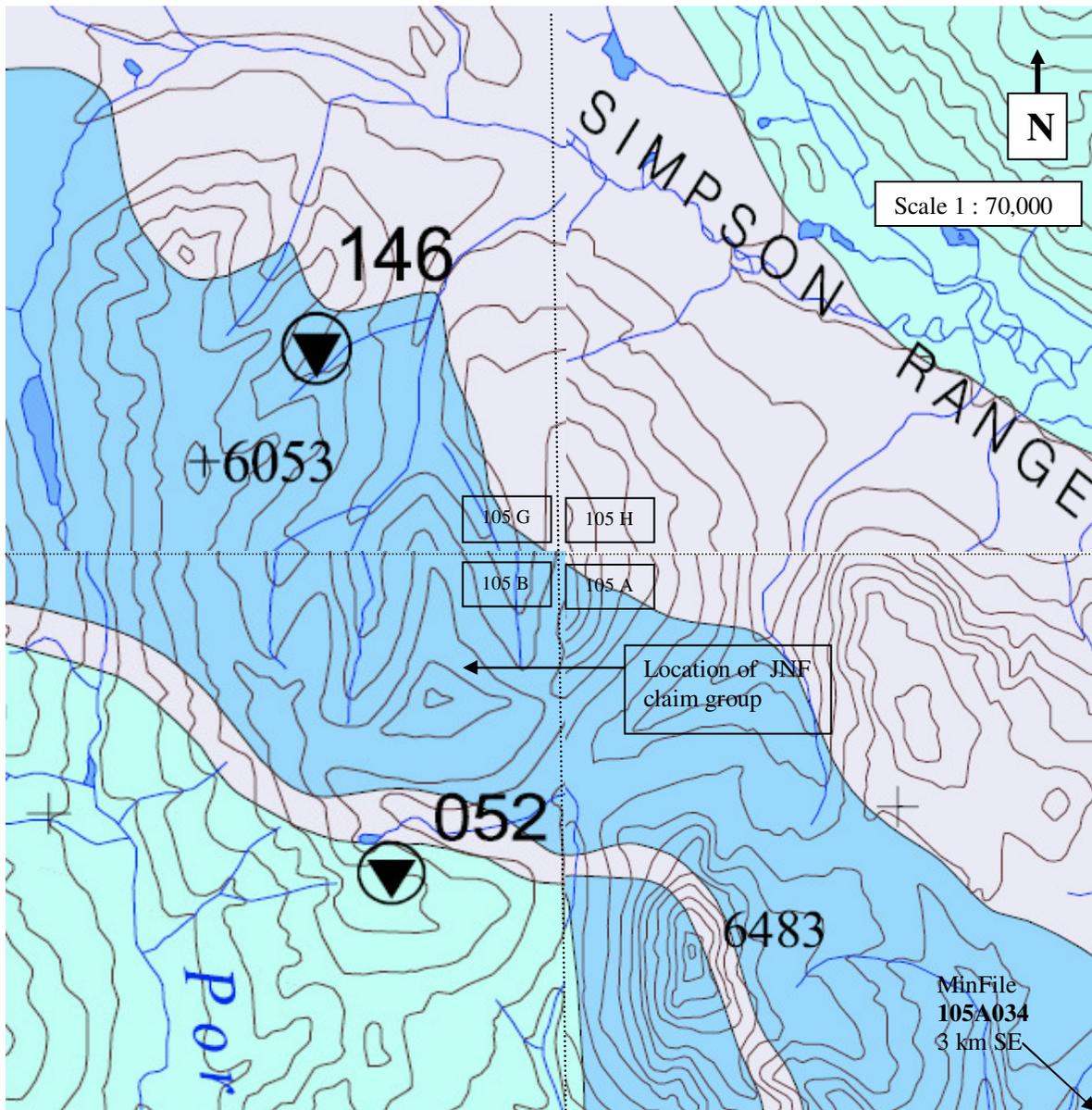


Map 5. 1<sup>st</sup> Vertical Derivative Aeromagnetics. *JNF claims identified. Regional north-northwest to northwest structural alignment is shown. Greatest magnetic anomalous areas are in violet and are ultramafic rocks. (From Yukon MapMaker Online web site).*

The 1<sup>st</sup> Vertical Derivative Aeromag map shows regional northwest structural alignment to the southwest associated with the Tintina Fault, changing to northwest arching to the northwest of the JNF claims. Sandwiched between is a mag low anomaly that encompasses the JNF claims. Based on the mineral suite of garnets, andalucite, etc. and the larger crystal sizes observed (hence the local name Crystal Valley), this area appears to have been subject to high temperature thermal metamorphism. A Cretaceous 2 mica granite intrusion is 7 km west, and 2 small plugs are on the ridge east of Porcupine Creek 3 km northwest of the JNF claims.



## PROPERTY GEOLOGY



Map 7. Local Geology Surrounding the JNF Claim Group. *This map is a composite of 4 maps (105 A,B,G,H labelled) so the topo lines, streams and geology don't line up perfectly.*

The colours of these units do not match the colours for the geology map from the MapMaker Online web site. The legend for this 'Minfile Map' - geology map is on the next page.

**GENERALIZED GEOLOGY:** Yukon MinFile Maps

**POST-TERRANE AMALGAMATION/ACCRETION UNITS:**

*PLUTONIC:*

 mKp - Mid-Cretaceous post-accretion plutonic rocks

---

**TERRANES:**

*DISPLACED CONTINENTAL MARGIN: geologic record not different from that of North America*

 CA - CASSIAR: Upper Proterozoic to Upper Triassic passive continental margin sedimentary rocks displaced along the Tintina and Northern Rocky Mountain Trench transcurrent faults

*PERICRATONIC: rocks possess elements of passive margin sedimentation but differ in stratigraphic or structural characteristics from the ancestral North American margin*

 YTNA - NASINA SUBTERRANE: Metamorphosed early(?) to mid-Paleozoic continental margin with superposed Late Devonian and Early Mississippian arc volcanic (= Nasina assemblage) and plutonic (YTp) rocks

 YTp - plutonic rocks superposed on Nasina Subterrane

*ACCRETED, INTERMONTANE SUPERTERRANE:*

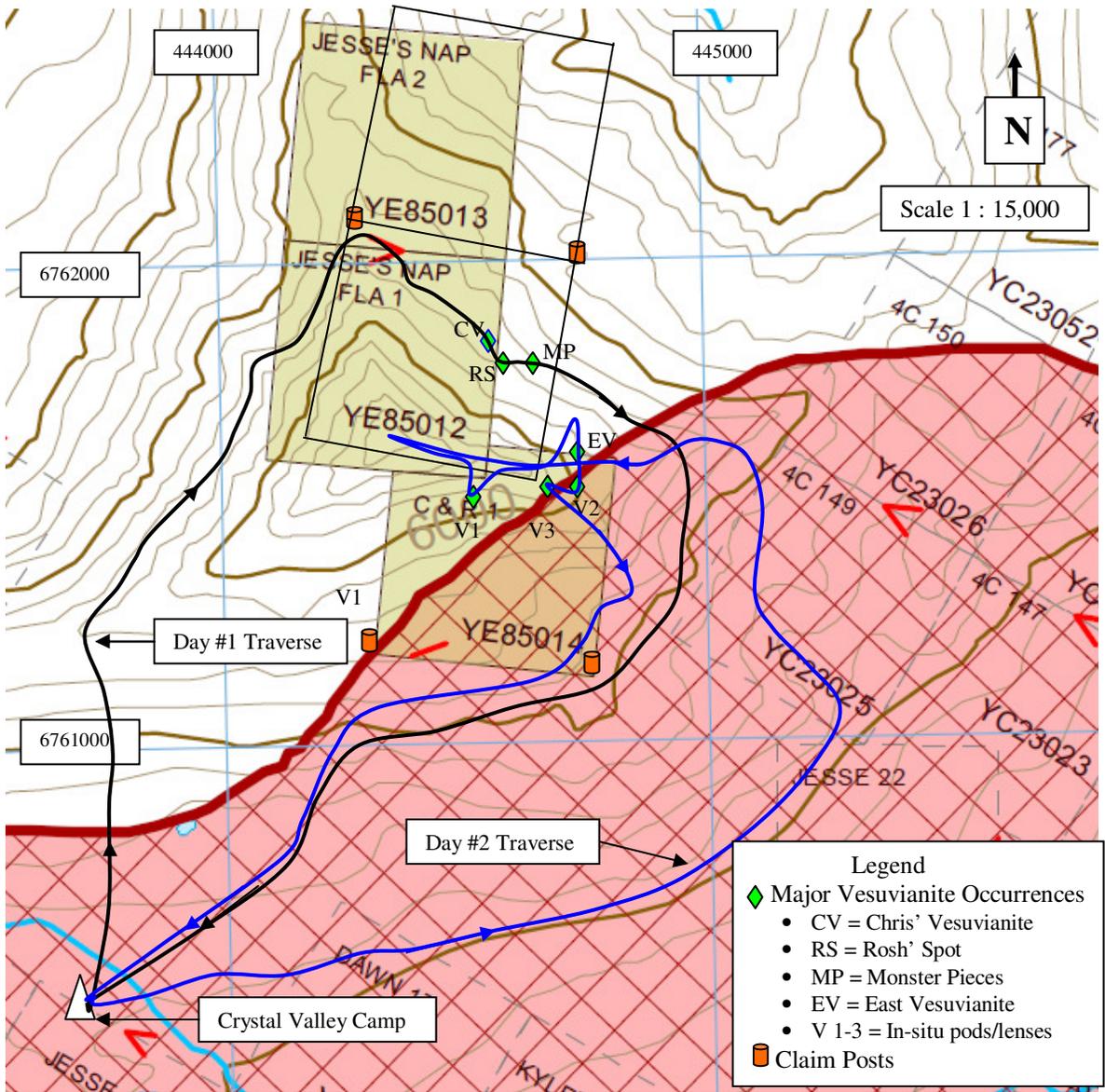
 SM - SLIDE MOUNTAIN: Oceanic and/or marginal basin volcanic and sedimentary rocks of Devonian to Late Triassic age including chert, argillite, sandstone, conglomerate, mafic intrusions, basalt, alpine-type ultramafic rocks, carbonate rocks and local blueschist and eclogite

---

### 3. ROCK SAMPLES

#### PRESENTATION OF RESULTS

Approximately 35 Kg of Vesuvianite rock samples were collected from the JNF claim group over 2 days on Aug. 23 and Aug. 24, 2013. All specimens were collected from the JNF 1 claim. The 2 days' traverses are mapped on the next page starting from and ending back at Crystal Valley Camp along with resulting occurrences of Vesuvianite. The sites are labeled and the UTM coordinates are given in the Vesuvianite Occurrence UTM Locations table in the Appendix. Photos on pages 20 and 22 are presented to show typical specimens collected, an in situ source, and some field specimens not collected.



Map 8. Daily Traverses From Crystal Valley Camp and Vesuvianite Locations.

The Day #1 Traverse from camp is the usual traverse we take to Jesse's Nap Flat (at the western-most claim post for the Jesse's Nap Flat claims). Previous staking of the Jesse's Nap Flat #1 & 2 claims led us from Vesuvius material at post #2 up the scree slope. We discovered scattered Vesuvianite there but had no time to check it out as we helicoptered out the next day. The objective of Day #1 was to prospect the north facing lower talus scree slope. From JNF post #1 we traversed across the lower talus scree slope searching for Vesuvianite. At the western end of the talus slope there were occasional to more commonly found scattered pieces of weathered Vesuvianite of mostly poor quality. As we progressed southeastward across the slope there were more and more scattered

Vesuvianite rocks of generally increasing size. Then we started encountering large clusters of Vesuvianite rocks of various sizes, and these locations were recorded with a GPS using various names (see map Legend) from the year before. Some pieces were quite large, possibly 70 Kg, but most were 1-10 Kg. Generally there was no relationship of rock size to gemmological quality (deeper green colour, translucency and freedom from fractures and inclusions). Perhaps 1000 Kg of Vesuvianite was observed on the lower slope on Day #1, so specimen collecting was selective as we had to pack it up the slope and back to camp, about 3 Km.

The Day #2 Traverse from camp was just about the same distance as the other way on Day #1 and we had a chance to look at some different ground for Vesuvianite. Vesuvianite had been observed years earlier in this area and samples were taken from the lapsed claim Jesse 22. Although the quality was fairly high, the quantity was low due to excessive fracturing. It was also a way to check out if there is a possible way for the Argo to get closer to the JNF north slope where we found abundant Vesuvianite material the day before. This time we focused on the east ridge of Pyramid Mountain looking for the sources for the material downslope. The crest of the ridge proved barren but just off the ridge veins?/lenses?/pods? of in-situ Vesuvianite were found in 3 places. These locations were recorded by GPS and are on the map on 19 labelled with a "V". Again, specimen collecting was selective as we had to pack it back to camp about 3 Km. Photos were taken of some of the Vesuvianite occurrences during the day and the day before, and 4 are included in this report. Some good quality material was found with characteristics like the one in the following photo.

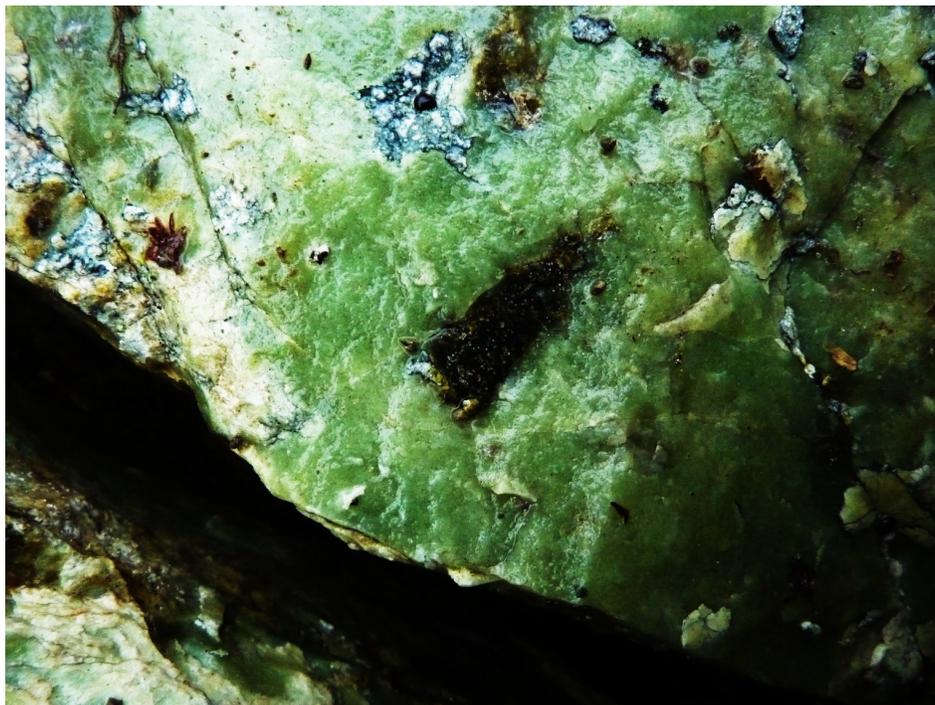


Photo 1. Good quality Vesuvianite from the Jesse's Nap Flat #1 claim.

## 5. DISCUSSION

There are undoubtedly more sources than the 3 veins?/lenses?/pods? of in-situ Vesuvianite on the north side of the ridge based on the fall lines for the groups of material on the talus scree slope. As can be seen in the Google Earth image below, the slope is very steep and will require extra care to access if more work is done in the future. "V 2" is the known source for East Vesuvianite but the sources of the Monster Pieces, Rosh's Spot and Chris's Vesuvianite have not yet been traced. Their probable source is directly upslope along the steep upper ridge. Their probable source is directly upslope along the steep upper ridge.



Map 9. Sample Locations Map. *Google Earth* image showing locations of JNF Vesuvianite rock cluster occurrences (red circles), veins?/lenses?/pods? (blue flags) and camp site (red triangle). Crystal valley is in basin behind Pyramid Mountain located in center. View looking southwest.

Below are examples of Vesuvianite found on the Jesse's Nap Flat 1 claim.



Photo 2. One of the Larger Vesuvianite Rocks. *Estimated weight 80 Kg.*

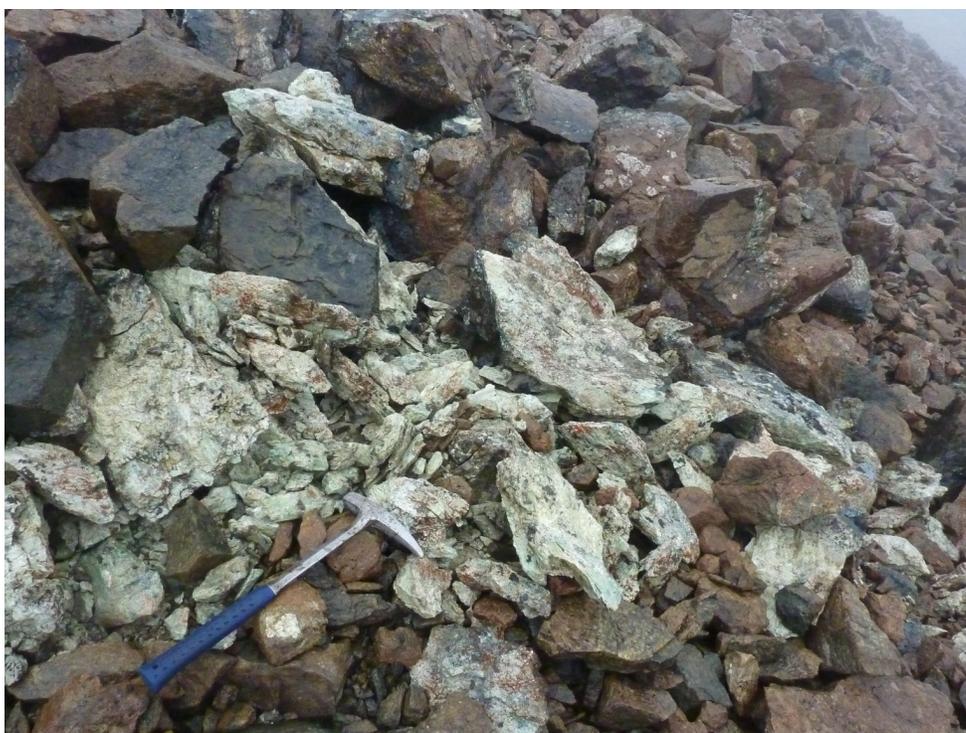


Photo 3. Typical Spalled Vesuvianite Occurrence. *Many examples were found of broken material that seems to be from an original boulder that has disintegrated from weathering, probably frost wedging.*

Vesuvianite occurs in several environments. The mineral is found in zeolite - to granulite - facies rocks. It occurs in rodingite and metarodingite, contact aureoles and skarns, and in regional metamorphic calcsilicate rocks, but has not been reported in blueschist or eclogite-facies rocks.

Vesuvianite is also formed within skarns that formed as a result of regional or contact metamorphism of limestones, and in gabbros containing garnet, mafic and ultramafic rocks as well as serpentinites.

Based on the bedrock making up Pyramid Mountain and the nature of the observed veins?/lenses?/pods? of in-situ Vesuvianite, the Vesuvianite source is a skarn in mafic to ultramafic (dunite?) rock. As seen in Photo 4 below, the occurrence is pod or lens-like. What is at this site is all that remains of a source of Vesuvianite.



Photo 4. "V 2" Site, Source of the Material at East Vesuvianite. *Dark material in background is gabbro bedrock. Some of this material approaches gem grade Vesuvianite. The rock it is attached to at the back is likely metarodingite.*

## 6. CONCLUSIONS & RECOMMENDATIONS

The Vesuvianite resource on the Jesse's Nap Flat 1 claim is substantial, and some is good to better carving grade. A few pieces approach gem grade. The main drawback is the amount of fracturing, rendering it difficult to obtain any pieces large enough for carving. All the observed Vesuvianite is surface material exposed to weathering - and freeze thaw in particular - on the north-facing slope. There is a chance that deeper material may have less fracturing. Probably pod/lens-like skarn structures hosting the Vesuvianite will be found upslope on the north ridge of Pyramid Mountain. If they have been only recently exposed, and therefore subjected to less weathering, then they may yield a quantity of less fractured good grade material.

Considering the distance to haul the material out, the steepness of the terrain, and the likelihood of making discoveries, it is recommended, but not strongly, that further prospecting be done on the talus/scree slope to identify 'fall lines' of good Vesuvianite material which are then followed upslope in hopes of finding the sources and therefore deeper in-situ less fractured Vesuvianite.

## 7. REFERENCES

- Devine, F., Murphy, D.C., Kennedy, R., Tizzard, A.M. and Carr, S.D., 2004. Geological setting of retrogressed eclogite and jade in the southern Campbell Range: Preliminary structure and stratigraphy, Frances Lake area (NTS 105H), southeastern Yukon. *In: Yukon Exploration and Geology 2003*, D.S. Emond and L.L. Lewis (eds.), Yukon Geological Survey, p. 89-105.
- Murphy, D.C., 2001. Yukon-Tanana Terrane in southwestern Frances lake area (105H/3, 4 and 5), southeastern Yukon. *In: Yukon Exploration and Geology 2000*, D.S. Emond and L.H. Weston, Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, p.217-233.
- MURPHY D.C., 2004. Devonian-Mississippian metavolcanic stratigraphy, massive sulphide potential and structural re-interpretation of Yukon-Tanana Terrane south of the Finlayson Lake massive sulphide district, southeastern Yukon (105G/1, 105H/3, 4, 5). *In Yukon Exploration and Geology 2003*, D.S. Emond and L.L. Lewis (eds.), Yukon Geological Survey, p. 157-175.
- Piercey, S.J., and Murphy, D.C., 2000. Stratigraphy and regional implications of unstrained Devonian-Mississippian volcanic rocks in the Money Creek thrust sheet, Yukon-Tanana Terrane, southeastern Yukon. *In Yukon Exploration and Geology 1999*. Exploration and Geological Services Division, Department of Indian and Northern Affairs, pp. 67-78.
- Yukon MINFILE - Mineral Occurrence Map: 105 B - Wolf Lake (1:250,000 scale), Version 2004-1, Yukon Geological Survey, Energy, Mines and Resources, Yukon Government, 2004.

## 8. STATEMENT OF EXPENDITURES

Exploration Work, expenses	Comment	Days			Totals
<u>Position @ YMIP Rates</u>	<u>Field Days (list actual days)</u>	<u>Days</u>	<u>Rate</u>	<u>Subtotal</u>	
Geo-tech	Aug. 21-26, 2013	6	\$350.00	\$2100.00	
Assistant/labourer	Aug. 21-26, 2013	6	\$250.00	\$1500.00	
				\$3600.00	\$3600.00
<u>Office work</u>			<u>Rate</u>	<u>Subtotal</u>	
Report Writing	mapping, printing, sending hardcopy and digital copy	23 hr	\$30.00	\$660.00	
				\$660.00	\$660.00
<u>Transportation @ YMIP Rates</u>	<u>Dates</u>	<u>Days</u>	<u>Rate</u>	<u>Subtotal</u>	
4X4 truck	Aug. 21 & 26, 2013	2	\$50.00	\$100.00	
Argo 8 wheel industrial	Aug. 21-26, 2013	6	\$56.00	\$336.00	
Argo transport trailer	Aug. 21 & 26, 2013	2	\$16.00	\$32.00	
				\$468.00	\$468.00
<u>Accommodation &amp; Food</u>	<u># of Person/Days</u>	<u>Days</u>	<u>YMIP Rate</u>	<u>Subtotal</u>	
Camp (incl. GPS, chain saw)	2 persons X 6 Days	12	\$100	\$1200.00	
				\$1200.00	\$1200.00
<i>TOTAL Expenditures</i>					\$5928.00

## 9. STATEMENT OF QUALIFICATIONS

- ❑ 34 years experience doing geological prospecting in Yukon.
- ❑ Author of several Yukon YMIP reports on mineral property evaluations or grassroots prospecting programs, plus previous Yukon assessment reports.
- ❑ 13 years Geology teaching experience at first year University equivalent.
- ❑ Operator of one mine property in Yukon (for Nephrite Jade).
- ❑ Owner of 68 Yukon quartz claims
- ❑ Many geological short courses including ones on diamonds, platinum, geophysics, glacial drift prospecting, VMS deposits, rare earth elements, MMI and several on gold exploration.
- ❑ Exploration manager and technical report writer for Crusader Gold in B.C. 2007-2012, including ARIS Reports 28546, 30293, and 31281.
- ❑ BSc degree in Biology, (including some university geology courses)

## 10. APPENDICES

### Vesuvianite Occurrence Locations

Location Type	Location Name	Zone	Easting	Northing
Rock	East Vesuvianite	9V	444756	6761614
Rock	Monster Pieces	9V	444627	6761770
Rock	Rosh's Spot	9V	444611	6761787
Rock	Chris' Vesuvianite	9V	444556	6761836
Pod/Lens	V 1 pod/lens	9V	444515	6761492
Pod/Lens	V 2 pod/lens	9V	444717	6761518
Pod/Lens	V 3 pod/lens	9V	44683	6761539

Table 2. Vesuvianite Occurrence UTM Locations