

**BC. Assessment Report**

**Covering preliminary geological investigations for jade and serpentines on and around the Imperial mineral claim, (12 Units), tenure number 379554, Monroe Mt., Located in the Atlin Mining Division, British Columbia, Canada.**

NTS Series 104N,

Mineral Claim Map sheet 104N/12E;

Mineral Claim Tag#209661;

LCP located at: North 59 degrees, 36 minutes and 24 seconds.  
West 133 degrees, 35 minutes and 37.1 seconds;  
Elevation LCP: 921.87 metres:

Work Approval Number SMI-2000-0101683-158;

National Mineral Inventory 104N12 Au3:

Minfile No. 104N 008

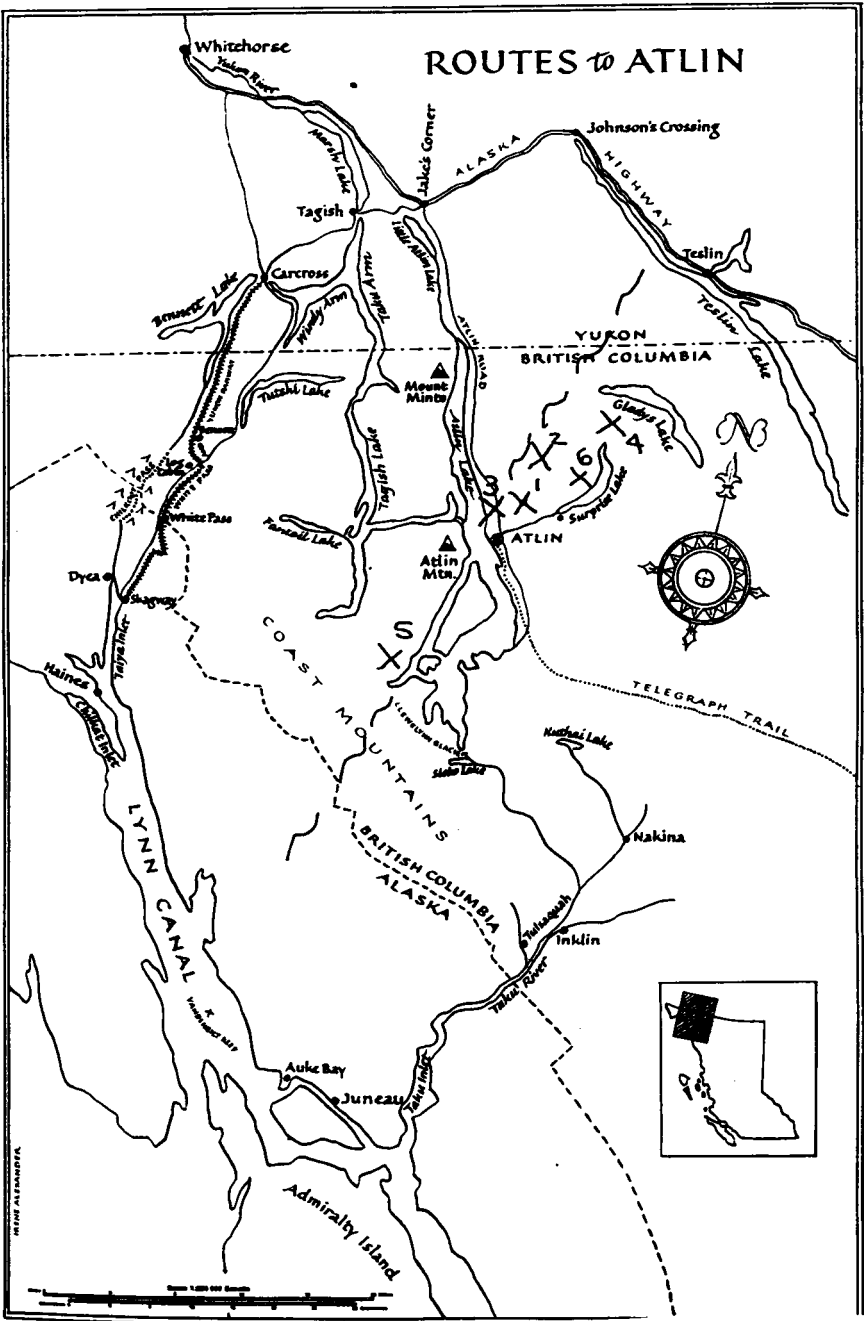
By

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Field work Dates, 5th September- 9th September 2000.  
Report Dated: 20 June 2001

GEOLOGICAL SURVEY BRANCH  
ASSESSMENT REPORT

26,602



- X1 Imperial mineral claim
  - X2 Ruffner Silver Mine
  - X3 Beavis Gold Mine
  - X4 Gladys Lake Molybdenum
  - X5 Hobo Creek Copper and Molybdenum
  - X6 Ruby Creek Molybdenum
- Torres Inlet-4<sup>th</sup> July Fault

## Table of Contents

	Page
1. Summary	4
2.0 <u>Introduction</u>	5
1.1 Scope of this Report	5
1.2 Location and Access	5
1.3 Physiography and Climate	7
1.4 Claim Status and Ownership	8
1.5 Summary history of Jade in NW. British Columbia, and the Imperial Gold Mine Claim	9
Jade	9
Gold	10
1.6 Objectives of year 2000 Field work	12
3.0 Geological setting	19
4.0 Summary of the Imperial Property Geology	19
Unit 1. Rock Glacier	19
Unit 2. Altered Ultramafic Rocks	20
Unit 3. Altered Silica-Carbonate Argillites	21
Unit 4. Gabbro	23
Unit 5. Cache Creek Argillites	26
4.1 Regional Lineaments	26
4.2 Rock alteration related to structure on the Imperial Claim	27
4.3 Jade and serpentines	28
4.4 Upper and Lower Mine Adits	28
5.0 Conclusions	30
6.0 Recommendations	30
References	32
Statement of costs	33
Qualifications of the writer	34
Appendices I	35
Claim Records	
Appendices II	36
Notice of Work and Reclamation	
<u>Figures</u>	
Front piece: Routes To Atlin	
Figure 1. Location map, Imperial Mineral claim	Between 5-6
Figure 2. Imperial Mineral Claim, Tenure 379554	Between 5-6
Figure 3. Imperial Mineral Claim Geological Setting	Between 19-20
Figure 4. Imperial Mineral Claim, Geological Investigations for Jade	Between 19-20
Figure 5. Aerial photograph of Imperial Mineral Claim, Surprise and Spruce Creek Placers	Between 26-27
BC. Assessment Report	
Imperial Mineral Claim	
Tenure 379554	
June 2001	

## Photographs

page

<b>Photograph #1.</b> Looking southwest from the South slopes of Monroe Mountain towards Atlin Lake with Torres Inlet in the distance. The Atlin airstrip is to the left, and the community of Atlin (pop: 500) lies along the adjacent lake shore, opposite the island just visible.	6
<b>Photograph #2.</b> Suzuki jeep and trail to the Imperial Claim. West section of Monroe Mountain in background.	6
<b>Photograph #3.</b> Looking Southeast from Imperial Claim and Monroe Mountain towards Pine Creek gold placers and ghost town of Discovery, with Spruce Creek gold placers immediately beyond. Up to 10,000 gold seekers passed through these placer areas, circa 1898-1905.	8
<b>Photographs #4 and #5</b> show rough and unpolished carvings of fish using serpentinized peridotite, crafted by skilled Indonesians, from the Meratus Ranges, South Kalimantan, Indonesia.	14
<b>Photographs #6 and #7</b> show the completed and polished side of these same fish carvings, after those in photographs #4 and #5 above.	15
<b>Photographs #8 and #9.</b> The final product, 100% serpentinized peridotite.	16
<b>Photographs #10 and #11</b> show serpentines in a location SE of Atlin, of much better quality than Indonesian serpentines.	17
<b>Photograph #12.</b> Dyke, non differentiated, Unit 3.	22
<b>Photograph #13.</b> Standing out clearly in relief is a gabbro plug, steep cliff-like slopes leading up to saw-like ridge.	24
<b>Photograph #14.</b> The base consists of fragments of angular gabbro talus	24
<b>Photograph #15.</b> Gabbro outcrops within contact zones occasionally Exhibit fine quartz vein stockworks extending over square centimetres of area	25
<b>Photograph #16.</b> Contacts studied where serpentinized peridotite dykes came into contact with altered argillites in Unit 3, showed the serpentinized contact zones to be fractured. Such serpentine fractured rock is of little use in the hand carving business. Note the almost black colour or "baked affect" of the altered silica-carbonate host, Unit 3.	29
<b>Photograph#17.</b> Access to the property is very good, even though some parts of the access trails are over grown.	37

## 1.0 Summary

Since 1898, the Atlin mining camp in NW British Columbia has been known as an alluvial gold camp. Unlike the Dease Lake gold camp to the east, the Atlin region has never been known for jade. This is despite the fact the geological settings of the two regions are similar, with Permian Cache Creek Formations and large ultramafic bodies being present in each area.

During the field season of 2000, the writer commenced a wide search for nephrite jade both within the Atlin area, and to the Southeast of Atlin in the Menatatuline Ranges. Needing a source of nephrite jade closer to Atlin, the Imperial mineral claim was explored for jade during the 2000 season. The Imperial claim is known for its 1900-1902 gold production, and was the primary reason for the claim being staked by the writer.

Exploration work initially included geological investigations solely for jade. Later work was expanded to include explorations for serpentine rock, suitable for hand carvings.

No jade was found during the summer of 2000, nor was the claim deemed a suitable source for serpentine rock. However, the variety and complexity of the Permian ultramafic-Cache Creek group geology, combined with other factors, make this claim 300 hectare claim a rank one study area.

Further detailed jade explorations are recommended. The claim is also recommended as drill target for gold, a PGM case study area, and a lapidary source of mariposite.

## **2.0 Introduction**

### **2.1 Scope of Report**

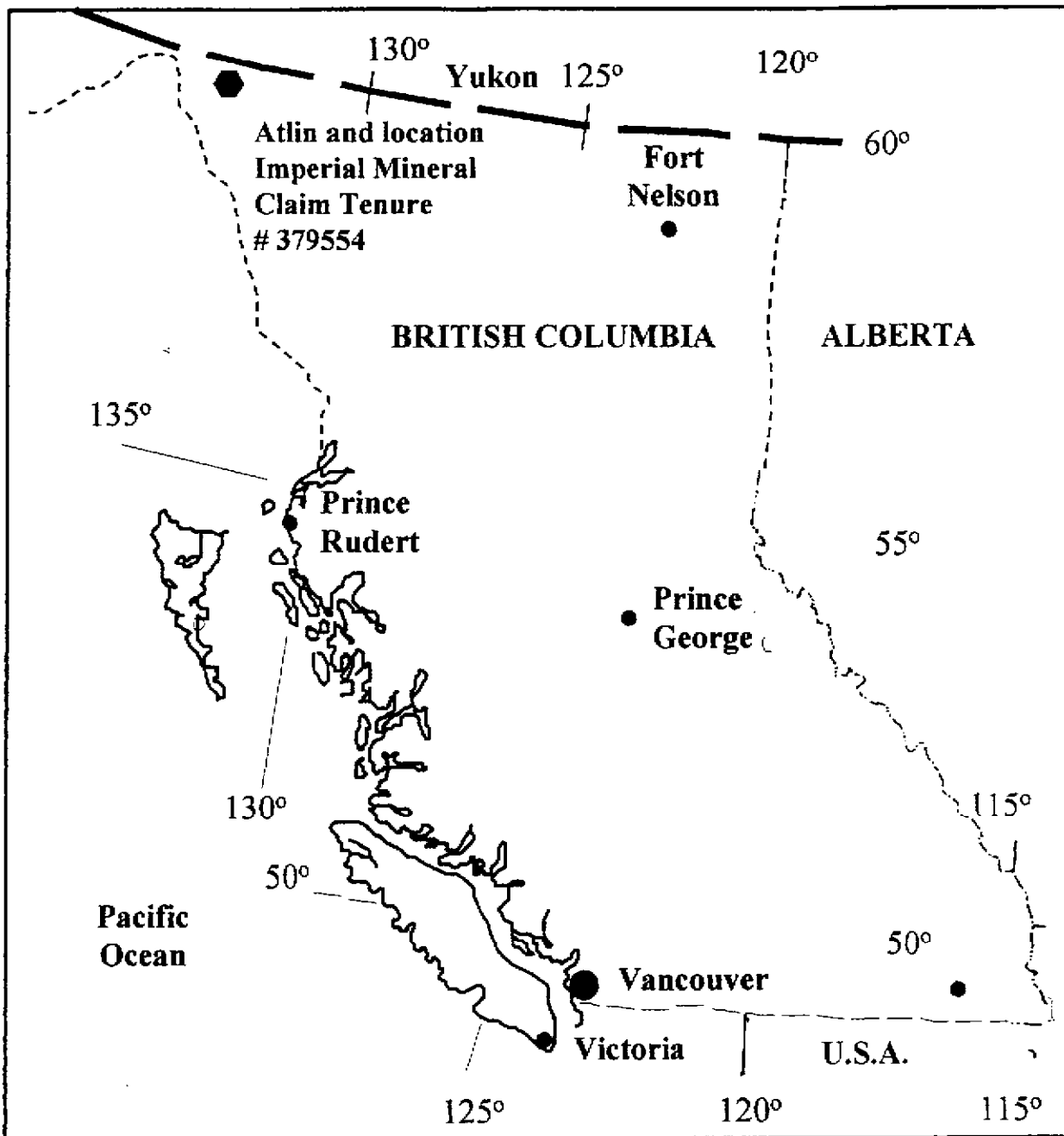
This report is to document the assessment work carried-out on the Imperial mineral claim, tenure #379, 554 carried out by Nicholas Clive Aspinall, (FMC#101024) of Atlin BC, from 5<sup>th</sup> September to 9<sup>th</sup> September 2000. Exploration was for jade and serpentine industrial rock, suitable for hand carvings.


### **2.2 Location and Access**

The Imperial mineral claim of 12 units, tenure # 379,554 is located on the south-facing slope of Monroe Mountain, near Atlin BC, see figure 1, 2. The claim falls on NTS (National Topographic System 104N and on BC.Mineral claim map 104N/12E. The LCP, (Legal Corner Post) and claim boundaries are marked by claim posts as regulated by the mineral act, extending four units to the west and three units to the north. The LCP is located in the SE corner of the claim.

The LCP is located in a wooded area. Geographic Positioning System (GPS) co-ordinates are: North 59 degrees, 36 minutes and 24 seconds,  
West 133 degrees, 35 minutes and 37.1 seconds,  
Elevation 921.8 feet.

The Imperial claim is located 7 km northeast of the community of Atlin, ref: front-cover and figure 1. A bush road leads from Surprise lake road to the base of Monroe Mountain, where the claim is situated; see photographs, 1, 2, and 17 on back cover.





*Imperial Mineral Claim  
is located 7 Km NE of  
community of Atlin B.C.*

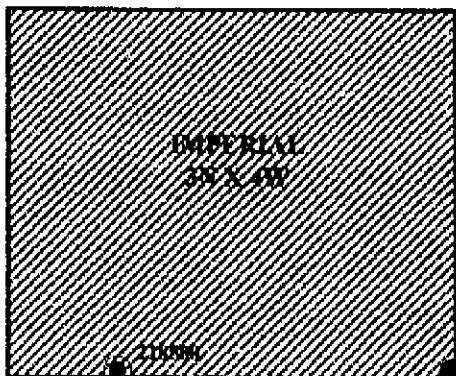
*NCA*

<i>Nicholas Clive Aspinall (FMC # 101024)</i>		
<b>Imperial Mineral Claim Location Map</b>		
Date: June 2001	Drawn: NCA	Figure : # 1

Ref: Tenure # 379554  
Mineral Claim TAG # 209661

MONROE Mt.

IMPERIAL MINERAL CLAIM  
TENURE # 379554



KITTY 0 388121 687907N	KITTY 10 388119 687906N	KITTY 14 388120 687905N	KITTY 15 388118 687904N	ANN 388030	ANN 1 388031	ANN 2 388032	ANN 3 388033
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6608448

LCP  
TAG  
209661

DAVE I

367243

Lake

MICHELE I

MOOSE  
LAKE

367244

38X5W

ANN 4  
388032

SURPRISE  
LK

ANN 5

388033

EVA 7

364968

PINE  
CREEK

35X5W (236350)

MAFIC  
357901

4NX4E  
218500

358

4NX4W

YJ  
327903

1NX3W

367492  
ANNIE FR  
348181

119684

YJB - FR  
202225

238211  
1S X 3W

CELESTE

PINE Creek

238212

238216

238215

ENDREW I

367245

4SX4E

YJB - ERACION

202225

26868

Nicholas Clive Aspinall

Location  
Imperial Mineral  
Claim  
Tenure 379554

Date:  
June 2001

Drawn:  
NCA

Figure:  
# 2

REF: 104N/12E

1

2 Km

388121  
AUBURN

AUBURN 10

AUBURN 11

355528

355527

Spruce CR

NO  
STAKING

BEVI

367246

4SX4W

SPRUCE CR

ATLIN  
7 Km





**Photograph #1.** Looking southwest from the South slopes of Monroe Mountain towards Atlin Lake with Torres Inlet in the distance. The Atlin airstrip is to the left, and the community of Atlin (pop: 500) lies along the adjacent lakeshore, opposite the island just visible.

**Photograph #2.** Suzuki jeep and trail to the Imperial Claim. West section of Monroe Mountain in background.

The south facing slopes of Monroe Mountain, (est: 950 m asl) are relatively steep, with slopes being up to 45° in steepness. These slopes ascend for approximately 250 metres above the Pine Creek valley. At this point, the valley is flat and represents a Pleistocene pro-glacial lake and outwash area, primarily underlain by glacial tills. Under these tills are Tertiary gold bearing gravels. These Tertiary gravels are concentrated in the upper Pine Creek and Spruce Creek Channels. See Photograph #3.

Spruce, jack pine and poplar prevail in the lower valley areas, while the south slope of Monroe Mountain has very little tree growth. For the most part, it is a grass and talus slope. Balsam, buck-brush, scrub and swamp are present on the summit of Monroe Mountain.

Out-crop exposures constitute about 55% of the Imperial mineral claim. A small lake is situated on the north side of the property, ideally located as a source of drilling water should the necessity arise.

The climate of the Atlin area has witnessed some changes over the past ten years. Falls are mild, extending from September to December, with some -40° F days during January, otherwise winters are mild. Snows usually have been coming late, arriving to stay in December and last until April. Atlin Lake freezes over for shorter periods than previously, commencing early January with break-up in early May. The lake has open areas in some locations, and ice can be thin where major creeks flow in to the lake, such

as in Pine Creek Bay. Spring weather is fine, but summers have been wet, and seem to be influenced by coastal patterns.



**Photograph #3.** Looking Southeast from Imperial Claim and Monroe Mountain towards Pine Creek gold placers and ghost town of Discovery, with Spruce Creek gold placers immediately beyond. Up to 10,000 gold seekers passed through these placer areas, circa 1898-1905.

#### **2.4 Claim Status and Ownership**

The Imperial mineral claim, tenure 397554, claim tag 209661, consists of 12 units, was staked between the 6<sup>th</sup> and 9<sup>th</sup> August 2000, by and for the writer, Nicholas Clive Aspirall, FMC#101024, address: Pillman Hill, Box 22, Atlin BC. V0W 1A0. See figure 2.

## **2.5 Summary history of Jade in NW. British Columbia and the Imperial Gold Mine Claim.**

### **Jade**

The Inland Taku Tlingit First Nations people who now live in Atlin, Teslin and Carcross are descendents of Coastal Tlingits. History of these people going back 150 years reports these inlanders were adept at making sophisticated stone tools, such as axes. These were primarily used for chopping wood or working with wood. According to those who have studied the inland Taku Tlingits, these tools probably became the first trading items with Coastal Tlingit peoples. According to records, some of these tools were made from jade.

There must have been some trading between these First Nations people with other inland peoples who knew of jade deposits near Dease Lake. Alternatively, other known sources were closer to Atlin, such as the Atlin ultramafics, or the ultramafic Menatatuline Ranges SE. of Atlin.

Since the 1900's British Columbia has been known for it's nephrite jade; occurrences are the Coquihalla Serpentine Belt, Spuzzum Intrusions, the Bralorne Igneous Complex, other ultramafic complexes in Southern British Columbia, including those in the vicinity of Fraser River, Lillooet. Northwards those near Takla Lake, Mount Ogden and Sydney Williams in Central British Columbia. The best areas are the Cache Creek Complex 60-70 Km south east of Dease Lake, and the ultramafic rocks within the now non-producing Cassiar Asbestos pit. Although very few prospectors, (One Arm Andy from Whitehorse,

circa 1960s) are known to have prospected for jade in the Menatatuline Ranges SE. of Atlin, and others have mentioned locations of jade in the Atlin region, there are no confirmed records of jade discoveries from this vast region. Prior to this investigation, no jade was reported from the Imperial mineral claim.

It is believed by the writer this claim, and the Atlin region has never been systematically searched for jade. Only by persistence, will jade be discovered in the Atlin region.

### Gold

According to the 1988 Homestake Mineral Development Ltd assessment report on Imperial Property, (A/R 17,495) the original Imperial property was first staked in 1899. Gold had been discovered in a 150 metre long quartz vein. Two cross cut tunnels, an upper and a lower, were driven to intersect this vein, which trends 295°-310° dipping southwest at 50°-60°. The veins width varies from 0.12 metres to 2.6 metres. A bunk-house and a small stamp mill were built. The funding company was called Nimrod Syndicate. This information, gathered from BC. Minfile reports, is confirmed in Juneau-Alaska Treadwell Mine files (circa 1900-1930,) originals now lodged with the writer, with copies in the Atlin Museum archive library.

According to the Homestake report, two cross cuts of 8.2 metres and 37 metres in length, intersected the gold bearing quartz vein. Within the upper tunnel 55 metres of

drifting was completed and in the lower tunnel 45 metres of drifting completed completed.

According to BC. Minfiles and other reports, in 1900 the Nimrod Syndicate miners milled 245 tonnes from the upper level, which yielded 13.7 grams per tonne gold while the lower tunnel produced 23 tonnes ore, which yielded 5.1 grams per tonne gold. Reports do not say so, but it is believed milled ore samples were hand selected.

The following is also reported by Homestake. In 1902, a 1485.00-kilogram (3267 lbs) test sample from the upper tunnel was collected and treated in Vancouver. This sample analyzed 1.2 oz/t Au and 1.26 oz/t Ag.

The Homestake report continues to state that in 1933 a geologist from BCMM took 14 samples from a 0.5 metre section of the upper tunnel vein over a length of 10.9 metres (35 feet). These samples averaged 0.8 oz/t Au and 1.0 oz/t Ag.

According to the records, this BCMM geologist felt the lower tunnel was drifted too the to far to the east. Consequently the Nimrod miners were believed by him to have missed the possible downward continuation of the upper ore shoot by some 39 metres.

No information is available on the Imperial property from 1902 until 1984, when the Imperial and adjacent properties, were acquired by Lear Oil and Gas Company. This company contracted out a program of geological mapping, soil sampling, and VLF-EM and magnetometer surveys. Subsequently, the Imperial claim and surrounding areas, were collectively known as the Lear property. Under reverted crown grants, the Lear property

was optioned by Homestake Mineral Development Company Ltd during the 1980s.

In 1987, Homestake carried out the following work on the Lear property:

- 19 Km of grid line surveys
- Detailed geological mapping at 1:1000
- Collection of 245 rock and 26 soil samples for multi-element analysis

The results of this work are summarized in assessment Report No. 17,495.

## **2.6 Objectives of year 2000 Field work**

The Imperial mineral claim was staked in August 2000 by the writer because it represented a past gold producer. The area had received a good deal of surface exploration by Homestake Development Company Ltd (A/R17, 495) during the late 1980s, primarily for gold. The writer did not wish to repeat this surface work, and concluded further gold exploration required a 1000 metre-drilling program. Seeking funds for a gold drilling exploration program in British Columbia during 2000 was deemed inappropriate due to depressed gold prices. Drilling is envisioned for future years.

Consequently the writer decided to investigate the Imperial claim for jade during the summer of 2000. This fell in line with his on-going jade explorations in the Menatatlina Ranges of NW British Columbia and in the Atlin Terrane, and discussed in more detail below.

During the season of 2000, three expeditions in search of jade were carried out by the writer to the SE. of Atlin, using his float-equipped aircraft (CF-EYF) for access. Several

target areas were selected and prospected. During these expeditions, no jade was discovered, but a significant learning curve was earned about jade prospecting.

These jade expeditions lead to a secondary objective. Good serpentines were found in selected talus screes of the Menatatuline Ranges. According to the writers experiences in other parts of the world, serpentines or serpentized peridotite environments provide an ideal rock material for hand carvings.

For instance serpentines from the Meratus Ranges in province of Southern Kalimantan, Indonesia is of poor quality serpentine when compared to selected sites in the Menatatuline Ranges. Despite this, poor quality Meratus serpentines in the hands of skilled Indonesians, using very basic tools, can create a wide range of beautiful carvings.

Given the status of the local economy in Atlin, and the long winter months (November to March), a serpentine carving industry could do well in a place like Atlin. There are several similar home-based industries in this small northern community, but none use local rock. To illustrate the potential of serpentine, photographs 4,5,6,7, and 8 show carvings of fish, using serpentized peridotite from the Meratus Ranges in SE. Kalimantan, Indonesia. Photographs#10 and #11 show a rough but good quality serpentines in scree piles of the Menatatuline Ranges. This would make ideal rock for carving.





**Photographs #4 and #5 show rough and unpolished carvings of fish using serpentinized peridotite, crafted by skilled Indonesians, from the Meratus Ranges, South Kalimantan, Indonesia.**



Photographs #6 and #7 show the completed and polished side of these same fish carvings, after those in photographs #4 and #5 above.



**Photographs #8 and #9.** The final product, 100% made from serpentinized peridotite.  
BC Assessment Report  
Imperial Mineral Claim  
Tenure 379554  
June 2001



Photographs #10 and #11 show serpentines in a location SE. of Atlin, of much better quality than Indonesian serpentines.

Consequently, due to the poor mineral exploration climate in British Columbia and world wide for that matter, and the difficulty in obtaining funds, the writers 2000 exploration objectives for the Imperial Claim were mixed. For instance, with limited funds available, it would not have been possible to enhance on the 1987 Homestake gold program.

The writers selected objectives finally hinged on finding in situ or talus jade on the Imperial Claim, but also test the area for serpentines that could be used for carvings. In addition, due to the rather complex geology over a small area, the claim was also seen as an ideal study area for geological relationships of the Atlin Terrane. A study of the variable geology, such as Atlin ultramafics, gabbro intrusions, variable cross-cutting dykes, Cache Creek rocks, feldspar diorite intrusions, proximal fourth of July granites (out-side the claim), pervasive silica-carbonate-mariposite (listwanite) alteration assemblages, quartz veining with reported gold, a past gold producer, rock glaciers, encompass all the geology of the Atlin region into one small area of 300 hectares.

What also became apparent during explorations within the area was that the Imperial claim presented an interesting hard-rock case study for PGM's in Atlin Terranes. Of lapidary interest, the mariposite within the Imperial claim is probably the best quality to be found in the Atlin region. Consequently, a drill program for gold and a PGM survey, combined with a mariposite locality survey is envisioned for future years.

Only jade and serpentines were investigated during the 2000 season.

### **3.0 Geological Setting**

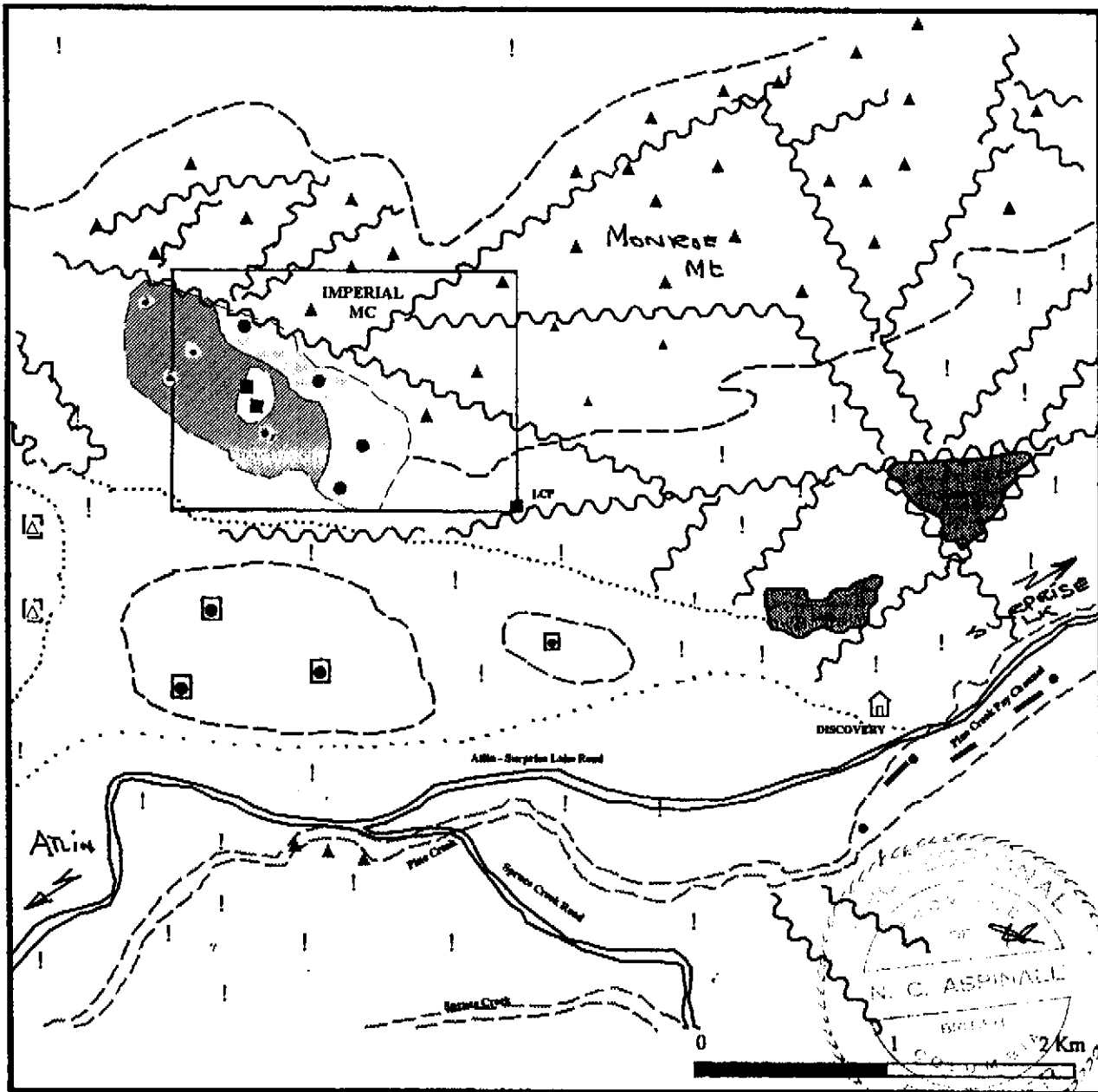
The Pine Creek-Monroe Mountain area is underlain in part by ultramafic rocks, which belong to Atlin ultramafics, and considered by Aitkin and others (1957) as Permian age, figure 3. These rocks are sometimes serpentized; in scattered locations, the Atlin ultramafics display rusty silica-carbonate assemblages, sometimes with rare mariposite. Here, the ultramafic rocks are closely associated with argillites of the Cache Creek Group. These rocks are considered coeval or pre-date the ultramafics. Segments of the 4<sup>th</sup> of July Granites intrude to the west of the claim.


Structurally, the geological setting is cut by multiple lineaments. The geology is relatively complex in selected locations, suggesting the origin of gold in the Atlin region may be related to these complex geological situations.

### **4.0 Summary of Imperial Property Geology.**














#### **Unit 1. Rock Glacier.**

While walking up to the Imperial claim, what attracts the eye is a benched talus pile that is identified by this writer as small rock glacier, see figure 4. This so-called rock glacier is 45 metres by 40 metres in area and located on the central and southern part of the property. This rock glacier, no longer active, is composed of a thick pile of angular rock fragments at its toe. Higher up above the first bench, the rock glacier is composed of large blocks (4-5 tonnes each) of serpentized peridotites. Here this pile of rocks is slightly carbonatized with a red-brown weathered surface. Mariposite is common along fracture planes within the blocks.





**LEGEND**

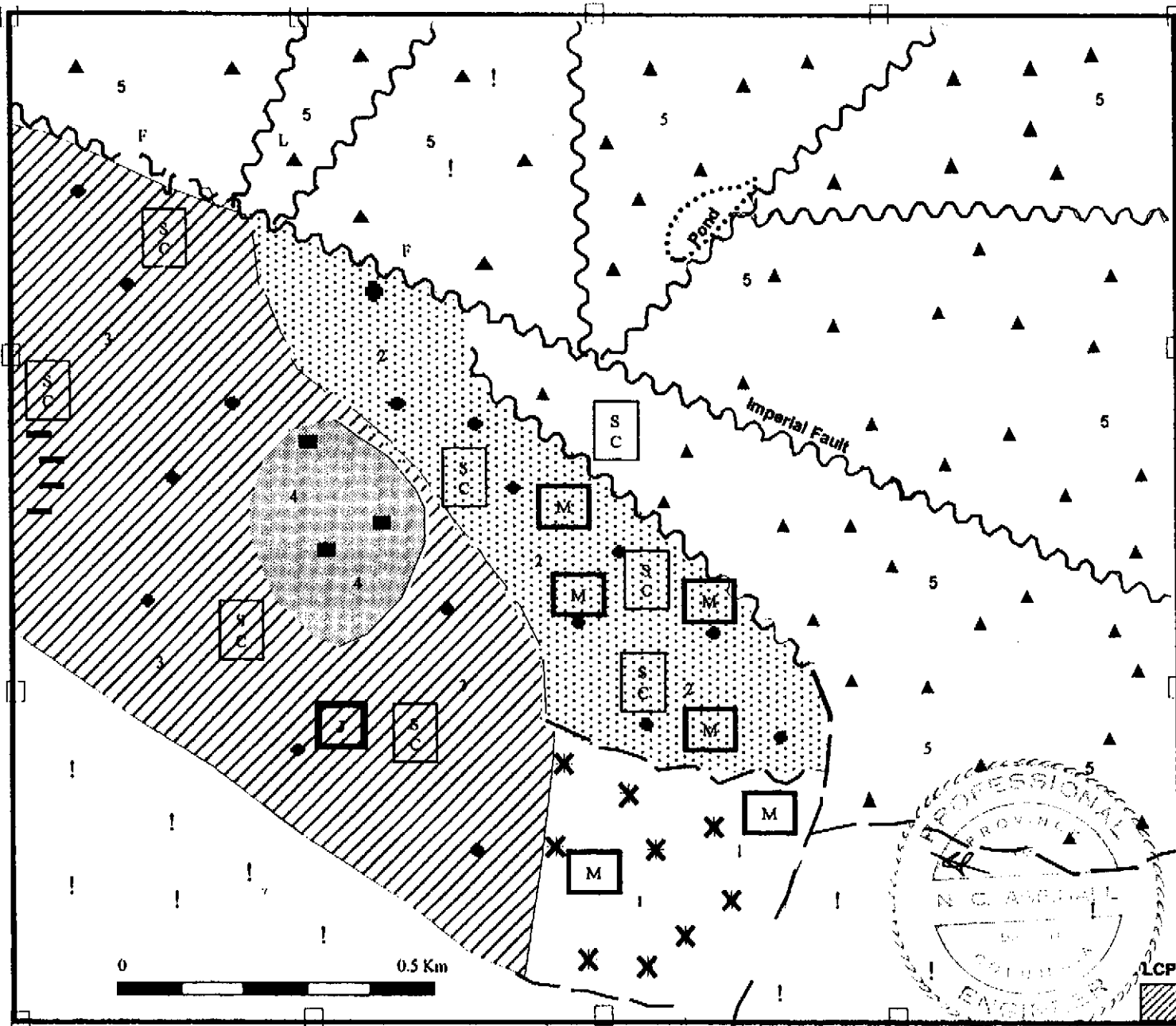
-  *Glacial till*
-  *Tertiary Au Gravels*
-  *Granite*
-  *Cache Creek Argillites*
-  *Gabbro plug*
-  *Ultramafics*  *assumed*
-  *Silica Carbonate Argillites*
-  *Discovery (ghost town)*
-  *Fault or lineament*
-  *Geological Contact zone (assumed)*
-  *Road*
-  *Pro -glacial channel (Pleistocene)*

*Nicholas Clive Aspinall*

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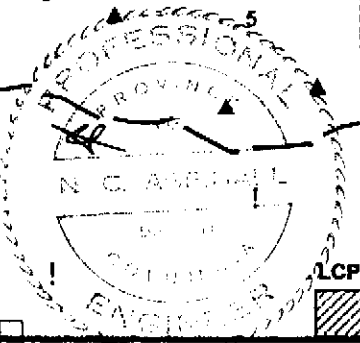
**Imperial Mineral Claim  
Tenure 379554  
Geological Setting**

<b>Date:</b> June 2001	<b>Drawn:</b> NCA	<b>Figure:</b> # 3
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- ↑  
N
- J *Jade-look-a-like (Rock float)*
  - M *Mariposite (boulders and outcrop)*
  - S  
C *Silica-Carbonate  
Alteration (boulders and insitu)*
  - ~~~~~ *Fault or lineament*
  - - - - *Contact zone*
  - ✕ *Rock Glacier*
  - ◆2 *Silica Carbonate -  
Mariposite Ultramafics*
  - ◆3 *Silica Carbonate - Argillites*
  - 4 *Gabbro*
  - ▲5 *Cache Creek Argillites*
  - ! *Glacial till*
  - *Quartz Veinlets*
  - LCP / *Legal Corner Post* □ *Claim Post*

<b>Nicholas Clive Aspinall</b>		
Imperial Mineral Claim Tenure 379554 Geological Investigations For Jade		
Date: June 2001	Drawn: NCA	Figure : # 4





Quartz-carbonate veinlets, antigorite, and serpentines are also exhibited within fractures of these large boulder blocks.

#### **Unit 2. Altered Ultramafic Rocks.**

Mariposite is not often seen in situ within the Atlin ultramafics. Others areas known to this writer are just above Eldorado Creek tributary into Mckee Creek, south of Atlin, as well as along the lake shores north and south of Atlin. The Imperial examples of mariposite are probably the best of its type for the Atlin area, and certainly the most pervasive. Within the Imperial property in situ mariposite is located above the rock glacier, in out crop and a weak drag folded ultramafic body some 100 long and 30 metres wide. In situ altered rock consists of silica-carbonate (listwanite) altered ultramafics. These ultramafics are the result of intense alteration, and are concentrated along the northern contact of the ultramafic body within the Imperial claim, see figure 3, 4.

Associated with these rocks, and not differentiated in this mapping program are random orientated dykes, averaging 1 metre in thickness. They often display silica-carbonate alteration. These rocks can be distinguished in the fact they do not host mariposite. Similar rocks also intrude unit 3, described below.

In weathered outcrop, the rock is light tan in colour, and on fresh surface, it is light grey, very hard and very fine-grained. Mariposite is concentrated as macro-lenses and averages 15% as seen on rock surface.

Silica alteration is pervasive and gives the rock it's hard characteristic. It is almost

magnesite in the Homestake report. Carbonate is more pervasive than the silica alteration, and is reflected on weathered surface by providing the tan colour to ultramafic surface exposures.

Prospecting reveals the mineral mariposite is associated closely with ultramafic rocks.

### **Unit 3. Altered Silica-Carbonate Argillites**

This rock unit lies west of Units 1 and 2, being at least 120 metres long and 60 metres wide. It projects out of the claim to the North West. For the purposes of this report, this unit remains undifferentiated. It consists of a range textures, colours and original rock types. It is altered Cache Creek argillites, but has been intruded by variable altered dykes of variable compositions. Detailed mapping is necessary to sort out the exact geology. When examined in hand specimen, varieties of this rock generally range from an almost dark black "baked" colour to a light brown tan.

It generally exhibits aphanitic textures, frequently cut by hairline veinlets of carbonate, and generally breaks down when hit with a pick, due to multiple fracturing.

To the extreme west of the property, this unit has been altered by more intense and pervasive silica-carbonate alteration, and not recognizable as Cache Creek argillites. Here, outcrops are lighter tan to cream colour on fresh surface, while the weathered surface exhibits slight oxidized colour. This zone suggests a contact aureole situation.

Unit 3 rocks are often cut by silica-carbonate altered ultramafics, and look similar

to those ultramafics to the east, except they exhibit no mariposite. Unit 3 rocks often

exhibit veinlets bearing quartz-carbonate (listwanite) fillings. These veinlets grade into thicker quartz veins towards the central west sector of the claim, within the contact aureole mentioned above. As a result, quartz-carbonate rock and quartz rock scree fragments become much more in evidence in the talus piles (near or within Unit 3) than elsewhere on the property.

As noted above, intruding Unit 3 is a variety of random orientated dykes which were not differentiated for mapping purposes in this investigation. These dykes have variable strike and dips, are intensively altered and resemble the silica-carbonate ultramafics, see photograph #12.



**Photograph #12.** Dyke, non-differentiated, Unit 3.  
BC. Assessment Report  
Imperial Mineral Claim  
Tenure 379554  
June 2001

It is with these dykes that jade may be associated, especially as the following fragment was found close by.

This fragment was of a hard green rock, and the size mans of fist. This slightly translucent rock had all the colour characteristics of jade, except it's lighter than jade density. It was classified by the writer accordingly as a jade-look-a-like, and not as a true jade. Similar rock fragments were searched for, but all that was found was green serpentine.

#### **Unit 4. Gabbro**

Within the western sector of the Imperial claim, within the Unit 3, is a gabbro plug which stands out in sharp relief. The outward morphology of this plug is very different to all other rock exposures on the Imperial claim, rugged and saw tooth with steep to cliff slopes, it stands an estimated 50 metres above its base, see photograph #13. The base consists of fragments of angular gabbro talus, see photograph #14. Gabbro outcrops within contact zones occasionally exhibit fine quartz veinlets in stockworks extending over square centimetres of area, see photograph #16.

The gabbro consists of 50% plagioclase and 50% pyroxene, and believed to be closely related to the ultramafics. The contacts of this plug are also of interest in the search for jade.

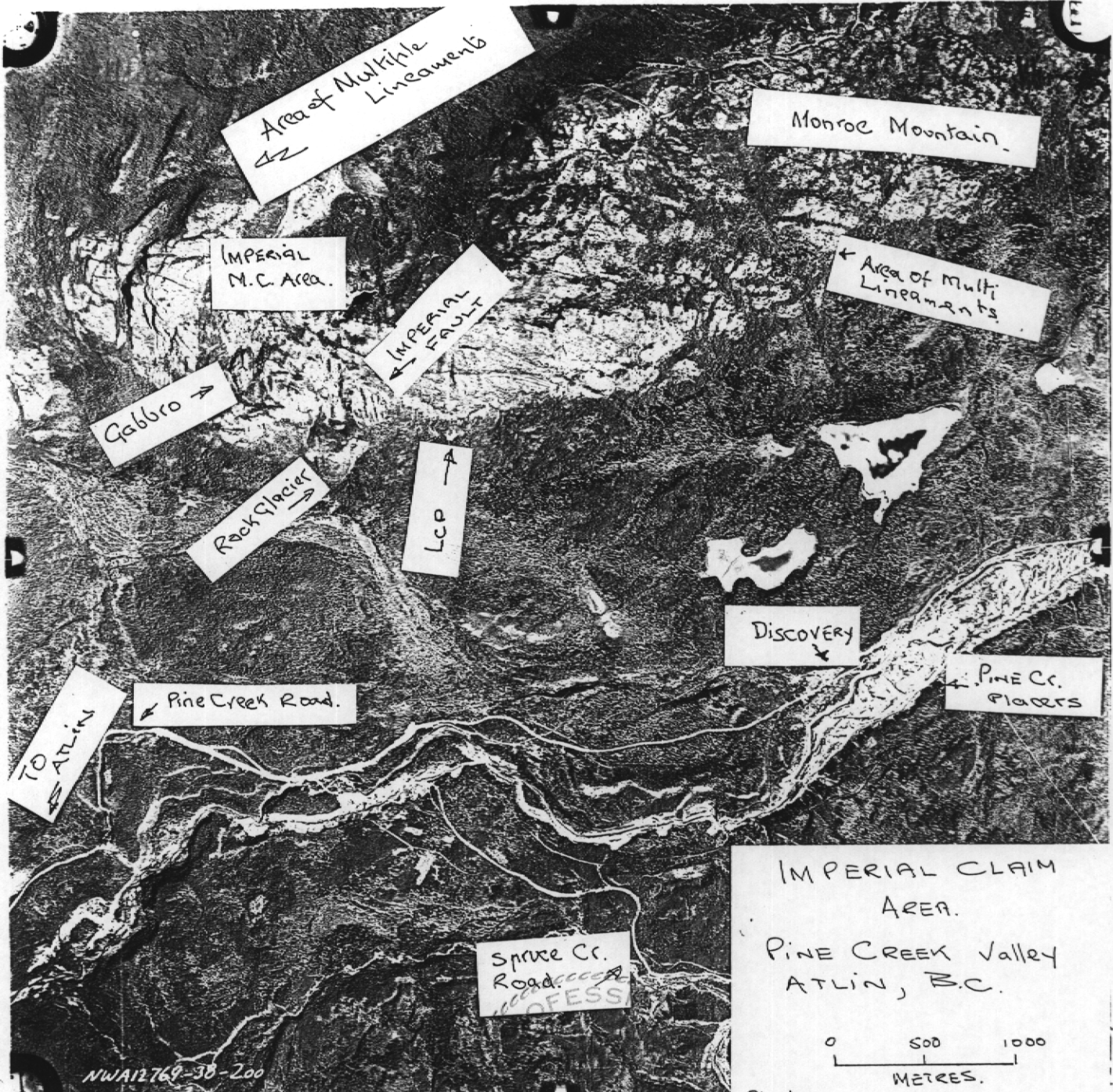


**Photograph #13.** Standing out clearly in relief is a gabbro plug, steep cliff-like slopes leading up to saw-like ridge.

**Photograph #14.** The base of the plug consists of fragments of angular gabbro talus

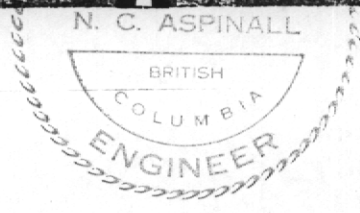


**Photograph #15.** Gabbro outcrops within contact zones occasionally exhibit fine quartz veinlet stockworks extending over square centimetres of area.



NWA12769-38-200

IMPERIAL CLAIM AREA.  
PINE CREEK Valley  
ATLIN, B.C.  
0 500 1000  
METRES.  
Photo. Circa 1971. Fig. 5.



Reported by Homestake, (assessment Report 17,495) but not seen in this investigation are thin diabase dykes cutting all other lithologies. These dykes are probably related to the gabbro and the ultramafics. Also not seen during this investigation, but reported by Homestake are outcrops of feldspar porphyry rock trending across the property in an east west trend.

#### **Unit 5. Cache Creek Argillites**

Situated outside the ultramafic zone of influence, predominantly in the north west and east of units 3 and 4, are unaltered Cache Creek argillites. These rocks are fine grained and difficult to distinguish if volcanic or sedimentary origin. Their colour ranges from a blackish brown to brown, and often show slight hematitic weathering on surface. Only occasionally do some rock samples display porphyritic textures, suggesting them to be of volcanic origin. Because of this lack of certainty, they are classified as argillites during this investigation.

Within and around the Imperial claim, argillite rocks show multiple jointing. When hit by a geological pick, the argillites often reveal multiple fragmentation planes.

#### **4.1 Regional Lineaments**

A photographic structural interpretation was made on the Imperial mineral claim, and surrounding Pine Creek valley using aerial photograph number NWA12769-38-200. This photograph was one of a series of private survey photographs sponsored by Manville Corporation of Denver, Colorado circa 1971. The approximate scale is calculated at 1: 30,000. Ref figure 5, also see figure 3.



This photograph shows the Pine Creek valley well traversed by lineaments. The only definite fault is the Imperial Fault, where Atlin Ultramafics on the Imperial claim are sharply cut by Cache Creek argillites.

These lineaments and faults are believed by this writer to be splay faults related to the 180° (magnetic) Torres Inlet-Fourth of July Creek-Gladys Lake fault, see front cover, which passes out side, and immediately to the NW of the area of interest. Related to this major fault is the Ruffner Silver Mine near Macdonald Lakes, the Ruby Creek Molybdenum property, a second molybdenum prospect near Davenport Creek and Gladys Lakes, previously investigated by Amax in the 1970s.

There appears to be a relationship between the silica-carbonate ultramafics of Pine Creek near the ghost town of Discovery, and the Imperial claim, figures 3, and 5. Both areas are known to host in-situ gold, where as the former host gold in alluvials.

#### **4.2 Rock alteration related to structure on the Imperial Claim**

Hydrothermal rock alteration on the Imperial Claim is most intensive in unit 2. Examples are the ultramafics with silica-carbonate-mariposite (listwanite) alterations. This unit forms a weak drag-fold structure in the central of the claim, with an average strike of 120° azimuth.

The intense hydrothermal alteration of this ultramafic is believed to be the result of local faulting and drag folding of this unit, thereby causing ground preparation for the hydrothermal alteration, as well as the Imperial quartz vein, and its gold.

### **4.3 Jade and Serpentine**

In relation to this study, complex structural relationships combined with the hydrothermal activities affecting the rocks on this claim, point to the contact zones of the gabbro, diabase dykes, feldspar quartz porphyry, the Cache Creek argillites and ultramafic rock, as prime prospecting grounds for jade.

Where serpentinized peridotite dykes come into contact with altered argillites in unit 3, contact zones are highly fractured. Such fractured rock is of little use in the hand carving business, and so good serpentine rocks are not abundant on the claim, see Photograph 16.

Although a piece of rock float approaching jade appearance was found, no real nephrite jade was discovered. However, due to the complexity of the geology more investigations are warranted.

Serpentine were primarily noted as float and talus screes, but it is not abundant as a potential carving rock source, nor is the quality as good as seen in the Menetatlina Ranges.

### **4.4 Upper and Lower Mine Adits**

While evaluating the Imperial property for jade and serpentine, attempts were made to locate the portals of mine adits mentioned above. However, neither one was found.



**Photograph #16.** Contacts studied where serpentinized peridotite dykes came into contact with altered argillites in Unit 3, showed the serpentinized contact zones to be fractured. Such serpentine fractured rock is of little use in the hand carving business. Note the almost black colour or "baked affect" of the altered silica-carbonate host, Unit 3.

## **5.0 Conclusions**

The Imperial claim offers an excellent study area. Within a 300 ha (12-units) the claim geology is diverse and complex, exhibiting a wide range of rock types and structural relationships. Its close proximity to the community of Atlin gives it excellent access.

Jade was not found on the Imperial claim during the 2000 season. The jade look-a-like sample was the best sample of "near" jade found all summer, and further searches are warranted. It is no longer expected that large amounts of jade will be found on the Imperial claim, but perhaps small slivers or thin lenses, about the size of the look-a-like sample is a possibility. These would be associated with metamorphic or contact zones.

The Imperial claim does not offer an ideal source of suitable serpentine rock for *carving purposes, when compared to other areas in the Atlin region.*

Imperial claim offers an interesting drill target for gold in quartz veins and veinlets, as well as offering an interesting case study area for PGMs in Atlin Terranes. The Imperial claim offers a good local source of mariposite for lapidary purposes.

## **6.0 Recommendations**


Further investigations for jade within the Imperial claim are warranted, but not for serpentine. The best asset of the claim is its gold potential. Detailed gold surface exploration has been done by others.

A drilling program funded by a an interested junior mining company would be the

most valued and recommended scenario in the future.

It is recommended net working with junior mining companies. The Imperial property is a past gold producer, and offers easy access; it is also close to electric power, infrastructure and close to accommodation and other amenities offered by the community of Atlin. In looking for funding, it is important these advantages are emphasized. Such a company would have to be serious about drilling.

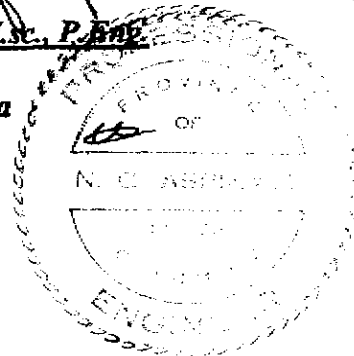
A PGM case study is also recommended. Using the internet, searching the lapidary market for a mariposite outlet is recommended.



Clive Aspinall, M.Sc., P.Eng.

20<sup>th</sup> June 2001

Jakarta, Indonesia



## References

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Monger J.W.H. (1975). The Upper Paleozoic rocks of the Atlin Terrane, northwest British Columbia and South Central Yukon, GSC Paper 74-7.

Steele, Peter. ( 1995) Atlin's Gold. Caiten Press. Prince George. BC. V2N 2S6

Souther, J.G., (1971). Geology and mineral Deposits of Tulsequah Map Area, British Columbia. Geological Survey of Canada, Memoir 362.

Juneau-Alaska Treadwell mine files, originals in writers archive library, and copies in Atlin Museum.

### BC Minfile (Report) Numbers:

104N008,  
092JNE118,  
104 I 078,  
04 I 004,  
092 J NE 119,  
104 P 005,  
104 I 085,  
093 N 156,  
093 K 043,  
092 HNW 059,  
104N 043,  
104 N 050,  
104N 030  
104N 034,  
104N 035,  
104N 031,  
104N 027,  
104N 028,  
104N 072  
104 N 100,  
104N 007,  
104N 032

**Statement of Costs.  
Imperial Mineral Claim. Years 2001-2001**

**1) Year 2000**

**Field Work, Wages and food**

1) Fees, geologist 5 days @ \$500.00 per day.....\$2,500.00  
2) Food. 5 man days @ \$10.....\$50.00  
Total.....\$2,550.00

**Personal stationary, drafting supplies, computer, maps.**

Aerial photographs and mapping paper.....\$20.00  
Hand drawing/computer drafting.....\$200.00  
Total.....\$220.00

**Rentals, personal**

Toshiba lap top Computer, 7 days @ \$10 per day.....\$70.00  
Field equipment, compass, G-Pick, Aerial photographs.....\$50.00  
Total.....\$120.00

**Personal Transportation**

1) Suzuki jeep, 5 days at \$20 per day, plus fuel.....\$100.00  
Total.....\$100.00

**2) Year 2001**

**Report Preparation**

7 days at \$357.14 per day.....\$2,500.00  
Production.....\$10.00  
Total.....\$2,510.00

Total Amount .....**\$5,500.00**

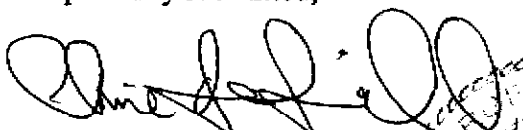
**Qualifications of writer:**

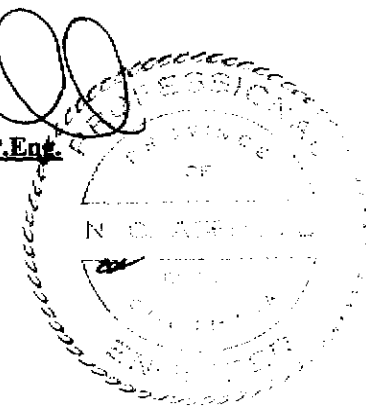
I, N. Clive Aspinall, of Pillman Hill, the community of Atlin, British Columbia, do hereby certify that:

- I am a geologist with offices at the above address, and also work as a consultant from a registered office in Jakarta, Indonesia.
- I am a graduate of McGill University, Montreal, Quebec, with B. Sc degree in Geology (1964), and a Masters degree (1987) from the Camborne School of Mines, Cornwall, England, in Mining Geology.
- I am registered Professional Engineer in the province of British Columbia.
- I have practiced mineral exploration for 37 years, in countries such as Libya, Saudi Arabia, North Yemen, Morocco, Indonesia, Mexico, Peru, USA, and in the provinces and territories of Canada.
- At the time of writing this report, I am the registered owner (100%) of Imperial mineral claim tenure# 379554
- I completed the geological Investigations as summarized in this report
- I am author of report titled: **BC. Assessment Report**  
**Covering preliminary geological investigations for jade and serpentines on and around the Imperial mineral claim, (12 Units), tenure number 379554, Located in the Atlin Mining Division, Monroe Mt. British Columbia, Canada. Dated 20 June 2001**

Signed and sealed in Jakarta, Indonesia, on 20 June 2001

Respectfully submitted,

  
N. CLIVE ASPINALL, M.Sc, P.Eng.







**Photograph#17.** Access to the property is very good, even though some parts of the access trails are over grown.