

# GRANBY PENINSULA PROPERTIES

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# SUMMARY

Anyox B.C., 103 P/5W

For: ALTA SIERRA SYNDICATE INC.

> Report by: J. H. HAJEK



ZELON — MINERAL EXPLORATION GROUP (1973) CANADA & U.S.A.

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# **SUMMARY**

Anyox B.C. 103 P/5W

For ALTA SIERRA SYNDICATE INC. 250-1075 West Georgia St. Vancouver, B.C.

Report By: J.H. HAJEK Mining & Chemical Consultant

November 22, 1996

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# I INTRODUCTION

The Granby Point properties cover the Granby and Bocking Peninsula. They are located at the head of Observatory Inlet, latitude 55° 20' North to 55° 25' North, longitude 129° 48' West in NTS area 103P/5W, fig. 01.

The properties are on or near the tide water access, located 120 kilometers north of Prince Rupert, B.C. and lay one kilometer east of the abandoned mine and smelter town of Anyox. The nearest road ends at Alice Arm 22 kilometers to the east, and leads to the provincial highway system through Terrace. A B.C. hydropower substation is located at the Kitsault mine, on the outskirts of Alice Arm. Access is by boat, plane or helicopter.

The topography of the Granby Peninsula properties consists of rolling hills (elevation 0 to 200 feet) with the occasional 500 feet high plateau and is bounded to the S-W by steep cliffs (with elevation 1500' to 2,000') on the Moly May. The properties are characterized by over 50% rock outcrops due to glaciers having scarred the landscape, while hillsides and swamps are covered by new tree growth and shrubs.

The properties have potential for:

- Vein-type gold deposits
- Massive sulphides
- Porphyry and Pegmatite molybdenum mineralization

Six small mines, the Granby Point, Reserve, Goldleaf, Groundhog, Goldkeish, Beatrice and May quartz mines, are known to have produced (1910 to 1938) silica flux with gold and silver values.

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The Moly May property potential is in vein and replacement type Molybdenum with potential for gold-bismuth enrichment and massive to disseminated Molybdenite mineralization within sections of the intrusive. Molybdenite mineralization has been found mainly in association with phyllic and potassic alteration in three broad zones.

This report details the various showings outlined from past explorations efforts and proposes an exploration program that will lead to a compilation of ore reserves. It is based on visits to the properties by the author at various times from 1988 to 1992.

# **II PROPERTY AND OWNERSHIP**

The Granby Point properties are geographically separated into the Peninsula, South Block, and the Moly May property. It is comprised of mineral reverted Crown Grant and metric claims (fig. 02).

Name	Record No.	Lot No.	Tag
Peninsula			
Quartz #1	4745	1535	251195
Quartz #1 Fr.	4745	3587	
Quartz #2	4746	1536	251196
Quartz #4	4747	1679	251197
Quartz #5	4748	1680	251198
Quartz #6	5069	2 units	251276
Quartz #7	5070	2 units	251277
Goldie	5110	20 units	251288
MC #3	6458	5 units	251997
MC #5	6460	2 units	251998

Page 04

Gold Leaf	5686	4 units	251600	.•.
Wire Gold	5687	6 units	251601	
South Block				
Beatrice	2937	1 unit	250474	
Gold Keish 1	840	1 unit	250595	
Gold Keish 2	1674	1 unit	250765	
Gold Keish 3	3633	1 unit	25078	
Gold Keish 4	3632	1 unit	311835	
МС	6457	2 unit	251996	

# Molly May Property

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Molly May	2936	8 units	250973
Molly Fr.1	2938	4 units	250975
Molly May 2	3135	8 units	250993
Molly May 3	3136	20 units	250994



# **III HISTORY OF MINING & PRODUCTION**

In 1898, the Bonanza and Hidden Creek deposits were discovered. The mining operation was started by the Granby Consolidated Mining Company in 1910. The smelting followed in 1914 until 1936 and produced 35 million pounds of copper per year (largely from the six Hidden Creek orebodies). During this 25 year production, silica (quartz) flux was needed for the copper smelter (It was supplied mainly by the Granby Peninsula mines). Six small mines are known on the peninsula to have produced silica flux with significant gold-silver by production. This report summarizes the past field work and present property status.

In a Report dated June 1st 1982, Mr. A. D. Drummond, P. Eng. listed the production history for the Peninsula (Table 1, fig. 03).

#### Table 1: Production From Granby Peninsula

Mine	Period	Tons	Gold (oz./T)	Silver (oz./T)	Silica
<b>RESERVE</b> √	1915-17	16,070	0.136	5.6	87.8
GRANBY	1915-17	55,532	0.021	0.9	92.4
POINT MINE	1917-38	62,048	0.092	3.1	-
GOLDKEISH 🗸	1919-29	31,400	0.084	0.5	-
GOLDLEAF $\checkmark$	1939	4	9.72	3.3	-
Ground hoy Beatrice					

 $\sim$  This table reflects the gold-silver values, indicating dilution with the primary commodity --being silver flux.

No significant exploration was done to test "the old producers" at depths, or the vein's lateral extension either during production or thereafter.

Prospectors Airways Co. Ltd. conducted a drill program on the Reserve and Granby Point mines in 1988. Extensions of the horizontal sulphide-bearing quartz veins found in the two mines were encountered in most of the holes drilled.

The following gold-silver intersections were reported (Roy Wares, 1988):

	Tal	ble	2:	Granb	y Point	Mine	1988	Drilling
--	-----	-----	----	-------	---------	------	------	----------

Drill Hole	Au (oz./ton)	Ag (oz./ton)	Width (m
1	0.07	5.8	3.0
3	0.04	0.07	1.5
4	0.03	-	1.6
5	0.19	1.0	2.6
7	0.12	0.5	1.5
9	0.05	-	0.3
12	0.10	0.2	0.6
13	0.04	0.09	0.6
17	0.05	0.5	1.5
19	0.03	0.9	1.5

During 1988, J.S. Fox (director of the Mineral Exploration Research Institute of Montreal) conducted a work program on the Granby peninsula properties on behalf of Prospectors Airways Co. Ltd. It consisted of lithological and structural mapping of all gold occurrences and systematic sampling of all occurrences with poly-metallic results correlation.

# IV GEOLOGY AND STRUCTURE

The oldest rocks in the area are of the Lower Jurassic age, Hazelton Group and are mainly composed of submarine and basaltic flows. These rocks are overlaid by middle Jurassic, Hazelton Group sediments consisting of siltstone, greywacke and sandstone, fig. 03.

All the rock units above have been intruded by granodiorites of the Coast Plutonic Complex and cut by Tertiary quartz monzonites of the Alice Arm type intrusives. Furthermore, every rock type is cut by dykes of several varieties ranging from basalt to quartz monzonites.

The peninsula itself is characterized for the most part, by folded and faulted argillite and greywacke and the Moly May quartz monzonite stocks.

#### **1. SEDIMENTARY UNITS**

Sedimentary rock units are mostly located in the northern 2/3 of the Granby Peninsula and host most of the auriferous quartz veins. The rock units are turbidites forming fining upward cycles, with thickness ranging from ten to hundreds of meters. They include arenaceous cycles composed of coarse to fine sandstone with minor argillite and fine cycles of siltstone, argillite and sandstone.

The sedimentary structures includes massive and graded bedding in the arenaceous cycles, graded bedding parallel and/or oblique to lamination and convolute bedding in the finer grained cycles. Megascopic examination suggests granitic or pre-existing sediment sources for the rocks of these cycles.



![](_page_13_Picture_2.jpeg)

#8: Quartz Diorite, Granodiorite, Monzon

A number of compositionally distinct sedimentary units, termed "black sandstone" and "porphyroblastic argillite" were recognized. These differ from the turbiditic argillites mentioned above in that they contain a significantly higher proportion of fine grained biotite, are moderately rich in syngenetic sulphides, often show chaotic debris flow texture, and develop sericite-biotite-quartz porphyroblasts possibly after andalusite. The abundance of sulphides and the elevated aluminum content of these rocks suggests an origin which may be partly hydrothermal. Most of the auriferous veins on the property are confined to deformed argillaceous sediments belonging to these units.

#### 2. MOLY MAY STOCK

The Moly May stock (48 M.Y.) is one of several monzonite granite variety of the Alice Arm intrusions. The stock covers an area of 1.5km x 3.5km.

It is composed of Alaskite Granite that is hydrothermaly altered in several areas. These areas contain quartz stockwork development with coincident molybdenite along fractures, pegmatitic pads and disseminated within faults and shear zones.

The stock is found in sharp intrusive contact with turbiditic sediments to the north and in fault contact with the older Coast Range granitic complex to the south, fig. 04.

The Moly May intrusion consists of biotite-muscovite leucogranite and contains inclusions of coarse grained biotite rich monzonite rocks with some metasedimentary inclusions. The leucogranite grades locally into aplite coarse grained rock units.

Miarolitic cavities and vugs are abundant suggesting (along with the pegmatites) local magmatic water saturation within the roof of the stock.

#### 3. STRUCTURAL EVALUATION

The sedimentary rocks of Granby Peninsula are characterized by tight to open asymmetric folds trending N-E with amplitudes in the order of tens of meters. In the south, these are overturned and verge towards the S-E.

A related axial plane of schistosity is well developed in argillites and sandstones; sedimentary clasts and porphyroblasts are frequently stretched and flattened in foliation plane.

A second phase of open WN-W trending folds have been superimposed on the Fl folds. Evidence for this second fold phase is found in the dome and basin structures and doubly plunging first phase fold axes which are observed throughout the peninsula.

Faulting post dates both fold sets and is manifested by both major photo-linears and minor offsets evident only in outcrops. N-E & S-E trending fault orientations predominate (in both cases, the dips are steep). Fault surfaces are marked by slickensides with horizontal or vertical striations, and by graphite enrichment. Most faults show a component of normal displacement.

![](_page_16_Figure_0.jpeg)

Deee	17
Page	12

PROPERTY GEOLOGY
THE MOLY MAY STOCK
MOLY MAY CLAIM GROUP 53°21' N., 129° 48' W. SKEENA MINING DIVISION BRITISH COLUMBIA
GEOLOGICAL UNITS
Dykes: diabase/quartzo- MAY Stock
+ + Fresh Quartz Monzonite
Altered Quartz Monzonite: bleached,Fe-Mo stains
Coarse Biotite,
Vein stockwork in highly altered Quartz Monzonite
Altered Quartz Monzonite:
TON Group Greywake, Argillite, Andesite
gical contact or igneous Defined boundary Approximete
e of outcrop
ng, rock outcrop $\frac{x}{\sqrt{x}}$
ng, upright flat limit
Surveyed grid
SCALE
0 <u>500</u>
Metres
Figure 04

It is suggested that the formation of sub-concordant sediment (hosted quartz veins and of the large amplitude first phase asymmetric folds) is related to the earliest phase of deformation, which was a progressive event.

The veins are early kinematics, since they can often be found to be folded by F1. Both veins and asymmetric folds reflect a sub-horizontal compressional event.

The asymmetric overturned character of the Fi folds and the shallow dip of the related axial plane foliation suggests that the area is marked by imbricated thrusts and related major folds that propagate towards the southeast.

The superimposed F<sub>2</sub> folds are correlated with the intrusion of the Moly May stock. Subsequent faulting appears to relate to a tensional regime which resulted in the remobilization of the sub-horizontal quartz veins and in the formation of loci for diabase dykes emplacement.

# V GRANBY PENINSULA MINERALIZATION

Mineralization on the peninsula is reflected by the data from the Granby Point and Reserve mines (located at the northern tip of the Granby Peninsula and 400 meters apart), fig.05. It is classified as vein hosted gold-silver mineralization.

Quartz veining is hosted by argillite with much of the vein mineralization being sub-horizontal, and is therefore amenable to inexpensive "room and pillar" mining methods. Steeply inclined veins are noted to the south of the Granby Point Mine and elsewhere on the peninsula. This reflect either the regional structural complexity or the presence of secondary oblique vein systems.

The known veins consist of a central core of white, and apparently gold poor quartz. Scattered concentrations of pyrrhotite, pyrite, sphalerite, galena, chalcopyrite and arsenopyrite occur near the hanging and footwalls and near argillitic inclusions. A close correlation between sulphide mineralization and precious metal values seem to be consistent.

Silica flux was mined at various locations on the Granby Peninsula until the closure of the Anyox mine and smelter in 1934. Gold was an important byproduct of these silica mining operations; detailed sampling by the B.C. Ministry of Mines in the Granby Point mine in 1933 revealed gold values in the pillars ranging from 0.25 oz/ton to more than 1 oz/ton.

Mining was confined to a distance of about 800 feet from the shoreline. This distance is a reflection of the manual mining and ore transport methods used in the four mines and was thought to be cost effective.

![](_page_19_Figure_0.jpeg)

The mineralized Moly May intrusives are composed of a multi-staged zoned quartz monzonite. Significant potential exists for both vein-type molybdenum with some gold and large tonnage porphyry-type molybdenum mineralization.

The Moly May mineralization seems to be similar in character and age to the Kitsault deposit 25 km to the east and to the Quartz Hill deposit, 50 km to the west.

At Kitsault, vein and porphyry-type molybdenum mineralization are cut by the late stage Cu-Zn-Pb sulphosalt veins (steininger, 1985). If the Moly May deposits are paragenetically similar, gold may be restricted to late stage veins, and there may be a link between these and the argillite-hosted auriferous veins

#### **1. VEIN TYPE CLASSIFICATION**

Most quartz veins found on Granby Peninsula are parallel to bedding but also oblique to it. Most of the known auriferous structures are either thick veins, in place parallel to bedding, with significant lateral extent, or veins remobilized sub-parallel to steeply dipping late normal faults.

Concordant veins host gold and silver mineralization at the Reserve, Granby Point and Goldkeish mines. They are characterized by a crude lamination "ribbon texture" which reflects thin irregular streaks and wisps of argillite and/or fine sulphides. Footwall and hanging wall vein contacting their enclosing argillite and siltstone are striated, and may be locally brecciated.

Discordant veining is present at the Groundhog, May Pit and Goldleaf occurrences, reflecting the remobilization of earlier concordant veins by later steeply dipping normal faults. In contrast with the concordant veins, these bedding oblique veins are composed of gray crystalline quartz.

#### 2. SULPHIDE MINERALIZATION

Sulphides in most veins occur in a variety of combinations: moderately abundant pyrite, pyrrhotite, sphalerite and galena are observed over a width of 1 to 10 cm along the brecciated margins of many concordant veins. Fine grained pyrite, sphalerite, galena, chalcopyrite and arsenopyrite occur in association with the argillaceous ribbon texture. Heavily disseminated coarse sphalerite and galena are locally in zones of up to 30 cm thick where concordant veins pinch. Finally, concentrations of pyrite, chalcopyrite, and pyrrhotite occur in association with late fractures perpendicular to the vein walls.

Both quartz and sulphides seem to have been remobilized in association with discordant quartz vein formation. The interior of some of these veins contain dissemination and small pods of pyrite. Thin layers of semi-massive pyrrhotite and rare sphalerite may occur near their margins.

As indicated, a close relationship appears to exist between the abundance of sulphides, particularly pyrite, sphalerite and galena, and the precious metal content of quartz veins. Sulphide argillite ribbon texture (characterizes the Reserve and Goldkeish mines as well as the northern part of the Granby Point mine) appears to be a particularly good indicator of gold and silver grades.

Relative high grade mineralization is also associated with the sulphidic fractures found subvertical to the contacts of concordant veins. In the Granby Point mine, these sulphidic fractures bound many of the remaining pillars; their presence at certain pillar faces may explain the erratic gold values obtained during previous underground grab sampling.

### 3. PAST MINING OPERATIONS

#### (a) Reserve Mine, fig. 06

The sub-horizontal Reserve vein is hosted by black argillite and siltstone. The mine portal is located 10 meters above sea level at the northern tip of Granby Peninsula. It is estimated that 20-25 of the vein system remains largely in the form of pillars. Old level plans suggest that parts of the mine were characterized by high but variable precious metal assays. The mine vein

was found to vary from 25cm to 150cm from south to north.

Sample	Au (oz./ton)	Ag (oz./ton)	Width (meter)
<b>T</b> 3-1	0.14	20.4	0.7
T3-2	0.67	14.3	0.3
GP-1	0.04	6.3	grab
GP-3	0.66	6.9	"
GP-5	0.16	8.6	"
GP-6	1.52	35.9	dump
GP-7	0.09	4.1	grab
128524	0.21	4.9	<i>11</i>
128525	0.08	-	"
128528	0.94	0.1	"
128529	0.06	-	"

Table 3: 3	1988 selective	sampling at the	Reserve Mine
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Mapping by MERI has resulted in the location of the probable extension of the Reserve mine vein ("Jean's vein") 200 meters south of the mine portal.

![](_page_24_Figure_0.jpeg)

#### Page 20

a - st: mainly argillite to siltstone ss: mainly coarse to fine grained sandstone

no dykes represented

x: small outcrop

--- bedding

--- schistosity

---- quartz vein

::: limit of outcrop

-geological contact approximati nna fault

- anticline overturned 8- syncline

GRANBY POINT

=== trace of main vein ---- coast limit approximative • 128526 sample number 冒 old dock

**RESERVE MINE PRELIMINARY GEOLOGY** 

![](_page_24_Figure_12.jpeg)

![](_page_24_Figure_13.jpeg)

#### (b). Granby Point Mine, fig. 07

The Granby Point mine is located 400m south of the Reserve mine, approximately 30 m above sea level, in argillites and siltstones which are at a moderately higher stratigraphic level than those hosting the Reserve mine. Approximately 15% of the area mined remains in the form of pillars. A small mass of moderately sulphide rich, potentially high grade vein material remains unexplored in the southwestern part of the mine area.

The sub-horizontal Granby Point vein locally attains a thickness of 3 m, and is accompanied by extensive hanging wall silicification and veining. The hanging wall contact of the vein is marked by faulting and brecciation. N-S trending normal faults locally displaces the vein up to two meters; related subvertical fractures concentrate precious metal rich disseminated sulphides.

The vein is texturally variable, and this textural change can be correlated with the variations in average gold grades of the ore blocks mined in the 1920's and 1930's. It is divided in three sections:

- In the northern half of the mine, the vein shows ribbon texture and contains ore blocks.
- The south central portion is more homogeneous, with banding only near the base and top of the vein.
- The S-W part of the mine is characterized by moderately abundant coarse sphalerite and galena at the vein contacts, and is above average in terms of overall gold content.

![](_page_26_Figure_0.jpeg)

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A large number of samples have been taken from a variety of locations in the mine by Prospectors Airways and MERI personnel. The Granby Point mine has been resampled by Prospectors Airways Co. Ltd. in 1987 & 88. Grab sample values were obtained from the pillars which remain in the mine:

 Sample 12055:
 1.7 Ag oz. and 0.02 Au oz./ton

 12054:
 1.0 Ag oz. and 0.07 Au oz./ton

 12057:
 4.0 Ag oz. and 0.05 Au oz./ton

 129181:
 0.2 Ag oz. and 0.10 Au oz./ton

 129182:
 2.3 Ag oz. and 0.05 Au oz./ton

 129357:
 5.3 Ag oz. and 0.06 Au oz./ton

 129358:
 6.4 Ag oz. and 0.13 Au oz./ton

 129374:
 1.8 Ag oz. and 0.23 Au oz./ton

One continuous chip sample over 3 feet (012053) yielded 6 oz./ton gold and 55 oz./ton silver.

The probable southern extension of the Granby Point mine vein exists in the form of the "Quarry" vein system, 50 to 150 m south of the mine portal, and possibly in the form of the "Line 23" and other veins further south.

(c) Groundhog Mine, fig. 08

The Groundhog mine consists of a semi-continuous series of large trenches which follow the north-south trending Groundhog vein system for 150 meters. A small, flooded shaft is located in the middle of the trenches.

![](_page_28_Figure_0.jpeg)

The Groundhog showing is characterized by an assemblage of parallel, conformable (0.2 to 2 meters wide) near vertical quartz veins contained in fine grained sediments. The veins and their sedimentary host rocks have been transposed into their current orientation by a 7 to 10 meter wide normal strike slip fault zone.

Most of the sulphide mineralization characterizing the subvertical mine veins is confined to fault planes and breccia, where up to 20% pyrite, pyrrhotite and minor sphalerite can be found.

The quartz veins in the vicinity of these planes are gray, fine grained and ribboned. White, moderately dipping conformable veins are observed away from the fault zone, but these rarely contain sulphides.

#### (d) The May Pit, fig 08

This showing is characterized by two 35 to 50 meter long trenches located 25 meters above sea level, with a caved in adit. A small dump is present below the adit on the shore of Granby Bay.

Conformable, variably dipping quartz veins at the showing are hosted by re-crystallized argillite and minor sandstone. The structure in the pits is complex with veins 5 to 150 meters thick which have been re-mobilized by the multiple intrusions of fine grained diorite. Unique to this showing is the development of tremolite-chlorite alteration.

#### (e) Goldleaf Showing, fig.09

This showing consists of a short "L" shaped adit near sea level with some trenching. These workings follow an apparently thin but spectacular gold occurrence, which was worked briefly in 1938.

The Goldleaf vein is 15 to 30 cm thick and is found in a northeast trending fault zone which dips moderately to the east. The fault is sinistral, with an offset of about 25 meters. Gently dipping laminated siltstone and sandstone are juxtaposed with steeply dipping interbedded coarse grained sandstone and argillite across the fault.

#### (f) Goldkeish Mine, fig 10

The Goldkeish mine consists of an 82 meter long adit, which leads through barren argillite to a north south trending stope which is at least 190 meter long. Flooding of the stope and paucity of surface exposure limited our examination of the mine area.

The quartz vein mined at Goldkeish is at least 2 meters thick, subparallel to bedding, and dips moderately to the east. It occurs in a monoclinal sequence of laminated siltstone and fine grained sandstone, and appears to be controlled by a major strike slip fault.

Sulphide mineralization occurs as fine grained pyrite along the graphitic slip planes, and as pyrite and sphalerite in oblique fractures in the vein. The quartz vein at Goldkeish exhibits ribbon texture.

![](_page_31_Figure_0.jpeg)

![](_page_32_Figure_0.jpeg)

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Limited vein sampling has returned the following values:

Sample 338205: 0.5 oz. Ag/ton and 0.22oz. Au/ton over 1.5m Sample 128628: 0.8 oz. Ag/ton and 0.06 oz. Au/ton, dump

#### (g) Other Quartz Veins

A large number of previously unexplored veins were found. The "Danielle Vein" is a conformable vein hosted by laminated siltstone (20 to 50 cm thick) It is located on the western shore of the Peninsula 400 m S-W of the Reserve mine. It is the only arsenopyrite bearing vein found in the area; Au = 0.08 oz./ton and Ag =2.8 oz./ton.

The "Line 23" vein system is composed of a 75 cm thick vein, having a 3 m thick hanging wall foliation parallel to the vein system.

The vein on Line 8 south is a 75 cm thick with a conformable feature exhibiting ribbon texture. It has been traced for 30 meters, and is believed to extend further.

# (h) Conclusion

The auriferous veins are either synmetamorphic Meguma/Carolina Slate Belt type or a distal hydrothermal systems related to the nearby intrusives, MERI 1988.

A systematic trenching followed by assaying and geological evaluation must be done on veins having potential for gold economical tonnage.

A drilling program to outline the ore grade materials should be started as soon as possible, followed by grid drilling to block ore reserves.

Estimated gold reserves are at 2 million oz. for all Granby Point properties, within the present data base.

# **VI GRANITE HOSTED MINERALIZATION**

The mineralized Moly May intrusive occupies the southern part of the Granby Peninsula. The intrusive has been prospected intermittently over the years with various results and was known as the Moly Mack showing (N.Carter, B.C. Department of Mines 1965).

Enfield carried out geological and geochemical surveying with limited diamond drilling between 1981-82 with the following results:

Showing A, West Zone: Showing B, West Zone: Showing E-1, East Zone: Showing E-4, East Zone: 0.15% Mo over 10 meters 0.26%
Mo over 7 meters
0.25% Mo over 5 meters
0.19% Mo over 6 meters

The intrusives have been divided in four major areas:

- Molly May South, & S-W zone
- Molly May East, E zone
- Molly May West, W zone
- Molly Mack & tide exposures

It is thought that the Moly May mineralization is similar in character and age to other deposits related to the Alice Arm granitoids, such as Climax Molybdenum's Kitsault deposit (25 kilometers to the east) and the Quartz Hill deposit (50 km to the west in Alaska).

At Kitsault, vein and porphyry type Mo mineralization is cut by late stage lead-zinc sulphosalts veins. Similar occurrences are found on the Moly May near the granite sediment contact, in roof pendant and in contact zones

The Moly May deposits seem para-genetically similar. Therefore, gold may be restricted to late stage veining and there may be a link between these and the argillite hosted auriferous veins occurring on the peninsula.

#### 1. MOLY MAY EAST ZONE

Several showings comprise of the East Zone and includes the old Moly Mack prospect. A high grade molybdenite prospect disseminated in biotiterich monzonite with minor pyrite.

Detailed observations have been made by several authors on the near shore gold bismuth telluride showings comprising the Moly Mack.

The main showing is at sea level, west of Frank point and south of the contact between the Coast Intrusion and the Granby peninsula sedimentary rocks.

South and west of the showing, leucogranitic quartz monzonite porphyries of the Coast Intrusives form low ridges and weather to a creamy white color. Phenocrysts are anhedral glassy quartz, euhedral feldspars make up most of the rock, with muscovite being the dominant mafic mineral.

Sedimentary rocks in the area have been metamorphosed to biotite quartz hornfels and are cut by numerous narrow sills of monzonitic composition. Molybdenite occurs in small areas of biotite rich granite within the quartz monzonitic porphyries. Coarse grained molybdenite is found along the biotite cleavage and near margins of quartz lenses.

### 2. MOLY MAY WEST ZONE, fig 11

Several high grade molybdenite rich zones (pods and veins) occur in this region of the property. Three small trenches containing late pyrite associated with quartz pyrite muscovite veinlets are found in the area. Some of the higher grade obtained from the west zone showings assayed as follows:

Sample 128654:	0.2% Mo over 0.8 meters
Sample 128655:	0.2% Mo over 1.0 m
Sample 128656:	1.0% Mo over 1.2 m
Sample 128927:	0.6% Mo over 0.6 m
Sample 128940:	0.3% Mo, 0.29 oz/ton Au over 0.8 m
Sample 129302:	0.3% Mo over 1.2 m
Sample 129303:	0.5% Mo over 1.0 m
Sample 129304:	1.0% Mo, grab sample

#### 3. MOLY MAY SOUTH AND SOUTH WEST ZONE

Numerous Molybdenite showings have been found in the area along with several promising gossan zones of mineralization.

The area of gossan is characterized by disseminated molybdenite and pyrite in weakly sericitized leucogranite. The "R12" showing consists of three gossans, each roughly 0.5 by 3 m in size, hosted by muscovite garnet leucogranite. Very high grade molybdenite (+5% MoS2) is common on most showings.

The newly discovered Southwest Zone is characterized by abundant gossans (up to 10 m wide), and contains molybdenite & pyrite both as dissemination and associated with quartz veinlets in the host monzonite.

Numerous gamma ray anomalies have been found by prospecting in covered areas, indicative of molybdenite mineralization. They should be investigated further by trenching and geological mapping.

![](_page_37_Figure_1.jpeg)

![](_page_38_Picture_0.jpeg)

# **VII Recommendations**

The properties cover the Granby and Bocking Peninsula located at the head of Observatory Inlet. They are on tide water access, located 140 kilometers north of Prince Rupert, B.C. and lay east of the abandoned mine and smelter town of Anyox. Past exploration results are the basis for this preliminary exploration proposal and is outlined as follow:

# 2. Trenching, Sampling and Geological prospecting

An exploration program is proposed for the 1997 season consisting of mapping, structural analysis, metallogenic assemblages and prospecting. This will then be followed by systematic drilling in areas with potential for ore reserves.

#### 1. East of Groundhog

*Location 1*: 825 PPB gold in a limonitic wacke with quartz stringer zone, nearby a small shear zone with graphite and sulphides.

- *Loc.* 2: Quartz floats found near a shear zone with graphite and sulphides.
- Loc. 3: Quartz floats found near metamorphosed sediments with veining.

Loc. 4: Goldleaf following quartz vein inland, L15N

#### 2. May Pit, northern extension

- Loc. 1: A 3 meters conformable quartz vein, line 28S
- Loc. 2: N-W of Chanty bay, a 1meter quartz vein on L 23N
- Loc. 3: Inland from Western shore, quartz vein exposed over 30 meters
- Loc. 4: Groundhog, quartz sulphide breccia

#### 3. Reserve Mine

- *Loc.* 1: 400 meters south arsenopyrite in quartz vein
- *Loc. 2:* Eastern shoreline, thick quartz vein 1-25 meters
- Loc. 3: 100 meters South of Boiler bay, quartz breccia
- Loc. 4: 1000 meters South of Reserve Mine, quartz breccia
- *Loc. 5:* Eastern shoreline, quartz vein system
- *Loc. 6:* Granby quarry southern part, quartz veins & dykes

#### 4. Sylvester bay & Molly May

- *Loc. 1:* Shoreline, in thick quartz vein with sulphides
- *Loc. 2:* Intrusion contact, quartz vein 1 meter thick
- Loc. 3: Molly May high-grade molybdenite
- Loc. 4: Pyrite-rich showings, west zone
- Loc. 5: Molly May south

# 2. Proposed Drilling Targets

Initial diamond drilling of 2,950 meters over 32 holes is recommended followed by another 5,000 to 10,000 meters pending on outcome of results.

### 1. Goldkeish Mine

Five holes by 100 meters each, to test the depth extension

#### 2. Groundhog Showings

Two holes 100 meter deep, 100 m apart to intercept the NNE fault zone crosscutting the conformable vein system.

Five holes on L23N 50 meters deep with 100 m spacing, to test the extension along strike and dip of the conformable vein system and hanging wall veining.

#### 3. Molly May

Five holes 100 meter deep on past results 10 holes 100 meter deep pending on trenching results

This represents a selection of present objectives based on a priority rating which could change as work progress.

Respectfully submitted,

Hor

John H. Hajek

Vancouver, November 22, 1996 Zelon Enterprises Ltd.

![](_page_42_Figure_0.jpeg)

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#### STATEMENT OF QUALIFICATION

I, John Henry Hajek of 4440 Regency Place, West Vancouver, B.C. do hereby declare that I am a professional Geochemist and geologist practicing since 1969.

- My experience includes services as an exploration Geochemist with Rio Tinto of Vancouver, B.C. (1968-72).
   Since 1973, I have conducted and directed properly examinations and programs on behalf of companies as a Geochemist and geologist in the employment of ZELON ENTERPRISES Ltd. and ZELON CHEMICALS Ltd. of which I am part owner.
- 2. I have been on the Anyox-Granby properties during the period of 1988 to 92.
- 3. This report is based on result of work carried out on the Granby Peninsula, Skeena Mining Division NTS 103 P/5, in 1988-89
- 4. The opinions, conclusions, and recommendations contained herein are based on field work carried out on the property.

December 2, 1996 VANCOUVER, B.C.

This

John H Hajek Geochemist/Mining Consultant

![](_page_44_Picture_9.jpeg)

	JOHN. H. HAJEK		
44	40 Regency Place	Fax:	(604)926 1401
We	est Vancouver, B.C. V7W 1B9	Office:	(604)926 0593
OBJECTIVE:	Managing mining projects, from exploration Restore growth to existing operations; combi- along with cash flow objectives. To organize and nurture mining expansion an markets.	to mine produc ning short and d diversificati	ction. long term priorities on into U.S. and for
QUALIFICATION	V: 25 years of mining & exploration in North	America:	
	•15 years as a self employed Exploration	ist-Geochemi	st and Metallurgist.
	•Owner and operator of Zelon & Valor g	roup of compa	anies.
	<ul> <li>Applying new concepts to old mining c</li> <li>Discovered a gold deposit at BLACK is with PEGASUS Inc.)</li> </ul>	amps. PINE, IDAH(	O (now in production
	•Discovered several gold & lead-zinc de	posits in BC, `	Yukon and the US.
	Previous to my involvement in mining, I hav	e been:	
	•An Industrial Technologist for 6 years,	1958-61 & 65	
	•A Teaching Assistant in physics & cher	nistry, PARIS	5, 1961-64
EDUCATION:	Metallurgist, ART & METIERS, Paris	195	59-64
	Inorganic Chemist, S.F.U., Burnaby	190	57-68
	Geochemistry & Geologist	190	67-86
PERSONAL:	Born January 18, 1941 in Brno, Czechoslova	ikia.	
	Educated in French and English		
	Canadian Citizen, married with three chi	ldren 8 bio soosbor	
	Hobbles include mountaineering, micro	& bio-geocher	nistry and skiing
<b>EMPLOYMENT</b>			
1974-96	Owner and Operator for the Zelon group	of companies	5
	Business consists of mining consulting servi	ces, including	
	•VSE & ASE public companies, mining	consultant (19	984-96).
	•Managing joint venture projects:		
	-Esso Mineral Division, Geochemical	Consultant (19	074-85)
	-Mobil Energy, Calgary Alberta, Mani	toba & NWT (	(1979-82)
	-Texaco Canada, F. Cumer, Yukon Ex	ploration (197	9-82)
	•Applied Research & development techn tools with evaluation of final results, i. flow (1973-82).	e.: effect on fu	nture cash

	•Overseeing field crew training and supervision in the
	Dominican Republic and exploration on the ROSARIO S.A.
	open pit gold deposit beit (1970).
	•Gold & Copper heap leaching applications to Nevada's deposits with Dr. Salisbury, University of Utah (1973-76).
1985-96	•Exploration on mining concessions in the Caribbean gold deposit
	through government contacts followed by land title negotiations.
	•Business plan for new industrial projects with a 5 years cash flow projection (1985-92).
	•Heap leaching application to copper & gold mining (1985-94).
	•Oversee investors public relation. Gold future production sales & forward marketing (1991-96).
	<ul> <li>Converting underground mining into low cost profitable open pit operations (1991-95).</li> </ul>
1973	SUMITOMO METAL MINING, Sumac joint venture
	Party chief and Geochemist-Geologist, Vancouver, B.C.
1969-72	RIO TINTO, Vancouver, B.C.
	Exploration Geochemist, supervisor Dr. M.B. Mehrtens
	•Design and supervision of laboratory construction.
	•3 years of operation in geochemical research.
	•Research & development of new field sampling techniques along with the implementation of new analytical methods.
1968-69	PLACER-CANEX, Vancouver, B.C
	Mining Chemist, geochemical research & development.
1966-67	PES0 SILVER, Carmaks, Yukon.
	MINOCA MINES, Yreka, B.C.
	Assayer and Mine Geochemist
1965	LASALE HYDRAULIC, Vancouver, B.C.
	Soil & Water Technologist, Peace River, B.C.
1961-64	INSTITUTE POLES, Paris, France.
	Teaching Assistant (Physics, Chemistry, and Math)
	60-120 Students/Class, 2000 students total (Grades 12-13)
<b>1958-6</b> 1	CARBON LORRAINE, Paris, France.
	Metallurgical and Chemical Technologist, French Space/Nuclear
	Program. Worked on hydrogen and high temperature ovens used on
	rocket exhaust coating & graphite roos purification research

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### JOHN HENRY HAJEK Mining Exploration Experience

From my background studies as a lecturer in the Bergson-Poles institute (Paris, France), I entered the mining industry as a geochemist to classify geological and geochemical patterns leading to the discoveries of mineral deposits.

I have been closely associated with Dr. H. V. Warren and Dr. R. Delavault of U.B.C., pioneering work on vegetation and other geochemical sampling techniques.

In the 1970's I have been privileged to exchange ideas with Drs. R. Erikson, F. N. Ward and H. W. Lakin from the U.S.G.S. center in Denver, Colorado. They introduced me, over the period of 5 years, to the nature of mineral exploration in the "Basin and Range Province". Their cumulative experience helped me to formulate new concepts about exploration and development.

My research efforts were oriented toward the practical gathering and interpretation of data through the use of innovative sampling techniques. This endeavor is based on a plurality of disciplines and was applied to the development of vegetation and organic sampling, bedrock tracing of Hydromorphic anomalies, metal distribution analysis, and in general field detection of gold & platinum group metals.

I have been employed in the following capacities: Research Chemist & Geochemist, 1965-78 Joint Venture Manager, 1974-85 Mining & Metallurgical Consultant and Project Manager, 1986-96

Since 1973, I have applied various concepts to the Western Cordillera, the Caribbean basin, and the Canadian shield as a self employed explorationist and project Manager for Mobil Oil, Texaco Canada, and other mining clients.

Presently, I am specializing in the feasibility of putting small gold deposits into production. With a low capital investment, the use of recent technological advances allows the production of concentrates high in precious metals.

# **APPENDIX A:**

# Petrographic and Assays Results

- 1. Vancouver Petrographic: four thin section description, 1988.
- 2. Sample description : Granby Points properties
- 3. Assay & geochemical results :
  - Granby Peninsula
  - Groundhog

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- Granby Point
- Reserve Mine
- May & others

![](_page_49_Picture_0.jpeg)

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager JOHN G. PAYNE, Ph. D. Geologist

Report for: Ted Chisholm,

PO. BOX 39 8887 NASH STREET FORT LANGLEY, B.C. VOX 1JO

PHONE (604) 888-1323 Invoice 7148 February 1988

Samples: 1A-ROUGH (1 section, 1 block), 1B-ROUGH (2 sections)

Prospectors Airways Co. Ltd.,

256 - 409 Granville Street,

VANCOUVER, B.C., V6C 1T2

Summary:

In lA-ROUGH, a carbonaceous quartz-plagioclase-biotite schist, pyrrhotite forms disseminated patches and lenses in a carbonaceous quartz-plagioclase-biotite schist. No gold-bearing phases were identified in the section. In the block, several patches of gold grains occur along borders of carbonaceous opaque/biotite and quartz.

In 1B-ROUGH, early formed quartz and pyrite are brecciated and healed by carbonate and locally chalcopyrite (in pyrite). Minor tellurbismuth and tetradymite occur in patches with galena and with native Pb.

(section) Carbonaceous Quartz-Plagioclase-Biotite Schist 1A-ROUGH

pyrrhotite	1- 2%
chalcopyrite	minor
Ti-oxide	Ø.5

Pyrrhotite forms patches averaging 0.05-0.3 mm in size. Some are fresh and some are partly to strongly altered to secondary Fe-sulfides, and some to hematite. Several patches also contain moderately abundant Ti-oxide grains from 0.01-0.02 mm in size, suggesting that pyrrhotite was formed by replacement of or nucleation on Ti-oxide aggregates.

Chalcopyrite forms a few grains from 0.02-0.05 mm in size associated with pyrrhotite.

1A-ROUGH (block) (probably same rock type as section)

The sample is similar to that in the section except that it contains a few patches of native gold up to 0.03 mm in size. These are concentrated in a few areas of the section up to 1 mm across. Much of the gold forms irregular grains along the border of carbonaceous opaque/biotite and quartz. Pyrrhotite and chalcopyrite are somewhat less abundant than in the section.

SAMPLE PREPARATION FOR MICROSTUDIES . PETROGRAPHIC REPORTS . SPECIAL GEOLOGY FIELD STUDIES

#### 1B-ROUGH (sample 1) Quartz-Carbonate-Sulfide-Chlorite Vein

The rock contains quartz grains and patches of pyrite which are brecciated, and fractures filled mainly by calcite and minor chalcopyrite (in pyrite). A few patches are dominated by chlorite and chalcopyrite. A few patches on the quartz-calcite contacts consist of intergrowths of tellurbismuth and tetradymite with galena or with native Pb.

pyrite	8-10%		
chalcopyrite	2-3		
galena	Ø.2		
tellurbismuth	minor	native Ph	o minor
tetradymite	minor		

At one side of the sample is a brecciated vein dominated by pyrite with interstitial quartz. Pyrite is extremely strongly brecciated along one side of the vein. Chalcopyrite and galena form interstitial patches up to 0.3 mm in size. A few pyrite grains contain seams of chalcopyrite up to 0.01 mm wide along a set of fine parallel fractures.

In the rest of the rock, pyrite forms subhedral to euhedral grains up to 0.2 mm in size, and others averaging 0.01-0.02 mm in size in calcite along fractures in quartz. Chalcopyrite forms anhedral grains of similar size.

Chalcopyrite forms patches up to  $\emptyset.2 \text{ mm}$  in size associated with calcite in interstitial patches between quartz grains and aggregates. Several patches of chalcopyrite up to  $\emptyset.4 \text{ mm}$  in size are intimately intergrown in a patch of very fine grained chlorite.

Galena forms a few patches up to 0.03 mm in size associated with calcite.

Two bismuth-tellurium minerals occur together with galena or native Pb in two main patches up to  $\emptyset.3$  mm in size, commonly along the borders of quartz and calcite. These minerals were identified using the S.E.M. Tellurbismuth (Bi<sub>2</sub>Te<sub>3</sub>) has the following properties:

white (against tetradymite (Bi, Te, S) high reflectivity (50+), slightly

anisotropic, soft. Tetradymite has the following properties: purplish grey color (slightly darker and lower reflectivity than tellurbismuth, soft, anisotropic). Native Pb has the following properties: white, high reflectivity, very soft, isotropic. In one patch abundant native Pb is intergrown with tellurbismuth. In the second patch, tellurbismuth, tetradymite, and galena are intergrown.

**1B-ROUGH** (sample 2) **Quartz-Carbonate-Sulfide-Chlorite Vein** 

pyrite	3- 48
chalcopyrite	0.3
galena(?)-tellurbismuth	minor

Pyrite is concentrated in a patch up to a few mm across. It is moderately to strongly brecciated, with seams and patches of chalcopyrite along fractures. Minor galena or tellurbismuth occurs in patches up to 0.1 mm as inclusions in pyrite, and as equant patches up to 0.07 mm across interstitial to pyrite.

SAMP	LE DE	SCRIP	ΓΙΟΝ	PRO	JECT G	rai	nby tenins	ula LOCATI	ON			NTS	
Date	Loc	ation . E	Location Co-ord	Assay	Sample #	#	Across	Description		ŀ	Mi	neraliz ation	•
June 22	2		GL->GHE		129045G		3.5m	Neta-angillite - schistose 5-10%	graphitic phenoble	2/5	2-5:	% pyrr.	Τ
11			11		1290466		grab	Course Limanit 3 on thick	ic qte. ver	2	5%,	py., 1%.	05
11		·	''		129047G		channel (	15m. gtzbio	musc-chl.	Jer.	,		Τ
17			"		1290486		grab float	Silicified / bio	titic argil	are	5%	pyrite	T
11			11		1290496		0.2m	Gtz. vein. coa	-se umo-	·	3-5%	s py + sp	24
June 2	3		GHW		1290506		9 rab mattin	Course Limon	sprarse n	1.0	~1%	pyrr + p	ず
11	GH to	ilings	GHIW		1294016		grab float	Otz. vn. 1 bould	ver with nin. / coarse		15%	pyrite	ŗŢ
7une 24	1		GHE		1294025		grab	Silicfied, hor	mfelsed?	T	5%	pyrr.	T
June 24	/		4		1294036		gra6	Coarse 9tz. u	en, Limon	<i>ν.</i>	5%	pyrr.	T
()			11		1294046		grab	Porphyry dyke	with conce	1	1%	pyrite	T
11			11		1294056		0.3m	H.W. of a shea	r: gtz./silia		5%	nyrite	-
()			''		1294066		3.3m	Gossanous zone of the above	shear in a	0:	3%	pyrite	·Τ
11	1		11		129407G		grab .	Neta-arqillit "megaporphyro	o with oblasts"				T
17			- 1 <sub>1</sub>		129408G		9196	From 1.5 m gtz. 20ne (only!! gtz	stockwork sampled)	$\square$	2-3%	spyrr. +	Ţ
. 10			11		1294096	;	0.3 m	Deformed coars (Bio - atz. mix.	e qtz. ver		2%	pyrr.	T
Tune 2	5		GHW		129410G		grab	Coarset sugary	912, weakl	1	<1%	6 pyrr.	T
4	1		GMW		175 75W		soil Chor.	Blue greish a	lay, fine				T
Tune 29	Mine	Areq	GHW SA	poreline	1294116		2.0m	Limonitic sil	tified		pyrr	. 2%?	T
11	Mine	Area	GHN SA	boreline	129 4126	1	grab	Altered gran	ite dyle sil. purr	)	2-3	3 % pym	Ţ
()	Mine	Area	GIY LI S	borchine	1294136		0.4m.	Darte andesiti	F. dyke		5-7%	5 py. + p	Ţ
۰,	Mine	Area	GHW N	orlyings	129414G		grab	Pyritic angil	4te on n. (s. sided	) /	3%	pyrite	T
• •	Mine	Area	GHW J	orhings	129 4156	-†	high grade	10% pyrrathing	from		70%	pyrr.	T
4	Nine	Area	GHN W	rhings	1294166	1	grab	recrust wall a	scharg.	Ł	5%	pyrr	Г
''	Mine	Area	GHW N	stleing,	129417G	1	grab	Purifized of2.	in E Nall cointentes		7%	pyrite	F
· · /	tai	lings	GHN		129418G		grab	Loarse gtz. eg	wally mb		6%	py.tpy	Fr
	tail	ings	GHN		1294196		grab.	Strongly Limoni	E and		2%?	pyrilet	P

GL - Gold Leaf GHF - Groundhog East

Chris Baldys

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	SAMPL	E DES	SCRIPT	ION	PRO	JECT Gra	ant	by Peninsu	14 LOCATION Groun	ndi	hog	NTS		7
	Daté	Loca	ation . E	Location Co-ord	Assay #	Sample #	#	Across(m)	Description	ŀ	Mir	neraliz. ation	#	1
	74ne 12					129001G		0.3m	drusy gtz, micas, graph		2%p	4., sph.,	45	Jy?
6	"					129002G		0.5m	Coarse qtz + micas		2-5	% pyril	ć	]
80	June 13		1			1290036		· 0. Im	gtz. + pyrrothile ; h.w. Gh	'	30%	pyrroth	;/~	·T
	11					1290096	,	🖗 2.3 m	coarse limonitic gtz. GH	·	<1%	pyrite	?	]
5	ŀ					1290056		2.0	coarse limonific gtz. Gt	/	1-2%	pyrrott.	ite	]
8	June 🖊					1290066		grab float	dark argillite, ruggy te	1	2%	? salph	?	1
N	L)					1290076		0.4m	argillite (hornfels!)	Τ	20%	pymoth	; %	.]
20	17					129008G		0.6m	argillite (hornfels!)		2% p	ym, 5:	1	ynite
<u>م</u> / ۲					•	129009G		· 1.5m	coarse gtz. rein GH					]
	June 17				:	1290106		0.3m	coarse hematitic gts.m.	¢н				
Ö	1,				· .	1290116		1.2m	sheared argillite, vugg	*	5-10	% sulp.	4.	
d'i c	//	÷				129012G	÷	grab float	coarse gtz.			`		
S	June 18				· ·	129013G		2.0m	hornfelsed? argillite		3-5%	6 sulph.	10	(?)
•	11					1290146	Τ	1.0m	silicified? siltstone		3-5%	6 pyrit	¢	
287.mc	. 11				·	1290156		0.8m	sheared, silicified argilli	k	2%	P4.,+ P4	Jos.	
	<u></u> .	·				1290166		0.4m	coarse ate.vn in diaryte			•.	$\square$	
S	11	·				129017G		grab float	coarse gtz. vn? float				$\square$	
N	11					129018G		grab	limonitic wacke w.gtz.stn	nge	rs 1-2	% pyrr.	$\square$	
20	li .					1290196	Τ	0.4m	shear ? N. folded graph. gtz					
N	June 19					1290306	Τ	1.0m	silicified angillite		7% p	yrr. + py	?	
X	11	·			-	129031G	Τ	0.8m	shear/thrust? silicified				$\square$	l
200	.17					1290320		1.0m	meta. sandst. (biolite+gh.		1% 1	yrite	$\square$	1
ŝ.	· ()	;				129033G	T	0.7m	hornfolsed ? argillite		4% py	im. tpy	?	
S,	11		·			1290396	T	0.8m	Shear/thrust? (gtz. + micas	5	2% 10	yrr.tpy.	$\square$	
	June20		·			1290356		gr46	shear (qt2.+ biotite + hem	241	e)17.Cu	, sulphi	Ves	<+ py
Ľ	4					1290366		0.6m	schistose sheared angilli	k				- •

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h.w. - hanging wall py - pyrite; pyrr - pyrot

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Chris Baldys

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	SAMPLE	E DES	SCRIPT	ΓΙΟΝ	PRO	JECT G	rai	nby Penins	sulq	LOCATION Gold	Lec	>f	NTS		1
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Date	Loca	tion .	Location Co-ord	Assay	Sample #	#	Across	Des	scription	Ì	Min	eraliz ation	#	1
2	74ne 20					1290376		0.8m	frac	clured limonitic mela	50%	2% 19	100.	$\top$	1.
<b>N</b>	"					129038G		1.0m	mer	taangillite (hanfels?	7	7%	byrr.	$\top$	1
Les.	11		· ·		1	1290396		·grab	Vuq	gy coarse gtz.		6% p	4, pyr. 3	505.	Pow.
· · ·	Tune 21					1290406		* 0.2m	9+2.	rich shear in argill	ite	2-5%	6 pyrr.	1	
630	11				1	129041G		qrab	h.w.	sulphide rich zone		30%	sulp: pu	for.	1-
Ř,								· ·	(len	ns <u>0.3</u> -1.5 m thick	1	Cuisu	lphides	·Kos	action a
Sr	.11				-	1290426		0.1m	Coa	rse, mggy gtz.	Τ	2-5%	pyrr. + c	7.90	y.
	<i>II I</i>					1290436		0.2m	sulp	h. rich hr. sheared	19	llite i	15% 141	7. +	by
	11				······································	1290496		grab	dior	rite/amphibolite dy	6	1% p	y. cube		
GHE	June 22					1290956		3.5m	met	taargillite; graphiti	4	3%	nyrroth	ite	ł
GHE	11					1290466		3cm	COON	rse limonitic gts. un	2.	5%p	4., 1%	24	4?
GHE	11		•		•	1290476	-	0.15m	def	formed atz-mica vn.		·	```	$\square$	· ·
GH E	ti .	1				129048G		grab float	sili	aified meta-angillite	9	5%	nyrite		ŀ
GHE	11					1290996		. 0.2 m	Coar	rse gtz. vein		3-5%	py. + sp	bha	lerite
		:								· .					
•	·	:	. *										••	$\square$	
	·							н.,		· .				$\square$	
				·			Τ								
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SAMPL	É DE	SCRIP	TION	PRO	JECT		LOCATION Granb	, 7	NTS	
Datė	Loc	ation E	Location Co-ord	Assay	Sample #	*	Description	ŀ	Minerali	Z:_ #
		Au pi	55.	Grab	128501		Quarte vin Breecisti Section to Amangel 800	.'	Pry 2%. Chionile	
				4	12 8502		Quanta vein conformable		Po: Ch Py Turin	
					12 8503		171vh.		17-17.	
18/06/88	-			1	.128504		"Foulded + folded gtz vens	-	- yy	Tel
W		Au ppb	55	1 1	128505		19, arbinch, 3.10(1),		py lac 25%	5
18/06					128506		Pyritized sitistant (10-15 cm)		prup to 203	0% D.H
.4		1		1	128507		chert?		Py 1%	D. H
ų		1			128508		Olz vein nelwork, A, conditione frogment	- 1.S.		D.H
					128509		Sugary atz ven >4m Thick (Golskeis)			D.H
4				(1) 25	128510		Otz Via 20an, Comformable		Po 3% Protes	
				11.26	128511		wall flock at rantact with at Vin, Brecciated		Py. Po 2% Chlowing	
	, r							1		
					$\sum_{i=1}^{n} \frac{1}{i} \sum_{i=1}^{n} \frac{1}{i} \sum_{i$					
19/06/88					128512		Centimetric at vein with my smpar		py 2-3%	
19/06					12.8513		limonitic+schistose orcillite folded of beds		DV 1-5%	
19/06		1			128511		Fauh		17	
19/06/88					128515		Folded at 2 vrim S. availlite framments sid			
19/06/84		Au onh	215	1	12.8516		Folded of vinters hurzon (Farh)		12.3%	
19/06				<u>.</u>	128517		Equip, limonitic, orgillite inclusion		PY	
ai las tra					120010	-	<b>P</b> \			
10/06/88					128519	+	ravh .		-ry dr.	
<u> </u>		Au prib	120		128520	+	<u>r</u> quh			
11				]	128521	-	19Vh	-		
	<u>.</u>				128522	+	atz matrix, seds tras brencia, 11 to dy Kr	-	·····	
21106183	• •	Au pph	105		128523	+	Keseve ven	-	tt is to be	
"			4,750	Ag 154 pp-	12.8524				burg Kephi py. tr	

Fquh : Folded qtz vein horizon

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SAMPL	SAMPLE DESCRIPTION:			JECT		LOCATION			NTS		
Date	Location N E	Location Co-ord	Assay #	Sample #	#	Description	ŀ	Min	eraliz. ation	#	
21 106 181		1,065 pob A.	Grob	128525		Grey white gt vrin, 5-35	cm.	no s.ph	tr		
		130 pph.Au	A.Gt. A.	128526		Reserve vein (?)					
4				128527		hanging wall of 128526					
11		+10,000ppbA.	7,200 AS	128528		"thinner vern on top of 128:	526				
ч.,		2,42000 AV	Y.Y AL	128529		Reserve vein, larb, incl.		sph. qu	1.10?		
		50 pph Au	Ů	128530		Farh					
W		320 Pab A0		128531		Fach + mineralized arcilli	4	pt.	5%		
v .		3500nb Au		128533		Farh.					
h		2,150 mb A	1570m A	128533		Fach - limonitic		1000	1996 T		
		/ "-		A 128534		Anyox side, atz ven		Sph	01.		
22 106 188			1.4	128535		Imposition at ventets, carb, in	cl.	sulph	. fr.		
р.			1	128536		Farh					
N				128537		at veins 1 to bedding					
<b>N</b>				128538		0-12 V8.N	•	sph.p	y. m. tr.		
	1			128539	•	atz bindit		, ,			
23 106/38				128546		Folded at veinte in dra brecciati	Ed	-		•	
11	1			128541		Favh	.	ry 1r			
26 10 6/82				128542		atz veinlets, cm			-		
N				128543		Farh					
м				12.8544		Folded at (nodules?) in availling	7.	19/24/19			
27.1061				128545	1	Va		potr.	.		
ų				128546	1	Fach veinables plessings it cl.		1			
- 11	1.			12.8547	1	Va					
				12.8549	1	Limmilic sondition		124 4	51%		
111				1285117	+	Va			:		
,,				128556	1	alivia horizon brecciated		py to	510%		

D. Hrin

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SAMPLE DESCRIPTION:				PROJECT				LOCATION		NTS
Date	Loca	tion E	Location Co-ord	Assay	Sample #	#	Description			Mineraliz #
29/06/88				Grab	128551		Va block phaleuile			Sph (1%, py 1)
11				4	12.855.2		faul.			-1 -1
30/06/88		·.			128553	-	Folded gilz unu	, Allan. tr. graphile		
11				1	128554		G212 wins with highly solicitized host		_	pyrite.
- 11				1	128555		atz vein 11.5	(M)		py tr, an tr.
2107188			Groundhog	1.	128 556		Qtz ven			py tr.
"		1		1	128551		argillite slightly	1H. with diss py vein lets		py up to 10-15%
17 -				4	12.8358		altered arg. w. gizv	rinlets diss py		py & 5:7%
4				19 - 19 - 19 - 19 - 19 - 19 - 19 - 19 -	123557		attered ale + rarb, an	s. iusty, pu coma + pectit		p1 5-10%
11					12.8:560		"atz strns" roarse	py-po (riborned atz).		N/20 5%
11					128:561		"otz steps" (ribon)	ved)	-	PY 00 173
1/	4	•			128-62	•	min. tale ini. ars. 1	grophite.		11-01-5-10%
11	:				128563		streared seds w gitz,	vein class by		RY 170
5/07/88			Mai Mine	1.	128573		Otz vein are	r -+ bloc!		1/
. lj			1.1.		128574	•	alz vein 1	Al a here a	T	po 41%
· \)		• 1		2 C	128575		at wrine eltered cands	tens chl. 00	T	10 62%
6/07/83			May Mint		128576	_	Va blone à sris, li	ve alt, tirm dia and	T	
U .		1		1	12.3517		Va in live, tota	per reter		py
3)			e e		128578		Eponte de 12857	16, 9 alt time podiss	T	00 2%
• •			U	2	128577		Gla blanc , bi	dide, ch1?	T	
1			n		12858	T	alz 1/10 (60%)	libraise.	T	00 5/9%
7107188			Granby West		128581		Qle vein birccia	seds. Fx in at malvir.	T	
11	i.				128582	T	Qtz ven, Sed. incl.	, p/ tr.	T	01-1v
N		1			128583	T	Breccia zone. Q	12 molinx.		
1. 11	1				128584		ats ventrite ini. 1	n rails, seds,	T	mtr.
· '1,					12.8585		Otz vein in ich.	Fr.	10	y ga soh tu

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# **APPENDIX B:**

# **Geological Exploration Figures**

Figure B-01 Granby & Bucking Peninsula, sampling & grid location, Skeena 103 P/5

Figure B-02 Granby Point Mine, underground workings

Figure B-03 Granby Peninsula, geological mapping

Figure B-04 Goldleaf geological sampling & mapping

# Figure B-05 May pit north, geological mapping

Figure B-06 Granby Peninsula, Goldleaf-Groundhog-May pit, geological mapping Goldleaf & Groundhog exploration targets

![](_page_58_Figure_0.jpeg)

![](_page_59_Figure_0.jpeg)

![](_page_60_Figure_0.jpeg)

![](_page_60_Picture_1.jpeg)

![](_page_60_Figure_2.jpeg)

![](_page_61_Figure_0.jpeg)

(0'0) \$\$ D) 28 a la . . 1.2 ::: 15 14-·mss rst 550 +fes(a) 12.00 \* 155 1:11 55 ( tr) \$5 w 3+ + 3 d F \* 5, \*1 \*5 - 135 D m 35 J 55 1 st

Figure B-04

![](_page_62_Figure_0.jpeg)

EXPLORATION TARGETS GOLDLEAF & GROUNDHOG CGU F ۲ ۲ GOLDLEAF FGU CGU GROUNDHOG ۲ نې Drilling Area 1 Figure B-06 FGU / CGU

![](_page_64_Figure_0.jpeg)