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**GEOLOGICAL REPORT**

on the

**BAY MINERAL CLAIMS  
(New Moon Property)**

**Morice Lake  
Omineca Mining Division  
British Columbia**

**Latitude: 53°56.8' North  
Longitude: 127°46.7' West  
NTS Map-Area 93E/13W**

**Prepared for**

**SEAMUS AND TIMOTHY YOUNG**

**By**

**N.C. CARTER, Ph.D. P.Eng.  
May 25, 2004**

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## SUMMARY

The BAY property, which includes the New Moon mineral prospects, is jointly owned by Seamus and Timothy Young. The four mineral claims comprising the property cover an area of 20 square kilometres west of Morice Lake which is 100 kilometres south of Smithers in west-central British Columbia. While the property is within 25 kilometres of a road network, helicopter access is required.

This report, prepared at the request of Seamus and Timothy Young, is based principally on public records of previous exploration work and on several property examinations conducted by the writer over the past 20 years.

Initial investigation in the area of the current property was undertaken in the late 1960s. Most of the previous exploration work, carried out by several operators between 1982 and 1990, consisted of a variety of geophysical and geochemical surveys, prospecting, geological mapping, bedrock trenching and 4460 metres of diamond drilling in 47 holes.

The BAY property is underlain by Lower Jurassic Hazelton Group volcanic and lesser sedimentary rocks which have been intruded by Jurassic and Tertiary granitic plutons. The property is situated in a highly prospective part of British Columbia in which one current mining operation, several past producers and a number of significant mineral prospects are known within a 200 kilometre radius.

The BAY property features two principal styles of mineralization including structurally-controlled, epithermal, polymetallic base and precious metals-bearing quartz veins and stratabound, volcanogenic massive sulphides. Much of the previous exploration work was directed to 15 polymetallic vein structures exposed in the central part of the current property. These narrow, northerly-trending, steeply-dipping structures are hosted by subaerial volcanic rocks and better base and precious metals values are generally restricted to widths of 2 metres or less. A historic resource estimate for three of the zones totals 688712 tonnes grading 1.82% lead, 5.51% zinc, 58.60 grams/tonne silver and 0.99 gram/tonne gold.

Stratiform massive sulphide lenses are exposed in two areas of the current property. One of these consists of a 1 to 2 metres wide lens of chalcopyrite, pyrite and magnetite hosted by a submarine sequence of calcareous volcanic tuffs and exposed over a strike length of several hundred metres. Banded and massive chalcopyrite, sphalerite, galena, pyrite, magnetite and specular hematite, hosted by jasperoidal chert, occur as float boulders which make up a significant component of glacial debris below a small glacier immediately south of the current property boundary. Selected samples of this material have yielded values of up to 10% copper, 10% combined lead and zinc, 200 grams/tonne silver and 1 to 2 grams/tonne gold. The apparent source of this float is beneath the small glacier which is underlain in part by the same submarine volcanic unit hosting the described massive sulphide lens 2.5 kilometres to the north.

The BAY property is of sufficient merit to warrant additional exploratory work. It is recommended that the primary focus of this work be directed to further investigation of the potential for volcanogenic massive sulphides. A two-phase program is recommended to include a first phase airborne magnetometer and electromagnetic survey of the entire property area at an estimated cost of \$107,750.00. The nature and scope of second phase surface exploratory work, estimated to cost \$119,975.00, would be contingent on the results derived from the first phase airborne survey and would include the investigation of geophysical targets and a number of the known mineralized zones.

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## INTRODUCTION and TERMS OF REFERENCE

Seamus and Timothy Young jointly own the BAY mineral claims which cover the New Moon mineral prospects south-southwest of Smithers in west-central British Columbia (Figure 1). Previous exploration work in the area of the current mineral claims over the past 30 years has been directed to volcanogenic and skarn massive sulphides and polymetallic, epithermal precious and base metals mineralization.

The author of this report has been retained by Seamus and Timothy Young to review and comment on the results of previous exploratory work, to prepare preliminary comments regarding the potential of the property and to provide recommendations regarding the nature and scope of further exploratory work programs.

This technical report has been prepared in compliance with the requirements of National Instrument 43-101 and Form 43-101F1. Information used in the preparation of the report includes a number of unpublished reports and maps pertaining to previous work on the subject property. Much of this information is available in the form of assessment reports on file with the BC Ministry of Energy and Mines. Appropriate citations to these and published reports dealing with the regional and local geological setting are contained in the References section of this report.

The writer, the Qualified Person for purposes of this report, has visited the New Moon property on a number of occasions over the past 20 years and has a good working knowledge of the geological settings and styles of mineralization in this part of British Columbia based on numerous property examinations and geological mapping programs conducted over the past 40 years on behalf of both the Provincial Government and private sector companies.

Units of measure in this report are metric; monetary amounts referred to are in Canadian dollars. Illustrations accompanying this report were prepared by the writer.

## PROPERTY DESCRIPTION and LOCATION

The BAY property consists of four contiguous 4-post mineral claims situated in the Omineca Mining Division 100 kilometres south-southwest of Smithers in west-central British Columbia (Figures 1 and 4). The mineral claims are west of Morice Lake (Figure 2) and cover an area of 2000 hectares centred on latitude 53°56.8' North and longitude 127°46.7' West in NTS map-area 93E/13W. The claims are located between UTM coordinates 578000E and 582000E and 5976200N and 5981200N (NAD 83, Zone 9).

The configuration of the mineral claims is illustrated on Figure 3 and details are as follows:

Table 1

<u>Claim Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Area(hectares)</u>	<u>Record Date</u>	<u>Expiry Date</u>
BAY 1	343908	20	500	February 16, 1996	February 16, 2005
BAY 2	343909	20	500	February 16, 1996	February 16, 2005
BAY 3	343910	20	500	February 16, 1996	February 16, 2005
BAY 4	343911	20	500	February 16, 1996	February 16, 2005

The current mineral claims were located by the late Frank Onucki in early 1996 and subsequently acquired by Seamus and Timothy Young who each hold a 50% interest in the four mineral claims.

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The mineral claims comprising the BAY property are thought to have been located pursuant to procedures specified by regulations of the Mineral Tenure Act of the Province of British Columbia. No claim posts or lines have been inspected by the writer.

Mineral claims in British Columbia may be kept in good standing by incurring assessment work or by paying cash-in-lieu of assessment work in the amount of \$100 per mineral claim unit per year during the first three years following location of the mineral claim. This amount increases to \$200 per mineral claim unit in the fourth and succeeding years.

The writer is not aware of any specific environmental liabilities to which the various mineral claims are subject. Logging operations, involving road building, have been underway within and adjacent to the area of the mineral claims for the past several years.

Exploration work on mineral properties in British Columbia requires the filing of A Notice of Work and Reclamation with the Ministry of Energy and Mines. The issuance of a permit facilitating such work may involve the posting of a reclamation bond. Revelation Exploration Limited Partnership is currently in the process of filing necessary documentation to obtain the required permitting.

#### **ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY**

Access to the BAY property is by helicopter from either Smithers or Houston. These communities are situated on Provincial highway 16 and the CN rail line and Smithers has daily scheduled airline service. Both of these resource-based communities are central to a district population base of more than 10,000 and offer most supplies and services.

Conventional access to the north end of Morice Lake is by way the Morice River road from Houston, a distance of 75 kilometres (Figure 4). Driving time is slightly more than one hour and this option provides a means of transporting supplies and personnel into the area for helicopter transport into the central part of the property which is 30 kilometres southwest of the end of road.

The BAY mineral claims are located in the Bulkley Ranges near the western margin of the Interior Plateau. The Coast Mountains are immediately south and the topography in the property area is rugged with steep slopes broken in part by an upland plateau-like surface in the central property area. Remnant glaciers occupy cirques in the southern and central parts of the property (Figure 3). Elevations within the claims range from 1300 metres above sea level along the northeast-flowing drainage (locally known as Cliff Creek) in the southeastern part of the property to more than 2160 metres in the northwestern claim.

The climate varies between northern interior and coastal environments with annual precipitation in the order of more than one hundred centimetres. The area is free of snow in late June – early July and work programs can usually be carried out through late September.

Nearly continuous bedrock exposure is prevalent throughout much of the property area except where obscured by glaciers and talus in some of the higher areas and by glacial debris in the valley area in the southeastern mineral claim.

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## HISTORY

While prospecting, mineral exploration and mining activities have been underway throughout the Smithers - Telkwa - Houston area since the early 1900's, base and precious metals mineralization within the current property area was first investigated by Phelps Dodge Corporation in 1968. This company completed 210 metres of hand trenching in the central part of the current claims. The following year, Silver Standard Mines Ltd. discovered massive sulphide float boulders below a small glacier southeast of the area investigated by Phelps Dodge.

Aggressive Mining Company completed further investigation of the Phelps Dodge showings by way of geophysical surveys, additional trenching and 312 metres of diamond drilling in five holes between 1970 and 1972. The property lapsed and was re-staked as the New Moon property by C.F. Kowall in 1977 and subsequently optioned to Silver Standard Mines Ltd. This company entered into an agreement with a joint venture comprising Great Plains Development Company of Canada Ltd. and Aquitaine Petroleum. Geological mapping and geophysical surveys were completed in 1978. Great Western Petroleum Corporation optioned the property in 1981 and completed an airborne magnetic and electromagnetic survey prior to entering into an option agreement with St. Joe Canada Inc.

Between 1982 and 1984, St. Joe completed 613 line-kilometres of helicopter-borne magnetic and INPUT electromagnetic survey, surface UTEM, Induced Polarization and magnetic surveys, bedrock mapping and sampling and 936 metres of diamond drilling in four holes. The property was subsequently acquired by Newmont Exploration of Canada Limited in 1985 and work over the next two years included prospecting, geological mapping, geophysical surveys, 2300 metres of mechanical and hand trenching and 2800 metres of diamond drilling in 36 holes.

Newmont Exploration ceased Canadian operations in 1989 and the New Moon property was acquired by Lucero Resource Corp. and subsequently optioned to Maple Resource Corp. This company completed a 1990 program consisting of contour soil sampling, VLF-EM and magnetometer surveys, heavy mineral stream sediment sampling and 725 metres of diamond drilling in seven holes.

The current mineral claims were located in early 1996. An orthophoto map of the claims area was prepared but a planned program of surface work in October of that year was curtailed by inclement weather conditions. No further exploratory work has been carried out and the mineral claims have been maintained in good standing by cash-in-lieu of work payments.

Expenditures incurred for exploratory programs undertaken between 1982 and 1996, as documented in assessment reports on file with BC Ministry of Energy and Mines, amount to \$2.9 million in 2004 dollars.

## GEOLOGICAL SETTING

### Regional Setting

The BAY property is at the western margin of the Intermontane geomorphological belt, immediately northeast of its boundary with the Coast belt. The Intermontane belt is comprised of a number of accreted terranes, the largest of which, Stikine terrane, underlies much of this part of British Columbia.

Stikine terrane is described (MacIntyre et al, 1989) as "a collage of Jurassic, Cretaceous and Tertiary magmatic arcs and related successor basins" including Late Triassic submarine

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island-arc volcanic rocks, volcanoclastic and sedimentary rocks of the Early to Middle Jurassic Hazelton Group, Late Jurassic and Early Cretaceous successor basin sedimentary rocks of the Bowser Lake, Skeena and Sustut Groups and Late Cretaceous and Tertiary continental volcanic rocks of the Kasalka, Ootsa Lake and Goosy Lake Groups.

The foregoing layered sequences in west-central British Columbia are intruded by granitic rocks of three principal ages including Late Triassic - Early Jurassic Topley intrusions, Late Cretaceous Bulkley intrusions and Tertiary (Eocene) Nanika intrusions and those of the Babine Plutonic Suite. Stikine terrane is bounded on the west by widespread Tertiary and older granitic rocks and lesser metamorphic rocks which collectively comprise the Coast Crystalline Belt.

Principal geological features in the area of the BAY property are illustrated on Figure 5. The most widespread (and oldest) lithologic units are of Mesozoic age, consisting mainly of the lower to middle (Early to Middle Jurassic) parts of the Hazelton Group which are comprised of a thick package of subaerial and lesser submarine volcanic and clastic sedimentary rocks. These are unconformably overlain by Late Jurassic Bowser Assemblage and Early Cretaceous Skeena Group marine and non-marine sedimentary rocks preserved in a number of northerly trending, down-dropped fault blocks or graben structures. Cenozoic (Tertiary) volcanic and lesser sedimentary rocks overlie older rocks throughout much of the Nechako Plateau in the eastern part of the area illustrated in Figure 5.

The Mesozoic units, principally the Jurassic Hazelton Group rocks, are intruded by coeval granitic rocks of the Topley intrusions and by Tertiary and older (Mesozoic) Coast Crystalline Belt granitic rocks in the extreme southwestern part of the area shown in Figure 5. Younger, Late Cretaceous and early Tertiary granitic plugs and stocks intrude all of the layered sequences.

As indicated on Figure 5, the majority of the older, Mesozoic Topley intrusions are exposed along the axis of the Skeena Arch, a northeast-trending uplift structure between Morice Lake and Babine Lake. This transverse structure, which extends through the BAY property, marks the approximate southern limits of the Bowser Basin and its contained Late Jurassic clastic sedimentary rocks and the northern limits of areally extensive Tertiary continental volcanic rocks which underlie much of the Nechako Plateau.

This part of British Columbia is well known for its number and variety of mineral deposits. These include numerous prospects in the Telkwa Range (midway between Morice Lake and Smithers) which consist of copper-silver veins and pods hosted by Jurassic, Hazelton Group, mafic and intermediate volcanic rocks. The formerly producing Equity Silver mine, 40 kilometres southeast of Houston (Figure 5) was a silver-rich copper deposit hosted by early Cretaceous volcanic rocks. The best known and the most significant deposit types in the area illustrated on Figure 6 are porphyry copper and/or molybdenum deposits and prospects which are associated with granitic plutons of Late Cretaceous (Bulkley intrusions) and early Tertiary (Babine and Nanika intrusions) age (Carter, 1976, 1981). Most of these plutons are of limited areal extent and are too small to be shown on Figure 5.

Bulkley intrusions of Late Cretaceous (70 - 87 Ma) age occur as oval to elongate stocks which intrude Mesozoic volcanic and sedimentary rocks. The stocks, which are 0.8 to 3 kilometres or larger in diameter and occur within a 100 kilometres wide belt extending from north of Smithers south to well south of the area illustrated on Figure 5, are mainly of granodiorite and quartz monzonite composition and are often porphyritic. Several intrusive phases are recognized within some of the better mineralized plutons and country rocks marginal to the intrusions are thermally metamorphosed to biotite hornfels. Copper and molybdenum mineralization, which occurs in quartz veinlet stockworks, in closely spaced fractures and as disseminations, is best developed near stock contacts in both the intrusive and hornfelsed country rocks. Alteration patterns include an inner potassic (K-feldspar, biotite) zone coincident with better grades of

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mineralization. This is gradational outward to a phyllic or quartz-sericite-pyrite zone which is commonly evident as a prominent pyrite halo.

Early Tertiary (Eocene - 49 - 56 Ma) Nanika and Babine intrusions have the same geographic distribution as the older Bulkley intrusions but in general have a smaller surface area, rarely exceeding 1 kilometre in diameter. These are mainly quartz monzonites, granites and quartz diorites (Carter, 1981) as opposed to the Bulkley intrusions which are principally of granodiorite composition. They are invariably porphyritic with 2-4 mm phenocrysts of quartz, feldspar and biotite. The better mineralized plutons are comprised of several intrusive phases including pre-mineral, intermineral and post-mineral varieties. Styles of mineralization and alteration patterns are essentially similar to those seen in the Bulkley intrusions but the mineralized systems are more likely to occur as annular zones encircling the stock or plug margins.

One producing mine, several past producing mines and a number of significant prospects are within a 200 kilometre radius of the BAY property. Former producers include the Granisle and Bell mines which are situated on Babine Lake immediately north of the community of Granisle (Figure 5). Both of these were related to early Tertiary Babine intrusions. The Equity Silver mine, southeast of Houston, exploited a deposit transitional between a volcanogenic massive sulphide and an epithermal variety. The Huckleberry open-pit copper mine, north of Tahtsa Reach some 45 kilometres southeast of the BAY property, is currently treating 21000 tonnes per day. Copper and molybdenum mineralization is related to Bulkley intrusions of early Cretaceous age. Production statistics for the foregoing deposits are as follows:

Table 2

Mine	Period	Tonnes Milled (millions)	Recovered Grades			
			Cu(%)	Au(g/t)	Ag(g/t)	Mo(%)
Granisle	1966-1982	52.7	0.41	0.13	1.32	
Bell	1972-1992	77.2	0.39	0.17	0.36	
Equity Silver	1981-1994	36.7	0.26	0.48	68.0	
Huckleberry	1997-2003	43.4	0.50	0.03	0.79	0.007

Some of the more significant porphyry copper and molybdenum mineral prospects associated with late Cretaceous (Bulkley) and early Tertiary (Nanika) intrusions in the area illustrated on Figure 5 include the Lucky Ship, Berg and Poplar prospects which are situated between 20 and 60 kilometres east and southeast of the BAY property and the Glacier Gulch (Hudson Bay Mountain) and the Louise Lake prospects west of Smithers. The following table provides a summary of historic mineral resources for these prospects. Unless otherwise indicated, all data have been derived from BC Ministry of Energy and Mines Open File 2000-15 or CIM Special Volume 46.

Note that with the exception of reserves reported for the Huckleberry deposit, these resource figures are not compliant with standards specified by National Instrument 43-101.



Table 3

Property	Age(Ma)	Resource (tonnes)	Cu(%)	Mo(%)	Wo(%)	Ag(g/t)	Au(g/t)
Huckleberry	82	25000000*	0.507	0.014		2.97	0.059
Lucky Ship	50	14000000		0.095			
Berg	50	250000000	0.40	0.031		2.84	
Poplar	73	236000000	0.37 (Cu equivalent @ 0.20% Cu cutoff)				
Glacier Gulch	72	90700000		0.178	0.032		
		(incl. 20600000)		0.24	0.041	@ 0.12% Mo cutoff	
Louise Lake	87	50000000	0.30	0.02			0.30
			(@ 0.20% Cu cutoff)				

\* Huckleberry - reserves as of January 1, 2003 (Wojdak, 2003)

### Property Geology

The geological setting of the BAY mineral claims is illustrated on Figure 6. The claims are entirely underlain by Lower Jurassic volcanic and lesser sedimentary rocks which make up the lower or oldest part of the Hazelton Group. These are intruded east and west of the claims area by granitic rocks which are coeval, and/or slightly younger than, the layered rocks. Granitic rocks of the Coast Plutonic Complex intrude Hazelton Group rocks southwest of the BAY claims. Screens of older, metamorphosed layered rocks are contained within the granitic rocks of the Coast complex (Figure 6). Most of the Coast granites are of Tertiary age. A 2 x 1.5 kilometre stock of porphyritic granite of Tertiary (Eocene – 51 Ma) age intrudes Hazelton Group layered rocks immediately southwest of the BAY property (Figure 6).

Hazelton Group rocks within and adjacent to the BAY property are part of a northeast- to east-facing homoclinal succession of volcanic and lesser sedimentary rocks (Diakow, 1990). The stratified rocks dip gently to moderately northeast and east.

Three lithostratigraphic units have been recognized in the property area. The oldest of these, underlying the southwestern parts of the BAY 2 and 4 claims, includes well layered andesite tuffs with lesser basalt and rhyolite flows and a distinctly marine unit consisting of tuffs and intercalated limestone and chert (Figure 7). The preceding units grade upward to a subaerial sequence of basalt and rhyolite flows and tuffs and subordinate intravolcanic sediments which underlies most of the property area. This sequence is overlain in the northern property area by maroon and green fragmental, pyroclastic rocks which are typical of much of the Telkwa Range to the north.

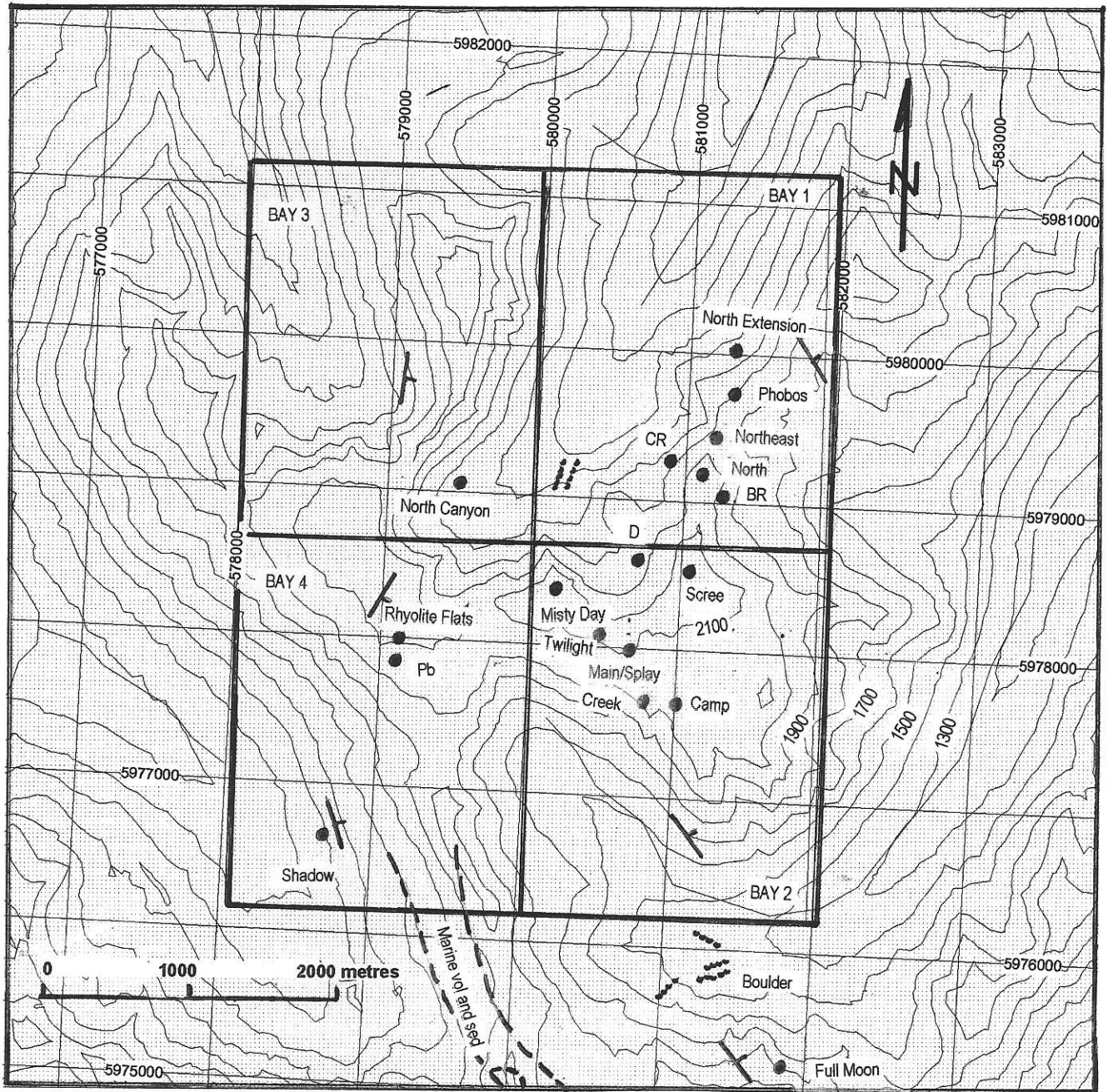
Hazelton group rocks are transected by northwest to northeast-trending, steeply-dipping normal faults. Basaltic dyke swarms, of probable Tertiary age, occupy many of the northwest fault structures.

### Mineralization

The BAY property features two principal styles of mineralization including structurally-controlled, epithermal, polymetallic, base and precious metals-bearing quartz veins and stratabound massive sulphide lenses of probable volcanogenic origin.

Sulphide mineralization is exposed in three areas of the property and is a significant component of glacial debris in the southwest part of the BAY 1 claim and in the valley below the New Moon glacier (Boulder zone) immediately south of the BAY 2 claim (Figure 7). Discovery of the latter zone in the 1970s was the first indication of the potential for volcanogenic massive

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**FIGURE 7 - BAY PROPERTY - MINERAL OCCURRENCES**

sulphides in the area west of Morice Lake.

The Boulder zone (Kennedy and Warwick, 1982, 1983) consists of banded and massive sulphide float containing variable amounts of chalcopyrite, sphalerite, galena, pyrite, magnetite and specular hematite commonly hosted by jasperoidal chert in medial, lateral and terminal moraines below the New Moon glacier. Angular lead-zinc rich float constitutes 1-2% of the glacial debris in the northeastern part of a medial moraine while the upper part is characterized by subangular copper-bearing boulders of two varieties including chalcopyrite, magnetite, with or without sphalerite in jasperoidal chert and chalcopyrite and pyrite in chlorite-epidote altered, grey, cherty braccia. The terminal moraine lower in the valley includes subrounded boulders of banded chalcopyrite and pyrite. Selected samples from the Boulder zone have returned values of up to 10% copper, 10% combined lead-zinc, 200 grams/tonne silver and 1-2 grams/tonne gold.

Massive sulphide mineralization is exposed in place at the Shadow zone in the southeastern part of the BAY 4 mineral claim (Figure 7) some 2.5 kilometres northwest of the Boulder zone. Magnetite, specular hematite, chalcopyrite and pyrite are contained within a 1 to 1.5 metre thick, stratiform lens which is conformable with calcareous host rocks over an exposed strike length of several hundred metres (Kennedy and Warwick, 1982). The zone is cut by three narrow granitic dykes which are probably related to the Eocene stock 1 kilometre southwest (Figure 5). The intrusion of these dykes has locally converted the calcareous host tuffs to skarn. Grab samples from the Shadow zone have returned values of about 1% copper and 50 grams/tonne silver.

Stratiform sulphide mineralization has also been recognized in two other localities including the North Canyon malachite showing which is exposed on the northwest wall of a cirque in the southwestern part of the BAY 3 claim (Figure 7). This zone has an apparent thickness of 1 to 2 metres and a strike length of about 200 metres. The difficult terrain in this area has precluded detailed investigation but float of similar appearance found on the glacier below has returned copper values of several per cent.

The Full Moon malachite showing, 0.8 kilometre southeast of the Boulder zone (Figure 7), consists of chalcopyrite and malachite which has been described as being confined to a particular stratigraphic horizon (Kennedy and Warwick, 1982).

Numerous polymetallic quartz vein structures in the Plateau Area have been the focus of much of the previous exploratory work on the BAY property. Sixteen of these vein-type zones have been identified within the central part of the current property (Figure 7). As noted, these are high level, epithermal quartz (carbonate) veins containing galena, sphalerite and lesser chalcopyrite and pyrite and accompanied by variable gold and silver values (Visagie, 1987, 1988). North-northwest trending faults and marginal north to northeast dilatant zones are thought to be the main control for the quartz veins which are locally offset by later, east-trending faults. Host rocks are subaerial andesites, basalts and rhyolites with the latter hosting wider zones because of its brittle nature. Features supporting an epithermal origin include colloform, banded and vuggy quartz. Sulphide content of the veins ranges from disseminated through banded and semi-massive, the latter being oxidized to some depth.

Many of the zones shown on Figure 7 consist of northerly-trending, steeply-dipping parallel vein systems developed over zone widths of between 1 and 25 metres and extending over strike lengths of several hundred metres. Previous drilling of one of these zones (Main) indicates a down-dip extent in excess of 200 metres. The vein structures pinch and swell along strike and to depth and while overall zones may be up to 25 metres wide, better gold and silver values are restricted to individual quartz veins of between 0.2 and 2 metres in width.

Principal features of the various zones in the Plateau Area are summarized in the following table.

Table 4 – Plateau Area Mineral Zones

Zone	Strike Length(m)	Width(m)	Pb(%)	Best Values			Ag(g/t)	Au(g/t)	Width* - Comments
				Zn(%)	Cu(%)				
Main	250	1-10.3	1.9	5.8	-	15	1.0	2.0-Drill hole (ave.)	
Twilight	30	1-3	2.7	7.8	0.5	38	0.2	1.5 m - Drill hole	
Splay	125	1-3	1.7	2.6	-	113	0.2	1.3 m - Drill hole	
Rhyolite Flats	250	1-4	2.3	5.0	-	9	0.7	1.0 m - Drill Hole	
D	10	2	1.9	3.8	0.1	15	0.8	2.0 m - Trench	
North	780	1-18	0.6	1.0	0.1	298	3.4	5.4 m - Drill Hole	
Northeast	280	2-20	0.2	0.4	-	477	0.8	2.0 m - Drill Hole	
CR	280	10-25	4.0	3.5	0.2	145	0.5	3.5 m - Trench	
BR	500	1-3	-	-	-	300	1.1	2 m - Surface	
Scree	250	2-4	-	-	-	194	2.8	2.0 m - Surface	
Misty Day	350	0.5-5	0.7	2.2	-	1300	2.6	6.2 m - Drill hole	
North Extension	500	1-3	-	-	-	65	0.3	2.0 m - Trench	
Camp	200	5	0.8	0.2	-	9	0.1	1.0 - Trench	
Phobos	270	10-20	0.2	0.2	-	350	0.5	14.5 - Surface	
Creek	Low Values								
Pb	Low Values								

\* for drill holes, width is assumed to be hole length rather than true width

## EXPLORATION

No exploration work has been undertaken by the current property owners and this section is intended to provide a summary of the exploratory work completed by St. Joe Canada Inc., Newmont Exploration of Canada Limited and Maple Resource Corporation between 1982 and 1990.

As previously noted, St. Joe's work between 1982 and 1984 was directed to the search for volcanogenic massive sulphides and initially consisted of 613 line-kilometres of helicopter-borne Questor INPUT magnetic and electromagnetic surveys conducted on 200 metres spaced northeast-southwest flight lines (Kennedy and Warwick, 1982). Significant magnetic anomalies and coincident electromagnetic conductors included a weak conductor under the New Moon glacier and two conductors, associated with magnetic features, in the valley below the glacier northeast and east of the Boulder zone. An additional conductive zone was detected in the vicinity of the North Canyon zone (Figure 7).

Results of the airborne survey lead to surface UTEM and magnetometer surveys in the area of New Moon glacier in 1983 (Kennedy and Warwick, 1983) in addition to an Induced Polarization and magnetic survey in Plateau Area. Two magnetometer lines were also completed across the Shadow zone (Figure 7). Results of these surveys yielded inconclusive results but geological mapping and bedrock sampling within and adjacent to the New Moon glacier indicated that the source of the sulphide float in the Boulder zone lay beneath the glacier, possibly only a few hundred metres from the upper end of the closest boulder train. Mapping also identified the presence of granitic rocks beneath the southeast lobe of the glacier.

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Four BQ-size (3.64 centimetres diameter) diamond drill holes, for a total of 936 metres, were completed from two set-ups on a nunatak in the southeastern part of the New Moon glacier in 1984. This drilling did not adequately test the geophysical anomalies identified beneath the glacier and at least one hole reportedly intersected granitic rocks of unknown age.

As previously noted, most of the previous exploration work within the present BAY property was directed to the numerous polymetallic, gold and silver-bearing quartz veins in the Plateau Area. These were investigated in a limited way by St. Joe in 1983 and 1984 but the most detailed investigations were carried out by Newmont between 1985 and 1987. This work resulted in the identification of most of the known mineralized zones (Figure 7) by way of prospecting, geological mapping and some surface (VLF-EM, magnetometer) geophysical surveys. Most of the mineral zones were explored and sampled by way of a number of hand and mechanical trenches and by 2800 metres of diamond drilling in 36 shallow, inclined holes (Visagie, 1987, 1988). BQ-size core was recovered. Results of this work are summarized in Table 4 in the preceding section of this report.

Surface work undertaken by Maple Resource Corporation in 1990 (Crowe and Laird, 1990) included magnetometer and VLF-EM surveys which were of limited use due to the difficulties encountered in establishing survey grids in areas of steep terrain. Additional surface work, including geological mapping and prospecting, was directed to tracing the various mineral zones, previously investigated by Newmont, along strike to the north. 2600 soil (talus fines) samples, collected along topographic contour lines between the Plateau Area and Atna Bay to the north, returned some anomalous values which confirmed the northerly trend of most veins. This work also resulted in the discovery of two additional zones, one of which (Phobos – Figure 7) is within the current property boundary. Heavy mineral stream sediments were also collected from drainages north of the Plateau Area; results obtained were inconclusive.

A subsequent 725 metres diamond drilling program, recovering BDBGM-size (4.18 centimetres diameter) core, consisted of seven inclined holes designed further assess the strike and down-dip potential of the North, Scree and Main zones (Figure 7). Two holes completed on the Scree zone returned low precious and base metal values while one of three holes on the North zone yielded 1.2% lead, 1.7% zinc 0.48 grams/tonne silver and 0.20 gram/tonne gold over a hole length of 0.9 metre (Crowe and Lehtinen, 1991). Two holes on the Main zone confirmed the zone to be open both along strike and to depth; one of the holes intersected the zone at a depth of 220 metres where a 4.2 metres interval returned 0.2% copper, 3.6% lead, 12.2 % zinc, 21.2 grams/tonne silver and 1.4 grams/tonne gold.

## **SAMPLE PREPARATION, ANALYSES AND SECURITY**

Sampling methods employed in the collection of bedrock, soil and stream sediment samples are well described in the various assessment reports cited and, in the writer's opinion, are in conformance with current industry standards. The writer has no reason to doubt the quality of the samples collected by previous operators nor the veracity of the analytical results obtained from these samples.

Laboratories used by various operators between 1982 and 1990 were well recognized facilities including Min-En Laboratories and Chemex Labs Ltd. (St. Joe Canada, Newmont, Maple Resources) and Vangeocherr Labs and TSL Laboratories (Maple). Samples analyzed prior to 1990 pre-dated multi-element ICP analyses; base metals were determined by atomic absorption and precious metals by conventional fire assay methods. Later (1990) surface samples were subjected to ICP analyses for determination of 30 major and trace elements.

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## **DATA VERIFICATION**

The writer has relied extensively on information pertaining to previous exploratory programs as contained in a number of technical reports which were accepted for assessment work credit and are on file with the BC Ministry of Energy and Mines.

The writer is of the opinion that all of the technical reports reviewed for purposes of this current report were prepared by competent, qualified persons.

## **MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

A historic estimate of "preliminary indicated and inferred geological reserves", prepared on behalf of Newmont Exploration of Canada Limited by T.N. Macauley, P.Eng. for the Main, Misty Day and Twilight zones of the Plateau Area, totaled 688712 tonnes grading 1.82% lead, 5.51% zinc, 58.60 grams/tonne silver and 0.99 gram/tonne gold (Visagie, 1988). It was reported that the bulk of the "reserves" were within the Main zone.

The reader is cautioned that the foregoing estimate is historic and therefore not compliant with National Instrument 43-101. The estimate has not been independently verified and consequently should not be relied upon.

This historic estimate, in the writer's opinion, is relevant for purposes of this report in the context of providing an overview of average base and precious metals grades present within three of the known mineral zones on the current BAY property. The writer is also of the opinion that the historic estimate might be properly categorized as an Inferred Mineral Resource as defined by CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines.

## **INTERPRETATION AND CONCLUSIONS**

The numerous epithermal, polymetallic gold and silver-bearing quartz veins of the Plateau Area have been reasonably well investigated by previous operators over the past 20 years. As noted, better base and precious and metals grades within the various zones are generally restricted to narrow intervals rarely exceeding 2 metres in width and overall precious metals values are relatively low, ranging from less than 1 to 3.4 grams/tonne gold and 15 to several hundred grams/tonne silver. The historic resource estimate provides a better illustration of these and the base metal values present within three of the known zones.

Previous work suggests that two of the mineral zones in the Plateau Area may warrant additional investigation. These include the Rhyolite Flats zone, which is thought (Crowe and Lehtinen, 1991) to have potential for significant resources, and the Main zone which may continue on strike to the south.

The writer is of the opinion that the potential for volcanogenic massive sulphide mineralization should be the principal focus of future work on the BAY property. As previously noted, the probable source of the abundant massive sulphide float present in moraines below the New Moon glacier is beneath the glacier. Limited previous drilling has not adequately tested this area.

The stratiform massive sulphide lens exposed at the Shadow zone is hosted by calcareous volcanic tuffs, part of a 300 metres thick (Figure 7), submarine sequence of flows and

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tuffs and some limestone. The northern limits of this unit beyond the Shadow zone are unknown but significantly, it extends south beneath the New Moon glacier. As noted, the Shadow sulphide lens is cut by narrow granitic dykes related to a nearby Tertiary intrusion. The calcareous host rocks marginal to these dykes have been converted to skarn, leading some previous investigators to speculate that the massive sulphides are skarn-related. In the writer's opinion, this skarn alteration is a product of an igneous event which post-dates the sulphide mineralization which is a product of volcanogenic processes.

Assuming this hypothesis is correct, it has significant implications for potential massive sulphide mineralization beneath the New Moon glacier where granitic rocks were reportedly encountered in at least one previous drill hole. If this granite is of similar, Tertiary age as that seen at the Shadow zone, prospects for traditional volcanogenic massive sulphide mineralization may be present in this area as well.

## **RECOMMENDATIONS**

The writer is of the opinion that the BAY property is of sufficient merit to warrant further exploratory work.

It is recommended that this additional work be conducted in two phases with first phase work consisting of a detailed airborne (helicopter) geophysical survey over the entire property area. It is proposed that this survey acquire both magnetometer and electromagnetic readings along 100 metres spaced flight lines oriented in an east-northeast direction or normal to the structural grain of the immediate area. A previous airborne geophysical survey over the current property area was undertaken more than 20 years ago and refinements to instrumentation since that time should provide much more detailed information.

The recommended second phase program would be necessarily contingent on the results obtained from the first phase geophysical survey which is expected to generate targets for further investigation. Second phase work is also recommended to include a surface program to confirm the precise locations of known sulphide mineral zones followed by detailed geological mapping, prospecting, bedrock sampling and surface geophysics. The proposed program might also include limited additional investigation of two of the gold-silver zones in the Plateau Area.

It is anticipated that phase two work might take one month to complete with a crew of five persons. The proposed program could be carried by way of several fly camps to minimize required helicopter support.

**COST ESTIMATE****Phase I****Airborne Geophysical Survey – (Magnetics, Electromagnetics)**

350 line-kilometres @ \$125/line-kilometre	\$43,750.00
Mobilization-demobilization charges	\$35,000.00
Interpretation, reporting	\$15,000.00
Contingencies @ 15%	<u>\$14,000.00</u>
<b>Total, Phase I</b>	<b>\$107,750.00</b>

**Phase II****Surface Program**

<b>Personnel:</b>	
Geologist - \$400/day x 30 days	\$12,000.00
Prospector - \$350/day x 30 days	\$10,500.00
Geophysical operator - \$350/day x 30 days	\$10,500.00
Assistants (2) - \$500/day x 30 days	<u>\$15,000.00</u>
	\$48,000.00
Helicopter – 12 hours @ \$1,000/hour	\$12,000.00
Camp costs - \$75/person-day x 5 x 30 days	\$9,375.00
Analytical costs – 300 samples @ \$25/sample	\$7,500.00
Equipment rentals - \$250/day x 30 days	\$7,500.00
Consumables, miscellaneous supplies	\$1,000.00
Mobilization, demobilization	\$4,000.00
Supervision, reporting	\$12,000.00
Contingencies @15%	<u>\$15,600.00</u>
<b>Total, Phase II</b>	<b>\$119,975.00</b>

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**REFERENCES**

- Carter, N.C.(1976): Regional Setting of Porphyry Deposits in West-Central British Columbia, in Porphyry Deposits of the Canadian Cordillera, Edited by A. Sutherland Brown, CIM Special Volume 15, pp.227-238
- Carter, N.C.(1981): Porphyry Copper and Molybdenum Deposits, West-Central British Columbia, BC Ministry of Energy Mines and Petroleum Resources Bulletin 64
- Carter, N.C. and Kirkham, R.V.(1969): Geological Compilation Map of the Smithers, Hazelton and Terrace Areas, BC Department of Mines and Petroleum Resources Map 69-1
- Crowe, G.G. and Laird, B.L. (1990): Geochemical and Geophysical Report on the New Moon Property, BC Ministry of Energy and Mines Assessment Report 20542.
- Crowe, G.G. and Lehtinen J.J. (1991): Drilling Report on the New Moon Property, BC Ministry of Energy and Mines Assessment Report 21602
- Diakow, L.J. (1990): Geology of the Nanika Lake Map Area (93E/13) *in* Geological Fieldwork 1989, Geological Survey Branch, Ministry of Energy Mines and Petroleum Resources Open File 1990-1, p. 83-89.
- Holland, Stuart S.(1976): Landforms of British Columbia, A Physiographic Outline, BC Department of Mines and Petroleum Resources Bulletin 48
- Kennedy, D.R. and Warwick, M. (1982): Geological and geophysical Report on the Copper Cliff, Lunar, Misty Day and New Moon Claims, BC Ministry of Energy and Mines Assessment Report 11153
- Kennedy, D.R. and Warwick, M. (1983): Geochemical, Geological and geophysical Report on the Copper Cliff, Lunar, Misty Day and New Moon Claims, BC Ministry of Energy and Mines Assessment Report 11764
- Nicholson, J.A., Baker, D.G. and Brooks, C. (1997): Geological and Physical Report on the BAY Property, BC Ministry of Energy and Mines Assessment Report 24994
- Visagie, D.A. (1987): Geological, Geophysical, Trenching and Diamond Drilling Report on the New Moon Property, BC Ministry of Energy and Mines Assessment Report 15741
- Visagie, D.A. (1988): Drilling, Geochemical and Geological report on the Mist Day, Lunar1-2, Lunar 12, Computer and Landsat Mineral Claims, BC Ministry of Energy and Mines Assessment report 16870
- Wojdak, Paul (2004): Northwest Region *in* Exploration and Mining in British Columbia 2003, Mines and Minerals Division, BC Ministry of Energy and Mines, p. 1-15

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**CERTIFICATE of AUTHOR**

I, NICHOLAS C. CARTER, Ph.D., P.Eng., do hereby certify that:

1. I am a Consulting Geologist, with residence and business address at 1410 Wende Road, Victoria, British Columbia.
2. I graduated with a B.Sc. degree in geology from the University of New Brunswick in 1960. In addition, I obtained a M.S. degree in geology from Michigan Technological University in 1962 and a Ph.D. degree in geology from the University of British Columbia in 1974.
3. I have been registered with the Association of Professional Engineers and Geoscientists of British Columbia since 1966. I am a Fellow of both the Canadian Institute of Mining, Metallurgy and Petroleum and the Geological Association of Canada and am a past director of The Prospectors and Developers Association of Canada and a past president of the British Columbia and Yukon Chamber of Mines.
4. I have practiced my profession as a geologist, both within government and the private sector, in eastern and western Canada and in parts of the United States, Mexico and Latin America for more than 35 years. Work has included detailed geological investigations of mineral districts, examination and reporting on a broad spectrum of mineral prospects and producing mines, supervision of mineral exploration projects and comprehensive mineral property evaluations.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirement to be a "qualified person" for the purposes of NI 43-101.
6. I am responsible for the preparation of all sections of the technical report titled Geological Report on the BAY Mineral Claims (New Moon Property), Morice Lake Area, Omineca Mining Division, British Columbia, dated May 25, 2004. I have personally examined parts of the New Moon property on a number of occasions over the past 20 years.
7. I have had prior involvement with the property that is the subject of the Technical Report. I was a director and officer of Great Western Petroleum Corporation between 1980 and 1984 during which time this company was party to an option agreement with respect to the subject property. Any involvement or interest in the subject property, directly or indirectly, ceased when I resigned from Great Western Petroleum Corporation in 1984.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

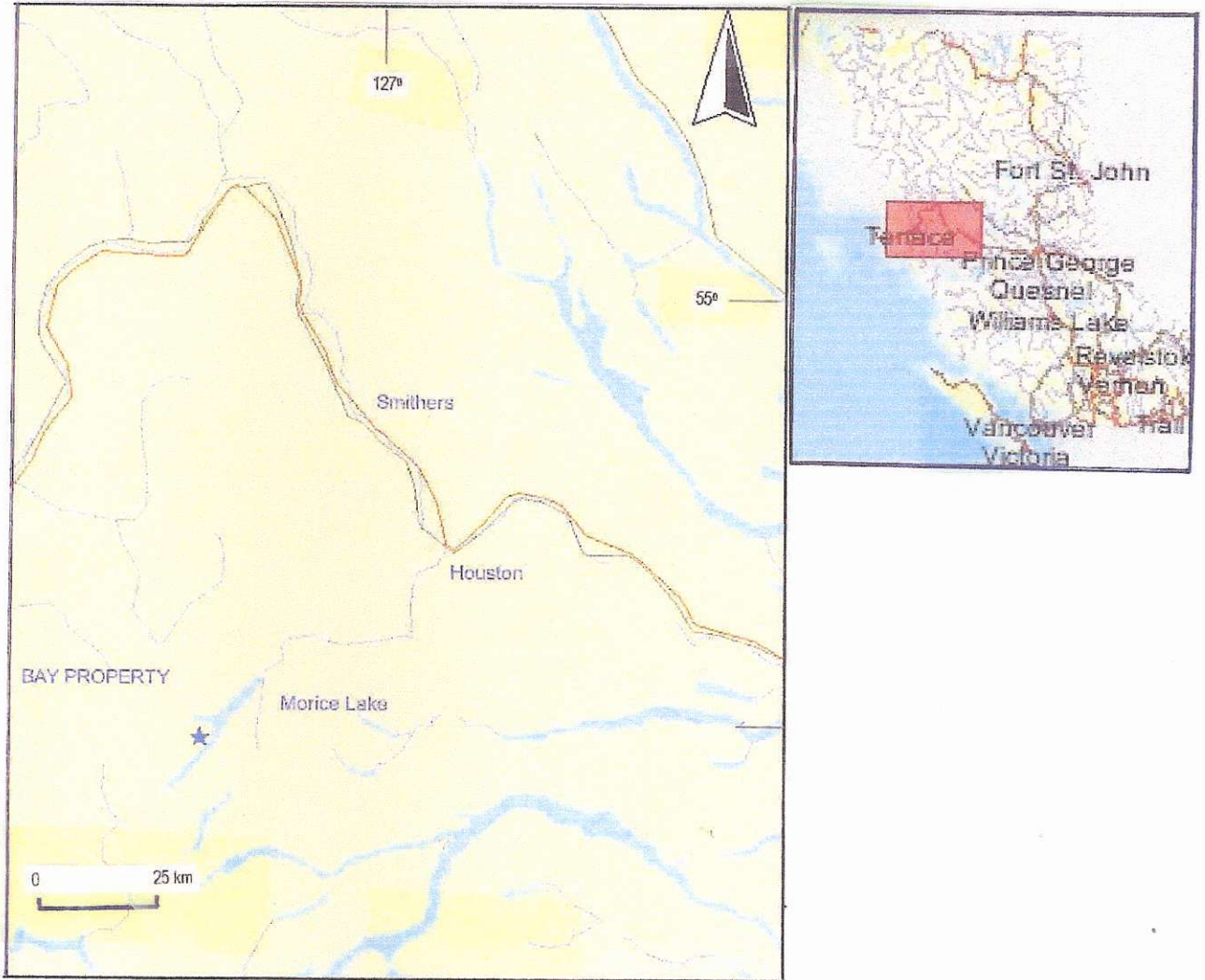
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9. I am independent of the owners of the subject mineral claims applying all of the tests in Section 1.5 of National Instrument 43-101.
10. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

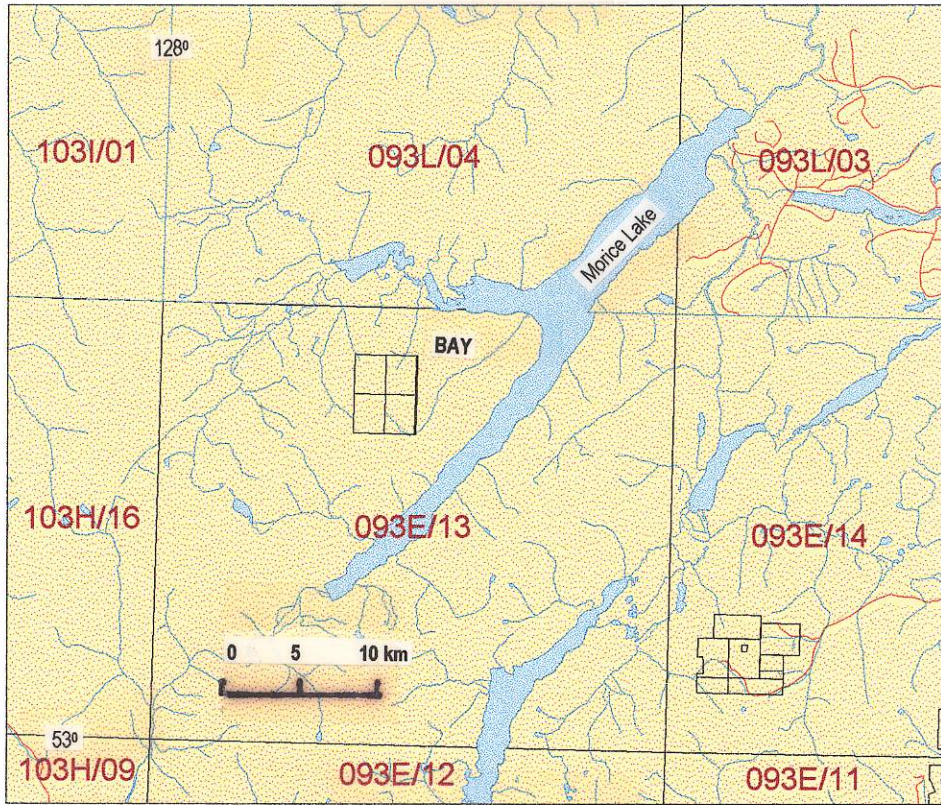
Dated this 25th day of May, 2004

N.C. Carter, Ph.D. P.Eng.

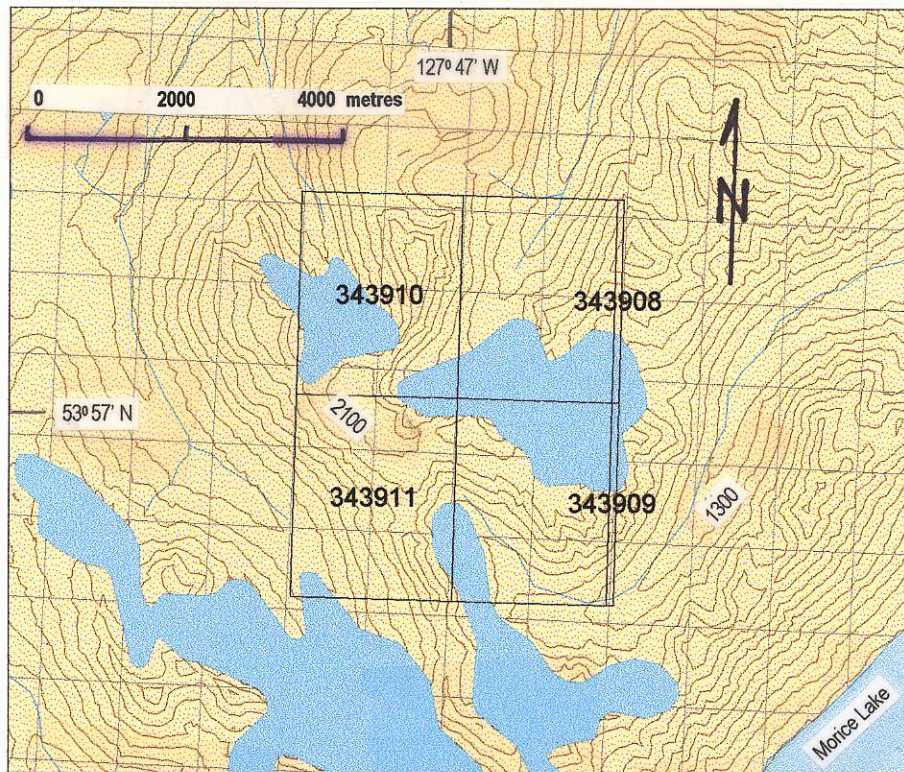
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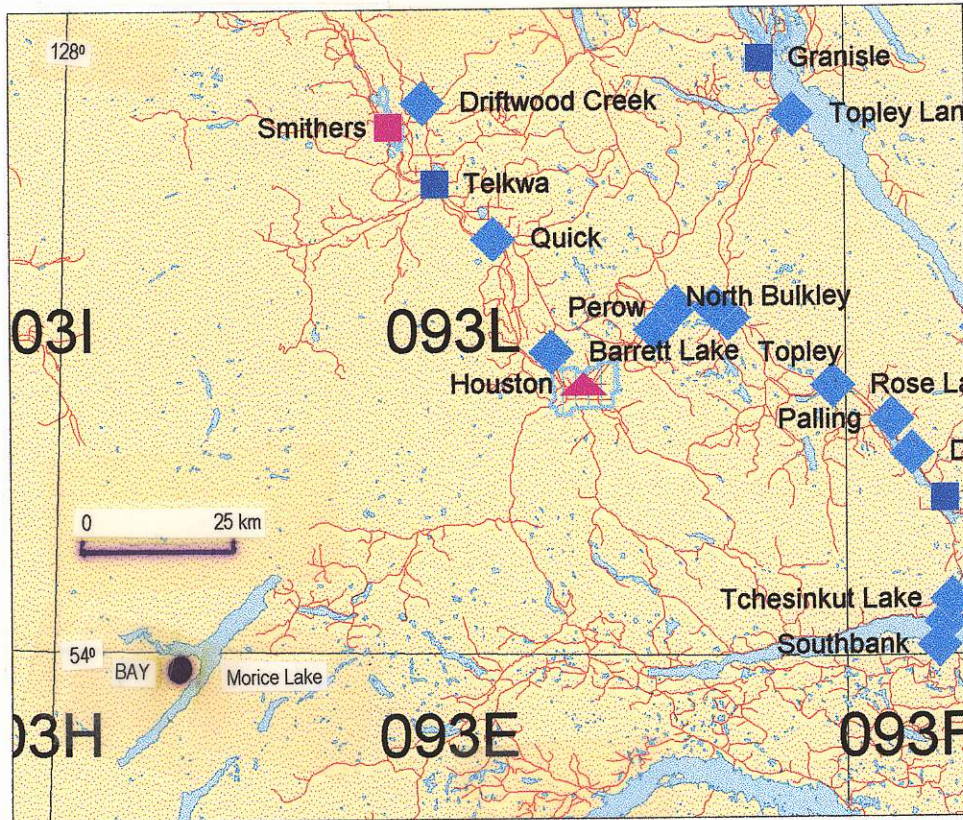
**FIGURE 1 - LOCATION**



**FIGURE 2 - BAY PROPERTY - LOCATION**



**FIGURE 3 - BAY PROPERTY - MINERAL CLAIMS**



**FIGURE 4 - BAY PROPERTY - ACCESS**