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REPORT ON THE RAE, KIND 3, KIND 4, ARC 30 and ARC 31 CLAIMS SULPHURETS AREA SKEENA MINING DIVISION, BRITISH COLUMBIA

for

SANTA MARINA GOLD INC.
1210-750 West Pender Street
Vancouver, B.C.
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NTS 104 - B / 8E

W. Longitude: 130^0 02' N. Latitude: 56^0 23'

BY

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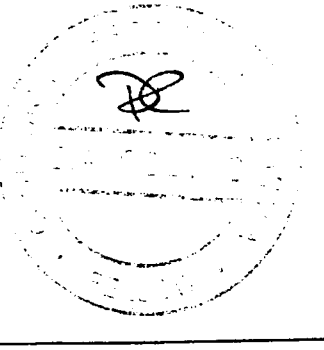

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SUMMARY

The Santa Marina Gold Inc. properties consist of the contiguous Kind 3 and 4 claims, the Rae claim and the contiguous Arc 30 and 31 mineral claims, totalling 94 units. The claims lie approximately 90 kilometers northwest of Stewart, British Columbia, in the Sulphurets area. Access is via road to Bell II on Highway 37, at Bell Irving Creek crossing, a distance of approximately 275 kilometers northwest of Smithers, and from this point by helicopter for a distance of approximately 35 kilometers to the subject claims district. An alternate access is via fixed-wing aircraft to the Bronson Creek airstrip on the south side of the Iskut River and then by helicopter to the property. The Santa Marina Gold Inc. properties lie within a district of intense exploration activity. This district contains numerous significant mineral deposits which are currently being developed by surface and underground exploration.

In the Sulphurets area old records go back to 1898 when the Cumberland and Globe Groups were staked. Interest died down until the mid-1930's when extensive gossans zones were staked around the Brucejack Lake. The region was quiet again until the 1960's when extensive exploration for porphyry copper deposits followed up an helicopter borne magnetic survey conducted by Newmont Mines. In the period of 1975-1977, Texasgulf and Granduc Mines conducted exploration in the Sulphurets area. In 1979, Granduc optioned their claims to Esso Resources Canada who spent more than $ 2 million over 5 years in exploration for precious metals. The Esso-optioned claims reverted back to Granduc and then were optioned jointly by Lacana Mining Corp. and Newhawk Gold Mines who drilled in 1985 over 13,000 feet in the Brucejack Lake area. This effort along with the 26,068 feet previously drilled has outlined mineral reserves of 1,011,543 tonnes grading 0.826 ounces gold equivalent per

tonne (silver:gold ratio = 50:1). This deposit is located approximately 5 kilometers northwest of the western boundary of the Kind 4 claim. In addition to these mineral reserves, the 1985 Lacana/Newhawk project located the new Snowfields Zones which is believed to have probable reserves of over 7,000,000 tonnes grading 0.083 oz Au/tonne (Sorbara, 1987). Catear Mines established a pilot test mill on their Gold Wedge Property, located 2 kilometers east of the Brucejack Lake Zone, and published reserves of this deposit are of 373,224 tons grading 0.753 oz Au/t and 1.07 oz Ag/t. The Gold Wedge Property has a geological potential of 1,000,000 tons grading 0.5 oz Au/t.

In the Unuk River area, the Eskay Creek property, located approximately 27 kilometers northwest of the Santa Marina Gold Inc.'s Kind 4 claim, was discovered in 1932 by Tom MacKay. Exploration since then has been principally directed to the location of high-grade precious metal mineralization. Exploration work included geological mapping, soil sampling, trenching, underground drifting, surface and underground diamond drilling. To date, the Calpine Resources Inc.-Consolidated Stikine Silver Ltd. Eskay Creek property has probable and possible geological reserves in the 21B zone of 1.5 million tons grading 1.43 oz. gold and 40.26 oz. silver per ton, plus 2.1% lead and 5.08% zinc (Northern Miner, April 9, 1990). Results from the ongoing stepout drilling program, beyond the reserves area, are extremely encouraging with drill intersections of hole 90-327 reported as 39.4 feet grading an average of 0.65 oz gold, 32.06 oz silver including a 13.1 foot section averaging 1.27 oz gold and 288.63 oz silver (Northern Miner, April 9, 1990).

The subject claims lie within the westernmost part of the Intermontane Tectonic Belt, close to the boundary of the Coastal Crystalline Tectonic Belt. The properties are

underlain by a suite of Upper Triassic rocks and Lower Jurassic Unuk River Formation strata, as well as siltstone, greywacke, argillite and minor limestone of the middle Jurassic Salmon River Formation. Mount Dilworth formation rocks are also shown on GSC maps to occur within the Kind 3 and Rae claims.

Five rock grab samples were collected from the Rae and Arc 30 claim area by one of the writers, R.R. Arnold, during early September of 1989. Results from this program yielded anomalous values of up to 1740 ppb gold and 41.2 ppm silver.

It is the opinion of the writers that an initial reconnaissance exploration program consisting of prospecting, geological mapping and geochemical sampling be undertaken on the claims. Details of the proposed follow-up work and estimated costs are included in the body of this report.

INTRODUCTION

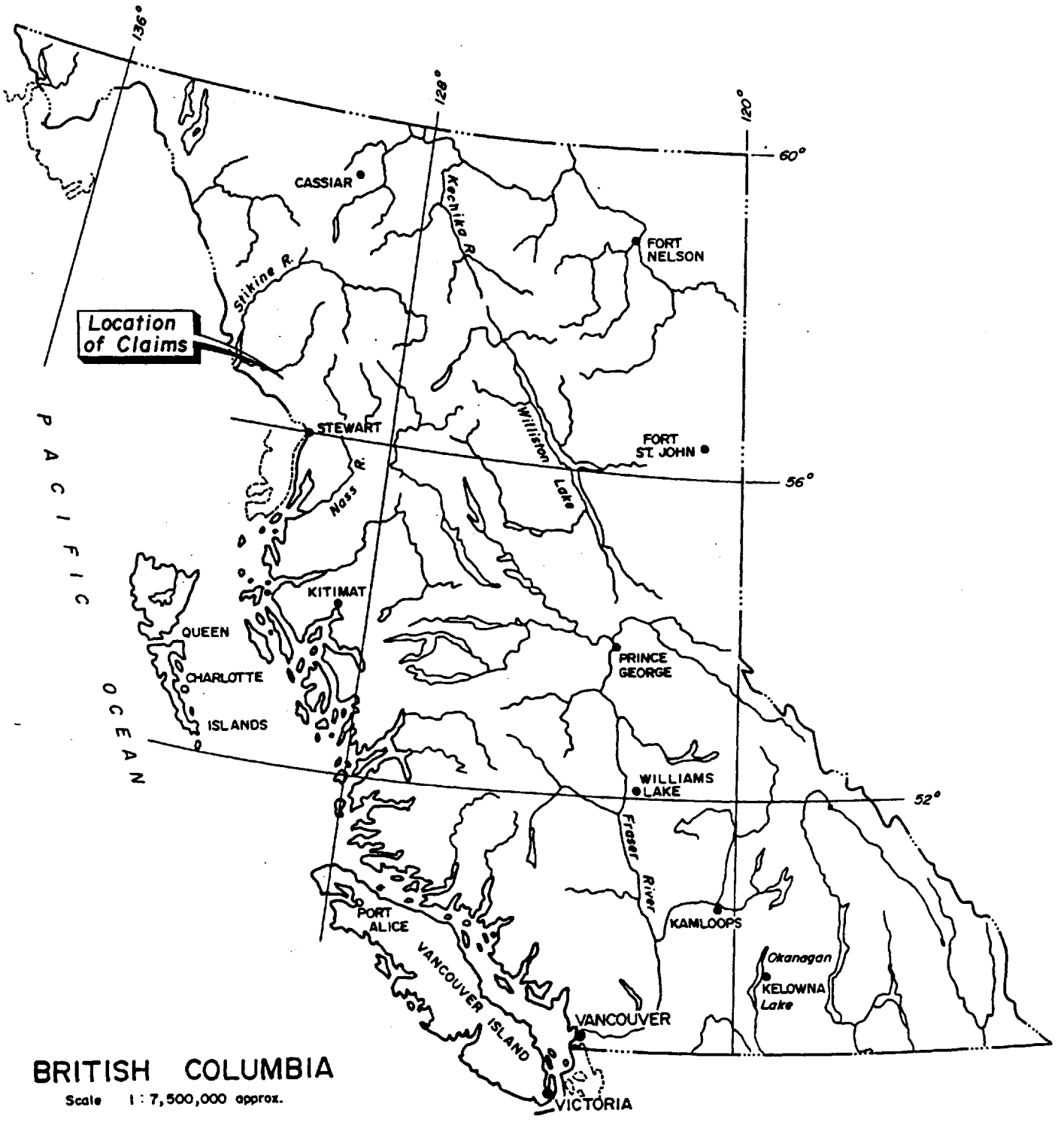
This summary and evaluation of the Santa Marina Gold Inc. properties is done at the request of the directors of Santa Marina Gold Inc. The main purpose of the present report is to evaluate the precious metal and/or base metal potential of the subject properties and to propose an exploration program designed to test their potential.

This report is based on a review of public and private reports pertaining to the area, recent exploration activities on the properties, government geological and topographical maps and claim data from the mining recorder's office. One of the authors, R. R. Arnold, visited the Rae and Arc 30 claims during the 1989 field season.

A detailed examination of the subject properties itself was not conducted at the time of writing due to winter conditions and snow cover.

LOCATION AND ACCESS

The Rae, Kind 3, Kind 4, Arc 30 and Arc 31 claims are located within the eastern boundary of the Coast Range Mountains (Figure 1). The subject properties are situated approximately 100 air kilometers northwest of Stewart, British Columbia, 90 to 100 air kilometers east of Wrangell, Alaska and 25 air kilometers east from the Bronson Creek airstrip. The northern border of the Kind 4 claim is located approximately 27 kilometers southeast of the Calpine Resources-Stikine Resources Eskay Creek property. The subject claims lie within the Skeena Mining Division, on NTS Map 104-B/8E.



BRITISH COLUMBIA

Scale 1 : 7,500,000 approx.

SANTA MARINA GOLD INC.		
KIND 3 & 4, RAE, ARC 30 & 31 CLAIMS Skeena M.D., B.C.		
General Location Map		
Scale noted above	Date April 1990	N.T.S. 104 B
By SORBARA GEOLOGICAL CONSULTING LTD.		Figure 1

The most economic access to the subject property is by truck from Smithers for a distance of 275 kilometers to Bell II on Highway 37 at the Bell Irving Creek crossing. At the present time, a 205 Helicopter is stationed at Bell II and the claims can be reached by air.

PROPERTY AND OWNERSHIP

The properties consist of three (3) distinct groups of mineral claims totalling 94 units, under option to Santa Marina Gold Inc. from Teuton Resources Corp. The Kind 3 and 4 are contiguous claims and the Arc 30 and 31 are also contiguous claims. The Rae claim is a single 18 unit claim.

The properties are recorded at the British Columbia Ministry of Energy, Mines and Petroleum Resources as follows:

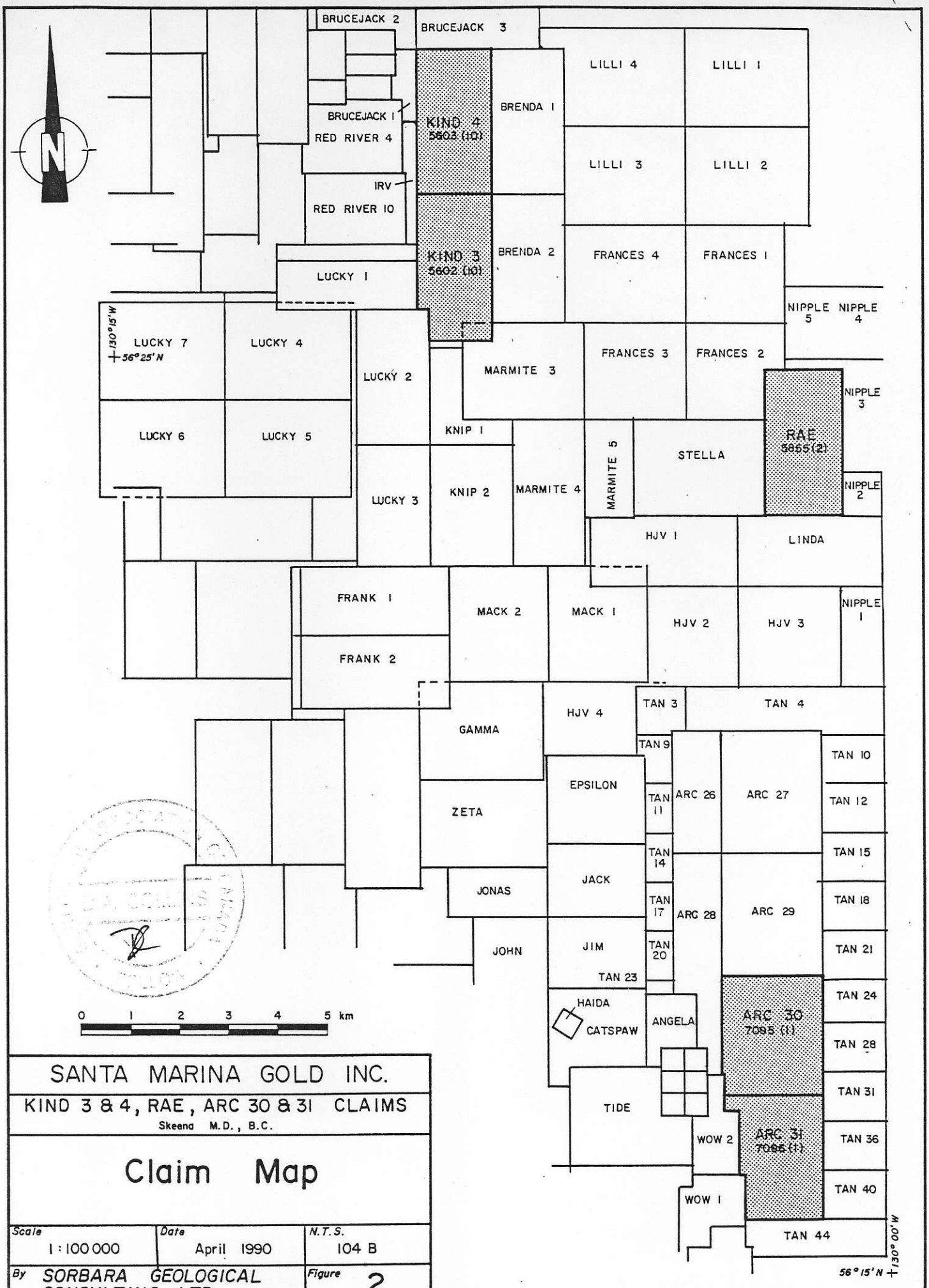
CLAIM	UNITS	RECORD No.	EXPIRY DATE
Rae	18	5855	February 4, 1991
Kind 3	18	5602	October 27, 1990
Kind 4	18	5603	October 27, 1990
Arc 30	20	7095	January 6, 1991
Arc 31	20	7096	January 6, 1991

TOTAL NUMBER OF UNITS: 94

The properties are shown on the Mineral Claim Map 104-B/8E and on Figure 2 of the present report.

PHYSIOGRAPHY

The Rae, Kind 3, Kind 4, Arc 30 and Arc 31 claims are situated in a mountainous, heavily glaciated terrain. Relief ranges from 600 meters above sea level along the



SANTA MARINA GOLD INC.

KIND 3 & 4, RAE, ARC 30 & 31 CLAIMS

Skeena M.D., B.C.

Claim Map

Scale	Date	N.T.S.
1 : 100 000	April 1990	104 B
By SORBARA GEOLOGICAL CONSULTING LTD.		Figure 2

northern boundary to approximately 1,750 meters in the district.

Tree line is at approximately 1,200 meters ASL. Dense vegetation below this consists predominantly of spruce, fir and hemlock with an undergrowth of devil's club. Steep, erosional side creeks provide the best access and geologic control in the area.

Snow cover is a limiting factor on the exploration field season. The period of least snow cover occurs between July and mid-September.

HISTORY AND PREVIOUS WORK

Exploration for precious metals in the Sulphurets Creek area dates back to the late 1800's when placer gold was discovered in the upper reaches of the Unuk River. By 1898, several prospectors had entered the area and the first mineral claims, the Cumberland and Globe Groups, were staked by H.W. Ketchum and L. Brant. These claims proved to be attractive and by 1901, the Unuk River Mining and Dredging Company had purchased them and established a stamp mill on the Globe group. A road between Burroughs Bay and Sulphurets Creek was also begun by this company but was never completed.

Extensive gossans in the upper reaches of Sulphurets Creek attracted Bruce and Jack Johnson to stake claims in this area in 1935. Hence, the name "Brucejack Lake".

The region was quiet again until 1960 when search for porphyry copper deposits led Newmont Mines to conduct a helicopter borne magnetic survey in the Sulphurets area. Claims were staked on behalf of Granduc Mines Ltd. at the

Sulphurets Creek headwaters, and between 1961 and 1967, Granduc and Newmont conducted geological and geophysical work on this ground. More claims were acquired by Granduc and their exploration effort continued until 1970.

In 1965, Silver Standard Mines commenced work on the E & L prospect, a nickel-copper deposit on Nickel Mountain near the headwaters of Snippaker Creek. This prospect was later optioned by Sumito Metal Mining, and by the end of 1971, 1,500 feet of underground work had been completed in addition to intensive trenching, and surface and underground drilling programs.

The jump in precious metal prices renewed activity, and in the period of 1975 to 1977, Texasgulf Inc. and Granduc Mines both conducted exploration in the Sulphurets area. In 1979, Granduc optioned their claims to Esso Resources Canada Ltd. who spent more than $2 million over 5 years in exploration for precious metals.

The Esso-optioned claims reverted back to Granduc and were subsequently optioned under joint venture to Lacana Mining Corporation and Newhawk Gold Mines Ltd.

In 1985, the Lacana/Newhawk joint venture drilled 13,066 feet in the Brucejack Lake area. This effort along with the 26,068 feet previously drilled has outlined mineral reserves of 1,011,543 tonnes grading 0.826 ounces gold equivalent per tonne (silver:gold ratio = 50:1).

In addition to these mineral reserves, the 1985 Lacana/Newhawk project located the new Snowfields Zone. Company reports state that limited drilling on this bulk tonnage target has indicated over 7,000,000 tonnes grading 0.083 oz Au/tonne (Sorbara, 1987).

During 1986, 1,500 feet of underground development drifting and crosscutting was completed on the West Zone in order to obtain a bulk sample. The results showed an average grade of 0.225 oz Au/ton over 52.5 feet without including several high-grade pockets. These results were very encouraging and a winter road to Brucejack Lake was started early in 1987. A permanent camp has been established and more drilling and underground work is conducted. The Lacana/Newhawk Brucejack property lies approximately 5 kilometers northwest of the western boundary of the Kind 4 claim.

Catear Mines established recently a pilot test mill on their Gold Wedge property, located 2 kilometers east of the Brucejack Zone. Published reserves are 373,224 tons grading 0.753 oz Au/t and 1.07 oz Ag/t and the geological potential is 1,000,000 tons grading 0.5 oz Au/t.

C.R. Harris (1985) summarizes the exploration's history of the Unuk River area, and more particularly of the Calpine Resources Inc.-Consolidated Stikine Silver Ltd.'s Eskay Creek property as follows:

> " The property has a long history of exploration by various companies since discovery in 1932 by a party headed by Tom MacKay. The exploration has been principally directed to the location of high grade precious metal mineralization. Following is a brief summary of the work to date.
>
> 1934 Unuk Valley Gold Syndicate did some surface work on the #21 and #22 zones.
>
> 1935-38 Premier Mines drilled 10 diamond drill holes totaling 1,727' on the #21, #5 and #22 zones and added to the trenching.
>
> 1953 American Standard Mines did some surface work.
>
> 1963 Western Resources drove the Emma Crosscut and Drift for 360'.

1964 Canex Aerial Exploration drilled six underground diamond drill holes from the Emma Adit totaling 735'.

1965-72 Stikine Silver extended the Emma Drift 265' and added to trenching on the #22 zone.

1973 Kalco Valley Mines drilled seven diamond drill holes, totaling 983' on the north end of the #22 zone.

1975 Texasgulf performed geological, E.M. and magnetometer surveys.

1976 Texasgulf drilled seven diamond drill holes totaling 1,225 feet on the #5 and Emma Creek zones.

1979 May Ralph Industries high-graded trenches of the #22 zone and shipped 9.65 tons of picked ore to the Trail smelter.

1980-83 Ryan Exploration (U.S. Borax) performed soil and rock geochemical surveys and drilled three holes totaling 496m on the #22 zone.

Only two ore shipments have been recorded although several small test shipments are thought to have been made during the 1930's.

1971 Stikine Silver shipped 1.68 tons of picked ore, yielding: 0.3 oz gold, 239 oz silver, 64 lb lead, 94 lb zinc; assaying: 0.2 oz/t gold, 142.3 oz/t silver.

1979 May Ralph Industries shipped 9.65 tons of picked ore yielding: 40.62 oz gold, 819.54 oz silver, 907 lb lead, 2220 lb zinc; assaying: 4.208 oz/t gold, 84.90 oz/t silver."

In 1985, Kerrisdale Resources Ltd. carried out diamond drilling on the #21 and #22 zones, and in 1987 Consolidated Stikine Silver Ltd. conducted a soil sampling and trenching program on the Eskay Creek property.

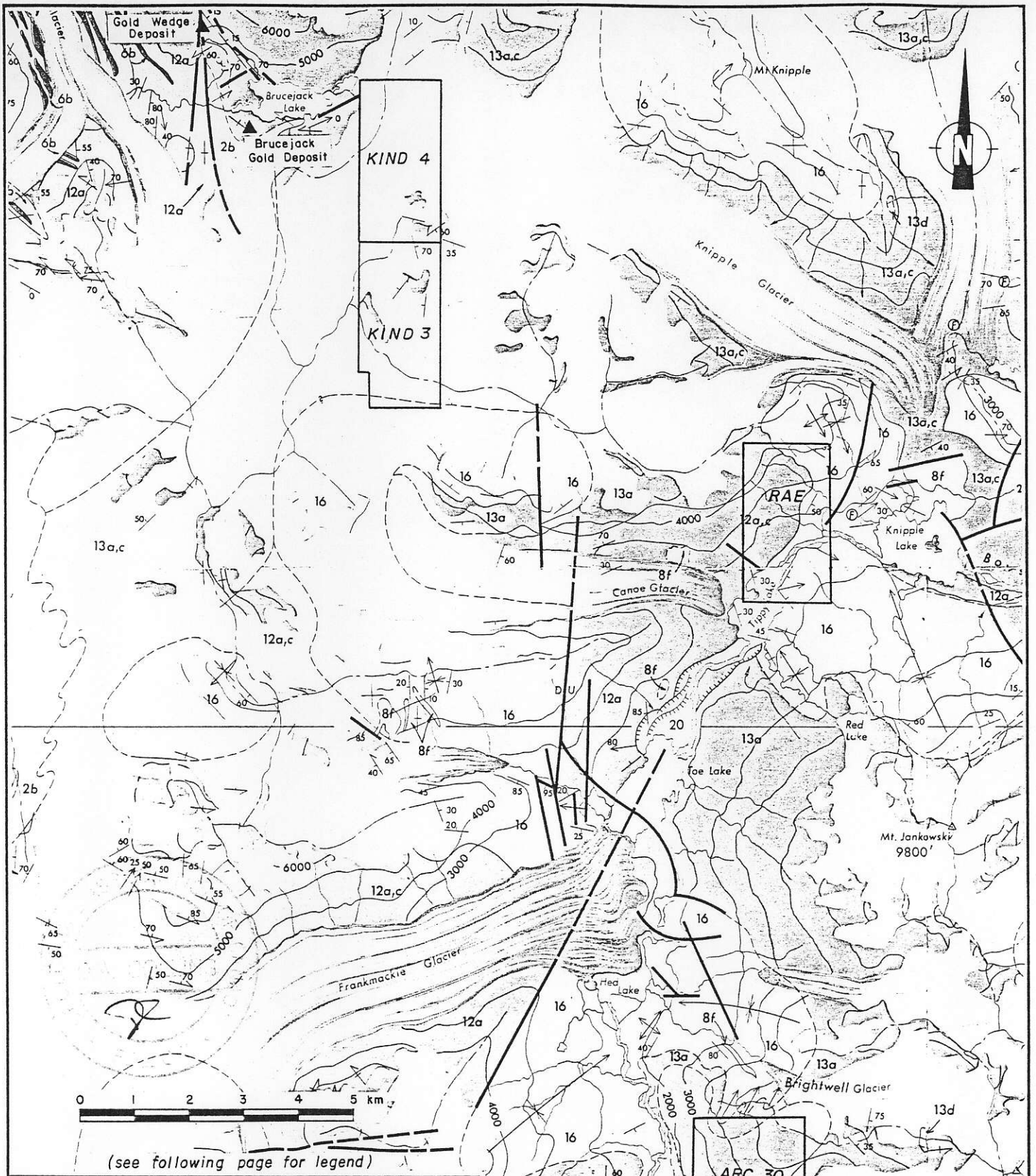
During 1988 and 1989, the Eskay Creek property was extensively drilled by Calpine Resources Inc.-Consolidated Stikine Silver Ltd. and extremely promising results were reported from the #21 zone. On August 28, 1989, results

from hole 89-109 were reported in the Northern Miner as follows: "682 foot interval grading an average of 0.875 oz gold, 0.97 oz silver, 1.12% lead and 2.26% zinc. Within this interval is a 200.1 foot section averaging 2.877 oz gold, 0.85 oz silver, 1.86% lead and 3.44% zinc". Also reported in the Northern Miner (Sept. 4/89) is massive sulphide intersection located at the north end of the #21 Zone consisting of a 30 foot section and a 26 foot section of pyrite-galena-sphalerite-chalcopyrite massive sulphide mineralization. To date, the Calpine Resources Inc.-Consolidated Stikine Silver Ltd. Eskay Creek property has probable and possible geological reserves in the 21B zone 1.5 million tons grading 1.43 oz. gold and 40.26 oz. silver per ton, plus 2.1% lead and 5.08% zinc (Northern Miner, April 9, 1990).

Results from the ongoing stepout drilling program, beyond the reserves area, are extremely encouraging with drill intersections of hole 90-327 reported as 39.4 feet grading an average of 0.65 oz gold, 32.06 oz silver including a 13.1 foot section averaging 1.27 oz gold and 288.63 oz silver (Northern Miner, April 9, 1990). The Eskay Creek property is located approximately 27 kilometers northwest of the Santa Marina Gold Inc.'s Kind 4 claim.

REGIONAL GEOLOGY AND MINERALIZATION

The subject properties lie within the western most part of the Intermontane Tectonic Belt, close to its boundary with the Coastal Crystalline Tectonic Belt. As a result of the proximity of this area to a regional tectonic boundary, geologic relationships tend to be quite complex. The geology of this area (Figure 3) has been studied by Kerr (1930, 1948), and by Grove (1986), and is represented in Geological Survey of Canada Maps 9-1957, 1418A and 1505A.



(see following page for legend)

SANTA MARINA GOLD INC.

KIND 3 & 4, RAE, ARC 30 & 31 CLAIMS

Skeena M.D., B.C.

Regional Geology & Mineral Deposits Location Map

Scale	Date	N.T.S.
1 : 100 000	April 1990	104 B

By SORBARA GEOLOGICAL CONSULTING LTD.

Figure 3

LEGEND

INTRUSIVE ROCKS

6b Mid-Jurassic and younger Diorite

8a,b,f Eocene Stocks, a) quartz diorite b) granodiorite f) feldspar porphyry

METAMORPHIC ROCKS

2b Phyllite, semi-schist, schist

VOLCANIC AND SEDIMENTARY ROCKS

QUATERNARY

PLEISTOCENE TO RECENT

20 Unconsolidated deposits

MIDDLE JURASSIC (TOARCIAN TO BAJOCIAN)

16 Clastics and littoral deposits

13 Salmon River Formation - a) interbedded volcanic breccia and sandstone/siltstone c) siltstone

LOWER JURASSIC (PLIENSBACHIAN TO TOARCIAN)

12 Unuk River Formation - pyroclastic-epiclastic sequence.

In the Sulphurets area, Shroeter (1983) examined the geology and mineralization in the Brucejack Lake area where hornblende syenites, alkali feldspar syenites and country rocks are cut by numerous north to northwesterly faults and are intensely altered with sericite, K-feldspar, silica, carbonate and chlorite. Five separate sulfide zones occur along a 7 kilometer belt with mineralization occurring in several styles, including low grade disseminations, epithermal stockworks and veins. Found within these zones are pyrite, chalcopyrite, molybdenite, ruby silver, stephanite, ceragyrite, electrum, native gold, tetrahedrite, freibergite, argentite, galena, sphalerite and bornite.

Within this area, two principal zones were identified. The Peninsula Zone (or Shore Zone) had been traced for 265 meters on surface and to a depth of 140 meters by intersections in 22 drill holes and was still open, when Shroeter visited the property in 1983. By the end of 1985, mineral reserves from this zone were reported to be 490,000 tonnes grading 0.890 oz Au-e/tonne (Au-e = gold equivalent with an Ag:Au ratio of 50:1).

The West Zone, located about 700 meters southwest of the Peninsula Zone, had been tested by 21 drill holes at the time of Shroeter's visit. It measured 310 meters on surface, extended to a depth of 60 meters and was also still open. Shroeter reported ruby silver, freibergite, electrum, native gold, stephanite, galena, pyrite and sphalerite occurring in a stockwork of quartz veinlets in sericitic andesitic tuff. Mineral reserves to the end of 1985 for the West Zone are 496,452 tonnes grading 0.694 oz Au-e/tonne.

During 1986, Newhawk put in 1,500 feet of development drifting and crosscutting to obtain a bulk sample from the West Zone. During November, 1986, one of the writer, J.P

Sorbara, had the opportunity to examine the underground workings and sample the mineralization. Two crosscuts have shown that the width and grade of the body is generally uniform with intermittent spectacular high grade sections. The first crosscut assayed 0.234 oz gold/ton and 6.2 oz silver/ton over a true width of 50 feet and 0.216 oz gold/ton with 14.25 oz silver/ton over a true width of 17 feet (Stockwatch, November 13, 1986). The second crosscut averaged 0.225 oz gold/ton and 16.60 oz silver/ton over a true width of 52.5 feet (Stockwatch, December 2, 1986). Grab samples reported from within this zone returned up to 5.786 oz gold/ton with 890.45 oz silver/ton, but these results were not included in the grade calculations of 0.225 oz gold/ton over 52.5 feet.

Drilling has implied this body is 1,000 feet long and extends at least 1,000 feet down dip. High grade pockets and veins within the mineralized zone are reported to run up to 3 or 4 ounces of gold and hundreds of ounces of silver. A grab sample collected by J.P. Sorbara (1986) from the lowest crosscut returned values of 2.348 oz gold/ton and 1061.67 oz silver/ton.

The Gossan Hill Zone had apparently not been found until after Shroeter's 1983 visit, but lies only 400 meters west of the Peninsula Zone. To the end of 1985, mineral reserves from this high grade area totalled 25,091 tonnes grading 2.209 oz Au-e/tonne over a true width of 10.5 feet.

Together, the 3 zones described above comprise the reported 1,011,543 tonnes of mineral reserves in the Brucejack Lake area, which have a weighted average of 0.826 oz Au-e/tonne. Two more zones, the Spine and Galena, lie just south of the Gossan and West Zones. Here galena, sphalerite, pyrite, chalcopyrite and native gold are reported in altered andesite.

Northwest of Brucejack Lake some 3.5 miles lies the Snowfield Gold Zone, which had not been discovered until 1985. Based on 625 feet of surface trenching and 5 drill holes, preliminary estimates by Newhawk Gold Mines Ltd. are that this bulk tonnage zone could host 7,000,000 tonnes grading 0.083 oz Au/tonne (Sorbara, 1987).

In the Unuk River Area, a geological cross section of the Calpine/Consolidated Stikine's Eskay Creek property was given to the writers by Mr. Jerry McArthur, geologist in charge of the project (personal communication, Sept. 1989). The hanging wall consists of interbedded breccias, pillow lavas and andesites up to 100 meters thick. The contact zone, a black argillite containing felsic fragments up to 2 inches across, is 10 to 15 meters thick with mineralization occurring at the base of the unit. In the north section of the contact #21 Zone, mineralization consists of electrum, aktashite (Cu-Pb-Zn-Ag-Hg sulphosalt) and honey coloured blebs of sphalerite rimmed with chlorite alteration. Free gold was observed in the core. Disseminations and needles of arsenopyrite predominate in the south section of the #21 contact zone with sections of massive stibnite, veinlets of stibnite and blebby realgar. Gold assays from this contact zone vary from .25 oz Au/t to several oz Au/t. Mineralized textures throughout the core vary from structurally controlled to layered syngenetic at as of to date no firm control has been agreed upon.

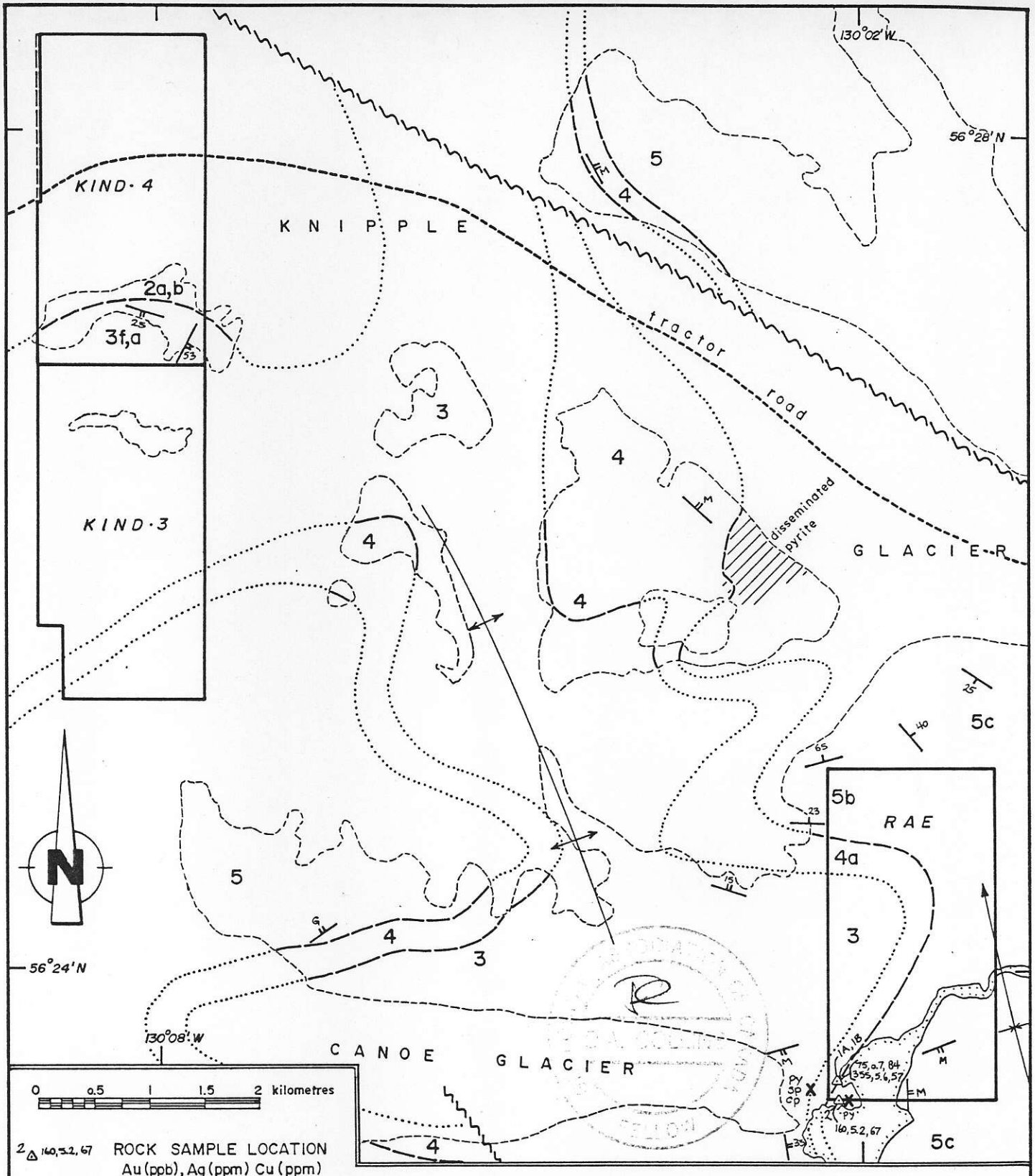
The footwall belongs to the Dillworth Formation and consists of a 100 to 150 meters thick rhyolite breccia lapilli tuff. Along strike to the north the lapilli fragments are finer. Alteration observed is silicification, strong K-spar and white mica. Gold assays from this section vary up to .25 oz Au/t. A 10 to 20 meters thick argillite layer separates the lapilli tuffs from a felsic lithic tuff

which varies from 60 to 100 meters thick. This latter unit, which may be the equivalent of the Betty Creek Formation, forms large gossans of pyritic material assaying from .15 to .25 oz Au/t. The bottom of the footwall is formed by thickly bedded siltstone containing pelecypods (dating in progress) and locally developed conglomerates. Drill intersections from 1990 infill drilling in the 21B deposit include hole 90-239 which intersected 29.5 feet grading 2.047 oz. gold and 72.37 oz. silver per ton and hole 90-291 which intersected 68.8 feet grading 1.315 oz. gold and 81.81 oz. silver per ton.

The South Zone has been outlined for 300 meters along strike and 200 meters down dip and reserves have been calculated at 6.49 million short tons at 0.535 oz Au/t and 14.13 oz Ag/t (Stockwatch April 11, 1990). This South Zone is to be mined by open pit methods. The Northern Miner reports (Sept. 4, 1989) that drill hole 89-126 intersected at the far north end of the #21 Zone a disseminated to massive sulphide mineralized section of 445 feet in width, of which a 30-ft and a 26-ft section consisted of pyrite-galena-sphalerite massive sulphide mineralization. This may indicate a volcanogenic massive sulphide lense off the #21 Zone.

PROPERTY GEOLOGY AND MINERALIZATION

No detailed work has been conducted on the subject claims to date. Based on the Geological Survey of Canada mapping the Kind 3 and 4 claims and the Rae claim are underlain by Lower Jurassic Unuk River Formation strata, as well as siltstone, greywacke, argillite and minor limestone of the middle Jurassic Salmon River Formation (Figure 4). Mount Dilworth formation rocks are also shown to occur within the Kind 3 and Rae claims.



SANTA MARINA GOLD INC.

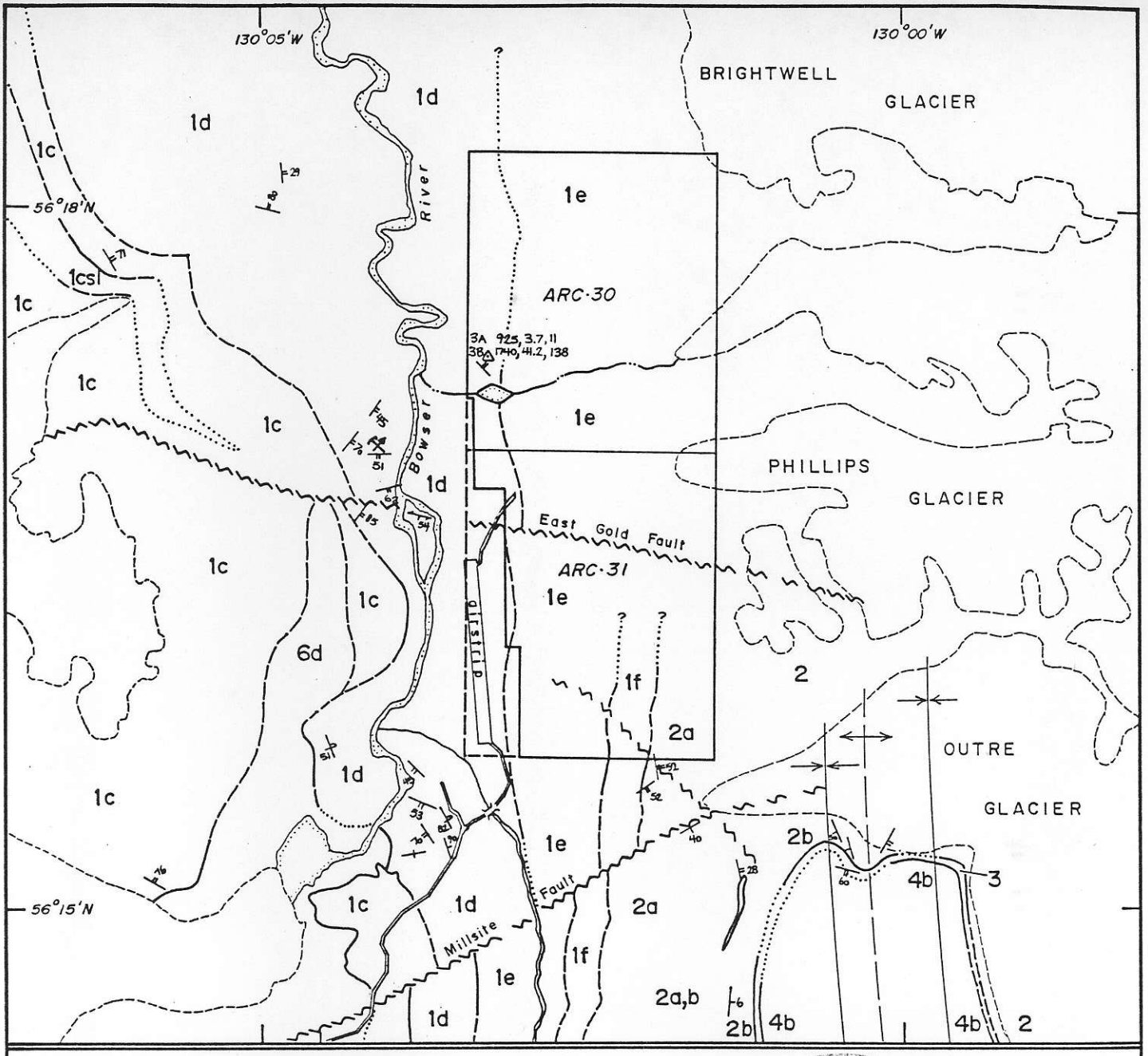
KIND 3 & 4, RAE, ARC 30 & 31 CLAIMS
Skeena M.D., B.C.

Property Geology & Sample Location Map (NORTH HALF)

Scale	Date	N.T.S.
1:50,000	April · 1990	104 B

By SORBARA GEOLOGICAL CONSULTING LTD.

Figure 4a



GEOLOGICAL BOUNDARY defined, approx., assumed

BEDDING, TOP KNOWN inclined, vertical, overturned

BEDDING, TOP UNKNOWN inclined, vertical

FOLD AXIAL TRACE syncline, anticline

FOLIATION inclined

FAULT defined, approximate, assumed

PAST MINERAL PRODUCER

ROAD

3B 1740, 41.2, 138 ROCK SAMPLE LOCATION
Au (ppb), Ag (ppm), Cu (ppm)

(see following page for geological descriptions)

0 0.5 1 2 3 kilometres

N

SANTA MARINA GOLD INC.

KIND 3 & 4, RAE, ARC 30 & 31 CLAIMS

Skeena M.D., B.C.

Property Geology & Sample Location Map (SOUTH HALF)

Scale	Date	N.T.S.
1 : 50 000	April 1990	104 B

By SORBARA GEOLOGICAL CONSULTING LTD.

Figure 4b

LEGEND

QUATERNARY

RECENT

7 *UNCONSOLIDATED SEDIMENTS*

- *7a Alluvium, glaciofluvial deposits, landslide debris, moraine*
- *7b Alluvium underlain by Pleistocene to Recent basalt*

PLEISTOCENE TO RECENT

6 *BASALT FLOWS AND TEPHRA*

- *6a Dark grey to black, basalt flows and tephra; minor pillow lavas*
- *6b Basalt tephra*

TRIASSIC TO JURASSIC

HAZELTON GROUP

MIDDLE JURASSIC (TOARCIAN TO BAJOCIAN)

5 *SILTSTONE SEQUENCE (Salmon River Formation): Dark grey, well-bedded siltstone with minor sandstone and conglomerate.*

- *5c Chert pebble conglomerate and arenite*
- *5t Rhythmically bedded siltstone and shale (turbidite)*
- *5w Thinly bedded wacke*
- *5p Andesitic pillow lavas and pillow breccias with minor siltstone interbeds*

LOWER JURASSIC (TOARCIAN)

4 *FELSIC VOLCANIC SEQUENCE (Mount Dilworth Formation): Light weathering, intermediate to felsic pyroclastic rocks, including dust, ash, crystal and lithic tuffs, lapilli tuff. Locally pyritiferous (5 to 15%) and gossanous. Minor chalcedonic quartz veins locally.*

- *4a Variably bedded airfall tuffs*
- *4f Massive felsic tuff*
- *4r Black and white, carbonaceous felsic volcanics; locally flow banded and autobrecciated*

LOWER JURASSIC (PLIENSBACHIAN TO TOARCIAN)

3 *PYROCLASTIC-EPICLASTIC SEQUENCE (Betty Creek Formation): Heterogeneous, grey, green, locally purple or maroon, massive to bedded pyroclastic and sedimentary rocks; pillow lava*

- *3a Green and grey, massive to poorly bedded andesite*
- *3d Grey, green and purple dacitic tuff, lapilli tuff, crystal and lithic tuff; massive to well bedded; feldspar phyric*
- *3f White weathering, felsic tuffs and breccias with quartz stringers*
- *3c Andesitic lapilli tuff with pink siliceous clasts*
- *3p Andesitic pillow lavas and pillow breccias with minor siltstone interbeds*
- *3t Black, thinly bedded siltstone, shale and argillite (turbidite)*

UPPER TRIASSIC TO LOWER JURASSIC (NORIAN TO SINEMURIAN)

2 *ANDESITE SEQUENCE (Unuk River Formation): Green and grey, intermediate to mafic volcaniclastics and flows with locally thick interbeds of fine-grained immature sediments; minor conglomerate and limestone*

- *2a Grey and green, plagioclase±hornblende porphyritic andesite; massive to poorly bedded*
- *2h Grey and green, hornblende-(± pyroxene)-feldspar porphyritic andesitic lapilli and ash tuff*
- *2s Grey, brown and green, thinly bedded, tuffaceous siltstone and fine grained wacke*
- *2t Black, thinly laminated siltstone (turbidite); shale; argillite*
- *2g Dark grey, matrix-supported conglomerate with granitic cobbles*
- *2l Grey, variably bedded limestone (completely recrystallized along South Unuk valley)*

TRIASSIC

STUHINI GROUP

UPPER TRIASSIC (CARNIAN TO NORIAN)

1 *LOWER VOLCANOSEDIMENTARY SEQUENCE: Brown, black and grey, mixed sedimentary rocks interbedded with medium to dark green, mafic to intermediate volcanic and volcaniclastic rocks*

- *1t Grey to black, thinly bedded siltstone, shale, argillite (turbidite)*
- *1w Brown and grey, fine grained tuffaceous wacke; minor siltstone or conglomerate*
- *1l Grey, impure, silty, sandy limestone*
- *1a Green, fine-grained, andesitic ash tuff; feldspar and hornblende phyric*
- *1b Dark green basalt*
- *1p Grey and green, andesitic breccia with augite-hornblende-plagioclase clasts and augite-rich matrix*

(after Britton,1989)

The Arc 30 and Arc 31 claims lie approximately 25 kilometers southeast of the Brucejack Gold deposit. Geological Survey of Canada mapping indicates that the area of these claims is underlain by Upper Triassic to Lower Jurassic Betty Creek Formation strata which comprise a series of sedimentary and volcanics rocks.

PROPERTY GEOCHEMISTRY

Five rock grab samples were taken during a brief 1989 examination of the Arc 30 and Rae claims by R.R. Arnold. On the Rae claim three rock grab samples were taken from altered andesitic outcrops in the southwest corner of the claim. The sample locations are plotted on Figure 4 and selected results are presented in Table 1. One of the samples (Stop 1, A) returned an anomalous value of 1094 ppm As and 75 ppb Au. A higher Au value of 355 ppb was obtained from sample B at this location but this yielded a lower value of 170 ppm As.

TABLE 1

Sample Number	Sample Type	Ag ppm	As ppm	Cu ppm	Au ppb
Stop 1 A	Rock-grab	0.7	1094	84	75
B	Rock-grab	5.6	170	57	355
Stop 2 A	Rock-grab	5.2	983	67	160
Stop 3 A	Rock-grab	3.7	84	11	925
B	Rock-grab	41.2	1095	138	1740

Two rock grab samples were taken from a gossanous zone of altered andesitic volcanics exposed in a creek in the southwest portion of the Arc 30 claim (Stop 3 Figure 4). These samples yielded very anomalous gold values of 925 and

1740 ppb. An anomalous silver value of 41.2 ppm was recorded from sample B from this zone.

CONCLUSIONS

The subject mineral claims are situated in the district which hosts the Newhawk showing and the recent Calpine discovery. The Stonehouse gold zone proven reserves to date are 876,000 tons grading 0.55 oz Au/t, with a cut-off grade of 0.3 oz gold. This deposit is presently in production and in June 1989 produced at a rate of 312 tons/day.

In the Sulphurets area, the Lacana/Newhawk Brucejack Lake deposits have proven reserves of 1,011,543 tonnes grading 0.826 ounces gold equivalent per tonne (silver:gold ratio = 50:1). Underground development is presently underway on this property. In addition the Lacana/Newhawk project located the new Snowfields Zones which estimated reserves are of over 7,000,000 tonnes grading 0.083 oz Au/tonne (Sorbara, 1987). Catear Mines established a pilot test mill on their Gold Wedge Property, located 2 kilometers east of the Brucejack Lake Zone, and published reserves of this deposit are of 373,224 tons grading 0.753 oz Au/t and 1.07 oz Ag/t. The Gold Wedge Property has a geological potential of 1,000,000 tons grading 0.5 oz Au/t.

The Eskay Creek's Calpine discovery has proven reserves of 2.8 million metric tonnes at 0.25 oz Au/t and 3.0 oz Ag/t in the South Zone, but no published reserves are yet available for the North Zone. Results from the ongoing drilling program are extremely encouraging with drill intersections of hole 89-109 reported in the Northern Miner (Aug. 28/89) as follows: "682 foot interval grading an average of 0.875 oz gold, 0.97 oz silver, 1.12% lead and 2.26% zinc. Within this interval is a 200.1 foot section

averaging 2.877 oz gold, 0.85 oz silver, 1.86% lead and 3.44% zinc".

The Kind 3 and 4, Rae, Arc 30 and 31 claims are underlain by a sequence of volcanic and sedimentary rocks of predominantly Jurassic age. Nearby properties exhibit similar suites of rocks, which host known gold showings and deposits in the region.

The writers conclude that the subject claims have the potential to host precious metal deposits similar to those recently found in the region. An exploration program designed to test this potential is recommended.

RECOMMENDATIONS

In order to evaluate the mineral and economic potential of the Santa Marina Gold Inc. properties, a two phase exploration program is recommended.

Phase I should be an initial reconnaissance exploration program of prospecting, geological mapping and geochemical sampling (rocks, soils and stream sediments) on all of the claims. Special attention should be paid to areas straddling the contact of any volcanic package with the coarse clastic sedimentary rocks, as this is the contact zone which hosts mineralized horizons in the area.

Dependant upon positive results from the Phase I exploration program and upon a review of the data, detailed mapping and possibly ground geophysics should be carried out to help delineate any significant structure, followed by an exploratory diamond drilling program to define the geometry and grade characteristics of any identified mineralization.

An estimated cost breakdown of this exploration program is given in Appendix I.

Respectfully submitted,

SORBARA GEOLOGICAL CONSULTING LTD.

DENIS A. COLLINS, Ph.D., P.Geol., F.G.A.C.

ROBERT R. ARNOLD, M.Sc., P.Geol., F.G.A.C.

April 11, 1990

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APPENDIX I

ESTIMATED COST OF PROPOSED PROGRAM

ESTIMATED COST OF PROPOSED PROGRAM

PHASE I:

Personnel:		
Project Geologist (8 days @ $350.00/day)	$	2,800.00
Domicile		
Camp Rental and Food		
8 man-days @ $60.00/day	$	480.00
Helicopter (12 hours @ $660.00/hour)	$	7,920.00
Geochemical Sampling and Shipping		
Assays (Au by F.A. & 6 elements by ICP)		
25 rock samples @ $16.25/sample	$	406.25
30 silt samples @ $16.25/sample	$	487.50
12 stream samples @ $35.50/sample	$	426.00
Mobilization/Demobilization	$	1,500.00
Project Preparation	$	700.00
Disposable Field Supplies	$	100.00
Radio Rental	$	150.00
Accounting Costs, Communications, Freight	$	1,000.00
Report Compilation and Drafting	$	2,000.00
Contingency	$	2,000.00
Total Phase I	$	19,969.75
Say Total Phase I	**$**	**20,000.00**

PHASE II:

The exact cost of Phase II is difficult to estimate at the present time because it will depend of how many targets are generated in Phase I. Diamond drilling if required and helicopter support would be the most costly components of this work.

APPENDIX II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, DENIS A. COLLINS, of the City of Vancouver, Province of British Columbia, hereby certify:

1. THAT I am a geologist residing at 1541 Kilmer Road, North Vancouver, British Columbia, Canada, V7K 1R5.

2. THAT I obtained a Bachelor of Science degree in Geology from University College Cork, Ireland in 1980 and a Ph.D. in Structural Geology from the same university in 1985.

3. THAT I have been practising my profession as a geologist in Ireland, South Africa and Canada since 1980.

4. THAT I am a Fellow, in good standing, with the Geological Association of Canada.

5. THAT I am a registered Professional Geologist, in good standing, with a license to practice with the Association of Professional Engineers, Geologists and Geophysicists of the North West Territories.

6. THAT this report is based upon a thorough review of published and printed reports and maps on the subject property and the surrounding area. I have not visited the property personally but I have directed exploration programs on properties in the Iskut River area.

7. THAT I have no interest in the property described herein, nor in securities of any company associated with the property, nor do I expect to receive any such interest.

8. THAT I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of private or public financing.

Dated in North Vancouver, British Columbia, this 11th day of April, 1990.

Denis Collins

Denis A. Collins, Ph.D., P. Geol., F.G.A.C.

STATEMENT OF QUALIFICATIONS

I, ROBERT R. ARNOLD, of 1227 Caledonia Avenue, in the District of North Vancouver, in the Province of British Columbia, hereby certify:

1. THAT I am a geologist residing at 1227 Caledonia Avenue, in the City of North Vancouver, in the Province of British Columbia.

2. THAT I obtained a Bachelor of Science degree in Geology from the University of Geneva, in the City of Geneva, Switzerland, in 1976 and a Master of Science degree in Geological Engineering, from the same university in 1978.

3. THAT I am a Registered Professional Geologist, in good standing, of the Association of Professional Engineers, Geologists and Geophysicists of Alberta since 1981.

4. THAT I am a Fellow Member of the Geological Association of Canada, in good standing since 1985. That I am a associate member of the Mineralogical Association of Canada and of the Society of Economic Geologists.

5. THAT I have been practising my profession as a geologist in Western Europe, West Africa, Southeast Asia and North America, both permanently since 1978 and seasonally since 1971.

6. THAT this report is based upon a thorough review of published and printed reports and maps on the subject property and the surrounding area. However, I have visited the Arc 30 and Rae claims reported on herein.

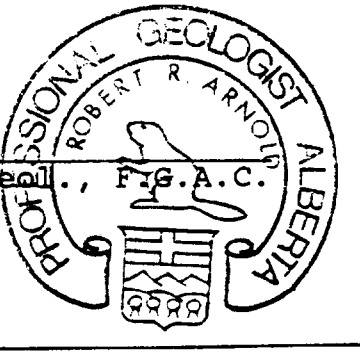
7. THAT I have not received, nor do I expect to receive any interests, direct or indirect, or contingent in the securities or properties of Santa Marina Gold Inc. and that I am not an insider of any company having interest in the Mineral Claims which are the subject of this report, or any other claims within a radius of 10 kilometers.

8. THAT I consent to the use of this report in a Prospectus or Statement of Material Facts for the purpose of a private or public financing.

SIGNED : _____

ROBERT R. ARNOLD, M.Sc., P.Geol., F.G.A.C.

April 11, 1990



APPENDIX III

GEOCHEMICAL RESULTS

Report: 9000159 R Santa Marina Gold Inc. Project: Rae, ARC 30,31 Page 1 of 1 Section 1 of 2

Sample Name	Type	Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Hg ppm	K %	La ppm
Stop 1 , A	Rock	75	0.7	1.42	1094	75	<2	0.39	<0.1	12	83	84	3.18	<3	0.25	3
Stop 1 , B	Rock	355	5.6	0.33	170	42	3	0.03	0.3	7	126	57	2.39	<3	0.17	4
Stop 2 , A	Rock	160	5.2	0.63	983	15	<2	0.27	0.4	9	42	67	3.83	<3	0.28	<2
Stop 3 , A	Rock	925	3.7	0.27	84	70	<2	0.01	0.2	2	50	11	0.79	3	0.16	5
Stop 3 , B	Rock	1740	41.2	0.39	1095	<2	3	0.17	0.9	8	37	138	>5.00	<3	0.20	<2
Minimum Detection		5	0.1	0.01	5	2	2	0.01	0.1	1	1	1	0.01	3	0.01	2
Maximum Detection		10000	100.0	5.00	10000	10000	10000	10.00	10000.0	10000	10000	20000	5.00	10000	10.00	10000
Method		FA/AAS	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

-- = Not Analysed unr = Not Requested ins = Insufficient Sample

APPENDIX IV

ROCK SAMPLE DESCRIPTIONS

ROCK SAMPLE DESCRIPTIONS

Sample Number	Sample Type	Description
Stop 1 A	Rock-grab	Altered andesitic volcanic
B	Rock-grab	"
Stop 2 A	Rock-grab	"
Stop 3 A	Rock-grab	Highly altered volcanic
B	Rock-grab	"