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ASSESSMENT REPORT ON THE FORGOLD PROJECT FOR SANTA MARINA GOLD LTD.

LIARD MINING DIVISION

LATITUDE: 56^o55'NORTH LONGITUDE: 130^o35'WEST

NTS 1046/E50 LOGICAL BRANCH ASSESSMENT REPORT FORREST KERR CREEK AREA BRITISH COLUMBIA



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November 5, 1990.





SUMMARY

Santa Marina Gold Ltd. has optioned the Forgold 1-5 claims which are located approximately 28 kilometres north of the Eskay Creek gold deposit in the Forrest Kerr Creek area of northwestern B.C. The 1990 work program consisted of prospecting, rock sampling and preliminary mapping of the Nelson Creek area in the eastern half of the prospect.

The claims are underlain by Palaeozoic metavolcanics and metasediments to the west of the Forrest Kerr Fault and Triassic to Jurassic volcanics and sediments to the east of the fault. Excellent high grade base and precious metal mineralization was found in highly sheared and altered Triassic intermediate volcanics close to and immediately east of the Forrest Kerr Fault.

Mineralization appears to be very consistent over a zone approximately 2 kilometres long and 500 metres wide and open to the north and south and possibly to the east. The mineralization found to date appears to be bounded between the Forrest Kerr Fault to the west and a fault contact between Triassic intermediate volcanics and Jurassic sediments and felsic volcanics, to the east.

Three types of mineralization were outlined: Type A), chalcopyrite, galena and sphalerite stringers which assay up to 31.50% copper, 5600 ppm lead, 7.15% zinc, 7.90 oz/ton silver, .026 oz/ton gold ; Type B), quartz-carbonate-sphalerite-galena-chalcopyrite stockwork veins assaying up to .061 oz/ton gold, 3.04% lead, 14.70% zinc; Type C) silicified, disseminated chalcopyrite associated with Type A but contains higher gold content, up to .140 oz/ton gold, 1.97% copper, 30 ppm silver. A grab sample assaying 3.28 oz/ton gold, 9.58% copper appears to be of this type.

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INTRODUCTION

This report summarizes the exploration program conducted on the Forgold Project, Liard Mining Division, by OreQuest Consultants Ltd. on behalf of Santa Marina Gold Ltd.

The nature of the work was a preliminary examination of the eastern half of the claim block (see Figure 2a). The aim was to locate mineralization associated with the Forrest-Kerr Fault which trends through Nelson Creek. A crew of six was situated at Kestral Resources Forrest Kerr Camp, located 10 km to the west of the property. The crew flew to the property every day utilizing the contract helicopter based at the camp during the period September 16 to September 29, 1990. Actual work consisted of prospecting, preliminary mapping and rock sampling with a total of 116 samples taken.

LOCATION AND ACCESS

The Forgold property is located in the Forrest-Kerr Creek area and is approximately 28 kilometres north of the Eskay Creek gold deposit. The property is located at latitude $56^{\circ}55'$ N and longitude $130^{\circ}38'$ W (NTS map sheet 104B/15E) and lies within the Liard Mining Division (Figure 2a).

Access is by helicopter only, from the Bronson Creek airstrip 38 kilometres to the southwest, from the Bob Quinn airstrip located on the Stewart-Cassiar Highway 20 kilometres to the east or from Stewart, 110 kilometres to the south. As well, there is a small charter



serviced airstrip located at Kestral Resources' Forrest-Kerr camp located 10 kilometres to the west. Frequent fixed wing scheduled and charter service from Smithers, 330 kilometres to the southeast, is available to the Bronson airstrip located 34 km southwest of the Forrest Kerr airstrip. Construction of an all weather road from Bob Quinn Lake to the area is expected to begin in 1991. The road will be approximately 8 km southeast of the Forgold Project.

PHYSIOGRAPHY AND CLIMATE

The Forgold Project block is located on the edge of the inter coastal mountain belt of the Coast Mountain Batholith complex. Elevation varies from 460m (1500 feet) along Forest Kerr Creek to 1830m (6000 feet) along the ridge tops. The terrain is rugged with steep valley walls and immature ravines and gullies filled with unconsolidated glacial debris.

Water is plentiful year round in the form of snow melt and ground water seepage and from various creeks throughout the property. Nelson Creek is the local name for a southerly flowing creek which originates north of the Forgold claims and parallels the Forrest Kerr Fault. Thick stands of cedar and fir trees are found throughout the property. A mixture of slide alder and devils club is found principally along steam gullies.

Climatically the property is under the influence of costal weather patterns. As a result, the weather varies from warm summer





days to cool, wet fall conditions to that of several metres of snow during the winter months. Because of these weather changes the property is workable only from late June to the early October.

CLAIM STATUS

The Forgold claim consists of the Forgold 1-5 claims and was staked for Ecstall Mining Corporation in September, 1989. A 50% interest in the claims was later transferred to Omega Gold Corporation. Santa Marina Gold Ltd. optioned the claims in 1990. The claims are located in the Liard Mining Division on NTS map sheet 104B/15E (Figure 2a) and pertinent claim information is summarized below:

TABLE 1 - CLAIM INFORMATION

Claim	Record #	Units	Record Date	Expiry Date
Forgold 1	6257	18	Sept 2, 1989	Sept 2, 1993
Forgold 2	6258	18	Sept 2, 1989	Sept 2, 1993
Forgold 3	6279	14	Sept 2, 1989	Sept 2, 1993
Forgold 4	6482	12	Sept 24, 1989	Sept 24, 1993
Forgold 5	6483	16	Sept 24, 1989	Sept 24, 1993

The expiry date indicated above reflects assessment filed on the basis of work described in this report.

GENERAL AREA HISTORY

The Forgold Project lies within an historically active mining and exploration area that extends some 225 kilometres from Stewart in the south to near Telegraph Creek in the north. Within this area, which has been referred to as the Stikine Arch, mining activity goes back to the turn of the century. Due to the size of the region it

historically has been referred to as more specific areas, ranging from the Stewart area to Sulphurets, Iskut River and Galore Creek, however all of these individual camps appear to be related to the Stikine Arch as a whole. Recent discoveries appear to be filling in areas between these known mineralized camps. It is probable that the entire area can be considered as one large mineralized province with attendant subareas.

The Stewart area has been mined actively since the early 1900s and is one of the most prolific mining districts in British Columbia (Grove, 1971). Most prominent among the numerous mining properties are the Silbak - Premier, Big Missouri and Granduc deposits, located 13 km north, 20 km north and 39 km northwest of Stewart respectively.

The Premier vein system, first staked in 1910, produced in excess of 1.8 million ounces of gold and 41 million ounces of silver from 4.7 million tons (to 1968). The nearby Big Missouri deposit, first staked in 1904, was in production between 1938 and 1942. During this time 847,615 tons were mined, producing 58,384 ounces of gold and 52,677 ounces of silver. Both these deposits, however, have recently been re-evaluated by Westmin Resources Ltd. who has placed them both into production with announced reserves of 6.1 million tons grading 0.064 oz/ton gold, 2.39 oz/ton silver and 1.86 million tons grading 0.09 oz/ton gold and 0.67 oz/ton silver respectively (Canadian Mines Handbook, 1989-90).

Bond International Gold Inc. announced initial drill results from their Red Mountain Project (News Release, September 29, 1989) located 15 km east of Stewart. One discovery, referred to as the Marc Zone, produced a 66 m drill intersection grading 9.88 g/ton gold and 49.29 g/ton silver. Another area, the Willoughby Gossan Zone, produced a 20.5 m intersection grading 24.98 g/ton gold and 184.21 g/ton silver. These occurrences lie approximately 15.5 km and 23.5 km respectively east-northeast of Stewart.

The Forgold Project lies of the northern fringe of the Iskut-Sulphurets area which has seen extensive exploration in the last three The Iskut area originally attracted interest at the turn of years. the century when prospectors, returning south from the Yukon goldfields searched for placer gold and staked bedrock gossans. In the 1970s the porphyry copper boom drew exploration into the area. The new era of gold exploration began with the 1979 option of the Sulphurets claim block by Esso Minerals Canada and the 1980 acquisition of the Mount Johnny claims by Skyline Explorations Ltd. Skyline. Skyline commissioned its mill in July, 1988. Cominco Ltd. and Prime Resource Group Inc. are projected to announce a feasibility decision on the adjacent Snip deposit in early 1990. There has been limited production from Catear Resources Ltd.'s Goldwedge Zone where the mill was commissioned in June, 1988.

Beyond these projects, and except for limited early placer gold recovery from some creeks, the area has had no mineral production

history. Since 1979, more than 70 new mineral prospects have been identified, though ground acquisition was relatively slow until the fall of 1987 when the promising results of summer exploration programs became known and the provincial government announced the upcoming release of results from a regional stream sediment survey. By April 1988, all open ground had been staked. More than 60 companies hold ground in the Iskut-Sulphurets belt but to date only small areas within this 40 x 80 km district have received extensive exploration.

In the Sulphurets Creek camp 65 km southeast of the Forgold property, near Brucejack Lake, the vein-hosted West Zone of Newhawk Gold Mines Ltd. / Granduc Mines Ltd. / Corona Corporation is reported to contain 826,000 tons grading 0.45 oz/ton gold and 14.42 oz/ton silver (Stockwatch October 25, 1990) while the Snowfield Gold Zone and Sulphurets Lake gold zone are bulk tonnage low grade deposits containing 7.7 million tons of 0.075 oz/ton gold and 20 million tons of 0.08 oz/ton gold respectively (GCNL Aug. 24, 1989). Catear Resources Ltd.'s Gold Wedge Zone is reported to contain 146,437 tons of 0.827 oz/ton gold in a similar setting (Canadian Mines Handbook, 1989-90).

On the Snip property, situated 40 km to the west southwest of the Forgold Property, the Twin Zone, has reserves in all categories reported at 1,030,000 tons of 0.88 oz/ton gold (Canadian Mines Handbook, 1990-1991). There is potential to develop additional reserves outside the Twin Zone when mining begins. Twin Zone

mineralization occurs in a discordant 3 to 25 ft thick banded shear zone comprising alternating bands of massive calcite, heavily disseminated to massive pyrite, crackle quartz and thin bands of biotite-chlorite.

At Skyline's nearby Johnny Mountain Mine, reserves in all categories are estimated at 740,000 tons of 0.52 oz/ton gold and 1.00 oz/ton silver with copper, zinc, and lead (Canadian Mines Handbook, 1990-1991). Five major areas of gold-bearing sulphide are known. The most important Stonehouse Zone consists of sulphide-potassium feldspar-quartz vein and stockwork systems which have been only partly explored. Low gold prices and declining reserves have forced the company to suspend operations in late 1990. The economics of the project will be reevaluated when the Iskut road is complete.

The most recently discovered and perhaps the most exciting gold mineralization occurs on the Eskay Creek property of Prime Resources Group Inc./Stikine Resources Ltd., located 28 km southeast of the Forgold Property. Published preliminary reserve calculations done inhouse by Prime Resources based on drilling up to CA90-657 indicate probable geological reserves of 1,992,000 tons grading 1.47 oz/ton Au and 55.77 oz/ton silver. (Vancouver Stockwatch, Sept 14, 1990). The company is currently driving an exploration drift to test the continuity of the deposit at depth and to conduct metallurgical testing.

Immediately south of the Eskay deposit, American Fibre Corporation and Silver Butte Resources are in a joint venture on the SIB Project, on ground that hosts the same stratigraphy as the Eskay deposit. Results from recent drilling have returned results of 46.9 ft of 0.421 oz/ton gold and 30.91 oz/ton silver from hole 90-30 (Vancouver Stockwatch, October 10, 1990). Results from the final 1990, 26 hole program included values of 6.3 ft of 0.13 oz/ton gold and 19 ft of 0.13 oz/ton gold both in hole 90-38 (GCNL, November 5, 1990).

Elsewhere in the area Tymar Resources and Akiko-Lori Gold Resources have been drilling on the Lakewater Project which adjoins the Prime/Stikine project to the west. The companies are drilling a 320 m wide gap in the American Fibre/Silver Butte SIB claims, within which the favourable Eskay deposit stratigraphy occurs. Results have been excellent and include the following: 9.8 ft of 1.197 oz/ton gold, 1.7 oz/ton silver, 0.73% lead and 0.72% zinc (LW90-2), 3.3 ft of 0.115 oz/ton gold (LW90-3) and 16.4 ft of 0.042 oz/ton gold (LW90-6), (Vancouver Stockwatch, October 30, 1990).

The northwest portion of the Stikine Arch, known as the Galore Creek area, was the focus of widespread exploration in the 1950's, 1960's and 1970's for large tonnage porphyry copper deposits. Two major discoveries were made and exploration work defined reserves of 138 million ton grading 1.06% copper, 0.397 g/t gold and 7.94 g/t silver at Galore Creek, and 910 million tons grading 0.30 % copper,



After Logan (1990)



LEGEND

QUATERNARY



RECENT VOLCANICS

	TILL,	ALLUMUM

LAYERED ROCKS MIDDLE TO UPPER JURASSIC BOWSER LAKE GROUP



CHERT PEBBLE TO GRANULE CONGLOMERATE

JURASSIC

UNDMIDED SEDIMENTS AND VOLCANICS



MIDDLE(?) JURASSIC

dvt.m zvt.m

DENSE MEDIUM GREY TO GREEN PILLOW BASALT, LOCALLY AMYGDALOIDAL, PLAGIOCLASE PHYRIC, PILLOW BRECCIA FLOWS AND FLOW BRECCIAS, HYALOCLASTITE

BRECCATED AND CRACKLE FRACTURED DARK GREEN AND GREY SLUCEOUS SILTSTOWES AND PRINC CHERT, CARBONACEOUS TUFFACEOUS WACKES WITH MITTRBEDDED COMGIQUERATE CONTINUING CLASTS OF CHERT, BLACK SILTSTOWE, AND INTERMEDIATE TO FELSC VOLCANICS (JAcq)

PLANAR BEDDED SHALE AND LOCALLY CROSSBEDDED SANDSTONE TURBIDITE COUPLETS

THINLY BEDDED, ALTERNATING BLACK AND WHITE SILICEOUS TUFFS AND SEDIMENTS

LOWER(?) JURASSIC



FISSILE, THIN BEDDED, SILTSTONE AND SANDSTONE WITH CARBONACEOUS WOOD FRAGMENTS, GRANULE CONGLOMERATES CONTAINING INTERMEDIATE VOLCANIC. SEOMINISH GREY LAPILLI AND CRYSTAL TUFF; RHYOLITE CRYSTAL TUFF AND LESSER FLOWS IMM

UPPER TRIASSIC STUHINI GROUP

UTS UNDMIDED YOLCANICS AND SEDIMENTS

υTSv

UTSVI AMBOON AND DREEN PLAGIOCLASE AND LESSER AUGITE-PHYRIC LAPILLI TO BLOCK TUFFS AND ASSOCIATED EPICLASTICS

MAROON AND GREEN PORPHYRITIC VOLCANIC FLOW BRECCIAS, PLAGIOCLASE-PHYRIC (UTSVP); AUGITE-PHYRIC (UTSVI)

UTSI GREY-GREEN APHANITIC TUFF

uTSw	TUFFACEOUS WACKE, ARGILLITE, LIMESTOWE, CARBONACEOUS AND CALCAREOUS SILTSTONE INTERBEDDED WITH FINE BRAINED SANDSTONE AND MINOR CONGLOMERATE: MARCON VOLCANIC CONGLOMERATE WITH LIMESTONE CLASTSJOTSwoj)

PALEOZOIC STIKINE ASSEMBLAGE

UNDIVIDED METAVOLCANICS AND METASEDIMENTS

EASTERN ASSEMBLAGE

PERMIAN

₽u

Ptc Pc

₽ms

₽c

DEFORMED CHLORITIC TUFFS AND METAVOLCANICS, INTERBEDDED TUFFACEOUS AND SILICEOUS SILTSTONES AND NUMEROUS THIN BEDDED RECRYSTALLIZED LIMESTONES

LIMESTOME: BIOCLASTIC, MEDIUM-BEDDED, RECRYSTALLIZED, WHITE TO BUFF, SPARSELY CRIMODAL CALCARENITE WHICH LOCALLY IS COMPLETELY RECRYSTALLIZED TO COARSE CALCITE

PERMIAN AND OLDER

METASEDIMENTS AND MIMOR LIMESTONE; SILTSTONES ARE GREY TO LIGHT GREEN PMILITIC AND WITERLAYERED WITH GRAPHITC ARGULTE AND SUCCOUS PHYLITE AND THINI LENSS OF DARA BROWN LIMESTONE; GREEN AND WITHE SUCCOUS TURBIDITE COUPLETS AND CHERTY TUFFS(Pmil) OCCUR HIGH IN THE STRATGRAPHY

UMESTOME: RECRYSTALUZED, THIN BEDDED TO MORE COMMONLY MASSIVE, WHITE TO BUFF COLOURED.

RTV MAFC TO FELSIC METAVOLCANICS, RARE LIMESTONE LENSES; VARIABLY FOLIATED TO SCHISTOSE, PURPLE TO DARK GREEN PLAGAOCLASE PORPHYRITIC FLOWS AND TUFFS.

LOWER DEVONIAN

IDC DEFORMED CORALLINE LIMESTOMES: LESSER INTERBEDDED PEBBLE COMOL SMERATE, SILCEOUS AND CARBONACEOUS SHALES AND BOTH MARIC AND FELSIC TUFFS.

INTRUSIVE ROCKS

CRETACEOUS A	ND YOUNGER (7)
Кр	PLAGROCLASE QUARTZ PORPHYRY, OCCURS AS SMALL PLUGS AND DYKES INTRUDING NORTH TRENDING FAULTS, PYRITIC AND OXIDIZED TO YELLOW AND RED GOSSANS.
JURASSIC AND	YOUNGER(?)
gL	BOTITE GRAWTE: PINK, COARSE TO MEDIUM GRAWED, EQUIGRAVULAR TO 'DUARTZ EYE' PORPHYRITE, LESS COMMONI, Y MORMBLEVDE IS THE MAR'C CONSTITUENT, OUARTZ EXCELOS JO FREZENT, OUARTZ RICH PHASES ISO PER CENT) ARE SPATIALL' RELATED TO FAULT STRUCTURES
mpl	MORINBLENDE QUARTZ MONZONITE TO MONZONITE, COARSE TO MEDIUM GRAINED MORINBLENDE AVERAGES 20 PERCENT AS 5 MILLIMETRE CRYSTAL LATHS AND POWULTIC CLOTS, BIOTITE WHERE PRESENT IS FINE GRAINED AND LESS THAN 5 PERCENT
Ja	MORNBLENDE DORITE, MORNBLENDE OULATZ DORITE, MORNBLENDE IS CHLORITIC AND COMPRISES MORE THÁN 10 PERCENT OF THE RCCA
MIDDLE(?) JURA	SSIC
jdi	DURNITE TO GABBRO: COARSE GRAINED, OCCURS AS STOCKS AND SILLS, PLAGIOCIASE ORISTALS ARE EUROPAL TO SUBREDRAL ACCULAR CLOTS WINCH MARAT A DISTINCTIVE FELT WINTERLOCKWO TEXTURE, THESE SUBVOLCANCE WIRDLOWS MAY REPRESENT FEEDERS TO THE PILLOW BASALTSING)
EARLY JURASSI	c
eJm	MORINBLENDE PLAGIOCLASE PORPHYRITIC MONZOWITE OCCURS AS DYKES. SILLS AVID PLUGS CHARACTERIZED BY A HEMATITIC GROUNDMASS ALTERED WITH PMA SUBHEDRAL TO EUHEDRAL PLAGOCLASE UP TO 30 PERCENT AND MORNBLENDE CRYSTALS. TRACHYTIC TEXTURES ARE DOMMON, STRONGLY MASMETIC.
gLe	HORNBLENDE BIOTITE POTASSIUM FELDSPAR MEGACRYSTIC GRANITE.
AGE UNKNOWN	
qd	MORNBLENDE QUARTZ DIORITE: MEDIUM GRAINED, LOCALLY FOLIATED AND ALTERED, CONTAINS IBREGULAR MARIC INCLUSIONS (UP TO 160 CENTIMETRES) OF AMPHIBOLITES
d	ALTERED DIORITE
DYKES	a) AMMRIC ANDESITE AND BASALT; DOJ MAJIC PLAGICICLASE PHYRIC; IJ LAMPROPHYRE. J RHYOLTE/APUTE

After Logan et al (1990)

0.113 g/t gold, 0.992 g/t silver and 0.02% molybdenum at Schaft Creek. Recent exploration in the area has included work by Consolidated Rhodes Resources on the Copper Canyon deposit which contains historic reserves of 27.6 million tons of .7% copper, 0.3 oz/ton silver and 0.01 oz/ton gold. Rhodes has announced results of a fall drill program which has included a hole which contains 269.5 ft of 1.06% copper, 0.65 oz/ton silver and 0.056 oz/ton gold. Further drilling is in progress (Vancouver Stockwatch, September 20, 1990).

Immediately adjacent to the north of the Forgold Project, High Frontier Resources Ltd. and Noranda Exploration have discovered a significant new polymetallic occurrence (Figure 2b). The mineralization on the GOZ-RDN Project lies on the east side of the Forrest Kerr Fault and contains values as high as 2.69 oz/ton gold, 2.2 oz/ton silver, 3.39% copper, 3.88% lead and 22.01% zinc. Noranda, as operator, carried out a diamond drill program but complete results have not yet been released (Vancouver Stockwatch, August 16, 1990).

In August, 1990, Santa Marina Gold Ltd. entered into an agreement with Estall and Omega to explore the Forgold property which adjoins the High Frontier-Noranda (GOZ-RDN) Project to the south.

REGIONAL GEOLOGY

The area has been going under extensive re-evaluation by the Federal and provincial Geological Surveys. The area has been defined as part of the Stikine Terrane by Monger (1977).

It is underlain by variably metamorphosed and deformed Stikine Assemblage consisting of pre-Permian arc volcanic and sedimentary rocks and Permian platformal limestone and minor volcanics (Brown The Upper Triassic Stuhini Group unconformably overlies the 1990). Stikine Assemblage and consists of dominantly marine arc-volcanic and related sedimentary rocks. The Stuhini Group is overlain by Lower to Middle Jurassic Hazelton Group equivalent volcanic and sedimentary rocks. Conformably overlying this sequence are the intercalated successor basin sediments of the Bowser Lake Group of Late Jurassic to Cretaceous age (Logan 1990) outcropping along the flanks of the Iskut River valley. Further north non marine clastic rocks of the Upper Cretaceous to Eocene. Sustut Group lies in an angular unconformity on Upper Triassic and Lower Jurassic Volcanic rocks. The Sustut Group is also unconformable with felsic to mafic volcanics of the overlying Eccene Sloko Group (Brown, 1990).

Extensive volcanism during the Late Tertiary to recent times produced large lava flows and pyroclastic deposits ranging form ryholite to basalt in composition which are common in the Mt. Edziza area.

Intrusive rocks in the area range in ages from Jurassic to Early Tertiary and are generally felsic to intermediate in composition.

Regional faults run generally in a N-S direction with a subordinate set of NW-SE trending lineaments. Many older faults in

the Forrest Kerr area have been folded (Read, 1989) such as the West Lake, West Slope and Kerr Band Faults. Some faults are important controls for mineralization such as the West Slope Fault for the Pamicon Development Ltd's Forrest claims and the Forrest Kerr Fault for High Frontier/Noranda's GOZ/RDN property near More Creek.

PROPERTY GEOLOGY

History

The Geological Survey of Canada had mapped the area at various times and released an open file report (0.F. 2094, 1989). In 1989, the BCMEMPR undertook a program of geological mapping and geochemistry of streams and rocks of the Forrest Kerr-Iskut area. One rock sample from the property returned a value of 0.46% copper, 0.8% antimony, 9 ppb gold and 0.5 ppm silver. During the course of restaking the claims for Ecstall Mining Corporation, crews found anomalous base and precious metal mineralization in the Nelson Creek area. Samples taken from a small gossanous zone returned values of 99,999 ppm copper, 126 ppm lead, 667 ppm zinc and 97.7 ppm silver (2.85 oz/ton) as well as 9000 ppm copper and 0.068 oz/ton gold.

Two days of follow-up work in the anomalous area were completed and included resampling and further prospecting. During this time, three new base-metal showings were located. As well, an area of intense sericite alteration was discovered over an area of greater than 100 m x 500 m. Mineralization found consists of chalcopyrite,

galena, and minor sphalerite and occurs as 10-20 cm bands within quartz/pyrite veins.

Santa Marina Gold Ltd. then optioned the claims and engaged OreQuest Consultants Ltd. to carry out the programme covered by this report.

Geology

Prospecting and geological traversing were concentrated in the eastern half of the claim block, specifically around the eastern segment of Nelson Creek which is a topographical expression of the Forrest Kerr Fault, a NE trending, vertical to steep easterly dipping normal fault. It separates metamorphosed and deformed Palaeozoic strata on the western side from the Triassic-Jurassic rocks on the east (Logan, 1989). A distinct N-NE foliation in the sheared volcanics is prevalent. A N-S trending fault separates the Triassic intermediate volcanics from the siltstones/argillites and felsic volcanics of probable Jurassic age situated along the eastern most side of the property. Large sericite-pyrite alteration zones are located close to this contact and within the Forrest Kerr Fault zone exposed in the south part of the claim.

Mineralization and Alteration

Significant and consistent high grade base and precious metal mineralization was found in altered and highly sheared intermediate volcanics and tuffs between Nelson Creek and a sericite schist/

alteration zone measuring 100m thick at least 500 metres long (Figure 5). The mineralized zone is approximately 2 km long and 500m wide and continues along strike north where it forms the host to Noranda's GOZ-RDN mineralization (Figure 2b). Extensively altered and sheared volcanics extend along strike south but no significant mineralization has yet been reported from properties to the south. Mineralization discovered to date is of three types:

Type A: Steeply dipping chalcopyrite, galena and sphalerite stringers ranging from 0.10 to 1.0 metres in thickness within foliation and trending predominately N and NE direction. This type is common in the NE part of the claim block.

Type B: Quartz-carbonate stockwork veins which tend to occur in "swarms" carrying banded sphalerite, galena and chalcopyrite of variable concentrations A 30 m wide zone is exposed in the south part of the prospect.

Type C: A silicified, disseminated chalcopyrite zone associated with type A. Chlorite alteration is usually prevalent in the host intermediate volcanics. As well, variable quartz flooding and silicification was noted. Large NW-SE trending sericite-pyrite schist/alteration zones are located on the hill close to the fault contact of the Triassic volcanics and the Jurassic sediments. Their origin is unclear at this time. Pervasive sericite-pyrite alteration

is visible in the main creek flowing south along the strike of the Forrest Kerr Fault.

Geochemistry

A total of 116 rock samples were taken during the programme. Excellent high grade base and precious metal values were returned from many of the samples throughout the prospect. In the NE part of the area three grab samples of a Type A massive chalcopyrite vein 30 cm wide assayed; 29.50% Cu, 45 ppb Pb, 270 ppm Zn and 3.36 oz/ton Aq; 31.50% Cu, 37 ppm Pb, 1270 ppm Zn, 2.240 oz/ton Ag and 26.00% Cu, 300 ppm Pb, 680 ppm An, 7.90 oz/ton Ag. The highest gold result was 0.026 oz/ton. A grab sample along Nelson Creek assayed 0.449 oz/ton Au, 4.67% Cu and other anomalous gold values occur throughout the zone. In the south part of the prospect the Type B style of quartzcarbonate-sulphide stockwork returned assays of 0.61 oz/ton Au, 3.04% Pb, 14.70% Zn and 270 ppb Au, 8.10% Zn. Just north of this area a copper rich zone returned assays .275 oz/ton Au, 1.48% Cu, 1.69% Zn and 0.166 oz/ton Au, 2.90% Cu. In the middle of the prospect, grab samples of a chalcopyrite stringer zone (Type C?) returned assays of 3.28 oz/ton Au, 9.58% Cu, 2.48 oz/ton Ag; 0.202 oz/ton Au, 2820 ppm Cu and 0.069 oz/ton Au, 17.60% Cu.

A float sample (#16738) taken above the zone assayed 0.096 oz/ton Au, 2.91% Cu. The source of this boulder was not located but could represent possibly a parallel high grade zone. Sericite schist/alteration zones with up to 50% pyrite only assayed up to 380 ppb Au, 170 ppm Pb, 120 ppm Zn.

All samples were sent to Vangeochem Labs in Vancouver for analysis for gold, copper, lead, zinc and silver by atomic absorption. Anomalous samples were checked by fire assay. All rock sample descriptions appear in Appendix I, followed by assay certificates in Appendix II and analytical procedures in Appendix III.

CONCLUSIONS

Rock geochemistry on the Forgold Project of during September, 1990 has delineated a highly anomalous base and precious metal mineralized zone 2 km long and at least 500 m wide. Mineralization occurs within altered and sheared intermediate volcanics of Triassic age as stringers and stockworks and appears to be structurally controlled by the N-S trending, vertical to steep, easterly dipping Forrest Kerr Fault. Most mineralization is found close to or on the eastern side of the fault and is open to the north and south and possibly to the east. The mineralization occurs in three styles: Type A: chalcopyrite, galena and sphalerite stringers ranging from 0.10 to 1.0 m wide with assays up to .026 oz/ton Au, 31.50% Cu; Type B: quartz-carbonate stockwork with sphalerite, galena and chalcopyrite and Type C with assays up to .061 oz/ton Au, 14.70% Zn; silicified, disseminated chalcopyrite associated with Type A with assays up to 3.28 oz/ton Au, 17.16% Cu.

The variety, consistency and extent of the mineralization throughout the zone is extremely encouraging. Potential exists for high grade deposits as well as large low grade deposits associated with broad SE trending chlorite alteration zones that contain silicification found throughout the zone.

STATEMENT OF EXPENDITURES

Mobilization/Demobilization	\$ 1,635.00
Wages: G. Malensek (geologist) 7 days @ \$320/day R. Riedel (prospector) 6 days @ \$300/day O. Wiggerman (field asst.) 6 days @ \$300/day C. Birarda (") 6 days @ \$270/day	2,240.00 1,800.00 1,800.00 1,620.00
Transportation and Communication	903.05
Contract Services (N. Baker, consulting geologist; R. Rabbit, prospector)	9,600.00
Support Costs (camp, cook, expediting, fuel, food, etc.)	11,154.13
Helicopter	5,799.77
Analyses	3,515.91
Report Costs Total	<u>5,028.84</u> \$45,096.70

CERTIFICATE of QUALIFICATIONS

I, Grant A. Malensek of 2809 Borden Street, Vancouver, British Columbia hereby certify:

- I am a graduate of the University of British Columbia (1987) and hold a B.Sc. degree in geology.
- 2. I am presently employed as a geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
- I have been employed in my profession by various mining companies since 1986 and have worked in British Columbia and Papua New Guinea.
- 4. The information contained in this report was obtained by supervision of work done on the property and the materials listed in the bibliography.
- 5. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property nor in the securities of Santa Marina Gold Ltd.
- 6. I consent to an authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.

Grant A. Malensek, B.Sc. Geologist

DATED at Vancouver, British Columbia, this 5th day of November, 1990.

CERTIFICATE of QUALIFICATIONS

I, George Cavey, of 6891 Wiltshire Street, Vancouver, British Columbia hereby certify:

- 1. I am a graduate of the University of British Columbia (1976) and hold a BSc. degree in geology.
- 2. I am presently employed as a consulting geologist with OreQuest Consultants Ltd. of 306-595 Howe Street, Vancouver, British Columbia.
- 3. I have been employed in my profession by various mining companies since graduation, with OreQuest Consultants Ltd. since 1982.
- 4. I am a Fellow of the Geological Association of Canada.
- 5. I am a member of the Canadian Institute of Mining and Metallurgy.
- 6. I am licensed to practice as a Professional Geologist of Alberta.
- 7. Neither OreQuest Consultants Ltd. nor myself have or expect to receive direct or indirect interest in the property nor in the securities of Santa Marina Gold Ltd.
- 8. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Material Facts or other public document.

ECAVEN

DATED at Vancouver, British Columbia, this 5th day of November, 1990.

George \ avev

Consulting Geologist

CERTIFICATE of QUALIFICATIONS

I, Nelson W. Baker, of the city of Toronto, County of York, in the Province of Ontario, Canada, do hereby certify that:

- I am a Consultant Geological Engineer, principal of the firm of Nelson W. Baker Geological Services Ltd., with an office located at 42 Invermarge Drive, West Hill, Ontario, M1C 3M4.
- 2. I have been a member of the Association of Professional Engineers of Ontario since October, 1970.
- 3. I am a qualified geological engineer having received a degree of B.Sc. (Engineering) in 1969 at South Dakota School of Mines, in Rapid City, South Dakota, U.S.A. I have since practised professionally in the field of mineral exploration and development.
- 4. The writer has visited the Forgold property on consecutive days from September 19th through to September 25th, 1990 as part of a six-man field party engaged by OreQuest Consultants Ltd. to carry out a detailed prospecting and sampling program for Santa Marina Gold Ltd.
- 5. I do not have, nor do I expect to receive any interest in the property held by Santa Marina Gold Ltd. and described in the foregoing report, however, the writer has a stock option dated July 10, 1990 to purchase a total of 50,000 shares of Santa Marina gold Ltd. at \$0.31 per share. This option is exercisable before July 10, 1992. Other than the above option, the writer does not hold any securities in the companies having an interest in the property described in the foregoing report.
- 6. I consent to and authorize Santa Marina Gold Ltd. to use my name and the attached report in the Company's Statement of Material Facts or other public document.

Nelson W. Baker, P.Eng.

DATED in Toronto, Ontario, the 5th day of November, 1990.

BIBLIOGRAPHY

CANADIAN MINES HANDBOOK 1989-90, 1990-91.

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VANCOUVER STOCKWATCH

1990: August 16 - High Frontier Resources September 14 - Prime Capital Corporation September 20 - Consolidated Rhodes Resources October 10 - American Fibre Corporation October 25 - Corona Corp/Newhawk October 30 - Tymar Resources Ltd./Akiko-Lori Gold Ltd.

APPENDIX I

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ROCK SAMPLE DESCRIPTIONS

Sample	Date	Location	Lithology	Remarks/Alteration	n/Structure	Mineralization
16601	Sept23	ForGold	PORPHYRY			Diss. cpy zone 5cm x 2.3m
16602	11	H	ANDESITE			cpy vein 4cm x 2m?
16603	Sept24	19	"	50c	cmx?	l% diss. cpy Azurite/Malachite
16604	*1	H	H	Chlorite Alt. zone	e 3m/?	cpy veins Sphalerite veins galena specks
16605	11	•1	11	*) *)		cpy veins 2-4cm x ?
16606		**	"			Diss. cpy 5cm x ?
16607	11	81	**			cpy veins 5-8cm x ?
16608	"	11				Diss. chalcopyrite/pyrite zone 5cm x ?
16609	11	11	SERICITE?	Siliceous		Pyrite zone 1m x ? 10-20%
16610	11	**	FLOAT	"		Pyrite/cpy zone
16611	Sept25	**	ANDESITE	2 Qtz/pyrite/cpy v	veins	3-10% cpy 2cm x ?
16612	*1	*1	SERICITE	10-	20%pyrite	Pyrite zone size?
16613	"	n	ANDESITE	Chlorite Alt. 5 c	:m x ?	8% cpy in quartz vein
16701		n		Alteration zone @ Sericite schist wi east side of Nelso pyrite	top of hill th 50% on on Creek	

16702 16703	11 11	Same as above. Same as above.
16704	11	West and north about 100' of Chalcopyrite stringers in 703 in mafic volcanic
16705	"	Quartz/carb veins (swarms) carrying fair chalcopyrite
16706		Near 705, cpy stringers.
16707	"	Approx. 40' downslope from 705, cpy, stringers
16708	"	Approx. 25' downslope from 707, cpy, stringers, swarms quartz veins.
16709	11	Mineralized rhyolite, fine stringers of pyrite with odd chalcopyrite.
16710	n	Alteration zone. Sericite schist with 50% fine pyrite. Next to sample RW-R372 taken by Nicholson
16711	"	Alteration zone. sericite schist with 20-30 pyrite.
16712	11	Same as 711, about 80' downslope from 711
16713	11	Well mineralized chlorite, rich mafic volcanics-chalcopyrite, malachite stringers trending north-northwest, multiple

16714	"	stringers, cpy up to 2" massive. Same host as 713 but has been silicified (Quartz flooding?) Good disseminated cpy and also in stringers.
16715	"	A 2'wide Qtz/carb vein carrying strong sphalerite, galena, minor cpy and pyrite. Traced for 50' trending north-south, dipping east.
16716	. "	Massive angular float carrying better than 10% cpy with minor sphalerite
16717	"	6" wide quartz/carb vein trending N-S and carrying 1-2% galena and some sphalerite-part of a multiple swarm of similar veins
16718	n	Fairly massive sphalerite and good galena in a large angular quartz-rich float Float has come off the side of the hill.
16719	u	A north trending chalcopyrite stringer (6"wide) hosted in chlorite rich mafic volcanics.
16720	"	Cpy stringers in mafic volcanics
16721	"	Cpy stringers (up to 3") trending N-E in mafic volcanics.

16722	μ	Pyrite stringer, alteration zone (sericite schist) (5% Pyrite) Some alteration zone as 16701, 16711 and 16712.
16723		Multiple chalcopyrite veins up to 3" wide in fractured mafic (chlorite rich) volcanics.
16724	"	High grade cpy in siliceous mafic volcanics, same zone as 16714 cpy disseminated w/ quartz
16725	11	2'wide quartz/carb vein with heavy sphalerite and galena w/ minor cpy. Same vein as 16715
16726	"	Well mineralized siliceous mafic volcanic Estimate 2-3% cpy is disseminated and also as stringers. Mineralization trends N-S
16727	n	High grade cpy stringer next to 16726 stringer up to 4" wide. Highly fractured mafic volcanics
16728	"	2'wide quartz/carb vein system with 5% sphalerite and galena swarm of veins over 90'wide zone.
16729	"	Float at top of mountain, 5000ft ⁺

.

16730- 732		"		Three samples from massive cp vein about 2'wide trending N4 Estimate approx. 10% in place Samples are about 30' apart a vein.	by 5 ⁰ E es. long
16733		"		Parallel cpy, veins to 16730 vein About 100' north of 16730. More quartz than in massive vein.	
16734		"		Similar cpy. Stringer about 5 from 16733.	0′
16735		"		Rich cpy zone in mafic rocks, trend NE.	
16736		11		No sample	
16737		**		Same as 16735, cpy vein	
16738		"		High grade float (angular) found above alteration zone near the top of the summit @ the northeast corner of the property- source not found-good sphalerite, galena and cpy.	
33284	Sept19	"	11	Qtz/chalcopyrite vein1-5cmx5m	80% chalcopyrite x 035 ⁰ /70SE
33285	Sept21	••	CHLORITE ALT.AND.	1.2 chip sample Qtz/cpy/ Pyrite zone	5% cpy +045 ⁰ /65 ⁰ NE
33286	11	*1	23 21	2m (same as above)	1-5% cpy, trend NW
33287	**	**	W 11	2m (same as above)	1-2% сру
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33288	Sept22	17	ARGILLITE	Rusty Argillite & Rhyolite	Limonite Stain (Dilworth)
33289	17	+1	SERICITE	Small zone 4cm wide	1% cpy malachite
33290	**	H	VEIN	Sphalerite/cpy	1-3% cpy 1-5cm x + 3m
33291	н	11	ANDESITE	Diss chalcopyrite cubed py	
33292		11	SERICITE		1-4% chalcopyrite 20cm wide
33293	Sept23	11	ARGILLITE	Rusty Argillite (Dilworth)	2-5cm Pyrite vein
33294	"	**	**	Siliceous Argillite	10-20% Pyrite 10m x 20m
33295	19	**	ANDESITE PORPHYRY	And./Ankerite, porphyry	Diss. chalcopyrite
33296	**	t1	VEIN	Massive & blotchy cpy	2-20cm wide x 3m
33297	"	**	PORPHYRY	Sphalerite/cpy vein	2-5 cm x 1.5 m.
33298	н	••	SERICITE	Bleached	50% pyrite 3m x ?
33299		19	ANDESITE	Chlorite Alt.	10% pyrite 4m x 10m
33300	"	**	VEINLETS		cpy stringers 15mx2m

FORGOLD PROJECT

Sample	Date	Location	Lithology	Remarks/Alteration/Structure	Mineralization
GS34201	Sept19	Nelson Creek E side4450'	SHEARED INT. PORPHYRY	Obliterated texture, soft, black, orange weathering	Trace malachite probably not in situ
GS34202	Ħ	U	SHEAR IN VOLCANIC?	?	15cm wide, gossanous, minor MnOx and 3mm cpy stringers
GS34203	"	u	SHEARED VOLCANIC	Weakly schistose, completely oxidized, black to red FeOx hackly fracture, asymetri- cally crenulated.	2% fg diss cpy, pervasive malachite stain in fractures and foliation
GS34204 205	Sept21	E. side Nelson CK	INT. PORPHYRY	Sheared, foliated, pervasive sericite alteration subcrop creek totally oxidized.	1% fg diss py
GS34206	"	11 H	FELDSPAR PORPHYRY	Sheared, pervasive sericite & qtz & chl alt ⁿ weakly gossanous	minor diss py
GS34207	"		SHEARED VOLCANIC	as above, foliation 120/90 veining 140/35 ⁰ NE	2 cm wide cpy veinlet (70%cpy)&blebbymalachite
GS34208	"	" " just above sample 34201	SHEARED VOLCANIC (qtz-vein)	l6cm wide. gossanous 150 ⁰ /60 ⁰ NE (p), coarse) grained	1% blebby malachite (no fresh cpy) & minor py
GS34209	H	11 H	11	80cm wide zone, subcrop qtz-chl-py comp. mottled white & green	7% diss & crystalline py

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F 34210 "	""(CHL SCHIST (qtz vein)	Fg, thinly foliated qtz-chl schist mod. hard, unable to find source	5% stringer cpy-intense malachite stain, 1% py + galena <u>+</u> rare sphalerite w/abundant hydrozincite(?) stain
F 34211 "	11 H	•		qtz-ga-sp & hydrozincite & chl in eroded vein 5% blebby ga & fg sp and abundant hydrozincite.
F34212 Sept22	3rd Ck from N boundary 4350	RHYOLITE	Grey, massive, totally oxidized but flow handing visible, conchoidal fracture lg boulders downslope	Vugs & stringers of fg py (5%)
F 34213 "	4350'		As above	10% fg massive py in pods 3cm wide
F 34214 "	11	H H	As above	10% fg py in veinlets 3cm wide
GS34215 "	5185′	SANDSTONE/ GREYWACKE	Cg unsorted appearance, sheared pervasive surface orange oxid ⁿ	Fe-carb veining 080/25 ⁰ SE 2mm wide barren
GS34216 "	4985′	FELDSPAR PORPHYRY	Green, fg, phenos 2mm subhedral completely sericite altered and oxidized, strongly sheared 30m wide gossan trending ESE.	Abundant 1m after py ghosts appx. 5%
GS34217 "	4815′	FELDSPAR PORPHYRY SERICITE SCHIST.	Completely sericite altered, white, perv. rusty oxidation, well foliated,140/subvertical	10% fg diss & crystalline py

GS34218 "	4760′	INT. VOLCANI- CLASIC	Strongly oxidized	Qtz-py & rare galena stringer
GS34219 "	4700′	INT. VOLCANI- CLASIC SERICITE SCHIST	White strongly oxidized well 170 ⁰ /vertical	5% diss py
GS34220 "	4500′	SHEARED	Highly sheared, strongly	Qtz vein: 10% py - 5%cpy
GS34221 "	3rd CK from N boundary 4490'	SHEAR ZONE	Gossanous, weakly foliated, 1.5m wide, 000/70 ⁰ W	Trace malachite
GS34222 "	4300′	SHEAR ZONE	1m wide, 30m long, gossanous qtz-se-py veinlets, trends 050 ⁰	10% fg diss py
GS34223 Sept23	3rd CK from N boundary	INT. VOLCANI- CLASIC	Highly sheared, weakly gossanous	Qtz-cpy vein-banded 3cm wide 50%qtz-50% cpy, blebby to crustiform
EOT				
GS34224 "	2nd CK from N boundary	SHEARED INT. VOLCANIC	Main Ck RH side 5m long 020 ⁰ /30 ⁰ SE	4cm wide qtz-ga-sp-cpy vein (60%qtz-30%ga-9%sp- 1% cpy)
F 34225 "	4300'	MASSIVE SULPHIDE	No malachite, dark reddish oxide, site of F16707 (1990)	15% massive cpy
GS34226 "	4310′	QTZ-CHL-	Min 15 cm wide-020 ⁰ /80 ⁰ SE	Green qtz, 10% fg py

QTZ-CHL- Min 15 cm wide-020⁰/80⁰SE PY VEIN

GS34227 "	4400′ sm. LH Tributary	MASSIVE CPY VEINLETS	1.5 m wide, gossanous w/qtz cpy stringers	2 cm stringer qtz-mass cpy appx. (40%)
GS34228 "	4400′	ANDESITE	Dark green, fg, perv. sili- cified, highly sheared	5% fg diss to stockwork py
GS34229 "	3800′	GOSSAN	Bright orange, qtz-se-py veining	10% fg diss py
GS34230 "	RH side	QTZ	Dark green qtz, hard, hackly	
	CK	VEININĞ	Fracture, dense-silicified volcaniclastic, sheared-part of main fault?	
F 34231 Sept24	Sm. LHT of main creek 3275	INT. VOLCANIC	Strongly gossanous	Massive sp & sulphides 10%sp-1%ga-minor cpy & py
F34232 "	3450′	QTZ- SULPHIDE BLDR	Well foliated, soft, gossanous, pervasive se alt <u>"</u>	pervasive qtz-carb stringers w/5% mass. sp + minor blebby ga
F34233 "	3500′	QTZ- SULPHIDE BLDR	Layered crustiform texture w/ ga & sp & rhodochrosite 2cm wide	7% sp-30% ga
F34234 "	3590′	CARB- SULPHIDE BLDR	as above	Massive sp-carb-py veining

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GS34235 "	3590'	QTZ VEIN	Green, tough, weakly gossanous	1% diss ga & py
G\$34236 "	3650′	QTZ-CARB- SULPHIDE VEINING	Irregular stockwork zone, large blowout vein 10cm wide, orient.? length?	Layered 15% sp & minor diss ga & py
F 34237 "	3800′	QTZ-CARB- SULPHIDE BLDR	Gossanous, soft, close to source but unable to locate, 2cm wide stringers	30% cpy, 25% dk brown sp? strong MnOx stain
GS34238 "	3900′	ANDESITE	Green, fg, highly sheared schistose appearance.	4cm wide mass. cpy vein 100% cpy, pervasive malachite along foliation
GS34239 "	3900'	ANDESITE	Sheared, strongly oxidized, foliation & min trend 110 ⁰	5% blebby cpy
F 34240 "	4220′	QTZ- SULPHIDE BLDR	Gossanous, vuggy, hard, no stain	75 qtz & carb-25 cpy
F 34241 Sept25	Sm CK 200m E of 9/24/90 traverse 3800'	RHODO- CROSITE SULPHIDE BLDR	White carb w/pink colour- ation, weakly efferescent, coarse grained	Minor blebby py & cpy
GS34242 "	3920'	INT. VOLCANIC	Clay alt, soft, red hematite surface coating-NE-SW- striae probably part of main fault	Minor MnOx & FeOx
GS34243 "	4020'	ANDESITE	Dark green, highly chl alt somewhat sheared	Minor blebby py

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F 34244 "	4110′	ANDESITE	Totally gossanous w/ 15% mass cpy (no malachite), vuggy, rare float in large notch,	15% mass cpy
GS34245 "	4250' Turn W. from top of CK head up ridge	ANDESITE	Green, fg, porphyritic, some- what sheared	2% irr. cpy & malachite stringers in fractures
F 34246 "	4350'	QTZ-BLDR	Cg, mottled, white-green colour, source (?)	5% blebby cpy & minor mal rimming cpy grains
GS34251 Sept27	Gorge Below Nelson CK 3060′	INT. VOLCANI- CLASIC	Highly sheared, silicified, mod. chl atl, somewhat foliated, strong FeOx surface weathering	
GS34252 "	2920′	ANDESITE LAPILLI TUFF	Maroon to red, polymictic w/ fg matrix, beige weathering	White carbonate stockwork lcm wide veins
F 34253 "	2900′	DACITE	Purple to green, siliceous, highly altered, original textures obliterated, waxy green alt mineral, mod FeOx stain	

APPENDIX II

ASSAY CERTIFICATES

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

GEOCHEMICAL ANALYTICAL REPORT

 CLIENT: OREQUEST CONSULTANTS LTD.
 DATE: OCT 02 1990

 ADDRESS: 306 - 595 Howe St.
 :

 : Vancouver, BC
 REPORT#: 900607 GA

 : V6C 2T5
 JOB#: 900607

PROJECT#: (FOURGOLD) SANTA MARINA INVOICE#: 900607 NA SAMPLES ARRIVED: SEPT 27 1990 TOTAL SAMPLES: 63 REPORT COMPLETED: OCT 02 1990 SAMPLE TYPE: 63 ROCK ANALYSED FOR: AU (FA/AAS) ICP REJECTS: SAVED

SAMPLES FROM: FORREST KERR COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: VGC Staff

Rynth SIGNED:

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 25 1-5656 FAX (604) 254-57 17

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

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is = insufficient sample

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

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DBTECTION LIMIT nd = none detected S -- = not analysed

is = insufficient sample

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LTD.	DATE:	OCT 09	1990
ADDRESS: 306 - 595 Howe St.			
: Vancouver, BC	REPORT#:	900597	GB
: V6C 2T5	JOB#:	900597	

PROJECT#: SANTA MARINA SAMPLES ARRIVED: SEPT 27 1990 REPORT COMPLETED: OCT 09 1990 ANALYSED FOR: CurPb 2n Ag INVOICE#: 900597 NA TOTAL SAMPLES: 50 SAMPLE TYPE: 50 ROCK REJECTS: SAVED

SAMPLES FROM: FORREST KERR CAMP COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: VGC Staff

SIGNED:

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

	REPORT NUMBER: 900597	GB JOB NUN	OREQUES	OREQUEST CONSULTANTS LTD.			PAGE 1 OF 2			
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	16703	101	. 108	20						
	10/04	14	51 51	13	20					
	16706	> 10000	141	3100	10.1					
	16707	6200	30	131	7.0					
	16708	1876	4800	>10000	6.4		·			
	16709	840	28	75	.7	•				
	16710	40	170	125	3.0					
	16711	29	- 26	10	1.9					
	16712	> 10000	20	205	13.7					
	16713	> 10000		136	6.6					
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	16717	9700 🤉	> 10000	> 10000	35.0					
	16719	10000	207	480	16.6		•			
	16720	464	- 44	170	.4					
	16721	2 s a 62	40	50	3.0					
	33284	> 10000	65	1430	46.0					
	33285	389	38	1100	4.6	•				
	33286	271	17	152	1.0					
	33287	4860	66	230	2.8					
	33288	81	51	289	.5	· • .				
	33289	2980	54	> 10000	7.1					
	33290	1800	38	> 10000	5.2					
	33291	5820	40	300	5.3					
	33292	7000	220	1800	6.9					
	34201	3590	11	370	.3					
	34202	> 10000	26	,122	31.0					
	34203	7600	8	175	2.6					
	34204	· 98	20	85	.6					
	34205	46	63	32	.5					
	34206	43	16	88	.3					
	34207	9400	34	280	6.0					
	34208	2850	18	290	.7					
	34209	50	21	52	.5					
	54210	> 10000	3800	> 10000	17.8					
	34211	1650	>10000	> 10000	8.5					
	DETECTION LIMIT	1	2	1	0.1					
	nd = none detected	= not an	alysed	is = i	nsufficien	t sample				

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

,

PAGE 2 OF 2

SAMPLE I Cu Pb Zn Ag	
-	
ppa ppa ppa ppa	
34212 90 320 1050 .1	
34213 20 100 310 .4	
34214 20 50 120 .3	
34215 70 32 119 .2	
34216 29 17 43 nd	
34217 12 14 72 .1	
34218 15 3100 108 .8	
34219 12 35 15 .9	
34220 > 10000 49 152 8.3	
34221 356 23 51 1.6	
34222 2030 10 10 2.7	

DETECTION LIMIT nd = none detected 1 2 -- = not analysed

1 0.1 is = insufficient sample NANGEOCHEM LAB LIMITED

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, BC. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

ASSAY ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LTD. ADDRESS: 306 - 595 Howe St. : Vancouver, BC : V6C 2T5

DATE: OCT 03 1990

REPORT#: 900597 AA JOB#: 900597

INVOICE#: 900597 NA TOTAL SAMPLES: 8 REJECTS/PULPS: 90 DAYS/1 YR SAMPLE TYPE: 8 ROCK

SAMPLES FROM: FORREST KERR CAMP COPY SENT TO: OREQUEST CONSULTANTS LTD.

PROJECT#: SANTA MARINA

 $N \to A$

SAMPLES ARRIVED: SEPT 27 1990

REPORT COMPLETED: OCT 03 1990

ANALYSED FOR: Au

1 × 1

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER: 900597 AA	JOB NUMBER: 900597	OREQUEST CONSULTANTS LTD.	PAGE 1 OF 1
SAMPLE #	Au oz/st		
16705	.010		
16706	.060		
16707	.136		
16708	.134		
16714	.140		
33284	.420		
34210	.136		
34211	.080		

DETECTION LIMIT 1 Troy oz/short ton = 34.28 ppm .005 1 ppm = 0.0001%

ppm = parts per million

< = less than</pre>

signed:

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

ASSAY ANALYTICAL REPORT

CLIENT:	OREQUEST CONSULTANTS LT	D. DATE:
ADDRESS:	306 - 595 Howe St.	
:	Vancouver, BC	REPORT#:
:	V6C 2T5	JOB#:
		•

PROJECT#: SANTA MARINA SAMPLES ARRIVED: SEPT 27 1990 REPORT COMPLETED: OCT 10 1990 ANALYSED FOR: Cu Pb Zn Ag INVOICE#: 900597 NA TOTAL SAMPLES: 16 REJECTS/PULPS: 90 DAYS/1 YR SAMPLE TYPE: 16 ROCK

OCT 10 1990

900597 AB

SAMPLES FROM: FORREST KERR CAMP COPY SENT TO: OREQUEST CONSULTANTS LTD.

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PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

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MAIN OFFICE MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER: 900597 AB		JOB NUMBER: 900597	ORBQUEST CONS	SULTANTS LTD.	PAGE 1 OF 1		
SAMPLE #		. Cu	Pb %	Zn %	Ag oz/st	· · .	
		-					
16706		2.56			, 		
16708				4.56	·		
16712		4.47	·				
16713		1.56					
16714	1	1.97					
16715				7.15	·		
16716		18.14			3.01		
16717	••••	1.12	6.86	13.90			
16719	•	3.23					
33284		4.67		— —			
			-:		•	,	
33289				14.80			
33290			:	8.23			
34202		1.43					
34210		1.09		5.77			
34211			2.54	10.22	. .		
34220	·	2.59					

DETECTION LIMIT 1 Troy oz/short ton = 34.28 ppm

signed:

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.01 .01 1 ppm = 0.0001% ppm = parts per million

.01 < = less than

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

	REPORT NUMBER: 9006	07 GA JOB	NUMBER: 900	607 OREQUES	T CONSULTÀNTS LI	ID. 👘	PAGE 1 OF 2	41 ^{- 1}
÷	SAMPLE #	λp.						
		nnh					· · · ·	•
	16601	243 DA						
	16602	720						
	10004	- 3						•
	16603	na	-					
	10004	1000						
	10002	> 10000						
,								
	10000	500						
	16607	1480						
	16608	7000						
	16609	3000						
	16610	400						•
							•	
	16611	8000						
	16612	350						
	16613	- 650						
	16701	. ng			•			
	16718	370					, .	
							1 .	
	16722	nd						
	16723	80						
	16724	7400			2			
	16725	780					: S.	
	16726	940						
	16727	70						
	16728	180				•.		
	16729	60						
	16730	360						
	16731	60				•		
·	16732	730						
	16733	4500						
	16734	110						
	16735	nd						
	16737	30						
	16738	3700						
	33293	nd					•	
	33294	nd						
	33295	nd						
	33296	1420						
	33297	90						
	33298	20						
	33299	10						
	33300	20						
		••						
	DETECTION LINIT	. 5						

nd = none detected

-- = not analysed is

is = insufficient sample -

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER: 900607 GA JOB	NUMBER: 900607	OREQUEST CONSULTANTS LTD.	PAGE 2 OF 2
SAMPLE I Au			
ppb			
34223 240			
34224 3300			
34225 130		·	
34226 930		·	·
34227 170			
34228 nđ			• •
34229 230			
34230 2090			
34231 30			
34232 270			
34233 20			
34234 2570		•	
34235 40			
34236 930			
34237 > 10000			
34338 7600	:		
- 34230 2000			
34240 170	,		
34241 50		· · ·	
34242 120			
34243 180			
34244 1530			
34245 3800			
34246 110			

5 -- = not analysed

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEBT CONBULTANTE LTD. ADDRESS: 306 - 595 Howe St. : Vancouver, BC : V6C 2T5 DATE: OCT 09 1990

REPORT#: 900607 GB JOB#: 900607

PROJECT#: (FOURGOLD) SANTA MARINAINVOICE#: 900607 NASAMPLES ARRIVED: SEPT 27 1990TOTAL SAMPLES: 63REPORT COMPLETED: OCT 09 1990SAMPLE TYPE: 63 ROCKANALYSED FOR: Cu Pb Zn AgREJECTS: SAVED

SAMPLES FROM: FORREST KERR COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: VGC Staff

SIGNED:

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MAIN OFFICE , 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

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2.5

SAMPLE I	Cu	Pb	Zn	lg		
17741	ppn	ppm	ppm	ppn		
16601	2070	8	67	1.3		
16602	7200	16	450	3.8		
16603	2650	15	930	.3		
16604	4300	1620	> 10000	7.0		
16605	> 10000	42	280	> 50.0		
16606	3370	27	340	1.4		
16607	> 10000	67	300	13.5		
16608	3460	20	240	4.0		
16609	1760	71	47	5.1		
16610	> 10000	31	280	5.8		
16611	2820	14	160	4.8		
16612	106	62	91	3.5		
16613	> 10000	112	320	28.0		
16701	48	25	710	<u>4</u> 8		
16718	> 10000	38	100	45.0		
16722	107	20	37	1.0	. :	
16723	> 10000	44	480	> 50.0		
16724	> 10000	. 24 -	191	10.6	, · · ·	
16725 . 🐨 😸 🖹	1 2660	3600 /	> 10000	11.0	Second and the second	
16726	> 10000	130	450	10.4		
16727	4600	30	\$ 448	3.0		
16728	350	3000	> 10000	4.8	*1 -1	
16729	> 10000	3200	> 10000	> 50.0	•	
16730	> 10000	45	270	> 50.0		
16731	> 10000	37	1270	> 50.0		
16732	> 10000	300	. 680	> 50.0		
16733	> 10000	310	400	35.0		
16734	> 10000	56	57	20.5		
16735	> 10000	27	310	40.0		
16737	> 10000	29	120	20.3		
16738	> 10000	42	191	10.5		
33293	246	29	65	.9	· .	
33294	344	8	62	.5		
33295	5040	1920	1080	5.2		
33296	> 10000	44	240	20.7		
33297	3750	910	> 10000	7.2		
33298	331	101	1210	1.4		
33299	51	23	280	1.0		1
33300	> 10000	21	125	4.0		
		•				

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A. · · ·

REPORT NUMBER: 90060	7 GB JOB	NUNBER: 9	00607	OREQUEST	CONSULTANTS LTD.	PAGB	20	¥ 2
SAMPLE #	Ca	Pb	In	Ag				
. '	ppm	ppm	ppm	ppm				
34223	> 10000	21	50	36.0				
34224	2950	7 10000	> 10000	32.0				
34225	> 10000	420	450	17.5				
34226	3010	178	218	4.6				
34227	> 10000	29	107	26.0				
34228	280	21	82	.8			•	
34229	2650	24	134	1.2				
34230	148	33	12	2.7				
34231	209	4200	> 10000	1.8				
34232	469	1620	> 10000	7.8				
34233	50	4000	> 10000	2.8				
34234	347	> 10000	> 10000	9.0				
34235	101	2800	6500	2.2				
34236	463	8100	> 10000	5.1	:	•		
34237	7 10000	. 61	> 10000	11.5				
34238	> 10000	108	1470	14.0				
34239	× 10000	67	530	13.4				
34240 🔅	7 10000	27	126	.5				
34241	480	22	94	.2				
34242	103	10	400	1				
34243	35	30	510	nd				
34244	7 10000	21	61	> 50.0				
34245	8400	47	490	8.8				
34246	2210	40	50	1.0				

DETECTION LIMIT nd = none detected

1

1 2 -- = not analysed

1 0.1 is = insufficient sample

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

ASSAY ANALYTICAL REPORT

C AD	DRESS:	OREQUEST C 306 - 595 1	<mark>DNBULT</mark> Howe St	ANTS LTD.	DATE:	OCT 04	1990
	:	Vancouver,	BC		REPORT#:	900607	AA
N. AND	:	V6C 2T5	•		JOB#:	900607	
			· •			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
PRC)JECT#:	(FOURGOLD)	SANTA	MARINA	INVOICE#:	900607	NA
SAMPLES AR	RIVED:	SEPT 27 19	90	. · · · · · · · · · · · · · · · · · · ·	OTAL SAMPLES:	11	
REPORT COMP	LETED:	OCT 04 199	0	R	EJECTS/PULPS:	90 DAY	S/1 YR
ANALYSE	D FOR:	Au			SAMPLE TYPE:	11 ROC	К

SAMPLES FROM: FORREST KERR COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

GENERAL REMARK: None

 $\gamma_{ij} = - E_{ij} + \epsilon_{ij}$.

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

BEPORT NUMBER: 900607 AL	JOB NUMBER: 900607	OREQUEST CONSULTANTS LTD.	PAGE 1 OF 1
SAMPLE #	Au oz/st		
		· ·	
16605	3.048		
16608	.192		
16609	.076		
16611	.202		
16724	.194		
16733	.010		
16738	.096		•
34224	.082		
34237	.322		
34238	.174		
34245	.102		
			•

DETECTION LIMIT 1 Troy oz/short ton = 34.28 ppm

signed:

.005 1 ppm = 0.00014

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ppm = parts per million

< = less than

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

ASSAY ANALYTICAL REPORT

 CLIENT: OREQUEST CONBULTANTS LTD.
 DATE: OCT 10 1990

 ADDRESS: 306 - 595 Howe St.
 .

 : Vancouver, BC
 REPORT#: 900607 AB

 : V6C 2T5
 JOB#: 900607

PROJECT#: (FOURGOLD) SANTA MARINA INVOICE#: 900607 NA SAMPLES ARRIVED: SEPT 27 1990 TOTAL SAMPLES: 37 REPORT COMPLETED: OCT 10 1990 REJECTS/PULPS: 90 DAYS/1 YR ANALYSED FOR: Cu Pb Zn Ag SAMPLE TYPE: 37 ROCK

SAMPLES FROM: FORREST KERR COPY SENT TO: OREQUEST CONSULTANTS LTD.

3 3 5

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PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER: 900607 AB	JOB NUMBER: 900607	OREQUEST CONSULT	ANTS LTD.	PAGE 1 OF 2		
SAMPLE #	Cu %	Pb %	Zn %	Ag oz/st		
16604			1.55			
16605	9.58			2.48		
16607	2.12					
16610	1.44					
16613	1.59					
16718	5.35	·				
16723	27.80	·		3.75		
16724	1.73					
16725			4.74		· _	
16726	2.05		, i 			
					- - 74	
16728			4.66		-	
16729	24.60		1.05	85.83		
16730	29.50	` 		3.36		
16731	31.70			2.24		
16732	26.00			7.90		
16733	2.87			. 		
16734	4.22					
16735	8.54			·		
16737	4.57					
16738	2.91					

DETECTION LIMIT 1 Troy oz/short ton = 34.28 ppm

signed:

.01 1 ppm = 0.0001%

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.01 .01 ppm = parts per million .01 < = less than

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT HUMBER: 900607 AB JOB NUMBER: 900607		JOB NUNBER: 900607	ORBQUEST CONSU	LTANTS LTD.	PAGE	2 OP 2
	SAMPLE #	Cu %	Pb %	Zn %	Ag oz/st	
	33296	3.07			·	
	33297			6.14		
	33300	1.69				
	34223	6.11				
	34224		1.24	6.78		
		· · ·			· · ·	·
	34225	2.56				
	34227	4.24				•
	34231	· · · · · · · · · · · · · · · · · · ·		1.45		
	34232		 .	8.10		
	34233	~~	·	2.18		
	2	• •				
	34234		3.04	14.70		
	34236			8.78		
	34237	1.48		1.69		
	34238	3.56		. 		
	34239	2.90				
	34240	1.76				
	34244	8.15			1.38	

DETECTION LIMIT 1 Troy oz/short ton = 34.28 ppm

signed:

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717 BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

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GEOCHEMICAL ANALYTICAL REPORT

DATE: OCT 11 1990

REPORT#: 900633 GA JOB#: 900633

CLIENT: OREQUEST CONSULTANTS LTD. ADDRESS: 306 - 595 Howe St. : Vancouver, BC : v6c 2T5

PROJECT#: SANTA MARINA SAMPLES ARRIVED: OCT 01 1990 REPORT COMPLETED: OCT 11 1990 ANALYSED FOR: Au (FA/AAS)

INVOICE#: 900633 NA TOTAL SAMPLES: 11 SAMPLE TYPE: 11 ROCK REJECTS: SAVED

16

SAMPLES FROM: FORREST KERR CAMP COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: VGC Staff

SIGNED:

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER:	900633 GA JOB NUMBER: 900633	OREQUEST CONSULTANTS (LTD)	PAGE 1 OF 1
SAMPLE # CAPITAL 16614 CAPITAL 16615 CAPITAL 16616 CAPITAL 16617 CAPITAL 34247	Au ppb 10 10 510 19		
CAPITAL 34248 CAPITAL 34249 CAPITAL 34250 4 GOLD 34251 4 GOLD 34252	20 20 50 nd nd		
4 GOLD 34253	nd		
		· · · · · · · · · · · · · · · · · · ·	

DBTECTION LINIT 5 nd = none detected --- = not analysed

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is = insufficient sample

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MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

GEOCHEMICAL ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LTD. ADDRESS: 306 - 595 Howe St. : Vancouver, BC : V6C 2T5

PROJECT#: SANTA MARINA SAMPLES ARRIVED: OCT 01 1990 REPORT COMPLETED: OCT 11 1990 ANALYSED FOR: Cu Pb Zn Ag

DATE: OCT 11 1990

REPORT#: 900633 GB JOB#: 900633

INVOICE#: 900633 NA TOTAL SAMPLES: 11 SAMPLE TYPE: 11 ROCK is in **REJECTS: SAVED**

SAMPLES FROM: OREQUEST CONSULTANTS LTD. COPY SENT TO: FORREST KERR CAMP

PREPARED FOR: MR. BERNIE DEWONCK

ANALYSED BY: VGC Staff

signed: Knuch

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT NUMBER: 900633 GB	JOB NU	WBBR: 900	633	OREQUES	r consultants LTD.	. ÷	PACE	1	OP	1
SAMPLE #	Cu	Pb	In	λg						
	ppa	ppa	DDE	ppm						
CAPITAL 16614	80	21	64	.9						
CAPITAL 16615	101	11	153	1.0						
CAPITAL 16616	56	12 -	212	1.5						
CAPITAL 16617	48	64	36	2.8						
CAPITAL 34247	152	9.	28	.3						
CAPITAL 34248	72	6	15	nđ						
CAPITAL 34249	3	12	26	.1						
CAPITAL 34250	3	19	- 24	nð						
1 GOLD 34251	46	11	11	nd						
4 GOLD 34252	23	12	64	.1						
A COLD 34253	,	6	41	ħa						
La nonn aaraa	4		11	ШU						

DETECTION LIMIT nd = none detected 1 2 -- = not analysed 1 0.1 is = insufficient sample

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

ASSAY ANALYTICAL REPORT

CLIENT: OREQUEST CONSULTANTS LTD. ADDRESS: 306 - 595 Howe St. : Vancouver, BC : V6C 2T5

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PROJECT#: SANTA MARINA

ANALYSED FOR: Metallic Au

SAMPLES ARRIVED: OCT 04 1990

REPORT COMPLETED: OCT 09 1990

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5 B) 2 - 5 DATE: OCT 09 1990

REPORT#: 900650 MA JOB#: 900650

INVOICE#: 900650 NA TOTAL SAMPLES: 4 REJECTS/PULPS: 90 DAYS/1 YR SAMPLE TYPE: 4 ROCK PULPS

SAMPLES FROM: PREVIOUS JOB #900597 & 900607 COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. GEORGE CAVEY

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 251-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT	#: 900650 MA	OREQUEST CON	SULTANTS LTD	•	Page 1 of 1
Sample	Number	Weight (gm)	Au (mg)	Au (oz/st)	
16605	+140	56.139	4.910		
16605	-140	1855.000	209.246	3.290	
16605	TOTAL	1911.000	214.156	3.269	
	· .				
16705	+140	17.880	.005		
16705	-140	445.500	.168	.011	
16705	TOTAL	463.380	.173	.011	
16706	+140	17.530	.221		
16706	-140	776.500	1.464	.055	
16706	TOTAL	794.030	1.685	.062	
16733	+140	12.720	.747		
16733	-140	826.700	4.535	.160	
16733	TOTAL	839.42	5.282	.184	
1					

Minimum Detection0.010.0010.005Maximum Detection10000.001000.0001000.000< = Below Limit</th>is = Insufficient Samplens = No sample> = Over Limit

MAIN OFFICE 1630 PANDORA STREET VANCOUVER, B.C. V5L 1L6 TEL (604) 25 1-5656 FAX (604) 254-5717

BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

ASSAY ANALYTICAL REPORT

CLIENT:	OREQUEST CONSULTANTS	LTD.	DATE:	OCT 15	1990
ADDRESS:	306 - 595 Howe St.				
:	Vancouver, BC		REPORT#:	900661	MA
:	V6C 2T5		JOB#:	900661	

PROJECT#: SANTA MARINA SAMPLES ARRIVED: OCT 11 1990 REPORT COMPLETED: OCT 15 1990 ANALYSED FOR: Metallic Au INVOICE#: 900661 NA TOTAL SAMPLES: 31 REJECTS/PULPS: 90 DAYS/1 YR SAMPLE TYPE: 31 ROCK PULP

SAMPLES FROM: PREVIOUS JOB #900597 & 900607 COPY SENT TO: OREQUEST CONSULTANTS LTD.

PREPARED FOR: MR. GEORGE CAVEY

ANALYSED BY: Raymond Chan

SIGNED:

Registered Provincial Assayer

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REPORT	#: 900661 M	A OREQUEST CO	NSULTANTS LT	D.	Page 1 of 4
Sample	Number	Weight (gm)	Au (mg)	Au (oz/st)	
16607 16607	+140	39.538 1536.000	.058 2.738	.052	
16607	TOTAL	1575.530	2.796	.052	
16610	+140	14.090	.026		
16610 16610	-140 Total	1877.000 1891.090	1.930 1.956	.030	
16613	+140	10.440	.087		
	TOTAL	1023.000	.964	.025	
16712	+140	7.600	.005		ς.
16712 16712	-140 TOTAL	583.700 591.300	.080 .085	.004	
16713	+140	5.700	.005		
16713 16713	-140 TOTAL	590.700 596.400	.101 .106	.005	
16716	+140	5.200	.104		
16716	TOTAL	806.500	1.230	.044	
16717	+140	5.500	.004		
16717 16717	-140 TOTAL	512.000 517.500	.158 .162	.009 .009	
16718	+140	17.450	.010		
16718	-140 TOTAL	845.000 862.450	.637	.022	
16719	+140	9.600	.010		
$16719 \\ 16719$	-140 Total	285.000 294.600	.166 .176	.017 .017	
16723	+140	13.600	.008		
16723	-140 TOTAL	1363.000	.234	.005	
10723	IUINU	10.000	. 2 * 2	.005	
Minimu	m Detection	$0.01 \\ 10000 - 00$	$0.001 \\ 1000.000$	0.005 1000.000	
$\langle = Be$	low Limit	is = Insufficient	Sample ns	= No sample	> = Over Limit
VGC VANGEOCHEM LAB LIMITED

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT	#: 900661 MA	OREQUEST	CONSULTANTS	LTD.	Page 2 of 4
Sample	Number	Weight (gm)	; An (mg	u Au) (oz/st)	
$16724 \\ 16724 \\ 16724 \\ 16724 $	+140 -140 TOTAL	18.300 790.000 808.300	.12 3.68 3.81	6 4 .136 2 .138	
16726 16726 16726	+140 -140 TOTAL	13.000 744.000 757.000) .06) 1.25) 1.31	8 0 .049 8 .051	
16729 16729 16729	+140 -140 TOTAL	6.000 355.000 361.000) .00) <.00) .00	2 1 <.005 2 <.005	
$16730 \\ 16730 \\ 16730 \\ 16730 \\$	+140 -140 TOTAL	9.600 950.000 959.600) .00) .29) .29	5 3 .009 8 .009	
$16731 \\ 16731 \\ 16731 \\ 16731$	+140 -140 TOTAL	5.900 260.000 265.900) .00) .04) .04	2 5 .005 7 .005	
16732 16732 16732	+140 -140 TOTAL	8.400 1620.000 1628.000) .02) 1.44) 1.47	7 4 .026 1 .026	
$16734 \\ 16734 \\ 16734 \\ 16734 \\ 16734 \\ 16734 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1000 \\ 1$	+140 -140 TOTAL	4.210 407.000 411.210) .01) .19) .20	2 5 .014 7 .015	
16735 16735 16735	+140 -140 TOTAL	23.300 782.000 805.300) .01) .10) .12	9 7 .004 6 .005	
$16737 \\ 16737 \\ 16737 \\ 16737 $	+140 -140 TOTAL	4.600 291.700 296.300) <.00) .05) .05	1 0 .005 0 .005	
16738 16738 16738	+140 -140 TOTAL	44.60 1622.00 1666.60	0.08 0.5.17 0.5.25	3 2 .093 5 .092	
Minimu Maximu	m Detection m Detection	0.0 10000.0	1 0.00 0 1000.00	1 0.005 0 1000.000	

< = Below Limit is = Insufficient Sample ns = No sample > = Over Limit

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

REPORT	#: 900661 M	IA OREQUEST CO	ONSULTANTS LTD	•	Page 3 of 4
Sample	Number	Weight (gm)	Au (mg)	Au (oz/st)	
33284	+140	6.900	.894		
33284	-140 TOTAL	1138.000 1144.900	17.129 18.023	.439 .459	
33296	+140	26.300	.162		
33296 33296	-140 TOTAL	1801.000 1827.300	.803 .965	.013 .015	
33300	+140	19.400	.005		
33300	-140	629.500	.237	.011	
33300	TOTAL	648.900	. 242	.011	
34202	+140	6.460	.003		
34202	-140	393.000	.054	.004	
34202	TOTAL	399.500	.057	.004	
34220	+140	3.400	.003		
34220	-140	1020.000	.175	.005	
34220	TOTAL	1023.400	.178	.005	
34234	+140	7.800	.020		
34234	-140	774.300	1.619	.061	
34234	TOTAL	782.100	1.639	.061	
34237	+140	26.200	.386		
34237	-140	911.000	8.527	.273	
34237	TOTAL	937.200	8.913	.277	
34238	+140	66.000	.347		
34238	-140	1372.000	8.326	.177	
34238	TOTAL	1438.000	8.673	.176	
34239	+140	5.800	.009		
34239	-140	599.000	.945	.046	
34239	TOTAL	604.800	.954	.046	
34240	+140	10.500	.002		
34240	-140	535.500	.092	.005	
34240	TOTAL	546.000	.094	.005	
Minimu	m Detection	0.01	0.001	0.005	
Maximu	m Detection	10000.00	1000.000	1000.000	
< = Be	low Limit	is = Insufficient	Sample ns =	= No sample	> = Over Limit



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REPORT	#; 900661 MA	OREQUEST CONSUL	TANTS LTD.		Page	4 of 4
Sample	Number	Weight (gm)	Au (mg)	Au (oz/st)		
34244 34244 34244	+140 -140 TOTAL	5.200 1002.400 1007.600	.027 1.409 1.436	.041		

 Minimum Detection
 0.01
 0.001
 0.005

 Maximum Detection
 10000.00
 1000.000
 1000.000

 < = Below Limit</th>
 is = Insufficient Sample
 ns = No sample
 > = Over Limit

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October 19, 1990

- TO: Mr. Bernie Dewonck OREQUEST CONSULTANTS LTD. 306 - 595 Howe Street Vancouver, BC V6C 2T5
- FROM: VANGEOCHEM LAB LIMITED 1630 Pandora Street Vancouver, BC V5L 1L6
- SUBJECT: Analytical procedure used to determine gold by fire assay method and detect by atomic absorption spectrophotometry in geological samples.
- 1. Method of Sample Preparation
 - (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
 - (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
 - (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. Method of Extraction

- (a) 20.0 to 30.0 grams of the pulp samples were used. Samples were weighed out using a top-loading balance and deposited into individual fusion pots.
- (b) A flux of litharge, soda ash, silica, borax, and, either flour or potassium nitrite is added. The samples are then fused at 1900 degrees Farenhiet to form a lead "button".

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- (c) The gold is extracted by cupellation and parted with diluted nitric acid.
- (d) The gold beads are retained for subsequent measurement.
- 3. Method of Detection
 - (a) The gold beads are dissolved by boiling with concentrated aqua regia solution in hot water bath.
 - (b) The detection of gold was performed with a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values, in parts per billion, were calculated by comparing them with a set of known gold standards.
- 4. Analysts

The analyses were supervised or determined by Mr. Raymond Chan or Mr. Conway Chun and his laboratory staff.

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Raymond Chan VANGEOCHEM LAB LIMITED



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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

October 19, 1990

- TO: Mr. Bernie Dewonck OREQUEST CONSULTANTS LTD. 306 - 595 Howe Street
- FROM: VANGEOCHEM LAB LIMITED 1630 Pandora Street Vancouver, BC V5L 1L6

Vancouver, BC

SUBJECT: Analytical procedure used to determine metallic gold by fire assay method and determined gravimetrically.

V6C 2T5

1. Method of Sample Preparation

- (a) Rock samples would be received at the laboratory in poly ore bags.
- (b) Dried rock samples would be crushed using a jaw crusher and pulverized to 140 mesh or finer by using a disc mill.
- (c) The whole sample or portion of the sample would then be screened through a 140 mesh screen. The +140 mesh fraction (metallics) would be weighed and then put into an envelope for gold analysis with its weight recorded. The 140 mesh fraction would be weighed then rolled and transferred to a new bag with its weight recorded and a portion subsequently used for analysis.

2. Method of Extraction

- (a) The whole +140 mesh fraction is fluxed and fused. 1/2 to 1 assay tonne of the pulp sample (140 mesh fraction) would be used.
- (b) A flux of litharge, soda ash, silica, borax, either flour or potassium nitrite is added. The samples are thoroughly mixed, a liquid Ag inquart is added then fused at 1900 degrees Fahrenheit to form a lead button.

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- (c) The lead buttons are cupelled to dore beads. The beads are parted with dilute nitric acid and washed several times.
- (d) The gold beads are then annealled.

3. <u>Method of Determination</u>

The gold beads are weighed using a Sartorius electronic micro-balance. Using the weights of +140 mesh and -140 mesh fraction and the weights of gold, the assay is then calculated and reported in ounces per short tonne or grams per tonne.

4. Analysts

The analyses were supervised or determined by Mr. Raymond Chan or Mr. Conway Chun and his laboratory staff.

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Raymond Chan VANGEOCHEM LAB LIMITED

CO VANGEOCHEM LAB LIMITED

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October 19, 1990

- TO: Mr. Bernie Dewonck OREQUEST CONSULTANTS LTD. 306 - 595 Howe Street Vancouver, BC V6C 2T5
- FROM: VANGEOCHEM LAB LIMITED 1630 Pandora Street Vancouver, BC V5L 1L6
- SUBJECT: Analytical procedure used to determine silver by fire assay method in geological samples.

1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were eceived at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in 8" x 12" plastic bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized into 100-mesh or finer by using a disc mill. The pulverized samples were then put in the new bags for subsequent analyses.

2. Method of Digestion

- (a) 20.0 30.0 grams of the pulp samples were used. Samples were weighed out by using a top-loading balance into a fusion pot.
- (b) A flux of litharge, soda ash, silica, borax, either flour or potassium nitrite was added. The samples were thoroughly mixed and then fused at 1900 degrees Fahrenheit to form a lead button.
- (c) The silver was extracted by cupellation, weighed and parted with diluted nitric acid.

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3. Method of Calculation

The silver was calculated by the weigh loss of the bead and then parts per million (ppm) was calculated.

4. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. Raymond Chan and the laboratory staff.

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BRANCH OFFICES BATHURST, N.B. RENO, NEVADA, U.S.A.

October, 19 1990

- TO: Mr. Bernie Dewonck OREQUEST CONSULTANTS LTD. 306 - 595 Howe Street Vancouver, BC V6C 2T5
- FROM: VANGEOCHEM LAB LIMITED 1630 Pandora Street Vancouver, BC V5L 1L6
- SUBJECT: Analytical procedure used to determine Cu, Pb and Zn assay samples.
- 1. <u>Method of Sample Preparation</u>
 - (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
 - (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
 - (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in the new bags for subsequent analyses.

2. <u>Method of Digestion</u>

- (a) 0.200 gram portions of the minus 100 mesh samples were used. Samples were weighed out by using an analytical balance.
- (b) Samples were digested in multi acids in volumetric flasks.

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3. Method of Analyses

Cu, Pb and Zn concentrations were determined using a Techtron Atomic Absorption Spectrophotometer Model AA5 with their respective hollow cathode lamps. The digested samples were directly aspirated into an air and acetylene mixture flame. The results, in parts per million, were calculated by comparing them to a set of standards used to calibrate the atomic absorption units.

4. Analysts

The analyses were supervised or determined by Mr. Conway Chun or Mr. Raymond Chan and their laboratory staff.

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Raymond Chan VANGEOCHEM LAB LIMITED





