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GALLANT GOLD MINES LTD.

GEOLOGICAL AND GEOPHYSICAL REPORT ON THE GEORGIA PROPERTY TRAIL CREEK MINING DIVISION BRITISH COLUMBIA NTS 82 F/4

November 1983

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J.C. Ridley, B.Sc.

CLAIMS

CLAIM	TYPE	LOT	RECORD	ANNIVERSARY
ELANOR	R.C.G.	951	369	March 28
IRON COLT	R.C.G.	795	367	March 23
VIKING	R.C.G.	4416	314	September 1
GEORGIA	R.C.G.	928	165	August 25
POTT	R.C.G.	733	363	March 9
CALEDONIA/PUTNAM	R.C.G.	734/4917	364	March 9
BUCKEYE	R.C.G.	534	365	March 9
SILVERINE	C.G.	732		
EDEN	C.G.	1127		
BLUE ELEPHANT	C.G.	1280		
EVENING STAR	C.G.	801		
GEORGIA FRACTION	C.G.	4668		
LA BELLE	C.G.	729		
APRIL FOOL	C.G.	1212		
JOKER	C.G.	1690		

Location: 49°05'/117°48'
Owners: M. & C. Delich and M.M. Butorac
Operator: Gallant Gold Mines Ltd.
Consultant: A.G.Troup of Archean Engineering Ltd.
Project Geologist: J.C. Ridley of Mark Management Ltd.

GALLANT GOLD MINES LTD.

REPORT ON THE
GEORGIA PROPERTY
TRAIL CREEK MINING DIVISION
BRITISH COLUMBIA
NTS 82 F/4

SUMMARY

The Georgia property is a gold prospect in the Rossland gold camp in the West Kootenay district of southeastern British Columbia. The prospect is within two kilometres of the former Cominco mines which produced over three million ounces of gold. The property consists of eight crown granted and seven reverted crown granted mineral claims that were staked in the 1890's. Gold was produced on a limited scale up to 1941 on several of the Georgia claims.

In 1982, a preliminary property examination and literature review was completed on behalf of Gallant Gold Mines Ltd. This work showed that previous exploration and development had proven vein-type mineralization to exist on the property.

Following that property examination, Gallant Gold Mines Ltd. completed an option agreement with the owners. In 1983, preliminary geophysical, geochemical and geological surveys were conducted in order to investigate the potential of the property for vein and stockwork-type mineralization.

The results of the programme indicate that several mineralized veins and zones carrying significant gold content occur on the property. The extent of these zones and the delineation of more extensive mineralization will require further work. Additional property work involving geological mapping, geophysics, trenching and possibly diamond drilling, is recommended.

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1. INTRODUCTION

In 1982 Gallant Gold Mines Ltd. optioned the Georgia gold property located in the Rossland gold camp. A preliminary property examination and literature review completed in 1982 showed that vein-type mineralization exists on the property. Although some gold was produced from several of the claims up until 1941, drill indicated reserves at this time showed 38,500 tons averaging 0.228 oz./ton gold. Since 1941 the only attention paid to the Georgia property was by Cominco in 1980 testing for low-grade stockwork-type mineralization. A drill program consisting of vertical percussion holes and rock geochemistry was carried out. Considering that the ore shoots are predominantly vertical, Cominco's results were inconclusive.

In view of the present (1982) price of gold, modern mining methods and improved exploration techniques, it was recommended that a systematic exploration programme be carried out to investigate the property's potential for vein and stockwork-type mineralization.

In 1983, a systematic exploration programme was carried out by a four person crew stationed at the base of Red Mountain. The crew carried out geophysical, geochemical and geological work over the property from June 10 to July 5.

The purpose of the detailed programme was to confirm the potential of the known vein system as described in old reports and to investigate the possibility of finding an extension to the mineralization.

The programme was supervised by Mark Management project geologist J.C. Ridley under the direction of Archean Engineering consulting geologist A.G. Troup.

1.1 Location and Access

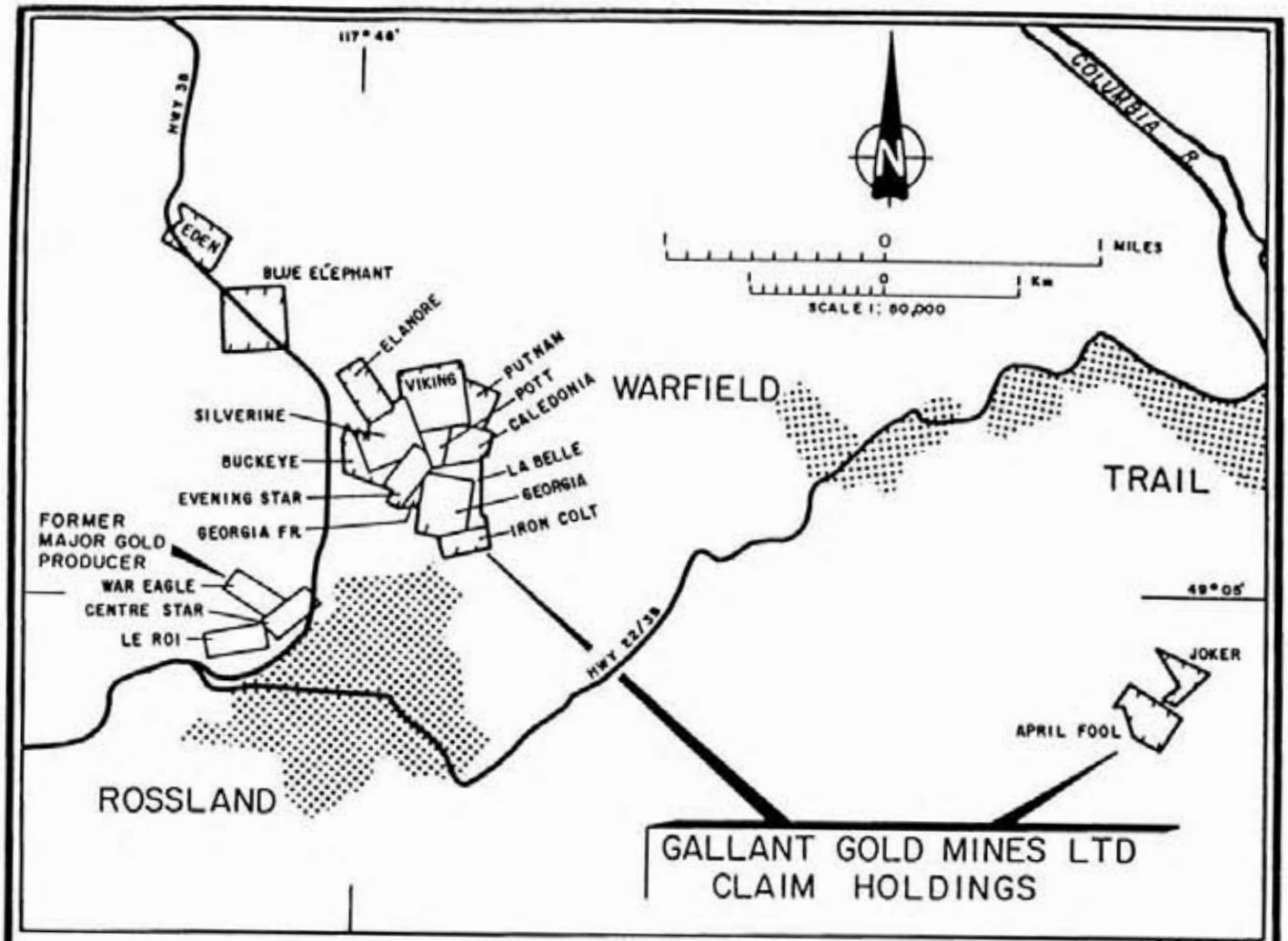
The Georgia property is located in the Trail Creek Mining Division of the West Kootenay District of Southeastern British Columbia (Fig. 1.1).

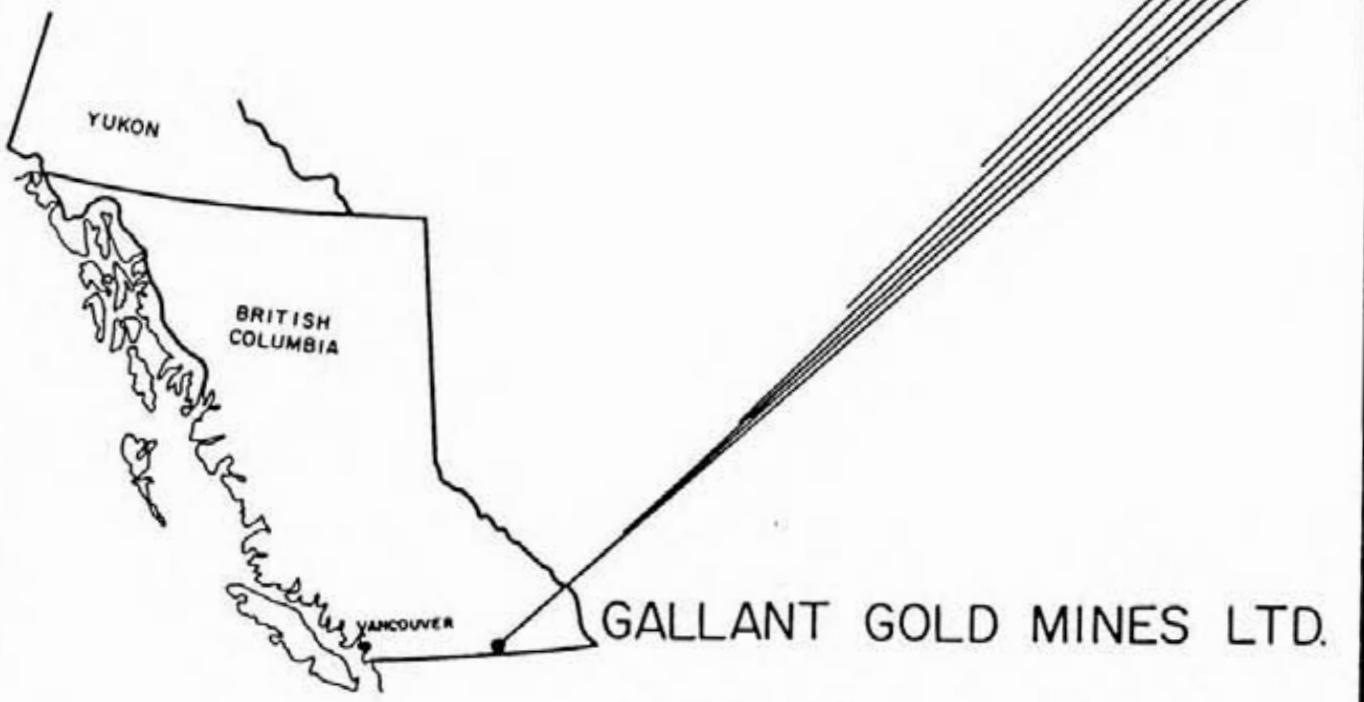
Centred on latitude 49°05' and longitude 117°48', the claims cover an area of 1.32 square kilometres on the north and east flanks of Monte Cristo Mountain. The property is connected to the Rossland street system by a two kilometre network of dirt and gravel roads. From Rossland, the Cominco smelter at Trail is another ten kilometres by paved highway.

1.2 Physiography

The Georgia property is situated on the gently sloping north and east flanks of Monte Cristo mountain which reaches an elevation of 4200 feet (1280 metres). The property extends from the peak down to 3400 feet (1037 metres).

In this Southern Interior climatic region, summers are temperate and dry while winters are cool with heavy snowfall. Precipitation averages 56 to 170 centimetres annually. Mean daily temperature in July is 16° to 18° C and in January is -5° to -10° C. The growing season lasts 181 days from April 15 to October 13.





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CLAIM & LOCATION MAP

TRAIL CREEK M.D. - B.C.

NTS. 82-F-4

AGT. / r.w.r.

SEPT., 1982

FIGURE 1

There are no major creeks on the property but surface drainage flows into Acme creek to the northwest and Milkranch creek to the southeast. The area is well wooded with vegetation consisting predominantly of western hemlock, Douglas fir, western white pine, lodgepole pine, western red cedar, Engelmann spruce, white spruce, black cottonwood, aspen, common paper birch, larch, alpine fir, and grand fir.

1.3 Claim Information

The Georgia property is comprised of two adjacent groups of mineral claims referred to as the Georgia Group and the Georgia Extension. The Georgia Group, under option from Michael and Catherine Delich of Rossland, consists of one crown grant and*seven reverted crown granted claims. The Georgia Extension consists of seven crown granted claims under option from Michael M. Butorac, also of Rossland. For assessment purposes all fifteen claims were grouped together in the Georgia group. The claims are all located in the Trail Creek Mining Division.

*Although the Caladonia and Putnam claims were originally staked separately, they have since been reissued as one reverted crown grant because together the two fractional claims totaled less than 25 hectares.

Additional claim information is given in Table 1.3

TABLE 1.3

GEORGIA GROUP

Owner	Claim Name	Status	Lot No.	Record No.	Expiry Date
M.&C.Delich	Elanore	*R.C.G.	951	369	Mar.28/85
	Iron Colt	R.C.G.	795	367	Mar.23/85
	Viking	R.C.G.	4916	314	Sep.01/85
	Georgia	R.C.G.	928	165	Aug.25/85
	Pott	R.C.G.	733	363	Mar.09/85
	Caladonia/Putnam	R.C.G.	734/4917	364	Mar.09/85
	Buckeye	R.C.G.	534	365	Mar.09/85
	Silverine	C.G.	732		
M.M.Butorac	Eden	**C.G.	1127		
	Blue Elephant	C.G.	1280		
	Evening Star	C.G.	801		
	Georgia Fraction	C.G.	4668		
	La Belle	C.G.	729		
	April Fool	C.G.	1212		
	Joker	C.G.	1690		

*R.C.G. - Reverted Crown-Granted Mineral Claims.

*C.G. - Crown-Granted Mineral Claims.

1.4 History and Previous Work

Gold was first discovered in the Rossland area in 1887 and in 1890 the first claims were staked on Red Mountain about two kilometers west of the Georgia property. The resulting exploration and development work led to discovery of high-grade gold veins on the War Eagle claim in 1894. In 1895, similar mineralization was discovered on the nearby Centre Star and LeRoi claims. This brought on a gold rush that lasted until 1896.

A smelter constructed at Trail to handle the Rossland ores eventually amalgamated with the larger producing mines to form the Consolidated Mining and Smelting Co. Ltd. (Cominco). Uninterrupted mining continued in the camp until 1927 when increased mining costs made the ores, averaging 0.285 oz./ton, uneconomic. In 1927, the Cominco mines were closed after producing over three million ounces of gold. Gold production from the camp continued until 1941 but at a much lower level.

The 16 claims under option to Gallant Gold Mines Ltd. were all staked during the gold rush years from 1890 to 1896. Although the claims have been held almost continuously since the 1890's, government records show that only five claims, the Georgia, Evening Star, Iron Colt, Buckeye and Silverine have had significant exploration or development.

1.4.1 Georgia

The Georgia was staked on August 27, 1893 and from 1893 to 1897 was explored with a series of trenches, shafts and two adits. In 1937 the property was optioned by the Gold Cup Mining Co. Ltd. and from 1937 to 1941 was explored with a series of trenches, diamond-drill holes and hundreds of feet of underground workings on three levels. This work led to the discovery of 12 veins with gold values ranging from trace to about 0.4 oz/ton. The best grades were obtained along steeply dipping east-west veins where grades of from 0.15 to 0.25 oz/ton were repeatedly obtained across widths of five to ten feet. A

company report dated 1940 states that reserves of 38,500 tons averaging 0.228 oz/ton were drilled off along veins 11, 11A and 12. In 1938 two ore shipments of 232 lbs. and 200 lbs. were sent for metallurgical testing. The shipments averaged 0.225 and 0.30 oz/ton. Lab tests indicated that 92.0% recovery could be obtained with cyanidation. A mining operation was recommended in the 1940 Engineer's report but was never undertaken.

In 1980 the property was optioned by Cominco and explored for a low-grade stockwork that could be mined by open-pit mining methods. Cominco tested the property with 20 vertical percussion drill holes ranging in depth from 20 to 270 feet. The drill holes were all subeconomic ranging from 54 to 312 ppb gold. Cominco's report suggests the results are inconclusive since vertical drilling was used to test mineralization controlled by vertical structures.

When the property was examined by A.G.Troup in July, 1982, a four-foot chip sample was taken across vein 11 where it was exposed in Adit #3. This sample assayed 0.036 oz/ton gold. A second four-foot chip sample of barren wall rock, also from Adit #3, assayed 0.022 oz/ton gold.

1.4.2 Evening Star

The Evening Star crown grant lies immediately northwest of the Georgia claims. Little information is available on this claim but B.C. Department of Mines records show that it was worked from 1896 to 1901, from 1907 to 1908 and from 1932 to 1941. An Engineer's Report by R. W. Haggen, dated 1940, states that in 1935 it was the largest shipper from the camp and up until 1940 has shipped several thousand tons of ore averaging 0.3 to 0.5 oz/ton gold.

In 1980 Cominco optioned the claim and explored it for a low-grade gold stockwork that could be mined by open-pit methods. Seven vertical percussion drill holes ranging in depth from 30 to 270 feet were put down. All were subeconomic. The best hole located near the former workings assayed only 47 ppb Au.

This claim was examined by the writer on July 6, 1982. Extensive underground workings were found to exist on the property with about 20,000 tons of waste on the dump in front of the lower adit. A chip sample taken across a six-inch quartz vein exposed in the lower adit assayed 0.402 oz/ton gold. Two composite samples of dump material assayed 0.042 and 0.030 oz/ton gold suggesting that mineralization extends into the wall rocks adjacent to the veins.

1.4.3 Iron Colt

The Iron Colt was staked on August 6, 1890 and worked intermittently from 1896 to 1939. The property was explored with two adits and more than 2,500 feet of underground workings. Massive sulphide ore carrying about 0.20 oz/ton gold is reported to have been discovered along the footwall of a monzonite dyke. No production records are available but small shipments averaging about 0.20 oz/ton gold are reported to have been made from the claim. These workings were not visited during the present examination.

1.4.4 Buckeye

The Buckeye claim was staked in the early 1890's and explored with about 500 feet of underground workings prior to 1915. Two veins of 1½ feet and 6 inches in width were encountered but there is no recorded production from the claim. The former workings were not investigated during the recent property examination.

1.4.5 Silverine

The Silverine crown grant was staked in 1890 and explored intermittently until 1944. Government files contain no information on the exploration or production history of this claim but the Trail smelter files show that 89 tons of ore averaging 0.54 oz/ton gold were shipped between 1934 and 1944. A dump containing an estimated 1,500 tons of waste was found on the claim during the recent examination.

1.5 Work by Gallant Gold Mines, 1983

In 1983, field work was conducted by Gallant Gold Mines Ltd. from June 10 to July 5. During this period the following surveys were completed:

1) A detailed VLF-EM survey was run over the entire property using 20 metre stations on lines spaced 100 metres apart. Follow-up lines spaced 50 metres apart were run over strong (> +30 Fraser filter values) conductors. The survey covered a total of 17 line kilometres.

2) Detailed geological mapping and prospecting at a scale of 1:2,000 was carried out over VLF conductors.

3) 37 rock chip samples, were taken over mineralized zones.

2. GEOLOGY

2.1 General Geology

The geology of the Rossland area was mapped at a scale of 1:4,800 (1 inch to 400 feet) by G.A. Young of the Geological Survey of Canada in 1909. More recently the area was mapped at a scale of 1:253,440 by Geological Survey geologist H.W. Little in 1948-52. In 1940 the geology of the Georgia claim was mapped by the Gold Cup Mining Co. at a scale of 1:1,200 (1 inch to 100 feet) and in 1980 the southern half of the present property was mapped by Cominco at a scale of 1:2,400.

The property is underlain by sedimentary rocks of the Pennsylvanian Mt. Roberts Formation which are covered on the east and west by Lower Jurassic, Rossland Formation volcanics. The sediments and volcanics are cut off to the south by the Rossland Monzonite Stock and to the north by the Trail Batholith, both of Lower Cretaceous Age. Sills, dykes and irregular masses of augite porphyry intrude the Mt. Roberts Formation and extend into the Rossland Formation volcanics which are believed to be their extrusive equivalent. Numerous north-south striking lamprophyre dykes occur throughout the area. These cross-cut all other rocks in the camp and are believed to be post-mineralization.

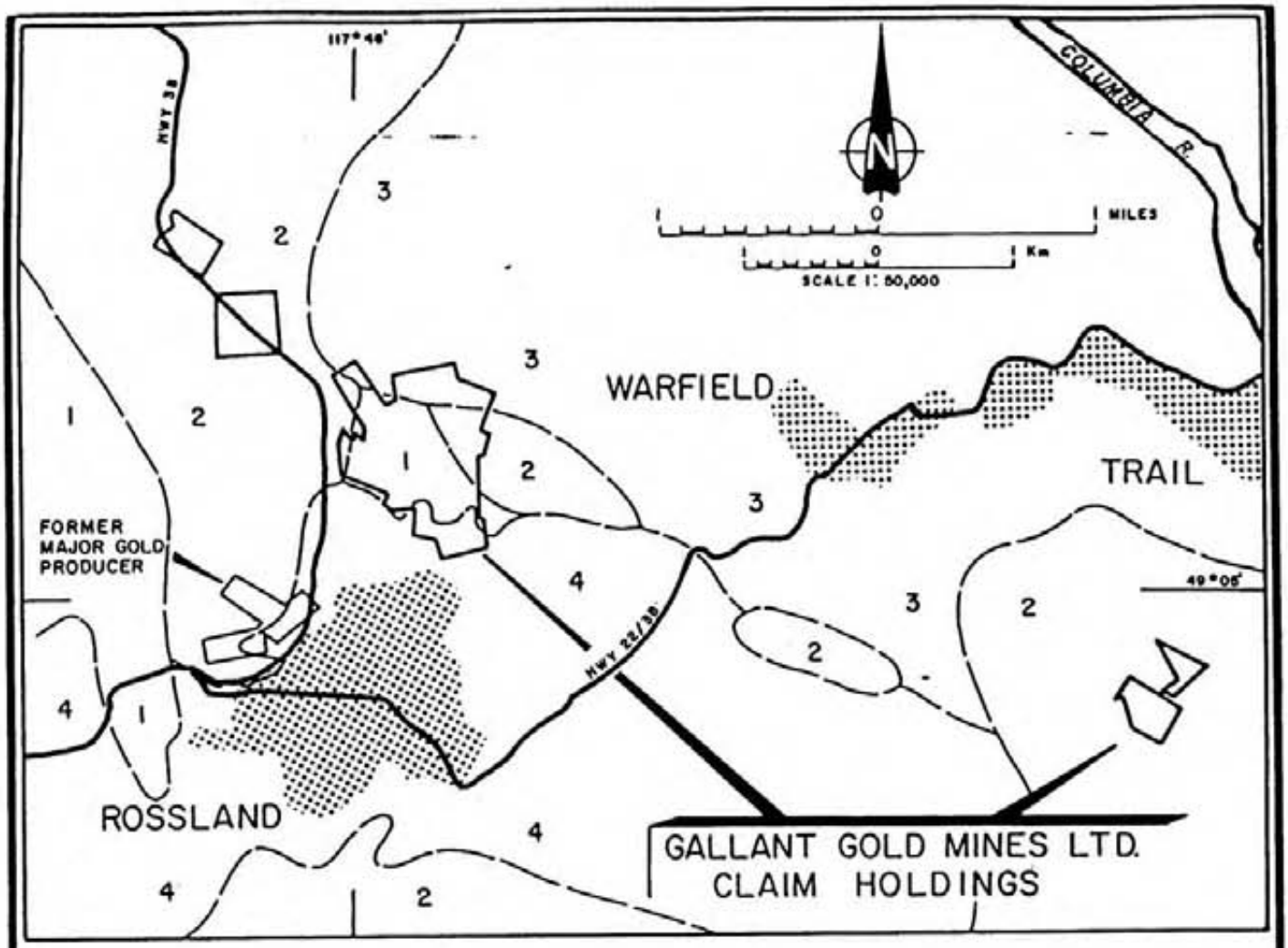
The Mt. Roberts Formation consists of finely laminated slates, argillites and siltstones. The rocks are locally carbonaceous and range from light grey to black in colour. They are generally highly silicified and locally grade into epidote hornfels. In the vicinity of the property the rocks strike north-south and dip from 20° to 60° west.

The Rossland Formation volcanics consist of agglomerate and tuff of andesite to basaltic-andesite composition. The agglomerate fragments can be up to 15 to 20 cm across and are elongate parallel to bedding. These rocks are often intruded by sills of augite porphyry.

The augite porphyry sills are believed to be the intrusive equivalent of the Rossland Formation volcanics. This rock consists of black augite phenocrysts, up to 1 cm. or more in diameter, suspended in a light green to dark grey groundmass. It is extremely variable in composition and often exhibits abrupt changes in colour, grain size and phenocryst content.

The Trail Batholith outcrops to the north of the claims but at depth it is believed to underlie most of the property. This body is a light grey, medium- grained, hornblende, biotite granodiorite. A marginal facies of this body is of dioritic composition consisting of hornblende and feldspar phenocrysts suspended in a fine-grained, grey-green groundmass. Dykes of diorite outcrop on the property and elsewhere in the camp are intimately associated with mineralization.

The Rossland Monzonite, situated along the south edge of the claims, is believed to be a late phase of the Trail granodiorite. This rock is grey-green to dark grey in colour and medium to coarse-grained. It is often porphyritic with large pyroxene and horneblende phenocrysts enclosed by light coloured plagioclase with minor brown biotite. The porphyritic monzonite is later than the main monzonite body and occurs as stocks and dykes crosscutting both the older monzonite and the adjacent sediments and volcanics. Much of the ore mined in the Rossland camp has occurred along shear zones located marginal to the Rossland Monzonite and related monzonite dykes.



LEGEND:

LOWER CRETACEOUS (?)

NELSON PLUTONIC ROCKS

4 ROSSLAND MONZONITE: monzonite, porphyritic monzonite

3 TRAIL BATHOLITH: granodiorite, diorite, quartz diorite.

LOWER JURASSIC

2 ROSSLAND FORMATION: andesite, latite, basalt, flow breccia, augite porphyry, agglomerate, tuff; minor shale.

PENNSYLVANIAN (?)

1 MOUNT ROBERTS FORMATION: slate, limestone, argillaceous quartzite, greenstone.

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GEOLOGY OF THE ROSSLAND AREA

TRAIL CREEK M.D.-B.C. NTS. 82-F-4

AGT./rwr. SEPT., 1982

FIGURE 2

2.2 Economic Geology

A detailed account of the Rossland ore deposits was published in 1915 as Memoir 77 by Charles W. Drysdale of the Geological Survey of Canada. Drysdale gives the following description of the Rossland ores:

> "The Rossland ore consists mainly of pyrrhotite and chalcopyrite, associated with a gangue of altered country rock containing some quartz and locally a little calcite. The sulplhides form from 50 to 70 percent of the mass. The values are largely in gold (0.4 to 1.1 ounces), with some copper (0.7 to 3.6 percent), and a little silver (o.3 to 2.3 ounces). There are all transitions from typical ore to solid sulphides or to rock matter, or to gangue with little apparent mineralization but carrying values.
>
> Five main types of deposits hae been recognized in the district, which may be enumerated as follows:
>
> 1. Ore deposits in true replacement vein fissures with fairly definite hanging and foot-walls. Such veins display in contrast to the other types great uniformity in width and value of ore. The best examples of this type traverse augite porphyrite country rock.
>
> 2. Ore deposits occurring along sheeted fissure or shear zones, in irregular, generally lens or tabular shaped shoots with intervening stretches of barren vein characterized by crushed country rock and fault gouge. The shoots as a rule, though not invariably, lie along the portion of the shear zone traversing a formational contact. In many cases only one definite wall is present, the other boundary being a commercial rather than a structural one, although there is generally a certain parallelism of lines of fracture for short distances which may be mistaken for walls. The great majority of the ore

deposits in the district belong to this type as for instance the main Centre Star-LeRoi vein.

3. Ore deposits in cross fractures or fault fissure veins which are of very local occurrence and of not very great economic importance. In some cases, however, the intersections of such cross fractures with main vein fractures show enrichment, whereas in other cases they show impoverishment. Such cross fractures are often misleading in diamond-drill operations.

4. Ore deposits as irregular impregnations of country rock; in part somewhat resembling stockworks. This type of deposit occurs in areas underlain by the Mount Roberts Formation.

5. Gold-bearing quartz fissure veins carrying iron, copper, and lead sulphides as well as gold. This type of deposit is more in the nature of cavity fillings than replacement veins.

2.3 Property Geology

Mineralization on the Georgia property falls into all five of Drysdale's deposit categories but types 1, 5 and 4 are the most common. Mineralization in the form of massive sulphide veins, veinlets and sulphide disseminations occur in silicified sediments of the Mount Roberts Formation and in the Rossland Monzonite as well as along the contact between these two. Sulphides include pyrrhotite, arsenopyrite, chalcopyrite and pyrite. In most cases these zones assay high in gold. Five significant veins have been found with assays ranging from .25 oz/ton over 25 cm. to .614 oz/ton Au over 140 cm. Weakly mineralized zones occur in the Rossland tuffs and Trail granodiorite. See Maps 2.3.1 and 2.3.2.

3. GEOCHEMISTRY

3.1 ROCK CHIP SAMPLING

3.1.1 Sampling, Sample Preparation and Analytical Procedures

Rock chip samples were taken across all massive sulphide veins, silicified zones with disseminated sulphides, zones of quartz and epidote stockwork, and gossanous zones. Grab samples were collected from waste dumps near the old workings.

The samples were placed in numbered plastic bags and sent to Chemex Labs Ltd. in North Vancouver for analysis. In the laboratory, samples were put through primary and secondary jaw crushers and a tertiary cone crusher. A sub-sample of approximately 250 grams was then pulverized in a rotary pulverizer. Pulp for precious metal analysis was screened to minus 100 mesh and examined for 'metallics'. The pulp was then fire assayed for Au, Ag and Cu.

3.1.2 Presentation and Discussion of Results

Assay results, locations and descriptions of samples are given in Table 3.2 and on Maps 3.2.1. and 3.2.2. There is a strong association between gold and copper mineralization in that high gold assays usually occur with high copper values however the reverse is not necessarily true.

LEGEND FOR TABLE 3.1.2

Aspy	= Arsenopyrite	Monz	= Monzonite	Silic	= Siliceous
Cpy	= Chalcopyrite	Msv	= Massive	Sulf	= Sulphide
Dissem	= Disseminated	Po	= Pyrrhotite	Stkwk	= Stockwork
Ep	= Epidote	Qtz	= Quartz	w/	= With
Grdr	= Granodiorite	Seds	= Sediments		

TABLE 3.2

LOCATIONS, ASSAYS AND DESCRIPTIONS
OF ROCK CHIP SAMPLES

SAMPLE #	LOCATION	% CU	oz/ton AG	oz/ton AU	DESCRIPTION
47137	Evening Star S. Vein	0.80	0.45	0.150	Seds w/ Cpy, Po, & Aspy. Grab.
47138	Evening Star N. Vein	0.05	0.02	0.005	Chip sample across 2.05m in Seds w/ Cpy, Po, & Aspy.
47139	Georgia CG NW corner. #5 Vein	0.65	0.16	0.008	Seds w/ Cpy, Po, Aspy.
47140	Georgia CG NW corner. #5 Vein	0.06	0.01	0.046	Silic Seds w/ Cpy, Po, Aspy. across 0.7m.
47160	Georgia CG 0+00 NW & 1+90 NE	0.26	0.12	0.248	Silic Seds, Qtz veinlets across .25m w/ Aspy & Cpy
47161	La Belle #8 Vein 3+33 SE & 3+33 NE	0.18	0.01	0.022	Silic Seds w/ Aspy & Cpy 1.0m wide
47162	La Belle same as above	0.50	0.22	0.724	Msv Sulf vein - Cpy & Aspy 0.06m wide
47163	La Belle #8 Vein	0.45	0.13	0.230	Silic Seds w/ msv Aspy & Cpy. Adit dump sample
47164	Georgia CG 2+40 SE & 2+65 NE	0.70	0.13	0.010	Altrd Seds w/ Aspy & Cpy in 2.0m wide vein
47165	Iron Colt 3+05 SE 4+17 NE	0.25	0.46	0.005	Silic Seds w/ Cpy & Aspy 0.35m wide vein.
47166	Iron Colt 4+29 SE 2+85 NE	0.33	0.10	0.254	Seds w/ Aspy & Cpy in 0.04m msv vein and dissem in wallrock for 10m on each side.
47167	Iron Colt 4+00 SE 3+50 NE	0.17	0.10	0.478	Monz w/ msv Aspy & Cpy in 0.90m wide vein.

TABLE 3.2 Continued

LOCATIONS, ASSAYS AND DESCRIPTIONS
OF ROCK CHIP SAMPLES

SAMPLE #	LOCATION	% CU	oz/ton AG	oz/ton AU	DESCRIPTION
47168	Iron Colt same as above	0.68	0.24	0.196	Silic Seds w/ Cpy & Aspy in 1.7m wide vein
47169	Iron Colt same as 47167	0.64	0.30	0.122	Aspy & Cpy in 0.11m wide vein.
47170	Iron Colt same as 47167	0.20	0.08	0.056	0.20m wide vein of msv Aspy & Cpy
47171	Georgia #4 Vein 2+90 SE 1+68 NE	0.04	0.02	0.003	Silic shear zone w/ dissem Cpy & Aspy
47172	Georgia same as above	0.17	0.07	<0.003	Msv Aspy, Cpy & Po from trench
47173	Georgia #4 vein west	0.27	0.04	0.016	0.20m wide vein of Aspy, Cpy & Po
47174	Georgia same as above	0.04	0.05	0.008	Silic Monz hanging wall rock w/ dissem Cpy & Aspy
47175	Georgia same as 47173	0.14	0.01	0.010	Silic Monz w/ dissem Cpy & Aspy
47176	Georgia same as 47173	0.23	0.12	0.005	Msv Cpy, Aspy & Po in 0.10m wide vein
47177	Georgia 1+20 SE 5+00 NE	0.13	0.06	0.003	Shear zone w/ msv Aspy, Cpy & Po
47178	Buckeye Adit 5+80NE 0+20SW	3.07	0.92	0.648	0.14m wide series of Qtz veins w/ Cpy, Po & Aspy in Monz.
47179	Evening Star 2+00 NW 4+00 NE	1.80	0.64	0.312	Dissem Cpy in 1.8m zone of silic Seds

TABLE 3.2 Continued

LOCATIONS, ASSAYS AND DESCRIPTIONS
OF ROCK CHIP SAMPLES

SAMPLE #	LOCATION	% CU	oz/ton AG	oz/ton AU	DESCRIPTION
47180	0+30 SE 1+80 NE	0.15	0.12	0.034	Silic Seds w/ Aspy & Cpy
47181	#12 Vein 0+15 SE 2+05 NE	0.21	0.17	0.032	Silic Seds w/ dissem Aspy & Cpy.
47182	0+66 NW 1+30 NE	0.70	0.22	0.528	Msv Cpy, Aspy & Po in 0.30m wide vein in Seds
47183	0+40 NW 1+00 NE	0.87	0.33	0.010	Msv Cpy, Po & Aspy in 1.35m wide vein in Monz
47184	5+67 NW 0+00 NE	0.30	0.21	0.614	Msv Cpy, Po & Aspy in 1.4m wide vein in Monz
47235	6+20 SE 2+50 NE	0.25	0.15	0.486	Seds w/ msv Po, Aspy & minor Cpy - Pit dump sample
47289	Evening Star 1+70 NW 2+20 NE	0.11	0.04	0.044	Dissem Cpy, Aspy & Po in Qtz & Ep stkwk in silic & chlor Seds - dump smpl
47290	Evening Star same as above	0.04	0.16	0.878	Dissem Aspy & Po in same as above
47292	Georgia 0+15 SE 1+75 NE	0.13	0.08	0.160	Aspy & Cpy in 0.35m wide vein
47293	8+40 NW 6+92 NE	0.03	0.32	0.005	Grdr - Fe stained w/ Qtz veining - Dump sample
47294	Adit at above location	0.04	0.03	<0.003	Qtz vein w/ Py 0.35m wide in Grdr.
47295	Same as above	0.02	0.01	<0.003	Cpy & Ga in chlor & qtz veining in Grdr - Grab
47296	6+90 NW 6+30 NE	0.01	0.01	<0.003	Silic Grdr in old trench Grab sample

4. GEOPHYSICS

4.1 VLF-EM Survey

4.1.1 Instrument and Survey Techniques

A geonics EM-16 unit was used to carry out a VLF-EM survey over the Georgia property. The 24.8 kHz, Seattle, Washington submarine transmitting station was used throughout the survey with in-phase and quadrature readings taken in a northwesterly (315°) direction to insure that south dips would be indicated as negative readings by the instrument. The in-phase dip angle readings were later converted by means of the Fraser filtering techniques (Fraser, 1969) to data which could be contoured.

Ten lines were run at 100 metre intervals with readings taken at 20 metre stations. A total of 17 line kilometres covered all claims. Intermediate lines were run at 50 metre intervals over major conductors.

4.1.2 Presentation and Discussion of Results

The results of the VLF-EM surveys are shown on Map 4.1.2. This map shows the in-phase dip angle and filtered dip angle results (Fraser, 1969) with the filtered data contoured at a 10% contour interval. (See Map 4.1.2).

Nine conductors with +30 or greater Fraser filter values were outlined. The prominent trend of the conductors is northeast, although a few trend either north-south or east-west. Mineralization was found over five of these conductors on the southern half of the property. These showings occur on the Evening Star, Georgia and Iron Colt claims. One conductor in the northeast of the Viking Claim has weak mineralization peripheral to it. Two conductors were outlined on the Putnam claim but no mineralization was found due to lack of out crop.

5. CONCLUSIONS

A systematic exploration programme involving an electromagnetic survey, geological mapping and rock chip sampling was carried out to investigate the property's potential for vein and stockwork mineralization.

The VLF survey outlined several conductors on the property. Follow-up geological mapping and prospecting showed that several of the conductors could be explained by exposed massive sulphide veins or mineralized zones. Several of these veins and zones have significant gold content. Most of the gold mineralization occurs in the Mt. Roberts sediments, the Rossland Monzonite and along the contact between these two.

Some of the conductors have not been explained due a lack of outcrop. Further work is required to fully assess the extent of mineralization on the property.

6. RECOMMENDATIONS

In 1982, three successive phases of work were recommended to assess the potential of this property. This report covers the first phase. Based on the favourable results from this programme the second phase is recommended for next field season.

PHASE II

1) An Induced Polarization (geophysical) survey should be carried out to outline areas of greatest sulphide concentration. A narrow electrode spacing should be used in order to define veins as well as disseminated sulphides.

2) Detailed mapping of the entire property at a scale of 1:1,000. Emphasis should be given to showings and geophysical anomalies located during Phase I and II.

3) Trenching and diamond drilling of all important veins, showings and geophysical conductors.

If results from the Phase II programme are encouraging a Phase III programme will be recommended.

PHASE III

1) Systematic diamond drilling of all important areas of mineralization discovered during Phase II.

Respectfully submitted

J.C. Ridley

7. BIBLIOGRAPHY

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Young, G.A., 1909: Special Map of Rossland, B.C.. Geological Sheet, G.S.C. Map No. 1002.

STATEMENT OF QUALIFICATIONS

A.G. TROUP, P.ENG.

ACADEMIC

1967	B.Sc. Geology	McMaster University, Ontario
1969	M.Sc. Geochemistry	McMaster University, Ontario

PRACTICAL

1981 -	3605 Creery Ave. West Vancouver, B.C	Consulting Geologist with Archean Engineering Ltd.
1977 - 1980	Geological Survey of Malaysia	Project Manager on a CIDA supported mineral exploration survey over peninsular Malaysia.
1969 - 1977	Rio Tinto Canadian Exploration Ltd. Vancouver, B.C.	Geologist involved in all aspects of mineral exploration in B.C., the Yukon and N.W.T.
1968	McMaster University Dept. of Geology Hamilton, Ontario	M.Sc. thesis work. Reconnaissance mapping and geochemical study, Lake Shubenicadia area, Nova Scotia.
1967 (summer)	Canex Aerial Exploration Ltd. Toronto, Ontario	Geologist in charge of detailed mapping and reconnaissance geochemical program in Gaspe, Quebec
1966 (summer)	Mcmaster University Dept. of Geology Hamilton, Ontario	Detailed and reconnaissance mapping in Northern Ontario.
1965 (summer)	International Nickel Co. of Canada Thompson, Manitoba	Detailed mapping in the Thompson area, Manitoba.
1964 (summer)	Geological Survey of Canada Ottawa, Ontario	Regional geochemical survey in the Keno Hill area, Yukon.

STATEMENT OF QUALIFICATIONS

J.C. RIDLEY, B.SC.

Academic

1978	B.A. Geography	University of Western Ontario
1981	B.Sc. Geology	University of British Columbia

Practical

1981 - Present	Mark Management Ltd. Vancouver, B.C.	Project Geologist. Involved with geological, geochemical and geophysical aspects of precious metals exploration in B.C.
1980 - 1981	Utah Mines Vancouver, B.C.	Temporary Summer and part-time Winter Geologist in Charge of mapping and diamond drilling of a coal property in N.E. B.C. logging of rotary drilling chip samples on another coal property in N.E. B.C.
1979	Utah Mines Vancouver, B.C.	Temporary Summer. Reconnaissance and detailed mapping, logging of diamond drill core on coal properties in N.E. B.C.

COSTS STATEMENT
GALLANT GOLD MINES LTD.
PERRY CREEK PROPERTY
GEOLOGY, GEOPHYSICS, and GEOCHEMISTRY SURVEYS
15 July - 4 August 1983

FOOD AND ACCOMMODATION		
2 Pers, 34 man days @ $16.32		$ 554.88
SUPPLIES		470.91
SHIPPING & POSTAGE		81.32
RENTALS		
Mark 4wd Bronco, 15-31 Jul, 17 days @ $43	$ 731.00	
2052km @ $0.16	328.32	
Mark 4wd Blazer, 25-29 Jul, 5 days @ $43	215.00	
1903km @ $0.16	304.48	
Gabriel/Ezekiel Camp Equipment		
34 man days @ $6	204.00	1,782.80
FIELD TELEPHONE SERVICE		35.00
REPAIRS		371.07
CONSULTANT FEES		
Archean Engineering		1,125.00
REPORT PREPARATION		2,786.50
TOTAL GENERAL COSTS		$7,207.50

GEOLOGY SURVEY COSTS

SALARIES & WAGES	
2 Pers, 20 man days @ $84.50	$1,690.00
BENEFITS @ 20%	338.00
GENERAL COSTS	
20/34 X $7,207.50	4,239.69
TOTAL GEOLOGY SURVEY COSTS	$6,267.69

GEOPHYSICS SURVEY COSTS

SALARIES & WAGES		
2 Pers, 6 man days @ $84.50		$ 507.00
BENEFITS @ 20%		101.40
RENTALS		
Gallant EM-16, 17 days @ $27	$ 459.00	
Gabriel EM-16, 17 days @ $27	459.00	918.00
GENERAL COSTS		
6/34 X $7,207.48		1,271.82
TOTAL GEOPHYSICS SURVEY COSTS		$2,798.22

GEOCHEMISTRY SURVEY COSTS

SALARIES & WAGES		
2 Pers, 8 man days @ $84.50		$ 676.00
BENEFITS @ 20%		135.20
ASSAYS & ANALYSES - Chemex Labs		
21 Rock Assays CU,PB,ZN,AG,AU @ $30	$630.00	
1 Rock Assay AU @ $11	11.00	
13 HMC Analyses CU,PB,ZN,AG,AS,AU,W,SN @ $28.01	364.13	
14 Silt Analyses CU,PB,ZN,AG @ $6.60	92.40	1,097.53
GENERAL COSTS		
8/34 X $7,207.48		1,695.88
TOTAL GEOCHEMISTRY SURVEY COSTS		$3,604.61

LEGEND

- 6 Granite porphyry
- 5 Mica & lamprophyre dykes

ROSSLAND INTRUSIVE

- 4b Porphyritic monzonite
- 4a Monzonite

TRAIL BATHOLITH

- 3b Diorite porphyry
- 3a Granodiorite

ROSSLAND FORMATION

- 2b Andesite tuff
- 2a Augite porphyry

MT. ROBERTS FORMATION

- 1 Interbedded sediments slates, argillites, siltstone

- Outcrop
- 68 Strike & dip of mineralized vein
- Trench, pit
- Shaft
- Adit

CHIP SAMPLE Nº.	% Cu	oz/ton Ag	oz/ton Au
47137	0.80	0.45	0.150
47138	0.05	0.02	0.005
47139	0.65	0.16	0.008
47140	0.06	0.01	0.046
47160	0.26	0.12	0.248
47161	0.18	0.01	0.022
47162	0.50	0.22	0.724
47163	0.45	0.13	0.230
47164	0.70	0.13	0.010
47165	0.25	0.46	0.005
47166	0.33	0.10	0.254
47167	0.17	0.10	0.478
47168	0.68	0.24	0.196
47169	0.64	0.30	0.122
47170	0.20	0.08	0.056
47171	0.04	0.02	0.003
47172	0.17	0.07	<0.003
47173	0.27	0.04	0.016
47174	0.04	0.05	0.008
47175	0.14	0.01	0.010
47176	0.23	0.12	0.005
47177	0.13	0.06	0.003
47178	3.07	0.92	0.648
47179	1.80	0.64	0.312
47180	0.15	0.12	0.034
47181	0.21	0.17	0.032
47182	0.79	0.22	0.528
47183	0.87	0.33	0.010
47184	0.30	0.21	0.614
47235	0.25	0.15	0.486

CHIP SAMPLE Nº.	% Cu	oz/ton Ag	oz/ton Au
47289	0.11	0.04	0.044
47290	0.04	0.16	0.878
47292	0.13	0.08	0.160
47293	0.03	0.32	0.005
47294	0.04	0.03	0.003
47295	0.02	0.01	0.003
47296	<0.01	0.01	0.003

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,846

GALLANT GOLD MINES LTD.

GEORGIA PROPERTY ; TRAIL CREEK M.D., B.C.

VLF-EM CONTOURS, GEOLOGY & CHIP SAMPLE LOCATIONS

100 50 0 100 200 300 400

SCALE 1:5000 Metres

NTS 82-F-4

DATE NOV. 21,83 By: J.R./r.w.r. MAP 2.3.1

L 8+00 NE
L 7+50 NE
L 5+00 NE
L 7+00 NE
L 9+00 NE
L 4+00 NE
L 6+50 NE
L 6+00 NE
L 3+00 NE
L 10+00 NE
L 2+00 NE
L 1+00 NE
L 00

ELANORE
VIKING
PUTNAM
SILVERINE
POTT
BUCKEYE
EVENING STAR
CALEDONIA
LA BELLE
GEORGIA
IRON COLT

47294 - Quartz vein in gossanous granodiorite (0.04, 0.03, 0.003)
47295 - cpy & PbS in granodiorite (0.02, 0.01, 0.003)
47293 - Quartz vein in gossanous granodiorite (0.03, 0.32, 0.005)
47296 - fine grained silicified granodiorite. (<0.01, 0.01, 0.003)
47184 Massive cpy, aspy & pyroh. in 1.4m wide qtz vein (0.30, 0.21, 0.614)
47178 - 14cm wide series of quartz and calcite veinlets, cpy occurs as veinlets throughout silicified zone (3.07, 0.92, 0.648)
47137 - 0.7m wide massive sulphide vein, cpy, aspy, py in silicified sediments. (0.80, 0.45, 0.150)
47183 - 1.35m wide massive vein, cpy, aspy, pyroh (0.87, 0.33, 0.010)
47138 - 2.05m wide mineralized zone in sediments, cpy, py, aspy (0.05, 0.02, 0.005)
47289 Evening Star dump Silicified sediments abundant cpy & aspy (0.11, 0.04, 0.044)
47290 (0.04, 0.16, 0.878)
47182 (0.70, 0.22, 0.528) Massive sulphide vein up to 30cm wide, cpy, aspy, pyroh
47160 - Quartz veins occupying 25cm width, massive cpy, aspy (0.26, 0.12, 0.248)
47292 - 0.8m wide quartz vein in silicified sediments, aspy & cpy (0.13, 0.08, 0.160)
47180 - 30cm massive sulphide vein cpy, aspy in silicified sediments. (0.15, 0.12, 0.034)
47181 - dump sample Massive aspy, cpy (0.21, 0.17, 0.032)
47179 - 1.8m wide mineralized zone in silicified sediments, cpy veinlets up to 1cm wide, localized areas of massive aspy & cpy (1.80, 0.64, 0.312)
47140 - 0.7m wide zone of silicified sediments, abundant aspy, minor cpy. (0.06, 0.01, 0.046)
47139 - silicified sediments, contains 1% disseminated cpy & aspy (0.65, 0.16, 0.008)
47177 - silicified zone occupying fractures. Massive aspy, cpy & pyroh 20cm wide vein (0.13, 0.06, 0.003)
47172 - dump sample massive aspy & cpy (0.17, 0.07, 0.003)
47171 - silicified shear zone 30cm wide, contains minute aspy stringers & minor amounts of disseminated cpy. (0.04, 0.02, 0.003)
47173 - (0.27, 0.04, 0.016)
47174 - (0.04, 0.05, 0.008)
47175 - (0.14, 0.01, 0.010)
47176 - (0.23, 0.12, 0.005)
Massive sulphide vein up to 30cm wide, cpy, aspy, pyroh in monzonite. Wall rock contains cpy in narrow veinlets & disseminated throughout
47163 - dump sample, Massive cpy, aspy & pyroh. (0.45, 0.13, 0.230)
47164 - Massive aspy & cpy in 1m wide vein, cpy occurs as veinlets & disseminations throughout silicified zone 1m wide adjacent to massive sulphide vein (0.70, 0.13, 0.010)
47161 (0.18, 0.01, 0.022) silicified sediments with abundant cpy, aspy found in veinlets & disseminated throughout.
47165 - 35cm wide massive sulphide vein, cpy & aspy vein fills fracture opening in argillite. (0.25, 0.46, 0.005)
47166 - 4cm massive sulphide vein, cpy & aspy (0.33, 0.10, 0.254)
47167 - Two massive sulphide veins 3cm wide separated by a 94cm wide highly silicified zone containing veinlets of cpy, aspy. massive sulphide veins containing cpy & aspy. (0.17, 0.10, 0.478)
47168 (0.68, 0.24, 0.196)
47169 (0.64, 0.30, 0.122)
47170 (0.20, 0.08, 0.056)
7m wide zone containing massive sulphides aspy & cpy. Highly altered zone containing cpy as veinlets & disseminations throughout. Separates two massive sulphide veins
47235 - dump sample massive pyroh, aspy, minor cpy (0.25, 0.15, 0.486)

N

LEGEND

- 6 Granite porphyry
- 5 Mica & lamprophyre dykes

ROSSLAND INTRUSIVE

- 4b Porphyritic monzonite
- 4a Monzonite

TRAIL BATHOLITH

- 3b Diorite porphyry
- 3a Granodiorite

ROSSLAND FORMATION

- 2b Andesite tuffs
- 2a Augite porphyry

MT. ROBERTS FORMATION

- 1 Interbedded sediments slates, argillites, siltstones

TRENCH · PIT · ADIT · SHAFT
SAMPLE LOCATION
STRIKE & DIP OF MINERALIZED VEINS
OUTCROP · CONTACT
(0.45, 0.13, 0.230) – Cu %, Ag oz/t, Au oz/t

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,846

GALLANT GOLD MINES LTD.
GEORGIA PROPERTY, TRAIL CREEK M.D., B.C.

GEOLOGY & CHIP SAMPLE LOCATIONS

0 50 100 200 m
1:2000

NTS 82-E-4
DATE NOV 19, 1985 By: J.R./t.w. MAP 2.3.2

LEGEND:

FRASER FILTER RESULT %

INPHASE READINGS

INSTRUMENT: GEONICS EM-16

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,846

GALLANT GOLD MINES LTD.

GEORGIA PROPERTY; TRAIL CREEK MD., B.C.

VLF-EM SURVEY

FRASER FILTER CONTOURS (%)

0 50 100 200 m

1:2000

NTS 82-F-4

DATE: NOV 19, 1983 By: J.R./r.w.r

MAP 42.1