GREAT WESTERN STAR GOLD-COPPER PROJECT

NELSON MINING DIVISION
BRITISH COLUMBIA
NTS 82F/6W

LATITUDE 49° 27' N
LONGITUDE 117° 22' E

FOR

PACIFIC SENTINEL GOLD CORP.
1020 - 800 West Pender Street
Vancouver, B.C.
V6C 2V6

BY

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December 20, 1989

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1.0 SUMMARY

Pacific Sentinel Gold Corp.'s Great Western Star Copper Gold Project is located 8 km southwest of Nelson in southern British Columbia (NTS 82F/6W). During the period July 2 to September 15, 1989, Pacific Sentinel spent 316 man days conducting a program of soil and rock sampling, trenching, geological mapping, and induced polarization and magnetometer surveying.

In the Toughnut area of the claims, five trenches were completed in the host Elsie volcanics to test a coincident IP and gold-copper-zinc soil anomaly. The trenches successfully delineated significant base and precious metal mineralization consisting of disseminated sulphides pyrite, sphalerite and galena. However, the geophysical response indicates that these sulphides may be more massive at depth, suggesting the potential of locating stratabound volcanogenic massive sulphide mineralization in the Toughnut target area.

The Alma N mineralized zone occurs in the Silver King shear zone at a volcanic/intrusive contact. Relogging drill core and sampling dump material at the Alma N zone has confirmed the presence of high grade gold mineralization hosted in a potassically altered leucocratic monzonite.

Investigation of the historic Eureka mine workings in the northwest portionof the project area has identified high grade, copper-silver-gold mineralization hosted within a shear-related quartz carbonate vein system. In addition, the wall rock of this vein system may have significant potential for a lower grade, bulk tonnage gold-copper mineralization.

At the Sar target, sheared and potassically altered monzonite hosts extensive low grade copper-gold mineralization. Geophysical, geochemical and diamond drill data accumulated by previous operators, in addition to three newly trenched zones, indicate that copper-gold mineralization is both structurally controlled and disseminated within the monzonite. The Star gold-copper mineralization has been traced over a minimum 800 m x 200 m area of the Star grid.

On the Ron target area, trenching of two of several coicident soil and IP changeability anomalies, has discovered significant copper-gold mineralization hosted in a melanocratic sheared monzonite stock.

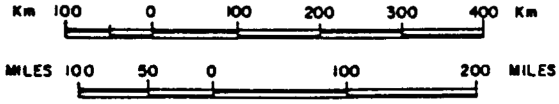
A $300,000 Phase 1 diamond drill program is recommmended to further define the many styles of precious and base metal mineralization located on Pacific Sentinel's Great Western Star Project.

2.0 INTRODUCTION

During the period July 2nd to September 15th, 1989 Pacific Sentinel Gold Corp. conducted an extensive exploration program on its Great Western Star property. Three hundred and sixteen man days were spent excavating 918 m of trenches, collecting 809 rock and 572 soil samples, and geologically mapping the 30 km^2 project area. In addition, contracts were let for 56.61 km of line cutting, 19.45 km of magnetometer surveying and 15.95 km of induced polarization surveying. The technical specifications and interpretations for the geophysical work are contained in a separate report, written by John Lloyd, P.Eng., dated October, 1989. The total cost of the project was $178,034.50.

2.1 Location and Access

The Great Western Star Project (NTS 82F/6W) is located 8 km southwest of Nelson in southeastern British Columbia (Figures 1 and 2). The project is centered on the ridges between Giveout, Sandy and Eagle Creeks at latitude 49° 27'N and longitude 117° 22' E. Access to the property is by the Giveout Creek mainline logging road off the Nelson-Salmo highway approximately 4 km south of Nelson, or by forestry road from Highway #3A, 8 km west of Nelson.



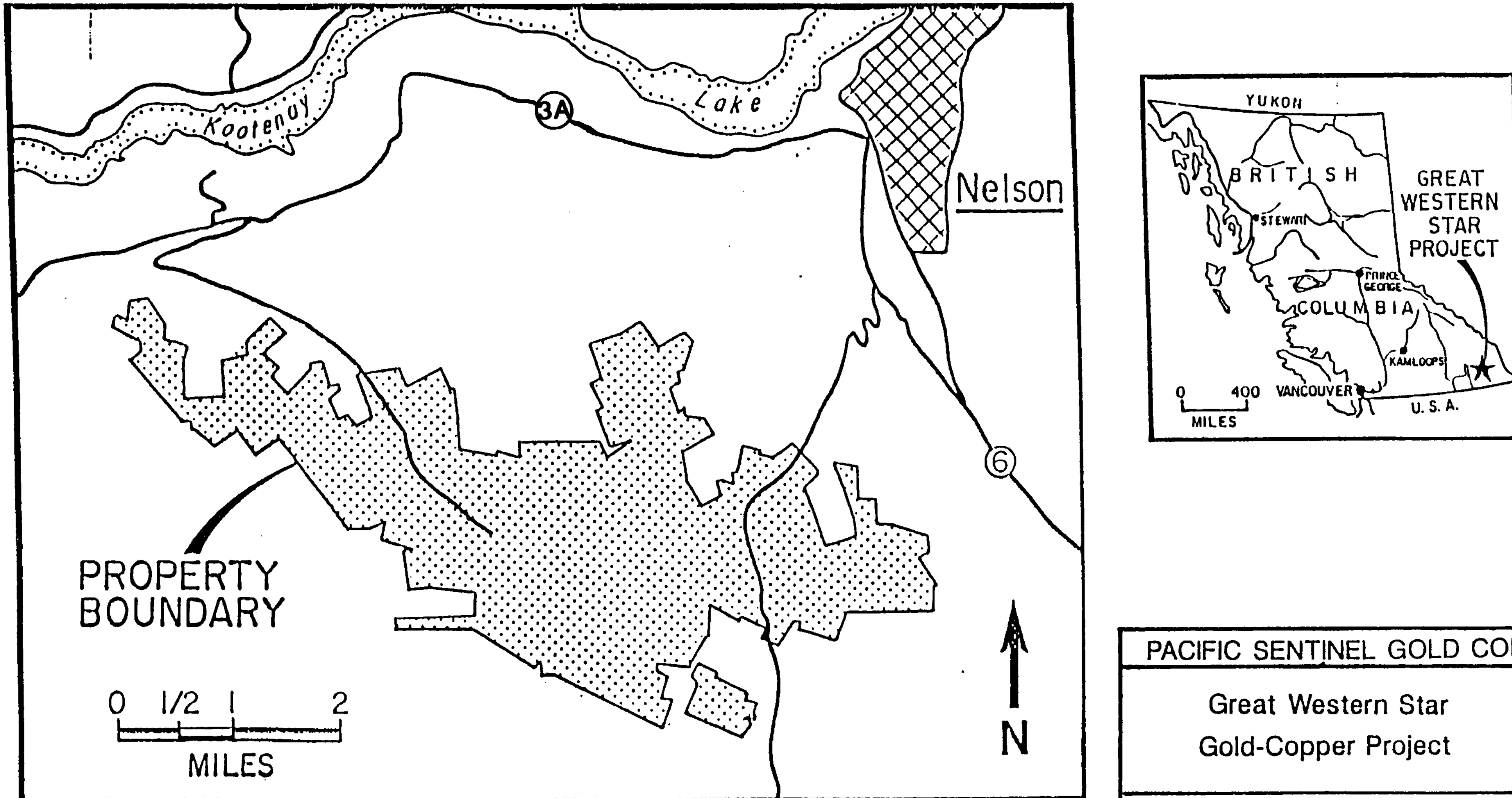
PACIFIC SENTINEL GOLD CORP.

GREAT WESTERN STAR GOLD-COPPER PROJECT

PROPERTY LOCATION

NELSON MINING DIVISION
SOUTHEASTERN BRITISH COLUMBIA

Date: June 1989 Drawn: by J.W.	N.T.S. 82F/6W	FIGURE: 1.



PACIFIC SENTINEL GOLD CORP.

Great Western Star
Gold-Copper Project

Location Map

NELSON MINING DIVISION , S.E. B.C.

Date: Drawn by: B.Augsten	NTS: 82F/6W	FIG. 2

2.2 Topography and Vegetation

The topography in the project area is moderately steep, with elevations ranging from 600 to 2,000 metres. The central and western portions of the project area form a plateau, hidden from Nelson by Morning Mountain. The upper slopes of the property are covered by glacial clays and sands, which reach a thickness of to 6 metres on ridges and up to 12 metres in valleys and on side hills.

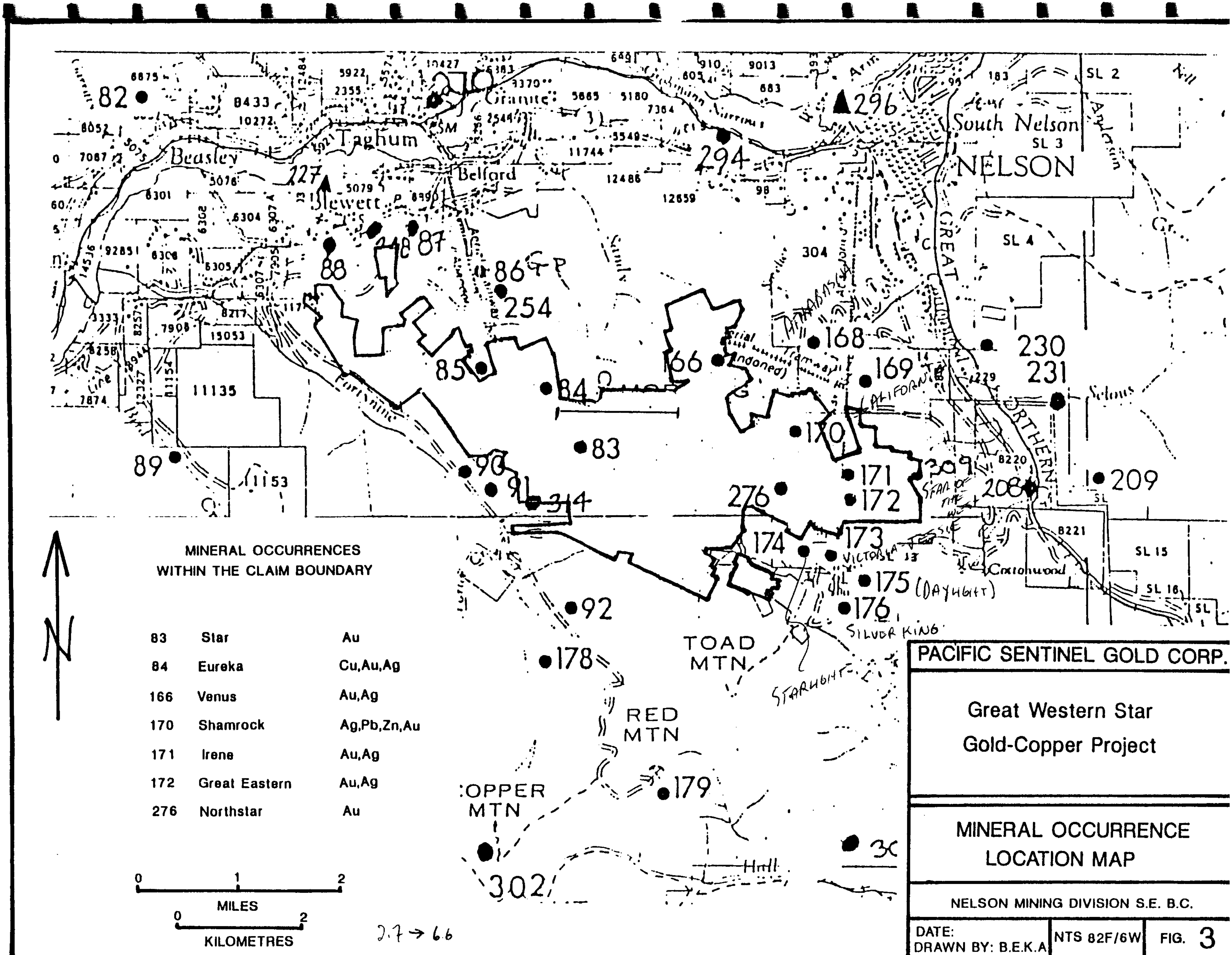
Mature, second growth larch, douglas fir, hemlock, western red and white cedar cover much of the property. Recent clear cut logging has removed much of this growth near the Alma N and Star mineralized zones. Atco Ltd. is continuing its clear-cut logging on the property during 1989 and 1990.

2.3 Exploration History

The Great Western Star property is situated in the historic Nelson Mining Camp which has been prospected since before the turn of the century. This camp is known to host a variety of mineral deposits including gold-bearing quartz veins, silver-copper-lead lodes and veins, disseminated shear-hosted gold replacements, and porphyry copper-gold deposits. The Great Western Star property hosts a number of former workings and producers dating back to the late 1800's (Figure 3).

The Eureka workings are located in the northwest portion of the property (Figure 3), where two adits were developed to access a northwesterly trending vein system hosted in the Bonnington Complex zoned diorite to syenite stock. Production from the Eureka workings during the 1930's was 9,900 tons of copper-gold-silver ore, which yielded 617 oz gold, 36,160 oz silver and 350,911 lbs of copper (Dasler, 1987). Production records and stope plans indicate that low grade gold (0.02 to 0.05 oz Au/ton) and copper values occur over significant widths in the host rock. This target area has not been explored since the 1930's.

The Star, Alma N and Gold Eagle workings, located to the south of the Eureka (Figure 3, 6 and 7) are developed on similar northwest trending vein systems. During the early 1900's, minor shaft development at the Alma N and Star zones



MINERAL OCCURRENCES WITHIN THE CLAIM BOUNDARY

83	Star	Au
84	Eureka	Cu,Au,Ag
166	Venus	Au,Ag
170	Shamrock	Ag,Pb,Zn,Au
171	Irene	Au,Ag
172	Great Eastern	Au,Ag
276	Northstar	Au

PACIFIC SENTINEL GOLD CORP.

Great Western Star Gold-Copper Project

MINERAL OCCURRENCE LOCATION MAP

NELSON MINING DIVISION S.E. B.C.

DATE:
DRAWN BY: B.E.K.A

NTS 82F/6W

FIG. 3

produced 1,280 tons of ore yielding 180 ozs of gold. Between 1984 and 1988, U.S. Borax explored this region of the property under an option agreement with Reymont Gold Mines Ltd. U.S. Borax conducted gridded soil surveys, I.P. geophysics and reverse circulation and diamond drilling. At the Alma N and Gold Eagle zones, drilling intersected gold mineralization associated with sheared volcanic rocks and highly fractured monzonite. This initial drilling confirmed the bulk mining potential of this area with intersections assaying up to 0.13 oz Au/ton over 155 feet and 0.09 oz Au/ton over 120 feet.

At the Star zone, U.S. Borax began testing a large coincident I.P./ gold-copper geochemical soil anomaly which coincides with a highly fractured and altered monzonite stock. Limited drilling at the margin of the stock has indicated the presence of significant gold-copper mineralization with drill intersections including 0.023 oz Au/ton and 0.19% Cu over 260 feet and 0.023 oz Au/ton and 0.16% Cu over 240 feet.

U.S. Borax was searching for high-grade, vein-hosted gold mineralization and therefore was not targeting their drilling on bulk tonnage gold and gold-copper targets.

In the eastern portion of the property, in the Giveout Creek area, there are numerous small tunnels and pits dating back to the early 1900's but no significant tonnages were mined. A tunnel crossing a highly sheared band of pyritic volcanics adjacent to the Silver King porphyry stock reportedly returned assays of up to 0.148 oz Au/ton over 46 metres (1886 B.C. Dept. of Mines Report).

The first major exploration effort in this part of the property was conducted by Asarco Exploration in the late 1970's. Asarco completed grid soil sampling, magnetometer and I.P. surveys and minor geological mapping and diamond drilling. Asarco defined a 1,520 metre-long coincident I.P. chargeability and gold soil anomaly in the Giveout Creek area.

In 1984, Lectus Developments Ltd. completed additional soil sampling and conducted an extensive diamond drilling program in the Giveout Creek region.

Diamond drilling by Lectus in 1987 intersected wide zones of silicified and sheared volcanics which assayed up to 0.15 oz Au/ton over 12 metres and 0.23 oz Au/ton over 6.4 metres (Dasler, 1987).

Drilling efforts by Lectus tested a 457 metre portion of the 1,520 metre-long I.P. anomaly.

In June of 1989, Pacific Sentinel Gold Corp. negotiated an option and joint venture agreement with Reymont and Lectus to earn a 70% interest in the 30 square kilometre Great Western Star gold-copper property.

2.4 Property Status

The Great Western Star property is comprised of modified grid and 2 post claims as well as Crown grants and reverted Crown grants. The property is comprised of 117 British Columbia claim units or 30 km^2 and is operated by Pacific Sentinel Gold Corp., under an option and joint venture agreement with Lectus Developments Ltd. and Reymont Gold Mines Ltd. Pacific Sentinel can earn a 70% direct interest in all claims comprising the project area except for the Asarco option claims in which Pacific Sentinel is earning a 35% interest.

Pertinent claim information is outlined in Table I. Nine separate property vendors own underlying interests ranging from 1 to 5% NSR in the claims. The locations of the various project claims are shown in Figure 4.

3.0 REGIONAL GEOLOGY

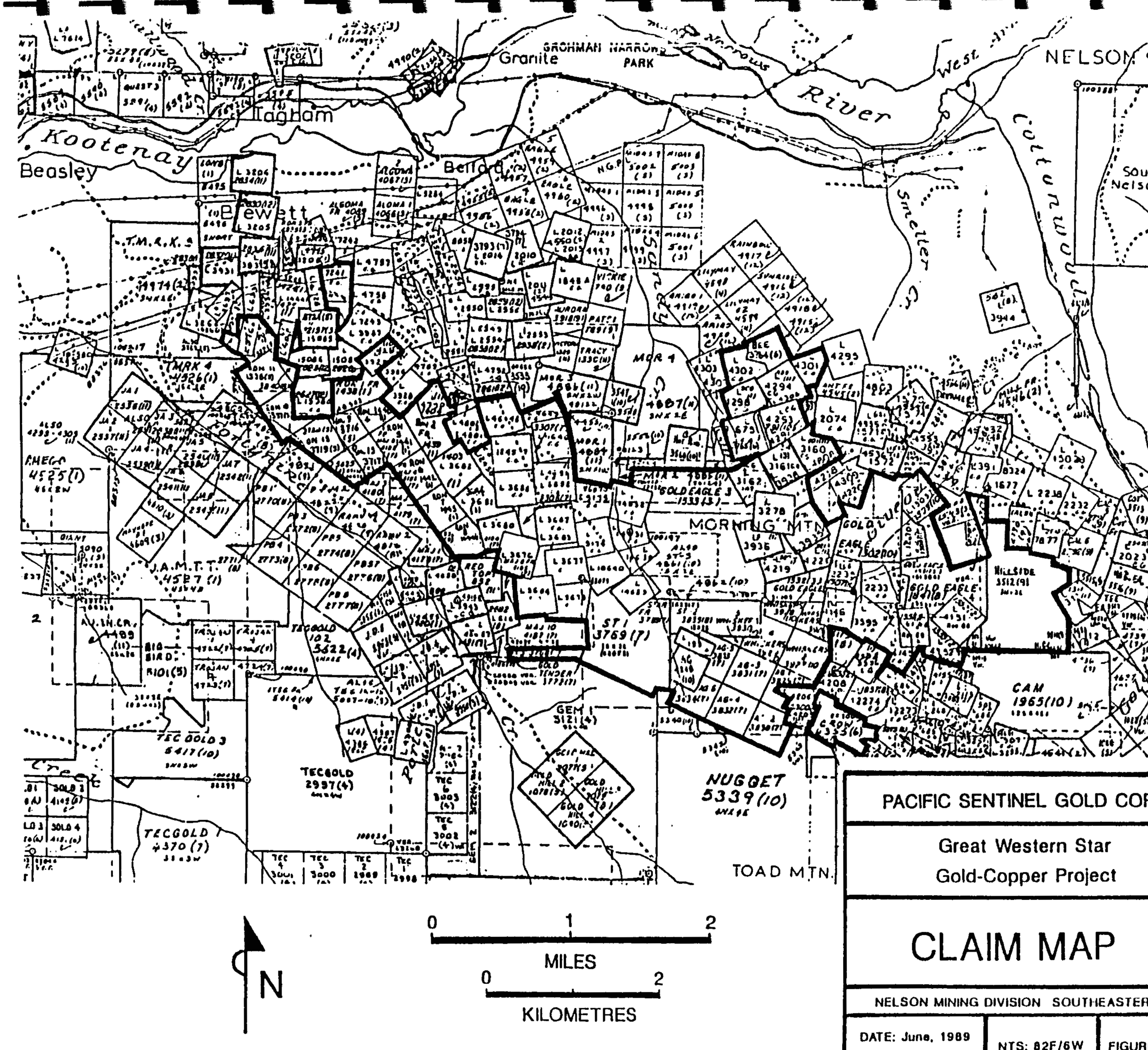
The region southwest of Nelson, B.C. is underlain by Lower Jurassic Rossland Group andesite flows, agglomerates and tuffs. This Jurassic sequence of alkaline, sub-aerial intermediate volcanic rocks is intruded by a) numerous small stocks that are probably correlative with the mid-Jurassic Nelson Batholith, b) by Tertiary rhyolite and lamprophyre dykes, c) by Eocene Coryell alkalic intrusions, and d) by Jurassic Bonnington Complex (Figure 5).

PACIFIC SENTINEL GOLD CORP.

CLAIM SCHEDULE
GREAT WESTERN STAR PROJECT, NELSON, B.C.

Claim	Record No.	Date Recorded mm/dd/yy	Expiry Date
ADDIE			
Royal Arthur	3634	01/03/84	1994
Josie	4281	10/29/85	1990
FINLEY COMPANY			
Champion CG	4648		07/31/1990
Vicking Fr. CG	4649		" " 1990
Gold Leaf Fr. CG	12458		" " 1990
Gold Leaf #2 CG	12457		" " 1990
Toronto CG	4646		" " 1990
Alhambra Fr. CG	4651		" " 1990
Imperial CG	3686		" " 1990
Eureka CG	5552		" " 1990
Bellerophon CG	3680		" " 1990
Florence G. CG	3676		" " 1990
Star CG	3687		" " 1990
Gerald F. Fr. CG	3683		" " 1990
Elkhorn CG	9175		" " 1990
Bob CG	14632		" " 1990
Alma N CG	9174		" " 1990
Dot CG	14631		" " 1990
Mayflower CG	3684		" " 1990
Elk CG	3677		" " 1990
Silverstone CG	10640		" " 1990
Bee CG	14630		" " 1990
Gem CG	14629		" " 1990
Trumpet CG	3678		" " 1990
Toronto Fr. CG	4301		" " 1990
Dundee CG	7241		" " 1990
MS CG	7243		" " 1990
STAR CLAIMS			
Star #1 Fr.	3306	07/08/83	1995
Star #2 Fr.	3307	07/08/83	1995
Star #3 Fr.	3768	07/11/84	1995
Star #4 Fr.	3789	07/20/84	1995
ST 1	3769	07/11/84	1995
ST 2	3835	08/23/84	1995
ST #3	4861	10/14/87	1998
ST #6 Fr.	4862	10/14/87	1998

Claim	Record No.	Date Recorded mm/dd/yy	Expiry Date
DENNY			
Muldoon CG	976		7 July 1997
Majestic RCG	1398	01/10/80	1991
Invincible RCG	1403	01/10/80	1991
Vernamo RCG	1404	01/10/80	1991
Republic Fr. RCG	1424	01/17/80	1991
Mika Chahko RCG	1425	01/17/80	1991
Moken Bird Fr. RCG	1426	01/17/80	1991
Ron #1 Fr.	1438	01/24/80	1992
Ron #2 Fr.	1439	01/24/80	1992
Ron #3 Fr.	1535	03/10/80	1991
Ron #4	1440	01/24/80	1992
Ron #5	1441	01/24/80	1991
Ron #6	1442	01/24/80	1991
Ron #7	1443	01/24/80	1991
Ron #8	1444	01/24/80	1991
Ron #9	3716	05/14/84	1991
Ron #10	1537	03/10/80	1991
Ron #11	1538	03/10/80	1991
Ron #12	1539	03/10/80	1991
Ron #13	3717	05/14/84	1990
Ron #15	3719	05/14/84	1990
Ron #16	3720	05/14/84	1990
Ron #17 Fr.	3840	08/28/84	1990
Majestic Fr.	3721	05/14/84	1990
Muldoon Fr.	3722	08/28/84	1990
GOLD EAGLE			
Gold Eagle #3	1533	03/05/80	1990
ASARCO			
Birdseye CG	L3278		07/31/1990
Princeton Fr. CG	L3938		07/31/1990
Gold Eagle	1302	10/16/79	1990
Gold Eagle #1 Fr.	1531	03/05/80	1992
Gold Eagle #2	1532	03/05/80	1990
Gold Eagle #4	1841	08/01/80	1990
Gold Eagle #5 Fr.	1856	08/13/80	1990
Gole Eagle #6 Fr.	1857	08/13/80	1990
Lady Aberdeen RCG	919	01/22/79	1992
Minto Fr. RCG	920	01/22/79	1992
Inverness RCG	918	01/22/79	1992
Haddo Fr. RCG	921	01/22/79	1992
Horseshoe RCG	1307	10/22/79	1992



PACIFIC SENTINEL GOLD CORP.

Great Western Star
Gold-Copper Project

CLAIM MAP

NELSON MINING DIVISION SOUTHEASTERN B.C.

DATE: June, 1989 DRAWN BY: S.M.H.	NTS: 82F/6W	FIGURE: 4

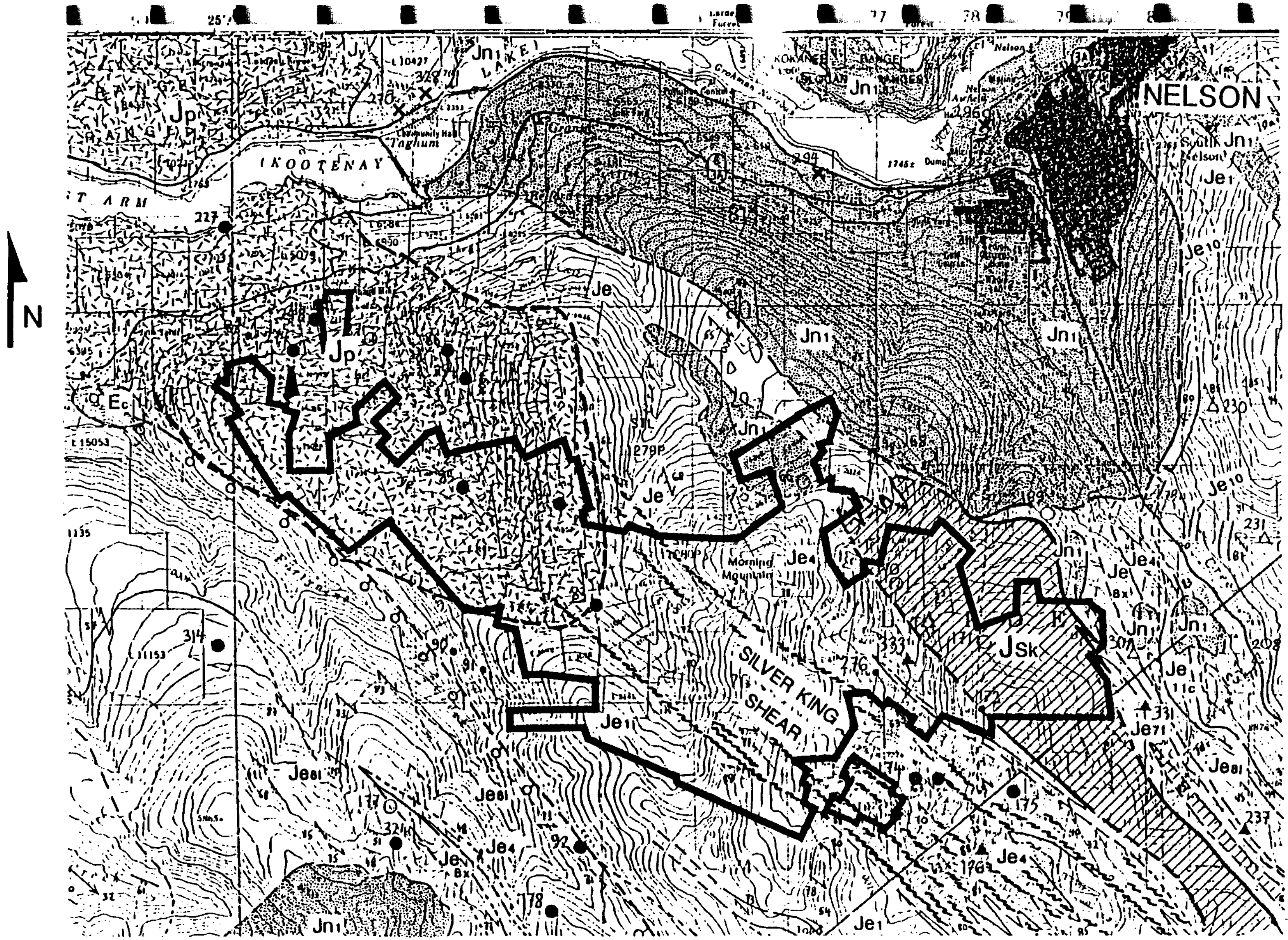
Claim	Record No.	Date Recorded mm/dd/yy	Expiry Date
Red Fr. RCG	1308	10/22/79	1990
Tregarden Fr. RCG	1309	10/22/79	1990
BOURDON			
Hillside	3512	09/13/83	1997
Hilltop Fr.	3511	09/13/83	1997
Great Western RCG - (ex.Lot4148)	1551	02/19/80	1998
Irene RCG (ex.Lot 4151)	1552	02/19/80	1998
Great Eastern RCG (ex.Lot 4152)	1553	02/19/80	1998
PLANET PROPERTY			
Juno RCG	34	03/19/75	2000
Venus RCG	791	10/06/78	1990
Orion RCG	899	11/24/78	1990
Jupiter RCG	900	11/29/78	1990
King of the Forest RCG	901	11/29/78	1990
Kirkwall RCG	902	11/29/78	1990
ADDIE, ADDIE, PALMER			
Black Witch CG	L4146		07/31/1990
Tough Nut CG	L199		07/31/1990
AG	4248	10/09/85	1990
AG 1	3829	07/27/84	1999
AG 2	3830	07/27/84	1999
AG 3	3831	07/27/84	1999
AG 4	3832	07/27/84	1999
AG 5	3833	07/27/84	1999
AG 6	3834	07/27/84	1999
Crow	4355	06/19/86	1990
Whiskers 1	3926	10/09/84	1989
Whiskers 2	3927	10/09/84	1990
Whiskers 3	3928	10/09/84	1989
Whiskers 4	3929	10/09/84	1989
Whiskers 5 Fr.	3930	10/09/84	1989
WEIR			
Thistle CG	L2238		07/31/1990
White Witch CG	L3595		07/31/1990
Great West Fr. CG	L4773		07/31/1990
LABELLE			
North Star CG	L4149		07/31/1990

Rock outcrop is not common on the Great Western Star Project, however, it may be exposed in stream valleys, trenches and old workings. The central portion of the claim group is underlain by brecciated flows, tuffs and minor epiclastic deposits described by Hoy (1989) as part of the basal Elsie formation of the Jurassic-aged Rossland Group volcanics (Figure 5). In the Nelson camp, the Elsie Fm. attains a thickness of approximately 1 kilometre. In the claim region, the Rossland volcanics are cut by a one kilometre wide northwest-trending zone of intense shearing. This major tectonic and mineralizing structure, named the Silver King Shear system, has intensely altered the flows and tuffs in the claim region to chlorite, pyrite, iron-carbonate schists. According to T. Hoy (pers. comm., 1989), the timing of the intense deformation associated with the Silver King Shear is bracketed by the intrusion of the Nelson Batholith at 165 Ma and a nearby post-tectonic intrusion at 185 Ma. Disseminated pyrite is ubiquitous within this zone of shearing, with auriferous quartz veins and quartz-carbonate stockworks occurring throughout this major ductile shear. In addition, wide zones of disseminated shear-hosted gold mineralization (Alma N, Gold Eagle Zones) have been discovered within the Silver King Shear System on the property.

In the western portion of the claim group, the Silver King Shear Zone is truncated by the Jurassic Bonnington Complex monzonite and diorite.

In the claim region Bonnington Complex intrusives are intensely fractured and have undergone extensive potassic alteration characterized by the presence of K-feldspar replacing plagioclase, an abundance of magnetite, and the original ferromagnesium minerals being replaced by fine grained biotite (Mulligan, 1952).

On the east side of the Great Western Star project area, the Rossland volcanics are intruded by the Jurassic Silver King porphyry (Figure 5). The Silver King stock is a plagioclase porphyry intrusion associated with the emplacement of gold and base metal mineralization throughout the Nelson Mining Camp. In the Giveout Creek region of the Great Western Star project area, a 1,520 metre-long zone of strongly schistose Rossland Group andesitic flows occurs at the contact of the Silver King porphyry. Disseminated and vein-controlled gold mineralization is widespread along this contact zone.



LEGEND

EOCENE

Ec CORYELL INTRUSIONS (syenite, quartz monzonite)

JURASSIC

Jn1 NELSON INTRUSIONS (granodiorite, quartz monzonite)

Jp PSEUDIORITE, PYROXENITE

Jsk SILVER KING INTRUSIONS (plagioclase porphyry)

Je1, Je4, Je7f, Je8l, Je8x, Je10, Je11c ROSSLAND GROUP VOLCANICS, Elise Fm. (mafic to intermed. flow, epiclastic & pyroclastic units)

Jy YMIR GROUP METASEDIMENTS (argillite, siltstone, grit)

SHEAR ZONE

GEOLOGIC CONTACT

● Au +/- Cu MINERALIZATION

PACIFIC SENTINEL GOLD CORP.		
Great Western Star Gold-Copper Project		
Geology and Claim Boundary (Geology after T.Hoy, 1988)		
NELSON MINING DIVISION Southeastern British Columbia		
DATE: June, 1989 DRAWN BY: S.M.H.	NTS: 82F/6W	FIGURE: 5

0 km 1

4.0 TOUGHNUT GRID AREA

4.1 Introduction

The Toughnut grid is located on Toad Mountain in the southeastern portion of the Great Western Star project area (Figures 6 and 7). Access to the Toughnut area is via the Giveout Creek forestry road, off of Highway 6 to the south of Nelson, B.C., and by part of the four-wheel drive Silver King Mine access road. Elevation of the Toughnut area varies from 1,500 to 2,000 metres and the relief is moderate to steep.

A total of 519 metres of trenching was completed on the Toughnut Grid using a Case Drott excavator (Figure 9). Trenches were mapped in detail at a scale of 1:200. In total, 355 rock and 299 soil samples were collected in this portion of the Great Western Star project area (Figures 10, 12-15).

4.1 Geology

Trenching and geological mapping, at a scale of 1:2500 (Figure 8) has shown that the Toughnut grid is underlain by mafic to intermediate (+/- felsic) flows, tuffs, and breccias of the Lower Jurassic Rossland volcanics. Intruding the volcanic rocks is a subvolcanic, high-level felsic sill or Quartz Feldspar Porphyry (Q.F.P.). Much younger, possibly Tertiary-aged lamprophyre dikes intrude all rocks in the Toughnut Grid area.

Unit #1 - Augite Porphyritic Mafic Flows

This unit predominantly consists of augite porphyritic mafic flows with 2-5% dark green, sub-euhedral augite phenocrysts (+/-hornblende phenocrysts) set in a massive, fine-grained andesitic to basaltic groundmass. The augite porphyritic volcanic rocks display weak but pervasive carbonate alteration and the local development of epidote. Sulphide content is generally 1-2% disseminated pyrite. This unit is weakly to moderately magnetic due to the presence of disseminated magnetite.

Unit #2 - Intermediate Quartz Eye and Crystal Tuffs

This unit is composed of fine grained, light grey to dark green coloured ash tuffs, quartz eye tuffs and feldspar crystal tuffs of intermediate composition. The feldspar crystal tuffs commonly display a trachytic texture. The tuffs are well-foliated and generally occur as volcanic schists. Locally, the schists may be extremely sheared.

The tuffaceous volcanic rocks of Unit #2 are much more intensely altered than Unit #1. Sericitic, iron carbonate and, locally, silicic alteration types are observed. In general, Unit #2 is weakly to moderately magnetic. Fine to medium grained pyrite disseminations are ubiquitous in this rock type. Sphalerite, chalcopyrite, galena and malachite also occur as disseminations.

Unit #3 - Quartz Feldspar Porphyry

This is a readily distinguishable quartz-feldspar porphyry (Q.F.P.). This rock is medium to coarse-grained with 15-20% light green, sericitized and stretched plagioclase phenocrysts of 3-4 mm size as well as 3-5% subhedral quartz phenocrysts ("eyes") of 1-2 mm size. This rock also contains 1-3% mafic phenocrysts, generally chloritized hornblende. The matrix is sericitized and locally iron-carbonate altered and it has a bleached appearance. The Q.F.P. is non-magnetic.

The irregular morphology and coarse grained nature of this unit suggest an intrusive origin for the Q.F.P. (e.g. a near-surface subvolcanic sill). Sulphide mineralization in the Q.F.P. is not common, however, where present it occurs as disseminated pyrite.

Unit #4 - Lamprophyre Dykes

Lamprophyre: This is a fine-grained dark grey to black mafic intrusive rock, which is commonly bounded by a rusty 1-2 mm thick weathered selvage. It consists of 10% euhedral biotite in 3-4 mm wide 'books', 3% carbonate altered (bleached) pyroxene grains of 3-4 mm size and 20% mafic phenocrysts. The mafic phenocrysts now occur as epidote centers with calcite rims. The matrix of the lamprophyre dikes/sills is of primary potassic composition. Sulphide mineralization within the lamprophyre is limited to 0.5% disseminated pyrite. In addition, the dikes/sills are moderately to strongly magnetic due to variable amounts of disseminated magnetite. In outcrop, these units vary in width from 25 cm to greater than 1 metre and occur as either cross-cutting dikes or subparallel to parallel sills. These dykes intrude all other geologic units on the Toughnut grid.

4.2 Structure

Rocks in the Toughnut grid area generally display a penetrative foliation which strikes 120° and dips 75°S. This foliation is defined by the parallel alignment of chlorite and sericite grains and it is related to the km-wide Silver King Shear system shown in Figure 5. Fractures, joint sets, veins and dykes in the Toughnut grid commonly have the same orientation as the Silver King Shear.

Unfoliated rocks in the area include late-stage quartz veins, lamprophyre dykes/sills and some outcrops of massive augite porphyritic volcanic rocks. Veins and dykes can be observed in cross-cutting relations with the dominant northwesterly trend of the Silver King Shear zone. Other, less abundant, geological structures which are discordant with the shear zone include a northerly-striking crenulation cleavage (mm scale) and a strong northeasterly striking joint set, both of which occur in the fine grained volcanic schists of the Toughnut area.

Original and early deformational textures in the Toughnut rocks become obliterated toward the center of the Silver King Shear system. One outcrop of fine grained volcanic rock located on the eastern margin of the Toughnut grid, away from the core of the shear zone, displays isoclinal folding. The axial plane orientation of this fold is parallel to the trend of the Silver King Shear system, 120°/+80°S.

4.3 Mineralization

Several styles of sulphide mineralization occur in the area of the Toughnut grid. In order of abundance, the dominant sulphides are pyrite, galena, sphalerite, chalcopyrite and tetrahedrite.

1. The most typical style of sulphide occurrence is that of widely disseminated pyrite; predominantly in the carbonate- and sericite-altered portions of Unit #2. In this unit, the pyrite content commonly reaches 2-5% of the total rock composition and locally it reaches 5-10%. The disseminated pyrite occurs as brassy, euhedral grains of 0.5 - 1.0 mm diameter as well as in fine anhedral blebs. Pyrite veinlets were also observed in highly altered volcanic rocks. Precious metal values are not related to pyrite content alone, however, in general terms, when pyrite plus galena, sphalerite or chalcopyrite are present, precious metal values are enhanced.

2. The most obvious sulphide mineralization is associated with epithermal to mesothermal-style quartz veins, which intrude the volcanic rocks. These were the target of early exploration efforts and test pits, shafts and trenches are found everywhere on the Toughnut property (Figure 9). Quartz veining is very common on the Toughnut Grid area, in most cases these veins are enriched in base metals (galena, chalcopyrite and sphalerite) and precious metals (Table 2). Quartz veins are typically 10 cm to 1 m wide and many are oriented parallel to the regional foliation.

   Considerable strike length is evident in some veins, particularly the one on which the original Toughnut workings were targeted (Figure 9). This vein can be discontinuously traced for a minimum of 120 metres. Wherever this vein was sampled base and precious metal values were encountered (Table 2).

TABLE 2

Assay Results From the Toughnut Vein System

Sample#	Grid S	Location W	Sample Length(m)	Au ppb/opt	Ag ppm/opt	Cu ppm	Pb %	Zn %
5437	0+45	5+40	Dump rock	1.211 opt	5.27 opt	212	1.26	5.21
5438	0+45	5+40	Dump rock	0.048 opt	5.84 opt	580	10.06	3.02
5455	0+55	6+63	1.1 m	310 ppb	28.9 ppm	252	1.18	1.93
5457	0+55	6+63	500 cm^2 panel	460 ppb	68.5 ppm	2,289	1.27	3.28
5458	0+55	6+63	Dump rock	490 ppb	23.9 ppm	594	9,350 ppm	3.88
5459	0+55	6+63	Dump rock	0.032 opt	3.69 opt	2,876	2.45	6.30
5461	0+55	6+50	Dump rock	0.076 opt	4.63 opt	1,016	7.36	1.48
5470	0+45	5+40	Dump rock	0.163 opt	1.04 opt	185	1,935 ppm	1.51

3. In general, chalcopyrite alone is not common in the Toughnut area. In the extension of the Lacana Trench at 0+74W (Figures 9 and 10) minor chalcopyrite occurs as rare grains on foliation planes within a strongly foliated and chloritized volcanic. Assays revealed only minor enrichment in copper (Figure 11, Sample 5541, Cu = 459 ppm). Rare chalcopyrite veinlets and fracture-fillings were observed in highly altered portions of the 'Knob' trench (Figures 10 and 11). A small chalcopyrite-bearing quartz vein in the far western portion of the Toughnut area (6+40S and 11+00E on the Star grid, see Figure 8) is extremely enriched in precious metals. Sample 5569 was a 1 metre chip sample of intensely bleached and well-foliated pyritic volcanic which included a 5 cm wide chalcopyrite-bearing quartz vein. This sample assayed 0.282 oz/t Au and 0.10% Cu.

4. Five trenches were dug in the Toughnut grid area (Figures 9 and 10) in order to test precious and base metal soil anomalies. Sulphide mineralization was found to be both quartz vein hosted and finely disseminated. Precious metal mineralization was found to be associated with disseminated galena and sphalerite (Figure 11, Trench 0+00W) as well as with structural controls.

For example, in Trench 0+74W, gold is enriched at the northern contact of the Q.F.P. (Figure 11, 0+89N to 0+95N). The reader is referred to samples 549S, 5496 and 5497 in Table 3.

TABLE 3

Three Assays Results From Trench 0+74W

Sample #	Grid Location	Sample Length(m)	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm
5495	0+74W, 89-91N	2	1520	0.8	63	19	45
5496	0+74W, 91-93N	2	6290	1.7	26	15	69
5497	0+74W, 93-95N	2	1010	0.5	254	4	215

Re-examination of the above sample locations showed no unusual sulphide enrichment. In fact pyrite content was only 0.5 - 1.0%, and no base metal sulphides were observed. Corroborating this relationship, a sample of sheared rock, possibly Q.F.P., taken at 2+02W and 0+90N (5547) returned a value of 130 ppb Au. This sample is located very close to the postulated contact between Units #2 and 3, the same contact as that in Trench 0+74W. Geological mapping of this contact has been conducted (Figure 9). In addition, soil geochemistry has identified a substantive Au anomaly stradding the geologic contact (see Section 4.5 and Figure 13). It is suggested that the northern contact of the Q.F.P. with Unit #2 (Figure 9) may be a good target for future exploration.

5. Precious and base metal enrichment is also related to the intensity of the sericite and iron-carbonate alteration affecting the host rock. Highly sericitized and iron-carbonate altered rocks in Trench 0+00E (1+46 to 1+56N) are extremely hard in nature and form obvious, resistant outcrops. In these zones, precious metal mineralization is recognized with 2% disseminated pyrite and base metal sulphides. Because of the extreme hardness of these zones, sample quality suffered and it is likely that grades could be improved with the use of a rock saw to cut channel samples.

Outside of these altered zones precious and base metal values drop appreciably (see Figure 11 and Appendix 4).

4.4 Alteration

The volcanic rocks of the Toughnut grid display a high degree of carbonate and sericite alteration compared to Rossland volcanic rocks elsewhere in the region. The alteration assemblage is generally comprised of pyrite, sericite, chlorite and iron-carbonate +/-dolomite +/- calcium-carbonate +/- silica. The most significant alteration occurs in Unit #2. Locally this unit has been extremely altered. The degree of sericite alteration in the Toughnut rocks varies throughout the grid area. Those rocks found in the old test pits, shafts and other workings in the area generally are highly carbonate and sericite altered.

The Q.F.P. (Unit #3) is less affected by carbonate alteration than the volcanic rocks. Locally, however, the matrix of the Q.F.P. may be partially composed of iron carbonate and plagioclase phenocrysts may be sericitized. The rare mafic minerals in the Q.F.P. are always chloritized.

The few potassically altered volcanics found in the Toughnut grid are a tuff from the northern portion of the grid and a 'pyroclastic' rock from one of the trenches. This type of alteration does not appear to play an important role in the alteration/mineralization history of the Toughnut grid rocks.

4.5 Soil Geochemistry

A total of 299 soil samples were collected on the western portion of the Toughnut grid (See Figure 12). All samples were analyzed for Au, Ag, Cu, Pb and Zn (see Figures 13, 14, 15, 16). High gold values, defined as mean plus 2 standard deviations from a well defined zone trending southwest from L2+00W, 0+75N to L6+00W, 0+50S. Numerous moderately anomalous values, defined as mean plus one standard deviation, form a much broader zone around this trend.

Lead and zinc form almost identical patterns of broad, anomalous zones south of the baseline. Copper forms an even broader anomalous zone exclusively north of the baseline.

5.0 ALMA N, STAR, EUREKA AND RON GRIDS

Figure 7 depicts the location of the Alma N, Star, Eureka and Ron Grids on the Great Western Star Property.

5.1 Structure

The dominant structural feature of the claim area is the Silver King Shear system. This shear system affects all volcanic and intrusive rocks on the property except for the lamprophyre dykes/sills. The pronounced northwest trending foliation found in most of the volcanic rocks on the property indicates that the shear had a much stronger effect on these than the intrusive rocks. The best evidence for this is a foliated volcanic xenolith found in an unfoliated intrusive outcrop. Besides the distribution of mineralization, the effect of the Silver King Shear on the intrusive rocks seen as a faint chlorite-defined foliation and by numerous northwest trending fractures and joints.

The Silver King Shear has historically been a conduit for mineralization in the area, with 28 past producers or prospects forming a northwest trending cluster around the trend of the shear. Although the extent of mineralization at the zones of interest on the Great Western Star property has been controlled by such things as rock type and permeability, all the zones are probably genetically related to the Silver King Shear. At the Alma-N and Star zones rocks with the highest values show evidence of shearing and microbrecciation. In the North Star area (Drill Hole 51) the mineralization is much more widespread but still trends in a northwesterly fashion. The sulfide rich quartz-carbonate vein of the Eureka zone also trends west of north.

5.2 Geology

Intrusive Rocks

The northwest section of the property is underlain by an intrusive identified on previous BCDM and G.S.C. Maps as a "pseudo-diorite" (O.F. 1989 - 11, Unit Jp). This term refers to the supposed metamorphic genesis of this rock. While Pacific Sentinel Corp. geologists found the intrusive on the Star and Ron claims to be heterogeneous in both texture and composition, all rocks were obviously of intrusive genesis and few approached what could be considered a diorite composition.

The intrusive rock ranges in composition from syenite to monzodiorite. The more alkali rich phases appear to be associated with both the intrusive/volcanic contact, as at the Alma N, and with the more intense copper gold mineralization at the Star. The mafic component of the intrusive, mostly biotite and minor hornblende, also varies considerably. In the potassium feldspar rich mineralized sections of the Alma N Zone the rock is leucocratic. The only mafic mineral is 1-2% chlorite, probably after biotite. In the unmineralized zones at both the Alma N and Star areas, the biotite mode increases to 30%. This increase appears to be loosely associated with an increase in plagioclase feldspar. Ubiquitous accessory minerals in the intrusive rock include finely disseminate euhedral magnetite, and pervasive and fracture controlled calcium carbonate. The texture of the intrusive rock also varies considerably. Grain size ranges erratically from fine grained (0.3 mm) in the contact zone at the Alma N area to coarse grained (1-5 mm) in the Star and Ron zones well inside the intrusive body.

Two types of late stage mafic dykes are identified on the property. One is a true lamprophyre, with 1-3 mm biotite books supported in a fine grained mafic matrix. The other is equigranular, fine grained and appears to be of a less mafic composition. Although the dykes are often spatially related to mineralization, they are for the most part quite fresh and thus post-date the mineralization.

Volcanic Rocks

Only a few small outcrops of volcanics were found in the Alma-N, Star, Eureka and Ron zones. These were near the presumed volcanic intrusive contact located west of the Eureka Zone. The volcanic rock found at these outcrops was probably once a mafic tuff, but it has been sheared and altered to the point that it is now a chlorite schist. The small volcanic outcrops appear to be surrounded by intrusive rock, suggesting that they are inclusions within the intrusive body. It is interesting to note however, that the strike of the foliation in the volcanic inclusions is consistently in the 140° - 150° range. This would indicate that the Silver King Shear occurred after, or was remobilized after, the time that the intrusion was emplaced in the volcanics.

Relogging of drill core from the Alma-N zone and east of Sandy Creek identified two interbedded phases of the Elise formation volcanics. The predominant phase is a strongly foliated intermediate to mafic tuff. Interbedded with the tuff is a massive augite porphyry with an andesitic matrix.

5.3 Mineralization and Alteration

5.3.1 Alma-N Target Area

The Alma-N Target Area occurs at the intersection of the northwest striking Silver King Shear, and the north-northeast trending intrusive/volcanic contact (see Figure 8). This contact forms an indistinct zone several tens of meters across typified by large xenoliths of partially digested volcanic rock within a potassically altered leucocratic monzonite.

Pyrite is disseminated throughout the contact zone at 1-2%, but increases to 3-5% in the K-spar rich leucocratic monzonite. It is in this potassically altered pyritic zone that the most consistent gold mineralization occurs. Drilling from 1985 to 1988 returned some very encouraging values. Examples include RC Hole S-3, which intersected 30.5 m of 0.10 oz/T Au, and RC Hole S-5 which intersected 47.2 m of 0.126 oz/T. Due to poor outcrop exposure, Pacific Sentinel geologists collected only a few surface grab samples at the Alma N area during the 1989 field season. Three of these samples assayed 930 ppb Au, 660 ppb Au, and 1570 ppb Au. Where the Silver King shear has most intensely affected the contact zone, the rock shows evidence of multi-stage shearing and micro-brecciation associated with strong quartz-sericite alteration. Pyrite content in these sheared and altered zones increases up to 10% and a grab sample representing this material assayed 1.6 oz/T Au and 2.34 oz/T Ag.

5.3.2 Star and Eureka Target Areas

The Star and Eureka Target Areas lie well within a monzonite-monzosyenite intrusion that underlies the northwestern part of the property. At the Star zone, gold-copper mineralization is hosted in pyrite-chalcopyrite mineralized and potassically altered monzonite. At the Eureka zone, copper-silver-gold mineralization is hosted in a chalcopyrite-bornite mineralized quartz carbonate vein system. Outcrop is sparse to nil in the Star and Eureka target areas with most geological data being inferred from diamond drill core recovered by previous project operators (1986-1988).

Relogging of previous drill holes from the Star area indicates that the mineralization occurs both as discreet vein hosted high grade zones and as wide low grade zones. In holes S-48 and S-49, high grade mineralization occurs as several centimeter/wide fracture-controlled quartz carbonate veins. Examples from hole 48 are the intersections 200-202 ft., which assayed 0.240 oz/T Au, 31.0 ppm Ag and 10,200 ppm Cu, and 202-205 ft., which assayed 0.540 oz/T Au, 2.9 ppm Ag and 2200 ppm Cu. These mineralized zones occur within fresh medium to coarse grained monzonite.

Drill hole S-51 (U.S. Borax, 1988) was collared 200 m to the north of drill holes 48 and 49 (Figures 7 and 8). Widespread potassic alteration is indicated by the strong development of secondary biotite and orthoclase feldspar. As well, sericite locally makes up 50% of the core. Mineralization in this area occurs as widespread, finely disseminated pyrite, chalcopyrite and minor bornite. A 73 m intersection of this mineralization assayed 0.023 oz/T Au and 0.16% Cu. Analysis of past geophysical and geochemical data indicates that the widespread mineralization encountered in drill hole S-51 trends to the northwest, probably controlled by the Silver King Shear system.

Three trenches were dug during 1989 to test the northwesterly extension of drill hole S-51 mineralization (Figures 7, 19 and 20). The first trench located on L7+71N between 4+42W and 5+07W, failed to reach true bedrock. Even at a depth of 6 m, the best sample that could be taken was of unconsolidated "C" horizon material. This material did however look similar to the unmineralized, weathered and potassically altered core at the top of drill hole S-51. Greater success was achieved with the trench on L10+55N between 5+98W and 7+18W. True bedrock was encountered throughout this trench at an average depth of 1 m. Significant copper mineralization, in the form of disseminated chalcopyrite and malachite, was found throughout the host monzonite. However, the best mineralization, with up to 1% chalcopyrite, centered around 140^{o} trending fractures. Along with increased sulfide content, strong sericite development forms a 1-3 m envelope around these fractures. A 24 m intersection from this trench assayed 587 ppb Au and 745 ppm Cu, with high values of 1200 ppb Au and 1491 ppm Cu.

Farther to the northwest, on L1200, a trench planned to extend from 7+00W to 8+00W failed to reach bedrock. The trench was abandoned after 36 m when only fine gravel was encountered at depths up to 6 m.

The only work done at the Eureka target area was the collection of grab samples from the upper and lower portals and the Alhambra shaft. These samples show that the Eureka zone is a quartz carbonate vein system hosted in a melanocratic, occasionally sericitic monzonite. Three types of vein material were observed. The first type consists of sugary textured, sometimes banded, calcium carbonate. The second type consists of stringers and irregular blebs of quartz hosted within the sugary calcium carbonate. The third type consists of quartz by itself in the host monzonite.

From 1-5% pyrite, chalcopyrite, and bornite mineralization can be found in all of the above mentioned vein types but it seems to occur in consistently higher concentrations in the quartz-carbonate host. Up to 5% sphalerite, galena and hematite also occur locally.

The following analyses were returned from some of the Eureka grab samples.

TABLE 4

Sample	Au(oz/T)	Ag(oz/T)	Cu(%)	Pb(%)	Zn(%)
5578	0.051	5.06	0.82	1.08	1.50
5581	0.01	50.22	3.89	1.40	0.37
5582	0.076	-	0.12	-	-
10991	0.056	4.71	1.84	-	-

Sample 5582 is significant because it is a sample of the sericitized host monzodiorite, and therefore indicates the potential for widespread, lower grade mineralization around the central Eureka vein system. Another sample of the host monzodiorite, taken from outcrop near the upper portal, assayed 0.09 oz/T Au and 0.11% Cu.

Alignment of surface workings at the Eureka zone indicate that the quartz carbonate vein system has a strike slightly west of north. The direction of dip is ambiguous, but it is probably not less than 80° east or west.

5.3.3 Ron Target Area

Two trenches were dug in the Ron zone in order to test IP chargeability, VLF-EM and soil geochemistry anomalies. The first trench, on line 12+00N extended from 24+22W to 25+93W. The second trench, on line 18+80N, extended from 17+46W to 18+90W (see Figures 21 and 22).

The trench on line 12+00N was only moderately successful. At an average depth of 1.5 m to 2.0 m, solid bedrock was only rarely exposed. The dominant host rock is a fresh monzo-diorite. Local increases in the potassium feldspar content put the rock composition in the syenite/monzo-syenite field. However, lack of outcrop exposure made it difficult to determine whether the increase in K-spar was due to structurally controlled alteration or to a change in the primary composition of the intrusion. Pervasive magnetite and calcium carbonate occurred throughout the intrusive rock exposed in the trench. and chlorite occurred locally on fractures. Very few sulfides were seen in trench 12+00N. Iron oxide and malachite occurred locally throughout the trench but the only sulfide seen was fracture controlled chalcopyrite at 17-61W and 17+76W. A 3 m chip sample in the vicinity of 17+76W contained 1% chalcopyrite and assayed 410 ppb Au and 1525 ppm Cu.

The trench on line 18+00N was more successful. The host rock is again a medium grained intrusive rock with a monzonite to diorite composition. The rock contains, on the average, 25-30% chloritized biotite, 2-3% epidote, 0.5 - 1.5% magnetite, and less than 0.5% calcite.

The best mineralization in trench 18+00N is between 24+50W and 24+88W with a grade of % 0.42 Cu and 292 ppb Au over 38 m. Locally, chalcopyrite occurs up to 3% in this section but it averages less than 1%. The last 6 m of the section assayed 2% Cu and 700 ppb Au and it bore no visible mineralization at all.

Alteration in the mineralized zone is represented by an increase in fracture-controlled magnetite and local carbonatization. Some shear areas show significant gouge development. Especially intense alteration occurs between 24+54W and 24+58W (see sketch in Appendix VII). Here, magnetite content increases further and can be both disseminated and fracture controlled. The magnetite is accompanied by about 0.5% disseminated chalcopyrite. A bleached zone characterized by a dominant plagioclase composition occurs within this magnetite zone.

As at the Star zone, the mineralization and alteration in trench 18+00N in the Ron area is spatially related to late stage lamprophyre dykes.

5.4 Soil Geochemistry

In the Ron target area, 225 soil samples were collected for analysis of Au, Ag, Cu, Pb and Zn (Figures 23 and 24). The samples were taken from the brown to red-brown soil of the "B" horizon at an average depth of 10 cm. Overburden varies between 0.5 and 3 m.

Numerous gold values exceed 100 ppb with a maximum value of 360 ppb. These high gold values form a weak trend roughly centered on a line joining the points L8+00N, 16+00 and 20+00N, 25+00W.

This northwest trend is more clearly defined, if somewhat more broadly, by the copper values (Figure 24). Seven values greater than 2000 ppm Cu with a maximum of 2913 ppm Cu are found within a northwest trending cluster of numerous values in the 500 to 1500 ppm range.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Pacific Sentinel Gold Corp.'s 1989 exploration program was successful in defining several styles of precious and base metal mineralization on its Great Western Star property. The Toughnut target has the potential of hosting gold enriched Cu - Pb - Zn - Ag mineralization. The Alma N and Eureka target areas show the potential to host shear related high grade gold and gold-silver-copper mineralization. The Star and Ron target areas exhibit significant potential for intrusive hosted, bulk tonnage copper-gold mineralization.

The following 16-hole, $300,000 drill program is recommended to further define the base and precious metal mineralization at the Toughnut, Alma N, Star, Eureka and Ron target areas.

Toughnut Target Area

Grid Location		Dip	Azimuth	Length (m)
0+26E	0+20 N	-50°	-030°	150
0+75W	1+85N	-50°	030°	150
0+75W	0+10N	-50°	030°	150
5+40E	0+30S	-50°	-030°	150

The first three holes will test the down-dip extension of the coincident southern IP chargeability anomaly and gold-copper-soil anomaly. In particular, the third hole will test the down-dip extension of the 6.0 m of 2940 ppb Au found between 0+89N and 0+95N in the trench on Line 0+74W. The fourth hole will test strong Zn soil and rock geochemical anomaly found around the baseline at 5+40E.

Alma N Target Area

Grid Location		Dip	Azimuth	Length (m)
0+58N	0+37E	-45°	270°	175
0+58N	0+67E	-55°	270°	175
1+60N	0+30E	-45°	270°	175

The first hole will twin the reverse circulation hole S-3, providing a look at the rock that assayed 0.10 oz. Au over 100 ft. The second hole will explore the depth extension of RC hole S-3 mineralization, and the third hole will explore the northeast extension of this mineralization.

Star and Eureka Target Areas

Grid Location		Dip	Azimuth	Length (m)
5+40N	4+29W	-60°	090°	200
7+00N	5+50W	-45°	090°	200
8+00N	5+97W	-45°	090°	200
9+00N	6+20W	-45°	090°	200
10+55N	6+75W	-45°	090°	200
11+12N	7+97W	-45°	090°	200
11+00N	4+55W	-45°	090°	200
9+85N	4+50W	-45°	090°	200
4+00N	6+00W	-45°	270°	200

The first hole will test the extension of the 73 m of 0.023 oz/t Au and 0.16% Cu encountered in diamond drill hole 51. Holes 2 through 6 will test the northwestern extent of this mineralization. Holes 7 and 8 will test the wall rock and quartz carbonate vein mineralization of the Eureka structure. Hole 9 will test another coincident geochemical and geophysical anomaly east of the Star structure.

Ron Target Area

Grid Location	Dip	Azimuth	Length (m)
L18+00N 23+80N	-45°	270°	175

This hole will test the down-dip and eastern extension of the 41 m of 0.4% Cu discovered in Trench 18+00N.

Upon the successful completion of this Phase 1, $300,000 drill program, a Phase 2 program is recommended with a proposed budget of $300,000.

7.0 BIBLIOGRAPHY

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APPENDIX I

BUDGET AND COST BREAKDOWN

APPENDIX I

BUDGET AND COST BREAKDOWN

The cost breakdown per group was determined by the following process. First, a total was made of all direct field costs incurred in each group. These costs included line-cutting, geophysics, and geochemistry. The proportion that each group contributed to the total of these direct field costs was then applied as a percentage to the total of all other costs incurred on the project. The other costs included items such as field equipment, room and board, salaries, etc. The total amount of money allocated to each group is the sum of the direct field cost spent on that group, and the corresponding percentage of support costs.

COST STATEMENT

JUNE 1, 1989 - SEPTEMBER 15, 1989

GREAT WESTERN STAR PROJECT

NELSON, B.C.

Labour

D. Forster, Chief Geologist 24 days at $175/day	$ 4,200.00
G. Dawson, Geologist 77 days at $150/day	11,550.00
B. Augsten, Geologist 57 days at $150/day	8,550.00
S. Heinrich, Geologist 57 days at $150/day	8,550.00
L. Addie, Assistant 46 days at $110/day	5,060.00
T. Heaton 55 days at $90/day	4,950.00
Sub-total	42,860.00
20% CCP, WCB, UIC contributions	8,572.00
Total	51,432.00

Geochemistry

Rock 809 samples; 30 element ICP & Geochem Au significant values assayed for Au, Ag, Cu, Pb, Zn	8,692.05
Soil 572 samples; analyzed for Au, Ag, Cu, Pb, Zn	5,634.20
Sub-total	14,326.25

Geophysics**

Lloyd Geophysics 19.45 km magnetometer 15.95 km IP Report and maps	26,309.50

Room and Board

House rental, 4 mos. at $725/mo.	2,900.00
Utilities	150.62
Groceries, 224 man days at $10.45/day	2,340.06
Sub-total	5,390.68

Field Equipment	
2 Hond 4 Trax	12,000.00
Lumber, house furniture	
4 Trax service & equipment	
Chainsaw, etc.	5,292.08
Sub-total	17,292.08
Truck Rental	
Redhawk Rentals; Toyota 4x4	3,589.68
Cana Rentals GMC 4x4	2,603.96
Sub-total	6,193.64
Line Cutting	
56.61 km at $420/km	23,776.00
Slashing trenches	4,530.00
Sub-total	28,306.00
Trenching	
McNally Excavating	1,530.00
Kryski Bro. Excavating	6,044.30
Gienger Contracting	11,633.75
Canadian Helicopters (Fuel Sling)	320.25
Shoreline Transport	888.00
Sub-total	20,416.30
Consulting Services	
Mike Harris Consulting	417.98
Eric Denny Prospecting Services	100.00
Vancouver Petrographics	1,004.15
Sub-total	1,522.13
Transportation	
Shoreline Transport (rock chips)	570.00
Air Canada	2,714.77
Radio Rental	212.00
Sub-total	3,496.77
Telephone / Fax / Courier	1,484.34
Core and Rock Cutting Storage	895.00
Maps / Reproduction Drafting	969.81
GRAND TOTAL	**$ 178,034.50**

* The geophysical data is compiled and reviewed in a separate report by John Lloyd, P.Eng., dated October, 1989.

GREAT WESTERN STAR PROJECT

COST BREAKDOWN

	TOUGHNUT GROUP			STAR GROUP			RON GROUP			
	Unit	%	Cost	Unit	%	Cost	Unit	%	Cost	Total Cost
Linecutting	8.49km	15	4245.90	28.31km	50	14,153.00	19.81km	35	9,907.10	$ 28,306.00
Trenching	519m	27	11,637.29	190m	21	4,287.42	209m	22	4,491.59	20,416.30
Soil Samples	299	52	2,929.78	212	37	2,084.66	61	11	619.76	5,634.20
Rock Samples	533	66	5,736.75	171	21	1,825.33	105	13	1,127.97	8,692.05
Geophysics										
IP	5.95km	37	8,051.20				10.0km	63	13,708.80	21,760.00
Mag.	19.45km	100	4,549.50							4,549.50
Total			37,150.42			$22,350.41			$29,857.22	$ 89,358.05
% of Total Direct Field Costs		42			25			33		
Proportional Support Costs			37,244.11			22,169.11			29,263.23	88,676.45
Group Total			$74,394.53			$44,519.52			$59,120.45	$178,034.50

APPENDIX II

STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, BERNHARDT E.K. AUGSTEN, of 214 - 144 West 4th Street, of the City of North Vancouver, British Columbia do hereby certify that:

1. I am currently employed as Senior Exploration Geologist by Continental Gold Corp. offices at #1020 - 800 West Pender Street, Vancouver, B.C.

2. I graduated from Carleton University in geology, having obtained my Honours Bachelor of Science in 1985.

3. I have worked in the field of mineral exploration in B.C., Manitoba, Ontario and Quebec.

4. The foregoing report is based on:
   (a) A study of all available company and government reports.
   (b) My examination of the property during the period July 2 to August 26, 1989.

Bernhardt E.K. Augsten, B.Sc.
Senior Exploration Geologist
CONTINENTAL GOLD CORP.

Vancouver, B.C.

STATEMENT OF QUALIFICATIONS

I, Greg Dawson, of 1008 Beach Avenue, in the City of Vancouver, British Columbia, do hereby certify that:

1. I am currently employed as geologist by Continental Gold Corp. with offices at 1020 - 800 West Pender Street, Vancouver, B.C.

2. I graduated from the University of British Columbia in Geology, having obtained my Bachelor of Science in 1986.

3. I have worked in the field of mineral exploration in B.C., Manitoba and the Northwest Territories since 1976.

4. This report is based in part on my personal observations of the property.

Greg Dawson, B.Sc.
Senior Exploration Geologist
Continental Gold Corp.

Vancouver, B.C.

STATEMENT OF QUALIFICATIONS

I, SILVIA M. HEINRICH, of #1 - 2247 West 7th Avenue, in the City of Vancouver, British Columbia, do hereby certify that:

1. I am currently employed as Senior Project Geologist by Continental Gold Corp., with offices at 1020 - 800 West Pender Street, Vancouver, B.C.

2. I graduated from Queen's University in Geology, having obtained my Master of Science in 1988 and from the University of Massachusetts/Amherst, having obtained my Bachelor of Science in 1980.

3. I have worked in the field of mineral exploration in B.C. and Manitoba.

Silvia M. Heinrich, M.Sc.
Senior Project Geologist
CONTINENTAL GOLD CORP.

Vancouver, B.C.