GEC	OCHEMICAL REPORT
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OCT 2 5 2001 J1 t	6 MINERAL CLAIMS
Gold Commissioner's Office VANCOUVER, B.C.	Hedley Area
Os	byoos Mining Division

92H 029, 030 (49° 13' North Latitude, 120° 12' West Longitude)

for

GRANT F. CROOKER Box 404 Keremeos, B.C. V0X 1N0 (Owner and Operator)

by

GRANT F. CROOKER, P.GEO., GFC CONSULTANTS INC.

GEOLOGICAL SURVEY BRANCH

October 2001

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#### **1.0 SUMMARY**

The J mineral claims are located 16 kilometres south southwest of Hedley BC in the Hedley Gold Camp (production 2.5 million ounces) of southern British Columbia. The property consists of six two-post mineral claim covering 6 units in the Osoyoos Mining Division. Grant F. Crooker of Keremeos BC, is the owner and operator of the property.

The Hedley Gold Camp has a long tradition of mining. Placer mining was first carried out in the Hedley area in the 1860's and 1870's. The interest in placer mining led to the discovery of gold on Nickel Plate Mountain in the 1890's, with the first claims being staked in 1896. The two major producers in the district were the Nickel Plate and Hedley Mascot mines. Production from the district up to 1986 was approximately 51 million grams (1.6 million ounces) of gold. Almost all of this production occurred in the period from 1905 to 1955.

In the 1970's exploration renewed in the Hedley district. Most of the activity concentrated on properties on Nickel Plate Mountain, however exploration was carried out on the south side of the Similkameen River. The most important property in the camp is the Nickel Plate mine (Homestake Mining). The gold mineralization is skarn hosted and ore reserves in 1987 were in the order of 9,900,000 tons grading 0.088 ounces gold per ton. The mine ceased production in July of 1996.

A number of gold properties are located on the south side of the Similkameen River, as are the J mineral claims. Historically, the properties on the south side of the Similkameen River were related to quartz-carbonate vein systems and associated shear zones as opposed to skarn-related mineralization at the Nickel Plate mine. Recent geological data by Ray (1986/87) have indicated that similar gold environments exist on the south side. There are no known showings on the J mineral claims.

Mapping by Ray (1987) shows the western portion of the J mineral claims is underlain by volcanic and sedimentary rocks of the Late Triassic Whistle Formation of the Nicola Group, while the eastern portion is underlain by mainly volcaniclastic rocks of the Mid Jurassic Skwel Peken Formation. Intrusive rocks of the Cahill Creek pluton outcrop to the east and south of the J claims.

The 2000-2001 work program consisted of cursory prospecting and collecting six rock and nine silt sediment samples. The following conclusions can be drawn from the work program:

- 1.1 The silt sediment sampling survey did not give anomalous values for gold, silver, arsenic, copper or molybdenum.
- 1.2 Two of the rock samples (J-10 and 005 gave weakly anomalous gold values of 50 and 60 ppb respectively. Three of the rock samples (005 through 007) gave weakly anomalous copper values ranging from 114 to 232 ppm.
- 1.3 Large boulders of Copperfield breccia were located along a logging road. This could be very significant as it indicates rocks lower in the geological section and more favourable to host skam mineralization may occur on the property.

Recommendations are to conduct prospecting and geological mapping over the property.

FESSIO, Respectfully submitted, CROOKER Crooker, P.Geo., Grant & Consulting Geologist

#### 1



#### **2.0 INTRODUCTION**

#### 2.1 GENERAL

Field work was carried out on the J mineral claims in August of 2000 and July of 2001 by Grant F. Crooker, P.Geo., of GFC Consultants Inc. The work program consisted of cursory prospecting and collecting six rock samples along a logging road on the J-3 mineral claim, and collecting nine silt sediment samples from Paul Creek.

#### 2.2 LOCATION AND ACCESS

The property (Figure 1.0) is located 16 kilometres south southwest of Hedley in southern British Columbia. It lies between 49° 12' 35" and 49° 13' 20" north latitude and 120° 11' 10" and 120° 12' 20" west longitude (92H-029 and 030).

Access to the J mineral claims is via Highway 3A, turning west onto the Sterling Creek Forest Access Road 8 kilometres west of Hedley. The J mineral claims are located at approximately the 24 kilometre point on the Sterling Creek Road.

#### 2.3 PHYSIOGRAPHY

The property is located along the eastern edge of the Cascade Mountains. Elevation varies from 1680 to 1950 metres above sea level and topography varies from flat to steep. The property lies at the headwaters of Paul Creek.

Vegetation consists of a forest cover of pine and spruce trees. Portions of the claims were logged by clear cutting approximately 15 years ago.

#### 2.4 PROPERTY AND CLAIM STATUS

The J mineral claims (Figure 2.0) consists of six two-post mineral claim covering 6 units in the Osoyoos Mining Division. Grant F. Crooker of Box 404, Keremeos, BC is the owner and operator of the property.

	TABLE 1.0 - CLAIM DATA					
Claim	Units	Mining Division	Tenure Number	Record Date m/d/y	Expiry Date m/d/y	
J-1	1	Osoyoos	379469	07/28/00	07/28/04*	
J-2	1	Osoyoos	379470	07/28/00	07/28/04*	
J-3	1	Osoyoos	379471	07/28/00	07/28/06*	
4_از	1	Osoyoos	379472	07/28/00	07/28/06*	
J-5	1	Osoyoos	379473	07/28/00	07/28/04*	
J-6	1	Osoyoos	379474	07/28/00	07/28/04*	

\* Upon acceptance of this report



#### 2.5 AREA AND PROPERTY HISTORY

Placer mining was first carried out in the Hedley area in the 1860's and 1870's. The interest in placer mining led to the discovery of gold on Nickel Plate Mountain in the 1890's, with the first claims being staked in 1896. Many showings were found within the Hedley Gold Camp, both on Nickel Plate Mountain and the surrounding area. The two major producers in the district were the Nickel Plate and Hedley Mascot mines. Production from the district up to 1986 was approximately 51 million grams (1.6 million ounces). Almost all of this production occurred in the period from 1905 to 1955.

In the 1970's exploration renewed in the Hedley district. Most of the activity concentrated on properties on Nickel Plate Mountain, however exploration was carried out on the south side of the Similkameen River.

The most important property in the camp is the Nickel Plate Mine (Homestake Mining). The gold mineralization is skam hosted and ore reserves in 1987 were in the order of 9,900,000 tons grading 0.088 ounces gold per ton. The property commenced production in August 1987 with a milling rate of 2,700 tons per day using open pit mining and conventional cyanide gold recovery methods. The mine ceased production in July of 1996.

A number of gold properties are located on the south side of the Similkameen River. Historically, the properties on the south side of the Similkameen River were related to quartz-carbonate vein systems and associated shear zones as opposed to skarn-related mineralization at the Nickel Plate Mine. Recent geological data by Ray (1986/87) have indicated that similar gold environments exist on the south side.

During 1988 Banbury Gold Mines Ltd established a large grid and conducted VLF-EM and magnetic geophysical surveys over their claim holdings in the south Paul Creek area. This survey covered the area of the J mineral claims. A number of electromagnetic and magnetic feature were delineated by the survey, however there relevance to the J mineral claims is not known at this time.

#### 3.0 EXPLORATION PROCEDURE

The 2000-2001 work program consisted of cursory prospecting and collecting six rock and nine silt sediment samples.

#### 3.1 GEOCHEMICAL SURVEY PARAMETERS

- -survey total 9 silt samples
- -silt sample collected from active portion of stream
- -silt samples sieved to -20 mesh in the field
- -silt samples collected at approximately 200 metre spacing
- -approximately 500 grams of material was collected for each sample
- -survey total 6 rock samples

Three rock samples (005 to 007) were sent to Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver BC, V7J 2C1 for analysis. Laboratory technique consisted of crushing and splitting the samples, with one split ring ground to minus 150 mesh. Thirty-two element ICP and gold (fire assay, atomic adsorption finish) analyses were then carried out on the samples.

Three rock samples and the nine silt samples were sent to Eco-Tech Laboratories Ltd., 10041 Dallas Drive, Kamloops BC, V2C 6T4 for analysis. Rock samples are two stage crushed to -10 mesh and a 250 gram subsample pulverized on a ring mill pulverizer to -140 mesh. Silt samples are sieved to -80 mesh. ICP and gold (fire assay, atomic adsorption finish) analyses were then carried out on all samples.

The rock and silt geochemical data was plotted on Figures 4.0.

#### 4.0 GEOLOGY AND MINERALIZATION

#### 4.1 REGIONAL GEOLOGY

The Hedley Gold Camp is located within the Intermontane Belt of the Canadian Cordillera. The oldest rocks in the area belong to the Apex Mountain Group and occur in the southeastern part of the camp. The Apex Mountain Group consists of a deformed package of cherts, argillites, greenstones, tuffaceous siltstones and minor limestones. The complex and supercrustal rocks further west are separated by either intrusive rocks or major faults. The area between Winters and Whistle creeks is largely underlain by sedimentary and volcaniclastic rocks of the Upper Triassic Nicola Group and the Lower Cretaceous Spences Bridge Group.

Mapping by Ray and Dawson divides the Nicola Group into three distinct stratigraphic packages. The oldest, the Oregon Claims Formation, comprises massive, mafic quartz-bearing andesitic to basalic ash tuff and minor chert-pebble conglomerate. This previously unrecognized basal unit is poorly exposed in the Hedley district, but has been identified in several localities. The Oregon Claims Formation is stratigraphically overlain by a 100 to 700 metre thick sedimentary sequence in which a series of east-to-west facies changes are recognized. This sequence progressively thickens westward and the facies changes probably reflect deposition across the tectonically controlled margin of a northwesterly deepening Late Triassic marine basin.

The eastern most and most proximal facies, called the French Mine Formation has a maximum thickness of 150 metres and comprises massive to bedded limestone interlayered with thinner units of calcareous siltstone, chert-pebble conglomerate, tuff, limestone-boulder conglomerate and limestone breccia. This formation hosts the auriferous skam mineralization at the French and Good Hope mines.

Further west, rocks stratigraphically equivalent to the French Mine Formation are represented by the Hedley Formation which hosts the gold-bearing skarn at the Nickel Plate mine. The Hedley Formation is 400 to 500 metres thick and characterized by thinly bedded, turbiditic calcareous siltstone and units of pure to gritty, massive to bedded limestone that reach 75 metres in thickness and several kilometres in strike length. The formation includes lesser amounts of argillite, conglomerate and bedded tuff; locally the lowermost portion includes minor chert-pebble conglomerate.

The western most, more distal facies is represented by the Stemwinder Formation which is at least 700 metres thick and characterized by a sequence of black, organic-rich, thinly bedded calcareous argiilite and turbiditic siltstone, minor amounts of siliceous fine-grained tuff and impure limestone beds. The Stemwinder Formation hosts the Maple Leaf and Pine Knot gold occurrences (vein).

The Chuchuwaya Formation forms a steeply dipping, wedge shaped unit between the Stemwinder and Hedley formations. To the west and east it is bounded respectively by the Chuchuwaya and Bradshaw faults, while to the north it is intruded by the Lockout Ridge pluton. The formation is a minimum of 1500 metres thick and consists of predominately thinly bedded calcareous siltstone that closely resembles the siltstones of the Hedley Formation. However, unlike the Hedley Formation, it does not contain thick or extensive beds of limestone, with the limestone beds seldom exceeding five metres in thickness. The formation also contains minor argillite and some large units of siliceous and tuffaceous argillite. The Chuchuwaya Formation hosts the Peggy gold occurrence (skarn).

The sedimentary rocks of the French Mine, Hedley and Stemwinder Formations pass stratigraphically upward into the Whistle Formation that is probably Late Triassic in age. The formation is 700 to 1200 metres thick and distinguishable from the underlying rocks by a general lack of limestone and a predominance of andesitic volcaniclastic material. The Whistle Formation is host to the Canty (skarn and stockwork) and Gold Hill (vein) gold occurrences.

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GEOLOGY AFTER G. E. RAY, B. C. M. M., 1994

#### **GRANT F. CROOKER**

J CLAIMS (92H 029, 030) OSOYOOS M. D., B. C.

#### **CLAIM GEOLOGY**

DATE: SEPTEMBER, 2001		FIGURE:	3.0	
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The base of the Whistle Formation is marked by the Copperfield breccia, a limestone-boulder conglomerate that forms the most distinctive and important stratigraphic marker horizon in the district. The breccia is well developed west of Hedley where it forms a northerly trending, steeply dipping unit that is traceable for over 15 kilometres along strike. The same breccia outcrops in small areas within up faulted slices along Pettigrew Creek to the south and as outliers near Nickel Plate and Lookout Mountain to the east.

The Nicola Group rocks in the Hedley area are overlain by calcalkaline waterlain tuffs, and derived epiclastic rocks that were formerly correlated with the Cretaceous Spences Bridge Group. They are now thought to represent a newly recognized mid-Jurassic supracrustal succession, the Skwel Peken Formation. It is uncertain at this time whether their contact with the Nicola Group is a thrust or unconformity. The Skwel Peken Formation is exposed as two erosional outliers in the Hedley area. The largest and southernmost outlier is centred on the Skwel Peken Ridge and the other lies northeast of the Nickel Plate mine.

Along the western margin of the Hedley Basin, the Whistle Formation is overlain (unconformably?) by volcaniclastic rocks that may belong to the Early Cretaceous Spences Bridge Group. These rocks are not recognized as being gold bearing in the district.

Three suites of plutonic rocks are recognized in the area. The oldest, the Hedley intrusions is probably Early Jurassic in age and is economically important. It forms major stocks up to 1.5 kilometres in diameter and swarms of thin sills and dykes up to 200 metres in thickness and over 1 kilometre in length. The sills and dykes are coarse-grained and massive diorites and quartz diorites with minor gabbro, while the stocks range from gabbro through granodiorite to quartz monzonite. When unaltered they are dark coloured, commonly contain minor disseminations of pyrite and pyrrhotite and are often rusty weathered. In contrast, the skarn-altered diorite intrusions are usually pale coloured and bleached.

The Hedley intrusive suite intrudes the Upper Triassic rocks over a broad area. Varying degrees of sulphide bearing calcic skarn alteration are developed within and adjacent to many of these intrusions, particularly the dykes and sills. This plutonic suite is genetically related to the skarn-hosted gold mineralization in the district *including that at the Nickel Plate, Hedley Mascot, French and Good Hope mines, and gold occurrences at* Banbury, Gold Hill, Peggy and Canty. The Hedley intrusive suite consists of six stocks known as Toronto, Stemwinder, Aberdeen, Banbury, Pettigrew and Larcan.

The second plutonic suite is the Early Jurassic? Similkameen intrusions that comprises coarse-grained, massive, biotite homblende granodiorite to quartz monzodiorite. It generally forms large bodies like the Bromley batholith and Cahill Creek pluton that separate the Nicola Group rocks from the highly deformed Apex Mountain Group.

The third and youngest intrusive suite includes two rock types that are possibly coeval and related to the formation of the dacitic volcaniclastic rocks within the Spences Bridge Group. One of these, the Verde Creek stock comprises a fine to medium grained, massive leucocratic microgranite that contains minor biotite. The other type is represented by fine-grained, leucocratic, felsic quartz porphyry.

#### 4.2 HEDLEY DISTRICT GOLD DEPOSITS

The gold occurrences and deposits within the Hedley area are spatially associated with dioritic bodies of the Hedley intrusions. The gold mineralization can be broadly divided into skam-related and vein-related types.

The skarn-related mineralization is the most widespread and economically important, and is characterized by the gold being intimately associated with variable quantities of sulphide bearing garnet-pyroxene-carbonate skarn alteration. The gold tends to be associated with sulphides, particularly arsenopyrite, pyrrhotite and chalcopyrite, and in lesser amounts with pyrite, gersdorffite (NiAsS), sphalerite, magnetite and cobalt minerals.

Trace minerals include galena, native bismuth, electrum, tetrahedrite and molybdenite. This type of mineralization is found at the Nickel Plate, French, Good Hope, Peggy and Canty deposits.

Geochemical studies by Ray (1987) based on analyses of over 300 samples from various ore zones in the Nickel Plate deposits, showed the following correlation coefficients:

High		Mediun	n	Low	
Au:Bi	0.84	Au:Co	0.58	Au:Cu	0.17
Ag:Cu	0.84	Au:As	0:46		
Bi:Co	0.62	Au:Ag	0.46		

Ray states that the strong positive correlation between gold and bismuth reflects the close association of native gold with hedleytite, while the moderate positive correlation between gold, cobalt and arsenic confirms observed association of gold, arsenopyrite and gersdorffite. The high positive correlation between silver and copper may indicate that some silver occurs as a lattice constituent in the chalcopyrite and/or in association with tetrahedrite (Cu-Sb sulphide often contains Zn, Pd, Hg, Co, Ni and Ag replacing Cu). The gold and silver values are relatively independent of each other despite the presence of electrum, and there is generally a low correlation between gold and copper.

The skam-related mineralization is generally stratabound and follows calcareous tuffs, thinly-bedded limestones and limey argillites within the upper parts of the French Mine and Hedley formations and lower section of the Stemwinder and Whistle formations. Swarms of diorite sills and dykes of the Hedley intrusions have intruded the favourable beds and altered them by contact metamorphism to hornfels. Both the intrusions and sediments were subsequently overprinted with the skarn alteration.

The vein-related mineralization is characterized by gold and sulphide mineralization hosted in higher level, fracture-filled quartz-carbonate vein and stockwork systems. This type of mineralization occurs at the Banbury and Gold Hill properties.

Ray (1987) comments that the style of alteration in the area closely resembles the upper barren portion of the Nickel Plate envelope. He believes the area to have good economic potential because the westerly dipping zone of alteration may overlie gold bearing mineralization developed close to the base of the skam, similar to Nickel Plate.

Table 2.0 after Ray et al summarizes the geological history of the Hedley District.

#### 4.3 CLAIM GEOLOGY

Mapping by Ray (1987) shows the western portion of the J mineral claims is underlain by volcanic and sedimentary rocks of the Late Triassic Whistle Formation of the Nicola Group, while the eastern portion is underlain by mainly volcaniclastic rocks of the Mid Jurassic Skwel Peken Formation. Intrusive rocks of the Cahill Creek pluton outcrop to the east and south of the J claims.

Cursory prospecting by Crooker in 2001 located a number of large (> 2 metres in diameter) boulders of Copperfield breccia along a logging road on the J-3 mineral claim. This is very significant if Copperfield breccia can be found in outcrop, as it indicates that Nicola Group rocks lower in the section (Stemwinder, Hedley and French Mine formations) are present on the J claims. Nicola Group rocks lower in the section are more favourable host rocks for the formation of Hedley type skarn deposits.

# TABLE 2.0 HEDLEY DISTRICT GEOLOGICAL HISTORY (After Ray et al)

#### 1.0 BASIN GEOLOGICAL DEVELOPMENT

- 1.1 Deposition of Triassic mafic extrusive rocks of the Peachland Creek Formation.
- 1.2 Late Triassic deposition of the Hedley and French Mine and Stemwinder Formations (sedimentary rocks with calcareous units).
- 1.3 Sudden collapse of the basin resulting in the widespread deposition of the Whistle Formation (volcanic rocks with tuffaceous units) and the deposition of the Copperfield limestone breccia along the sedimentary basin margins.

#### 2.0 GOLD MINERALIZING EVENTS

- 2.1 Following lithification of the Nicola Group rocks, two distinct phases of folding took place that are related to mineralization.
- 2.2 Phase one resulted in a major, north-northeasterly striking, easterly overturned asymmetric anticline which is the dominant structure in the Hedley district. The largest of these is the Cahill Creek fracture zone and Bradshaw fault.
- 2.3 Phase two is economically important as it took place during the emplacement of the Hedley intrusions and partly controlled the late-magmatic auriferous skarn mineralization. It produced the small-scale northwesterly striking, gently plunging fold structures that are an ore control at the Nickel Plate mine. They also controlled the emplacement of the Hedley intrusive dykes and the Banbury, Stemwinder, Toronto, Pettigrew and Larcan stocks.

#### 3.0 POST MINERALIZING EVENTS

- 3.1 Emplacement of the Hedley intrusions was shortly followed by intrusion of the Cahill Creek pluton.
- 3.2 Deposition of the Early Cretaceous Spences Bridge Group and related quartz porphyries followed a period of uplift and erosion.
- 3.3 Post-Early Cretaceous phase of regional thrust faulting.
- 3.4 Re-activation of the Bradshaw fault and Cahill Creek fracture zone, as well as some faulting along Whistle and Pettigrew Creeks occurred in more recent geological time.

#### 4.4 MINERALIZATION

There are no known gold occurrences on the *J* mineral claims. Six rock samples were collected during the 2000-2001 work program and the results given in Table 3.0. Rock descriptions are given in Appendix II.

TABLE 3.0 - ROCK SAMPLE GEOCHEMICAL RESULTS					
Sample No.	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm
J-10	50	1	15	63	5
J-11	15	0.2	35	23	3
J-12	15	<0.2	10	59	3
5	60	0.6	28	232	10
6	35	0.8	12	169	<1
7	10	0.2	10	114	5

Two of the samples (J-10 and 005) gave weakly anomalous gold values of 50 and 60 ppb respectively. Sample J-10 consisted of Copperfield breccia with rusty, hornfels altered zones to 10 centimetres in length. Sample 005 consisted of a light grey siliceous rock with pyrite along fractures.

Samples 005 through 007 also gave weakly anomalous copper values of 232, 169 and 114 ppm respectively.

Paul Creek

SILT SEDIMENT SAMPLE GEOCHEMICAL RESULTS					
Sample No.	Au ppb	Ag ppm	As ppm	Cuppm	Mo ppm
J-1	<5	<0.2	5	6	<1
J-2	<5	<0.2	<5	7	ব
J-3	5	<0.2	<5	7	<1
J-4	5	<02	<5	7	<1
J-5	5	<0.2	<5	7	···- ····
J-6	<5	<0.2	<5	5	<1
J-7	<5	<0.2	<5	6	<1
J-8	<5	<0.2	<5	7	
J-9	<5	<0.2	<5	6	

ROCK SAMPLE GEOCHEMICAL RESULTS					
Sample No.	Ац ррб	Ад рртт	As ppm	Cu ppm	Mo onm
J-10	50	1.0	15	63	5
J-11	15	0.2	35	23	3
J-12	15	<0.2	10	59	3
005	60	0.6	28	232	10
005	35	0.8	12	169	<1
007	10	0.2	10	114	

1 N

Stream

Road

Silt Sample Location and No.

Rock Sample Location and No.

OJ4

**∆**J-11



GRANT F. CROOKER

J CLAIMS (92H 029, 030) OSOYOOS M. D., B.C.

### SILT & ROCK GEOCHEMISTRY

DATE: SEPTEMBER, 2001		FIGURE: 4.0	
SCALE: 0	500	1000	METRES 1:20,000

#### **5.0 GEOCHEMISTRY**

#### 5.1 SILT GEOCHEMISTRY

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Nine silt sediment samples were collected from Paul Creek (Figure 4.0). Table 4.0 lists the analyses for the samples.

TABLE 4.0 - SILT SEDIMENT SAMPLE GEOCHEMICAL RESULTS					
Sample No.	Au ppb	Ag ppm	As ppm	Cu ppm	Mo ppm
J-1	<5	<0.2	5	6	<1
J-2	<5	<0.2	<5	7	<1
J-3	5	<0.2	<5	7	<1
J-4	5	<0.2	<5	7	<1
J-5	5	<0.2	<5	7	<1
J-6	<5	<0.2	<5	5	<1
J-7	<5	<0.2	<5	6	<1
J-8	<5	<0.2	<5	7	<1
J-9	<5	<0.2	<5	6	<1

Background and anomalous values are shown in Table 5.0

TABLE 5.0 - ANOMALOUS SILT GEOCHEMICAL VALUES					
ELEMENT	RANGE	BACKGROUND	ANOMALOUS		
Au ppb	<5 - 5	5	-		
Ag ppm	<0.2	<0.2	-		
As ppm	<2	<2	-		
Cu ppm	6 - 7	6	-		
Mo ppm	<1	<1	-		

The silt sediment sampling gave disappointing results, with none of the samples anomalous for gold, silver, arsenic, copper or molybdenum.

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#### 6.0 CONCLUSIONS

The following conclusions can be drawn from the 2000-2001 work program:

- 6.1 The silt sediment sampling survey did not give anomalous values for gold, silver, arsenic, copper or molybdenum.
- 6.2 Two of the rock samples (J-10 and 005 gave weakly anomalous gold values of 50 and 60 ppb respectively. Three of the rock samples (005 through 007) gave weakly anomalous copper values ranging from 114 to 232 ppm.
- 6.3 Large boulders of Copperfield breccia were located along a logging road. This could be very significant as it indicates rocks lower in the geological section and more favourable to host skam mineralization may occur on the property.

#### 7.0 RECOMMENDATIONS

7.1 Recommendations are to conduct prospecting and geological mapping over the property.

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ESSIO isinited Reste P.Geo., Gra Croôker. Consulting Geologist

#### 8.0 REFERENCES

Billingsley, P. and Hume, C.B. (1941): The Ore Deposits of Nickel Plate Mountain, Hedley, B.C., The Canadian Institute of Mining and Metallurgy, Transactions, Volume XLIV, 1941, pp.524-590.

Crooker, G.F. (1997): Geological, Geochemical, Geophysical, Trenching and Core Drilling Report on the WP 1A, 2, 3 5A, 9A and W 1, 2 Mineral Claims, Hedley Area, Similkameen Mining Division for Northpoint Resources Ltd.

Dolmage, V. and Brown, C.E. (1945): Contact Metamorphism at Nickel Plate Mountain, Hedley B.C., Canadian Institute of Mining and Metallurgy, Transactions, Volume XLVIII, 1945, pp27-67.

Little, H.W. (1961): Geology Kettle River (West Half), B.C., Geological Survey of Canada Map 15-1961.

Ray, G.E., Simpson, R., Wilkinson W. and Thomas P. (1986): Preliminary Report on the Hedley Mapping Project, B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, 1985, Paper 1986-1, Pages 101-105.

Ray, G.E., Dawson, G.L. and Simpson, R. (1986): The Geology and Controls of Skarn Mineralization in the Hedley Gold Camp Southern British Columbia, B.C. Ministry of Energy, Mines and Petroleum Resources, 1985, Paper 1987-1, pages 65-79.

Ray, G.E., Dawson, G.L. and Simpson, R. (1987): Geology, Geochemistry and Metallogenic Zoning in the Hedley Gold-Skarn Camp (92H/08, 82E/05).

Ray, G.E. and Dawson, G.L. (1987): Geology and Mineral Occurrences in the Hedley Gold Camp, Southern British Columbia (92H-8E), B.C. Ministry of Energy Mines and Petroleum Resources, Open File Maps 1987-10 a, b, c.

Ray, G.E. and Dawson, G.L. (1988): Geology and Mineral Occurrences in the Hedley Gold Camp, Southern British Columbia, B.C. Ministry of Energy, Mines and Petroleum Resources, Open File Map 1986-6.

Rice, H.M.A. (1947): Geology and Mineral Deposits of the Princeton Map-Area B.C., Geological Survey of Canada Memoir 243.

Sanford, M. (1988): Geological, Geochemical and Geophysical Report on the Hally, Clare, Lori and Kim Claims for Banbury Gold Mines Ltd. AR# 17749

#### 9.0 CERTIFICATE OF QUALIFICATIONS

I, Grant F. Crooker, of Upper Bench Road, PO Box 404, Keremeos, British Columbia, Canada, V0X 1N0 do certify that:

1 am a Consulting Geologist registered with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (Registration No. 18961);

I am a Fellow of the Geological Association of Canada (Registration No. 3758) and I am a Member of the Canadian Institute of Mining and Metallurgy and Petroleum;

I am a graduate (1972) of the University of British Columbia with a Bachelor of Science degree (B.Sc.) from the Faculty of Science having completed the Major program in geology;

I have practised my profession as a geologist for over 20 years, and since 1980, I have been practising as a consulting geologist and, in this capacity, have examined and reported on numerous mineral properties in North and South America;

I have based this report on field examinations within the area of interest and on a review of the available technical and geological data;

I am the owner of the J mineral claims;

Respectfully submitted ESSIO/ BOUNC ROOKE Grant F. Chooker, F GFC Consultants the October, 2001

## **APPENDIX 1**

### CERTIFICATES OF ANALYSIS

C



# Chemex Labs Ltd.

Analytical Chemists \* Geochemists \* Registered Assayers North Vancouver 212 Brooksbank Ave., British Columbia, Canada V7J 2C1 PHONE: 604-984-0221 FAX: 604-984-0218

Comments:

CHEMEX NUMBER CODE SAMPLES

C	ERTIF	CATE	A9925795
(LOY) - Project P.O. # :	BLITZ		
Samples This rep	submitt port was	ed to our lab printed on 2:	in Vancouver, BC. 3-AUG-1999.
	SAM	PLE PREPA	RATION
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	SAM	PLE PREPARATION	
CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	
201 202 229	13 13 13	Dry, sieve to -80 mesh save reject ICP - AQ Digestion charge	
NOTE	1.		

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, R, La, Mg, Na, Sr, Ti, Tl, W.

			A9925
	ROCEDURES	;	
DESCRIPTION	METHOD		upper Limit
in grams G g sample ment, soil & rock	Balance FA-AAS ICP-AES	0.01 5 0.2	60.00 10000 100.0

866	13	Fusion Weight in grams	RAT. XMTP	0.01	50 00
983	13	Au pph: Fuse 30 g sample	VA-AAS	V.91 K	10000
2118	13	Ag pom: 32 element, soil & rock	TOD-ARS	0 2	10000
2119	13	Al %: 32 element, soil & rock	TCP-ARS	0.01	15 00
2120	13	As pom: 32 element, soil & rock	TCP-ARS	2.01	10000
557	13	B upm: 32 element, rock & soil	TCP-ARS	10	10000
2121	13	Ba pom: 32 element, soil & rock	ICP-ARS	10	10000
2122	13	Be prm: 32 element, soil & rock	ICP-ARS	0.5	100.0
2123	13	Bi pum: 32 element, soil & rock	ICP-ARS		10000
2124	13	Ca %: 32 element, soil & rock	ICP-ARS	0.01	15.00
2125	13	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	500
2126	13	Co ppm: 32 element, soil & rock	ICP-ARS	1	10000
2127	13	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
2128	13	Cu ppm: 32 element, soil & rock	ICP-AES	ī	10000
2150	13	7e %: 32 element, soil & rock	ICP-AES	0.01	15.00
2130	13	Ga ppm: 32 element, soil & rock	ICP-ARS	10	10000
2131	13	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
2132	13	K %: 32 element, soil & rock	ICP-AKS	0.01	10.00
2151	13	La ppm: 32 element, soil & rock	ICP-ARS	10	10000
2134	13	Mg %: 32 element, soil & rock	ICP-AES	0.01	15,00
2135	13	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
2136	13	No ppm: 32 element, soil & rock	ICP- <b>NES</b>	1	10000
2137	13	Na %: 32 element, soil & rock	ICP- <b>NES</b>	0.01	10.00
2138	13	Ni ppm: 32 element, soil & rock	ICP-ARS	1	10000
2139	13	P ppm: 32 element, soil & rock	ICP-ARS	10	10000
2140	13	Pb ppm: 32 element, soil & rock	icp-aes	2	10000
551	13	5 %: 32 element, rock & soil	ICP- <b>AES</b>	0.01	5,00
2141	13	5b ppm: 32 element, soil & rock	ICP-ABS	2	10000
2142	13	So ppm: 32 elements, soil & rock	ICP-AES	1	10000
143	13	Sr ppm: 32 element, soil & rock	ICP-ARS	1	10000
2144	13	Ti %: 32 element, soil & rock	icp-aes	0.01	10.00
145	13	T1 ppm: 32 element, soil & rock	icp-aes	10	10000
2146	13	U ppm: 32 element, soil & rock	ICP- <b>AES</b>	10	10000
2147	13	V ppm: 32 element, soll & rock	ICP- <b>AES</b>	1	10000
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# ALS Chemex Arron Laboratory Social Life Mathematics Chemistry Constraints' Registered And 212 Brightshare Ave.

Tel GEOTEC CONSULTANTS LTD.

6976 LABURNUM ST. VANCOUVER, BC VSP 6M9

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#### ASSAVING GEOCHEMISTRY ANALYTICAL CHEMISTRY ENVIRONMENTAL TESTING

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#### **GEOCHEMICAL PROCEDURES**

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#### Sample Preparation

Samples are catalogued and dried. Soils are prepared by sieving through an 80 mesh screen to obtain a minus 80 mesh fraction. Samples unable to produce adequate minus 80 mesh material are screened at a coarser fraction. These samples are flagged with the relevant mesh. Rock samples are 2 stage crushed to minus 10 mesh and a 250 gram subsample is putverized on a ring mill pulverizer to -140 mesh. The subsample is rolled, homogenized and bagged in a prenumbered bag.

#### Analysis

#### Gold

Gold is determined by conventional lead collection fire assay. A 30g sample is fused and cupelled. The resultant dore bead is dissolved in agua regia prior to determination of gold by Atomic Absorption. . 1.

#### Multi-Element ICP

A 0.5g sample is digested with 3ml of a 3:1:2 (H CI:HN03:H20) solution for 90 minutes in a water bath at 95°C. The sample is then diluted to 10ml with water. Samples are analyzed by a Jamel Ash 61E ICP.

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K:Methods/geosuane

17-Aug-01

ECO-TECH LABORATORIES LTD. 10041 Dailas Drive KAMLOOPS, B.C. V2C 6T4 ICP CERTIFICATE OF ANALYSIS AK 2001-244

Phone: 250-573-5700 Fax : 250-573-4557

Values in ppm unless otherwise reported

<5 <0.2 0.57

2 0.23

<1

3

5

30

5

Et	t. Tag#	Au(ppb)	Ag	AI %	A3	Ba	BI	Ca %	Ćď	Co	Cr	Cu	Fe %	La	Mg %	Mn	Мо	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	v	w	Y	70
1	J-1	<5	<0.2	0.57	5	35	2	0.22	<1	3	5	8	0.78	<10	0.16	202	<1	0.02	4	210	4	<2	<20	7	0.04	<10	15	<10	<u> </u>	
2	J-2	<5	<0.2	0.66	<5	40	3	0.24	<1	3	6	7	0.94	10	0.18	306	<1	0.02	5	250	4	-22	-20	- 10	0.04	-10	10	- 10	1	20
3	J-3	5	<0.2	0.75	<5	50	2	0.24	<1	3	6	7	1.01	<10	0.19	349		0.02	Ă	270	1	~~	~20	10	0.04	- 10	19	<10	4	29
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8	J-8	<5	<0.2	0.49	<5	35	<2	0.24	<1	5	5	7	1.10	<10	0.14	325	<1	0.02	2	250	- 4	<2	<20	11	0.05	<10	27	<10 .	1	21
9	J-9	<5	<0.2	0.77	<5	65	2	0.25	<1	4	4	6	1.17	<10	0.19	341	<1	0.02	3	310	4	<2	<20	10	0.05	<10	22	<10	1	25
	ATA:																													
Rep	at:																													

6 0.83 <10 0.15 210

<1, 0.02

4 250

<2 <20

4

FP/kk df/244 XLS/01 Fax: 604-261-8994

i J-1

ECO-TECH LABORATORIES LTD. Frank J. Pezzotti, A.Sa.T.

<10

17 <10

3 25

B.C. Certified Assayer

7 0.04

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No. of samples received: 9 Sample type: Silt Project #: South Paul Shipment #: None Given Samples submitted by: Grant Crooker

6976 LABURNUM STREET VANCOUVER, BC V6P 5M9

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GEOTEC CONSULTING LTD.

17-Aug-01

ECO-TECH LABORATORIES LTD. 10041 Dallas Orive KAMLOOPS, B.C. V2C 6T4

Values in ppm unless otherwise reported

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ICP CERTIFICATE OF ANALYSIS AK 2001-245

Phone: 250-573-5700 Fax : 250-573-4557 GEOTEC CONSULTING LTD. 6976 LABURNUM STREET VANCOUVER, BC V6P 5M9

No. of samples received: 3 Sample type: Rock Project #: South Paul Shipment #: None Given Samples submitted by: Grant Crooker

EC #.	lag #	Au(ppb)	Ag	AI %	As	_ 8a	Bi (	Ca %	Cď	Co	Cr	Cu	Fe %	La M	la %	Mo	Mo	No %	541	D	DL	ØЪ.	-	~	-					
1	J-10	50	1.0	0.68	15	70	0	0.03	e 1	44	110	80	1.00		0.17						FQ	30	Sn	Sr	Π%	Ų	<u>v</u>	W	Y	Zn
2	1.11	16	0.0	0.00		~~~	~	0.00	-1	11	110	0.5	1,62	<10	0.47	73	5	0.04	25	690	12	<2	<20	43	0.18	<10	82	<10		25
-		10	0.2	2.00	30	90	5	>10	1	6	- 34	23	0.48	10	0.07	423	3	0.25	30	2710	22	2	~	062	0.04			- 10		20
3	J-12	15	<0.2	1.54	10	250	<2	0.06	<1	11	109	50	2 12	~10	0.90	746	-	0.00	60			~	~20	000	0.04	<10	5	<10	21	43
							-		•	• •		80	£. 14	-10	0.00	345	3	0.03	22	Z30	8	<2	<20	18	0.15	<10	81	<10	<1	59

QC DATA:

Resplit:																													
1 J-10	35	1.	6 0.77	25	55	3	1.04	≺1	13	107	7 <del>6</del>	1.97	<10	0.58	70	6	0.04	30	880	18	<2	<20	45	0.18	<10	73	<10	<1	30
Repeat: 1 J-10	-	1.	4 0.80	25	55	2	1.08	<1	13	136	75	1.95	<10	0.57	80	7	0.04	30	850	16	~			•					
Standerd:																•	Q.04		0.00	10	~	<20	47	0.18	<10	72	<10	<1	31
GEO'01	120	1.	0 1.60	70	140	2	1.51	<1	18	54	85	3.39	<10	0.86	648	<1	0.02	25	720	24	<2	40	61	0.10	<10	68	<10	<1	76

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### APPENDIX II

### **ROCK SAMPLE DESCRIPTIONS**

#### **ROCK SAMPLE DESCRIPTIONS**

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SAMPLE NO.	WIDTH (M)	DESCRIPTION
126 005	grab	light grey siliceous rock, sediment? 1/2% disseminated pyrite along fractures
126 006	grab	light grey tuff? 4-10% disseminated and fracture filling pyrrhotite
126 007	grab	grey-green tuff? 2-4% disseminated pyrrhotite, rusty fractures
J-10	float	Copperfield breccia, rusty, irregularly shaped rusty zones, 10 centimetres long on average, purplish hornfels alteration, fine grained disseminated sulphides, mainly pyrite
J-11	grab	grey silicified rock, rusty on weathered surfaces, up to 1 centimetre rounded cavities, trace fine grained disseminated sulphides
J-12	float	rusty weathering, rusty, purplish hornfels alteration, probably sediment, near Cahill dyke

#### APPENDIX II

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#### COST STATEMENT

### COST STATEMENT

### SALARIES

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Grant Crooker, Geologist August 12,2000, July 22, October 7, 8, 2001 3.5 days @ \$ 400.00/day	\$	1,400.00
MEALS AND ACCOMMODATION		
Grant Crooker - 2 days @ \$ 50.00/day		100.00
TRANSPORTATION		
Vehicle Rental (1996 Chev 3/4 ton 4 x 4) 2 days@ \$ 60.00/day		120.00
Gasoline		35.00
ANALYSIS		
9 silt samples, Au (30 gram), 32 element ICP @ \$ 19.26		173.34
6 rock samples, Au (30 gram), 32 element ICP @ \$ 22.85		137.10
FREIGHT		20.00
SUPPLIES		5.00
DRAFTING		100.00
PREPARATION OF REPORT -copying, telephone, overhead		100.00
	Total	\$ 2,190.44