

**Ministry of Energy and Mines**  
BC Geological Survey

**Assessment Report**  
**Title Page and Summary**

TYPE OF REPORT [type of survey(s)]: Geochemical and Geophysical

TOTAL COST: 10,068.83

AUTHOR(S): Grant F. Crooker SIGNATURE(S): \_\_\_\_\_

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): \_\_\_\_\_ YEAR OF WORK: 2011

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 4868450, June 3, 2011,

PROPERTY NAME: WP, Blitz, Don, Speculator, Lost Horse 86, Hedley Gold Project

CLAIM NAME(S) (on which the work was done): 514475

COMMODITIES SOUGHT: Gold, Silver, Copper

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 92HSE-051, 088, 175

MINING DIVISION: Similkameen, Osoyoos NTS/BCGS: 92H-029, 030, 039, 040

LATITUDE: 49 ° 19 ' 03 " LONGITUDE: 120 ° 11 ' 23 " (at centre of work)

OWNER(S):

1) Grant F. Crooker 2) \_\_\_\_\_

MAILING ADDRESS:

Box 404, Keremeos, BC

V0X 1N0

OPERATOR(S) [who paid for the work]:

1) Grant F. Crooker 2) \_\_\_\_\_

MAILING ADDRESS:

Box 404, Keremeos, BC

V0X 1N0

**PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):**

The WP target area (Camp Zone) is underlain by sedimentary rocks of the Stemwinder and possibly Hedley formations and volcanic rocks of the Whistle Formation of the Late Triassic Nicola Group. Two drill holes (WP97-1 and WP-97-2) intersected silicious hydrothermal alteration zones with sulphides, quartz stockwork veining, talc anhydrite or gypsum, manganese minerals and brecciation. A sludge sample from WP97-1 gave 803 grams/tonne silver and 2050 ppm copper from 98.48-101.52 metres.

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** 15441, 15978, 16896, 17012, 18228, 18233,

18453, 19351, 19413, 23412, 24821, 25269, 31429, 31641

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo interpretation			
<b>GEOPHYSICAL (line-kilometres)</b>			
<b>Ground</b>			
Magnetic			
Electromagnetic 4.8 kms		514475	3365.00
Induced Polarization			
Radiometric			
Seismic			
Other			
<b>Airborne</b>			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil 47, 30 gram Au, 35 element ICPMS		514475	3823.83
Silt			
Rock			
Other			
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres) 4.8 kms		514475	2880.00
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
<b>TOTAL COST:</b>			<b>10068.83</b>

**GEOCHEMICAL AND GEOPHYSICAL**

**REPORT**

on

**TENURE NUMBERS**

**514402, 514474, 514475, 514536, 514618, 514620, 543460, 543461, 559657,  
559658, 601940, 605294, 605478-605490, 735882 and 849947-849950**

in

**HEDLEY GOLD BASIN SOUTH**  
South Central British Columbia  
Similkameen and Osoyoos Mining Divisions  
**(HEDLEY GOLD PROJECT)**

92H-029, 030, 039 and 040  
(49° 18' 52" North Latitude, 120° 11' 17" West Longitude)

for

**GRANT F. CROOKER**  
Box 404  
2522 Upper Bench Road  
Keremeos, BC.  
V0X 1N0  
(Owner and Operator)

by

**GRANT F. CROOKER, P.GEO.,  
CONSULTING GEOLOGIST  
GFC CONSULTANTS INC.**

September 2011

**BC Geological Survey  
Assessment Report  
32429**

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## 1.0 SUMMARY

The Hedley Gold project is located 230 kilometres east of Vancouver, 40 kilometres north of the State of Washington's USA border and 7 kilometres south of Hedley in the Hedley Gold Basin of southern British Columbia. The property is owned and operated by Grant F. Crooker, 2522 Upper Bench Road, P O Box 404, Keremeos, BC, V0X 1N0 and consists of thirty cell mineral claims (contiguous) covering 9315.112 hectares in the Similkameen and Osoyoos Mining Divisions.

The Hedley Gold Basin has been an active area for gold exploration and gold production since the 1860s when placer mining was first carried out on Twenty Mile Creek. The interest in placer gold mining led to the discovery of lode gold on Nickel Plate Mountain in the 1890s. Lode gold production at Nickel Plate Mountain commenced in 1904 and continued until 1996. During this period, 78,506,148 grams (2,524,313 ounces) of gold were produced from sedimentary-hosted strata-bound auriferous skarn deposits. The Nickel Plate and Hedley-Mascot (Mascot Fraction) mines produced more than 90 per cent of the gold from a single gold skarn deposit (Nickel Plate zone). A small amount of gold production came from the French, Good Hope and Canty gold skarn deposits, and from the Banbury quartz-carbonate veins (Maple Leaf and Pine Knot).

In the 1970s, exploration renewed in the Hedley Gold Basin with most of the activity concentrated on properties on Nickel Plate Mountain. However, exploration was also carried out in many other areas within the Hedley Gold Basin. The most important property in the basin is the Nickel Plate mine that hosts strata-bound and disseminated gold skarn mineralisation. By 1986, new ore reserves were discovered at Nickel Plate in the order of 9,900,000 tons grading 0.088 ounces/ton gold. The Nickel Plate mine commenced production as an open pit operation in 1987 and in closed 1996.

Goldcliff Resource Corporation (Panorama Ridge project) is exploring in the Hedley Gold Basin at this time (2011). The Panorama Ridge project is located four kilometres east of the Nickel Plate Mine and has had considerable success identifying a bulk tonnage, potentially surface mineable gold deposit. During the 2007 work program, Goldcliff discovered bonanza grade gold values in a trench. This included one metre of 17.368 ounces/ton gold (metallic assay) and one and one-half metres of 5.658 ounces/ton gold (metallic assay) from adjacent channel samples.

A private company is also reported to be renewing exploration at the former Banbury Gold property on the west side of the Similkameen River.

The Hedley Gold Basin is comprised of Paleozoic to Jurassic volcanic and sedimentary rocks that have been intruded by a series of stocks, plutons and batholiths. The Hedley Gold Basin trends in a north-east to south-west direction for 35 kilometres and in a north-west to south-east direction for 15 kilometres. The Similkameen River Valley (north-west south-east trending valley) geographically subdivides the Hedley Gold Basin into a northern portion, Hedley Gold Basin North, (Nickel Plate mining district) and a southern portion, Hedley Basin South (Sterling Creek mining district). The Hedley Gold Basin North contains the Nickel Plate mine and all the other former gold skarn producers (Mascot Fraction, Canty, Good Hope, and French). The Hedley Gold Basin South contains identical geology to Hedley Gold Basin North with minor gold production from quartz veins at the Banbury mine (Maple Leaf and Pine Knot veins).

The Hedley Gold project is underlain by a variety of sedimentary, volcanic and intrusive rocks. Sedimentary (Hedley and Stemwinder formations) and volcanic rocks (Whistle Formation) of the Late Triassic Nicola Group underlie a significant portion of the property. Volcanic rocks of the Jurassic Skwel Peken Formation underlie the south-western portion of the property.

Two small stocks (Larcan and Pettigrew) as well as numerous dykes and sills of the Late Triassic-Early Jurassic Hedley intrusions intrude the Nicola Group rocks. Granodiorite of the Cahill Creek pluton intrudes the Nicola Group rocks along the eastern and southern boundaries of the property.

The Hedley Gold project has been broken down into five target areas based on geological, geochemical and geophysical parameters. The five target areas are the WP, Chevron, Blitz, Lookout and Paul, with each target area composed of a number of mineral tenures.

The Camp zone of the WP target area is the subject of this report. The Camp zone target consisted of a medium chargeability (40 msec), medium resistivity IP anomaly associated with a multi-element soil geochemical anomaly (cobalt, copper, lead, silver, arsenic, bismuth and gold) hosted in Stemwinder argillite.

Trenching was carried out over the zone in 1997 with limited success due to the depth of overburden and broken nature of the rock. However, silica alteration was exposed by the trenching, with weakly anomalous values in gold, silver and copper.

Later in 1997, two drill holes (WP97-1 and WP97-2) tested the Camp zone. Drill hole WP97-1 (azimuth 090° - 45°) intersected three siliceous alteration zones containing, sulphides, stockwork quartz veining, talc, anhydrite or gypsum, manganese minerals and brecciation. The widest zone occurs from 52.8 to 102.7 metres (49.9 metres wide). Core recoveries in WP97-1 were very poor, with some sections returning little or no core material. Limited sludge samples were collected from the bottom part of the hole (98 metres to EOH). Due to the poor core recovery, sludge samples were relied upon to provide information on the mineralization encountered in the drill hole. Potentially economic grades of silver and copper were encountered in WP97-1 as evidenced from the sludge samples, as well as anomalous pathfinder values in gold, arsenic, molybdenum, lead, zinc, bismuth, cobalt and antimony. Silver values of up to 803 grams/tonne and copper values of up to 2050 ppm (sludge sample, 98.48-101.52 metres) were returned from the hole.

Drill hole WP97-2 (azimuth 090°, -70°) was drilled from the same set up as WP97-1 and intersected two siliceous alteration zones containing, sulphides, stockwork quartz veining, talc, anhydrite or gypsum, manganese minerals and brecciation. The widest zone occurs from 73.3 to 118.7 metres (38 metres wide). The siliceous zones in WP97-2 correspond with the siliceous zones in WP97-1. Core recoveries in WP97-2 were variable, with some sections returning little or no core material. All recovered core was analysed and sludge samples were collected throughout the hole. Due to the poor core recovery, sludge samples were relied upon to provide information on the mineralisation encountered in the drill hole. Potentially economic grades of silver and copper were encountered in WP97-2 as evidenced from the drill hole samples, as well as anomalous values in gold, arsenic, molybdenum, lead, zinc, bismuth, cobalt and antimony. Silver values of up to 312 grams/tonne and copper values of up to 900 ppm (sludge sample, 63.11-66.16 metres) were returned from the hole.

In 2009 a detailed soil geochemical survey (25 metre line spacing, 20 metre sample spacing) was carried out over drill holes WP97-1 and WP97-2 at the Camp zone. The survey was carried out in order to determine the strike and dimensions of the zones hosting the silver-copper mineralization intersected in the drill holes. The soil geochemical survey was successful in delineating coincidental silver-copper-gold geochemical anomalies north of drill holes WP97-1 and WP97-2.

The June 2011 work program consisted of expanding the soil geochemical sampling and conducting a VLF electromagnetic geophysical survey over the Camp zone. The VLF electromagnetic survey was conducted to define structural features that might be associated with the silver-copper-gold soil geochemical anomalies.

The following conclusions can be drawn from the 2011 work program:

- 1.1 The 2011 soil geochemical survey was successful in extending the silver-copper-gold soil geochemical anomalies south of drill holes WP97-1 and WP97-2.
- 1.2 The silver-copper-gold soil geochemical anomalies may represent the strike of the silver-copper mineralization intersected in the two drill holes.
- 1.3 The silver-copper-gold soil geochemical anomalies strike in an east north-easterly direction.
- 1.4 Conductor G outlined by the VLF-EM survey may represent a structural feature associated with the silver-copper mineralization intersected in drill holes WP97-1 and WP97-2.

Recommendations are as follows:

- Additional soil sampling should be carried out north and south of the present grid to define the extent of the silver-copper-gold soil geochemical anomalies associated with the silver-copper mineralization intersected in drill holes WP97-1 and WP97-2.

-A magnetic survey should be carried out over the present grid, and magnetic and electromagnetic surveys carried out over any grid extensions to assist in defining the zone of silver-copper mineralization.

-Trenching and core drilling should be conducted at drill holes WP97-1 and WP97-2 to determine the extent of the silver-copper mineralization intersected in them.

-Contingent on the success of the trenching and core drilling at drill holes WP97-1 and WP97-2, additional trenching and core drilling be conducted over the silver-copper-gold soil geochemical anomalies associated with the two drill holes.

Respectfully submitted,

**Grant F. Crooker, P. Geo.,**  
**Consulting Geologist**  
September 23, 2011



## 2.0 INTRODUCTION

### 2.1 GENERAL

The following report entitled “Geochemical and Geophysical Report on Tenure Numbers 514402, 514474, 514475, 514536, 514618, 514620, 543460, 543461, 559657, 559658, 601940, 605294, 605478-605490, 735882 and 849947-849950 in Hedley Gold Basin South, South Central British Columbia, (Hedley Gold Project), Similkameen and Osoyoos Mining Divisions (92H-029, 030, 039 and 040), August 2011” was prepared for Grant F. Crooker, Keremeos, BC Canada. The report was prepared to summarize the results of soil geochemical sampling and VLF electromagnetic geophysical surveying conducted on mineral tenure number 514475 (WP target, Camp zone). The grid lines established in 2009 were re-established as part of the 2011 survey due to degradation by weather and animal activity.

Fieldwork was carried out on the mineral claims from May 26 to June 2, 2011, by Grant F. Crooker, P.Geo., of GFC Consultants Inc.

### 2.2 LOCATION AND ACCESS

The Hedley Gold project (Figure 1.0) is located 230 kilometres east of Vancouver, British Columbia and 7 kilometres south of Hedley in southern British Columbia. The 2011 work program is centred at 49° 21' 52" north latitude and 120° 11' 17" west longitude (92H-08E).

The main access to the Hedley Gold project area is provided by the Sterling Creek forest access road that turns west off Highway 3 eight kilometres west of Hedley. The Sterling Creek road and various branches access the northern, western and south-western portions of the project area. The Polecutter road accesses the central and south-eastern portions of the project area, including the area of the 2011 work program. The Johns Creek road accesses the eastern portions of the project area.

Old logging roads and cat trails provide access to many areas of the property off the main roads.

### 2.3 PHYSIOGRAPHY

The property is located along the eastern edge of the Cascade Mountains within the Okanagan Highlands. Elevation varies from 550 to 2024 metres above sea level and topography varies from gentle to steep, with the steepest areas dropping into the creek bottoms. Pettigrew and Whistle creeks flow northerly through the western and central portions of the property, with Larcan and Johns creeks flowing easterly along the eastern boundary of the property. Paul Creek flows easterly along the southern boundary of the property. The creeks generally flow all year round, although in years of drought that may not be the case.

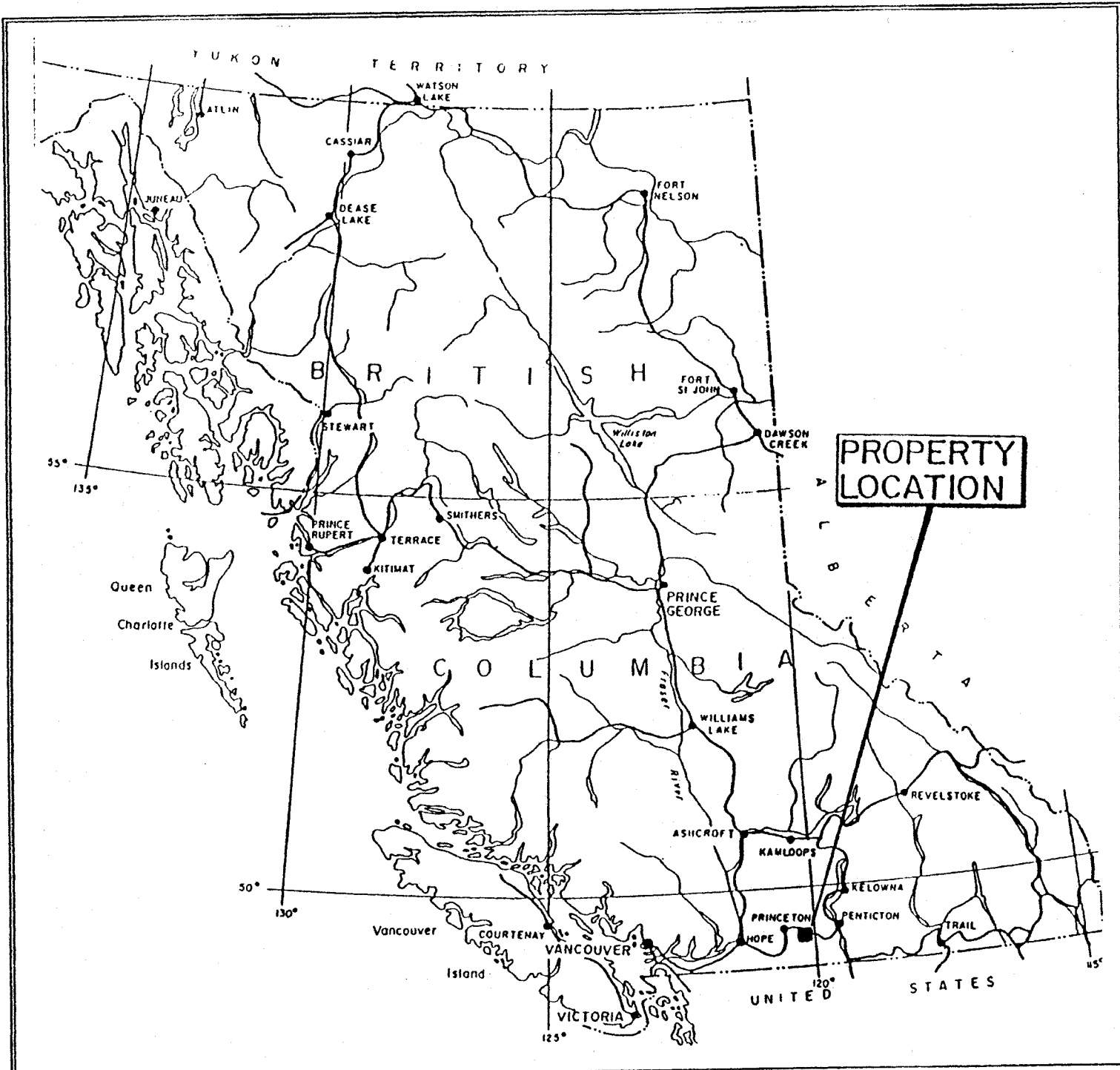
Vegetation consists of a forest cover of pine, fir, balsam, aspen and spruce trees, with open grassy areas on some south slopes. Many areas of the property were selectively logged 30 or more years ago. Clear cut logging has been carried out over much of the area in the past, and extensive areas in the central and southern portions of the property have been logged in 2009, 2010 and 2011.

The area is subject to moderate snowfall in the winter.

### 2.4 PROPERTY AND CLAIM STATUS

The Hedley Gold project (Figure 2.0) is owned and operated by Grant F. Crooker, 2522 Upper Bench Road, P O Box 404, Keremeos, BC, V0X 1N0. The property consists of thirty cell mineral claims (contiguous) covering 9315.112 hectares in the Similkameen and Osoyoos Mining Divisions.

CLAIM	HECTARES	MINING DIVISION	TENURE NUMBER	ISSUE DATE y/m/d	GOOD TO DATE y/m/d	NEW GOOD TO DATE y/m/d
	315.95	Similkameen	514402	2005/jun/12	2015/nov/13	2015/nov/13
	315.83	Similkameen	514474	2005/jun/14	2013/nov/13	2013/nov/13
	631.87	Similkameen	514475	2005/jun/14	2013/nov/13	2013/nov/13
	589.75	Similkameen	514536	2005/jun/15	2013/nov/13	2013/nov/13



**GRANT F. CROOKER**

**HEDLEY GOLD PROJECT**

(92H-029, 039, 030 & 040)

SIMILKAMEEN & OSOYOOS M.D.S, BC

**LOCATION MAP**

DATE: Aug 2011

FIGURE: 1.0

SCALE: 0 100 200 KILOMETRES

	421.08	Similkameen	514618	2005/jun/16	2013/nov/13	2013/nov/13
	63.22	Osoyoos	514620	2005/jun/16	2016/nov/13	2016/nov/13
LH #1	105.38	Osoyoos	543460	2006/oct/17	2012/nov/13	2013/nov/13
LH #2	126.44	Osoyoos	543461	2006/oct/17	2013/nov/13	2014/nov/13*
DON 1	231.78	Osoyoos	559657	2007/may/31	2012/jun/30	2012/jun/30
DON 2	252.79	Osoyoos	559658	2007/may/31	2012/jun/30	2012/jun/30
WHISTLE	252.63	Similkameen	601940	2009/mar/31	2012/jun/04	2012/jun/04
ASHNOLA	358.40	Osoyoos	605294	2009/jun/02	2012/jun/04	2012/jun/04
PAUL-1	526.88	Similkameen	605478	2009/jun/04	2011/jun/04	2012/jun/04*
PAUL-2	442.55	Similkameen	605479	2009/jun/04	2011/jun/04	2012/jun/04*
PAUL-3	442.55	Similkameen	605480	2009/jun/04	2011/jun/04	2012/jun/04*
ASHNOLA-1	189.81	Osoyoos	605481	2009/jun/04	2013/jun/04	2015/jun/04*
ASHNOLA-2	358.42	Osoyoos	605482	2009/jun/04	2012/jun/04	2012/jun/04
ASHNOLA-3	379.64	Osoyoos	605483	2009/jun/04	2012/jun/04	2012/jun/04
DON-3	337.14	Osoyoos	605484	2009/jun/04	2012/jun/04	2012/jun/04
DON-4	337.03	Osoyoos	605485	2009/jun/04	2012/jun/04	2012/jun/04
PAUL-4	505.75	Similkameen	605486	2009/jun/04	2011/jun/04	2012/jun/04*
PAUL-5	252.97	Osoyoos	605487	2009/jun/04	2011/jun/04	2012/jun/04*
PAUL-6	379.55	Osoyoos	605488	2009/jun/04	2012/jun/04	2012/jun/04
PAUL-7	506.22	Osoyoos	605489	2009/jun/04	2012/jun/04	2012/jun/04
LARCAN #3	105.39	Osoyoos	605490	2009/jun/04	2012/jun/04	2012/jun/04
LH #3	42.147	Osoyoos	735882	2010/mar/27	2013/mar/27	2013/jun/04
V-1	126.602	Osoyoos	849947	2011/mar/28	2012/mar/28	2012/mar/28
V-2	253.194	Osoyoos	849948	2011/mar/28	2012/mar/28	2012/mar/28
V-3	210.977	Osoyoos	849949	2011/mar/28	2012/mar/28	2012/mar/28
V-4	253.172	Osoyoos	849950	2011/mar/28	2012/mar/28	2012/mar/28

\* Upon acceptance of this report

## 2.5 AREA AND PROPERTY HISTORY

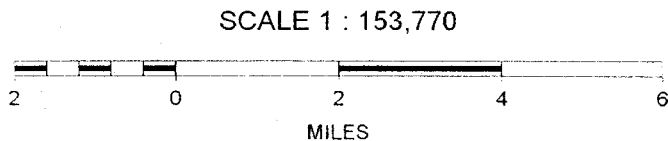
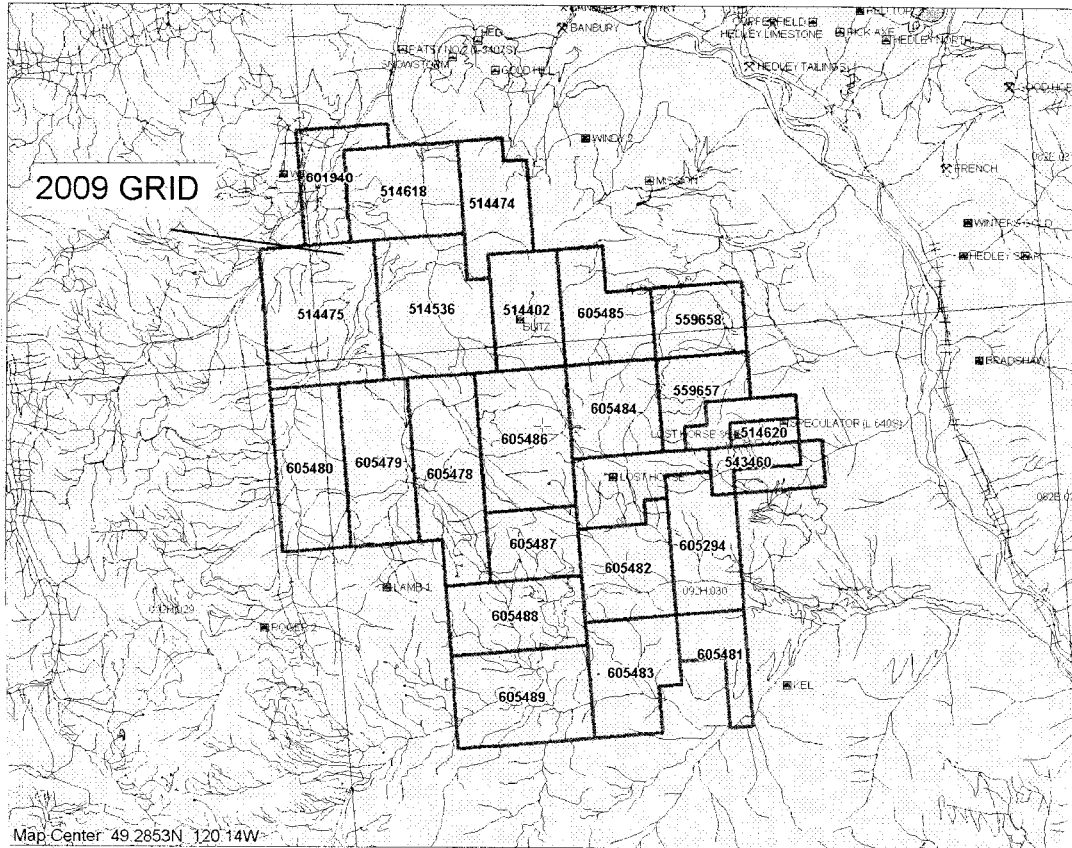
Placer gold mining was first carried out in the Hedley Gold Basin in the 1860s and 1870s. The interest in placer mining led to the discovery of lode gold on Nickel Plate Mountain in the 1890s, with the first claims being staked in 1896. Many showings were found within the Hedley Gold Basin, both on Nickel Plate Mountain (Hedley Gold Basin North) and the surrounding area. The two major producers in the district were the Nickel Plate (Nickel Plate, Bulldog, Sunnyside deposits) and Hedley Mascot (Mascot Fraction) mines. Production from the mines during the period from 1905 to 1955 was approximately 51 million grams (1.6 million ounces). Minor gold production came from the French, Good Hope and Canty gold skarns. A small amount of gold production also came from the Banbury quartz-carbonate veins (Maple Leaf and Pine Knot veins) located on the south side of the Similkameen River (Hedley Gold Basin South).

Exploration renewed in the Hedley Gold Basin in the 1970's. Most of the activity concentrated on properties on Nickel Plate Mountain, although exploration was carried out on other properties within the Hedley Gold Basin. By the mid 1980s, the Nickel Plate mine had sufficient ore reserves (9,900,000 tons grading 0.088 ounces/ton gold) to begin production. The Nickel Plate mine commenced production in August 1987 with a milling rate of 2,700 tons per day and ceased production in July 1996. Approximately 1,000,000 ounces of gold were extracted from the strata-bound and disseminated gold skarns.

Goldcliff Resource Corporation (Panorama Ridge Project) is actively exploring in the Hedley Gold Basin at this time. The Panorama Ridge Project is located four kilometres east of the Nickel Plate Mine and has had considerable success identifying a bulk tonnage, potentially surface mineable gold deposit. During the 2007 work program, Goldcliff discovered bonanza grade gold values in a trench. This included one metre of 17.368 ounces/ton gold (metallic assay) and one and one-half metres of 5.658 ounces/ton gold (metallic assay) from adjacent channel samples.

A number of gold mineral occurrences are located on the south side of the Similkameen River (Hedley Gold Basin South). Historically, most of these properties have been found to be related to quartz-carbonate vein systems and associated shear zones (Banbury) as opposed to skarn-related mineralization at the Nickel Plate mine. Recent geological data by Ray (1986/87) has indicated that similar skarn related gold environments exist in the Hedley Gold Basin South.

At the time of the writing of this report, a private company has been reported to be renewing exploration on the Banbury vein deposit. From 1933 to 1937, Banbury had a reported production of 5,897 tonnes of ore grading 4.99 grams/tonne gold, 2.97 grams/tonne silver, 0.014 per cent copper and 0.015 per cent lead. Total



**GRANT F. CROOKER**

**HEDLEY GOLD PROJECT**

(92H-029, 030, 039 & 040)

SIMILKAMEEN & OSOYOOS M.D.S, BC

**CLAIM MAP**

DATE: Aug 2011

DRAWN BY: G.F.C

SCALE:

**FIGURE 2.0**

probable and inferred reserves at the Pine Knot and Maple Leaf veins are 215,221 tonnes grading 9.50 grams/tonne gold (Vancouver Stockwatch, June 23, 1987).

Table 2.0 lists the Minfile mineral occurrences as well as undocumented showings on the south side of the Similkameen River. Those occurrences with associated target and tenure numbers are on the claims covered by the Hedley Gold project.

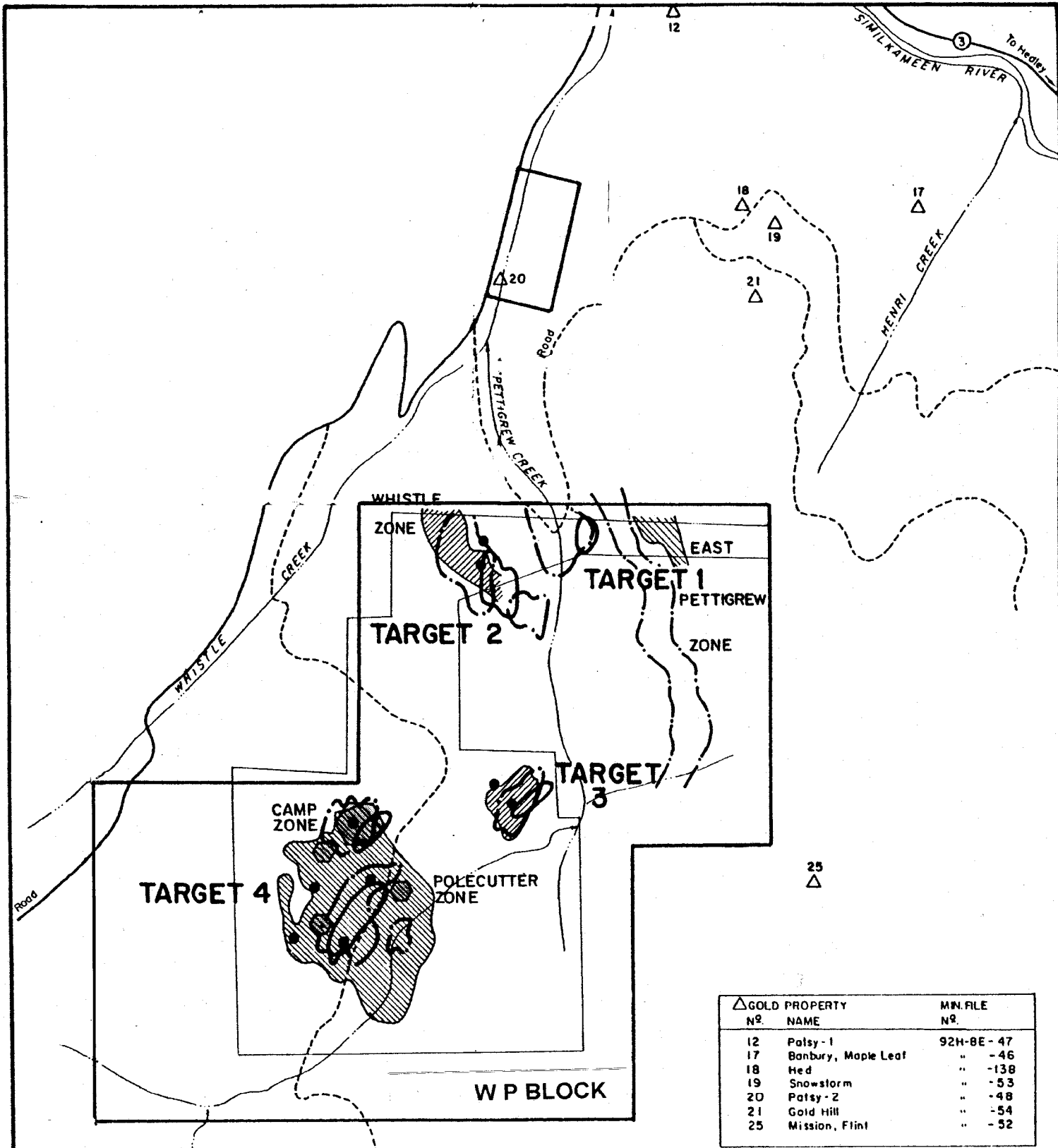
TABLE 2.0 – MINERAL OCCURRENCES HEDLEY BASIN SOUTH							
OCCURENCE	TARGET	TYPE	ASSOCIATED METALLIC ELEMENTS	TENURE #	MINFILE #	EASTING NAD 83	NORTHING NAD 83
Banbury (Pine Knot)		Vein	Au, As, Cu, Zn, Pb		92HSE046	708550	5471100
Banbury (Maple Leaf)		Vein	Au, As, Cu, Zn, Pb		92HSE046	708150	5470950
Banbury		Porphyry	Au, Cu		92HSE177	708700	5471250
Patsy No. 1		Vein	Au, As, Zn, Cu, Ag		92HSE047	706550	5472450
Patsy No. 1		Vein	Au, Ag, As, Sb		92HSE048	705350	5470350
Hed		Vein	Au, As, Cu, Zn		92HSE138	706968	5470771
Snowstorm		Shear	Au, Ag, As		92HSE053	706710	5470336
Gold Hill		Vein	Au, As, Zn, Cu, Pb	514400	92HSE054	707550	5470217
Don	Chevron	Skarn	Au, Ag, As, Cu	514620	92HSE051	712850	5462990
Speculator	Chevron	Skarn	Au, Ag, As, Cu	514620	92HSE051	712675	5462775
Kel	Lookout	Skarn	Au, Ag, As, Cu	605481	92HSE090	711720	5457630
Lost Horse 86	Chevron	Skarn	Au, Ag, As, Cu	514620	92HSE088	711856	5462650
Lost Horse		Skarn	Au, As		92HSE050	709680	5462045
IR-1		Skarn	As			711840	5461070
IR-2		Skarn	As			711980	5460930
IR-3		Skarn	As, Cu			712060	5460070
Mission		Vein	Au, Ag, As, Cu, Zn, Pb		92HSE052	710425	5467950
Blitz	Blitz	Vein	Au, As, Sb	514402	92HSE175	707775	5465200
Blitz North	Blitz	Vein	Au, As	514402		707800	5465780
WP Camp Zone	WP	Vein	Ag, Cu, Au	514475		704350	5466360
WP Polecutter Zone	WP	Skarn	Au, Ag, Cu, As	514475		704475	5465900
WP		Vein	Au, Ag			702900	5468251
Lamb 1		Vein	Ag, Cu		92HSE172	705513	5460551
Rodgers 2		Skarn	Zn, Cu, Pb, Zn		92HSE173	702150	5459230

The Hedley Gold project has been broken down into five target areas based on geological, geochemical and geophysical parameters. The five target areas are the WP, Chevron, Blitz, Lookout and Paul, with each target area composed of a number of mineral tenures.

The first target area is the WP and consists of five tenures (514474, 514475, 514536, 514618 and 601940) covering 2211.16 hectares. The WP target area is mainly underlain by Nicola Group volcanic (Whistle Formation) and sedimentary (Stemwinder Formation) rocks including the Copperfield breccia that forms the basal unit of the Whistle Formation. Two suites of intrusive rocks have intruded the Nicola Group, the Pettigrew stock of the Hedley Intrusions in the south-eastern portion and the Cahill Creek pluton along the south-western portion of the target area. The Whistle and Stemwinder formations are favourable units to host skarn related gold mineralization.

During the period 1987 through 1996 a grid was established over approximately 75% of the property and geological, geochemical and geophysical surveys were carried out. A heavy metal stream sediment sampling program was also carried out on Whistle and Pettigrew creeks. These programs yielded coincidental geological, geochemical and geophysical anomalies and delineated four exploration target areas (Figure 3.0, Targets 1, 2, 3 and 4) warranting additional exploration.

In 1997, Northpoint Resources Ltd. conducted an exploration program consisting of geophysical induced



- Stage I drill hole completed
- Stage II proposed drilling
- ▨ I.P. chargeability anomalies
- ▨ I.P. resistivity anomalies
- Geological anomalies
- Geochemical anomalies
- ▭ I.P. survey area
- Road



**GRANT F. CROOKER**  
**HEDLEY GOLD PROJECT**  
 (92H-029, 030, 039 & 040)  
 SIMILKAMEEN & OSOYOOS M.D.S, BC  
**W P BLOCK**  
**TARGET AREAS**



DATE: Aug 2011	DRAWN BY: L.S.	FIGURE 3.0
SCALE: 1:40,000		

polarization surveying, soil and rock geochemical sampling, trenching and core drilling to investigate the four target areas. The primary economic targets were disseminated, skarn gold deposits similar to the Nickel Plate mine, with secondary targets vein and/or stockwork deposits that are host to economic gold-silver-copper mineralization at Banbury and Gold Hill. The four exploration target areas that have been developed on the WP Property are based on the Hedley gold models. The exploration targets are mainly hidden by a cover of unconsolidated glacial material.

Northpoint's 1997 exploration program identified a total of 77 IP exploration anomalies on the four target areas (Targets 1, 2, 3 and 4). These anomalies were evaluated on a statistical basis to develop 18 priority drill targets and 30 priority trench targets. The target areas for trenching and drilling were determined by combining geological, geochemical and magnetic and electromagnetic anomalies with the IP anomalies.

Northpoint drill tested Targets 2, 3 and 4 with a ten hole core drilling program totalling 963.44 metres (Table 3.0, Figure 3.0) for their Hedley-type gold mineralization. The drilling resulted in the discovery of two hydrothermal alteration zones containing significant gold-silver-copper mineralization. The two hydrothermal alteration zones occur on Target 4 and are located 1,000 metres apart. The first zone (Camp Zone) that was encountered in drill holes WP97-01 and WP97-02 is a steeply dipping, siliceous hydrothermal breccia system that has a width ranging from 30 to 50 metres. The second zone (Polecutter Zone) that was encountered in drill hole WP97-04 contains hornfels and skarn alteration throughout the length of the drill hole, and anomalous values in gold, silver, copper and pathfinder elements.

DRILL HOLE	TARGET	EASTING NAD 83	NORTHING NAD 83	AZIMUTH DEGREES	INCLINATION DEGREES	METRES DEPTH
WP97-01	T-4	704299	5466385	90	-44	122.83
WP97-02	T-4	704299	5466385	90	-68	146.00
WP97-03	T-4	704180	5465870	90	-69	99.70
WP97-04	T-4	703910	5465560	90	-70	100.28
WP97-05	T-4	704340	5465620	90	-69	93.60
WP97-06	T-4	704480	5466040	130	-59	47.85
WP97-07	T-3	705510	5466590	300	-59	93.50
WP97-08	T-3	705320	5466820	120	-60	99.36
WP97-09	T-2	705100	5468290	300	-60	99.36
WP97-10	T-2	704950	5468640	300	-58	60.96

Drill hole WP97-01 tested a medium chargeability (40 msec), medium resistivity IP anomaly associated with a five element geochemical anomaly hosted in Stemwinder Formation argillite. The zone contained silica alteration on surface and anomalous values in gold, silver and copper. Three siliceous alteration zones were intersected in the drill hole, containing, sulphides, stockwork quartz veining, talc, anhydrite or gypsum, manganese minerals and brecciation. The widest zone occurs from 52.8 to 102.7 metres (49.9 metres wide). Core recoveries in WP97-01 were very poor at 78%, with some sections returning little or no core material. All recovered core was analysed. Limited sludge samples were collected from the bottom part of the hole (98 metres to EOH). Due to the poor core recovery, sludge samples were relied upon to provide information on the mineralization encountered in the drill hole.

Potentially economic grades of silver and copper were encounter in WP97-01 as evidenced from the drill hole samples, as well as anomalous pathfinder values in gold, arsenics, molybdenum, lead, zinc, bismuth, cobalt and antimony. Silver values of up to 803 grams/tonne (sludge sample, 98.48-101.52 metres) were returned from the hole (Table 4.0).

MINERALIZED ZONE (M)		GEOLOGY	SAMPLE INTERVALS (M)		VALUES		
Interval	Width		Core	Sludge	Au ppb	Ag g/t	Cu ppm
26.3-	7.5	ZONE-1	26.28-33.83(7.55)	No sludge taken	20	0.43	31





During the fall of 2009, Crooker conducted a detailed soil geochemical survey north of drill holes WP97-01 and WP97-02. This survey delineated coincidental silver-copper-gold geochemical anomalies that may represent the strike of the silver-copper mineralization intersected in the drill holes.

Drill hole WP97-04 tested a medium chargeability (50 msec), medium resistivity IP anomaly with a strong northeast magnetic lineament associated with a magnetic high and an east-west cross structure. The hole is highly fractured and contains weak sulphides, including pyrrhotite throughout the hole. Weak skarn mineralisation occurs in contact with a diorite (Hedley intrusive) dyke in the upper part of the hole, while the lower part of the hole contains hornfels alteration. The skarn alteration (although spotty) is very significant as an indicator that gold-bearing skarn could occur at this stratigraphic level and in close proximity to WP97-04.

The hole contains weakly anomalous values of gold, silver, copper, arsenic, lead and zinc throughout the entire length of the hole. The presence of anomalous elements indicates hydrothermal activity related to fracturing, hornfels and skarn alteration.

The second target area, the Chevron consists of seven tenures (514620, 543460, 543461, 559657, 559658, 605490 and 735882) covering 927.147 hectares and contains the Speculator, Don and Lost Horse 86 showings. The Chevron target area is mainly underlain by Nicola Group volcanic (Whistle Formation) and sedimentary (Hedley Formation) rocks including the Copperfield breccia which forms the basal unit of the Whistle Formation. The Hedley Formation is considered to be the most favourable host rock for skarn type deposits as the Hedley Formation is the host rock for the skarn deposits at the Nickel Plate mine. Two suites of intrusive rocks have intruded the Nicola Group, the Larcans stock of the Hedley Intrusions in the central portion of the target area and the Cahill Creek pluton along the eastern portion of the target area.

The Speculator and Don showings are located on the eastern portion of tenure 514620 and are hosted by northerly striking, steep westerly dipping calcareous siltstone and thick limestone and marble beds of the Hedley Formation, close to the western margin of the Cahill Creek pluton. The sedimentary rocks are intruded by several Hedley sills, with all rocks thermally overprinted by the Cahill Creek pluton.

At the Speculator showing, the argillite and siltstone are commonly metamorphosed to biotite hornfels while the limestone beds are selectively replaced by various calcium silicates. Six old trenches in a zone of intense limonitic oxidation, 200 metres long and up to 12 metres wide display fine to coarse grained arsenopyrite and varying amounts of pyrrhotite, pyrite and minor chalcopyrite. Six of seven samples collected from the trenches by Montello Resources in 1987 (AR# 15,177) assayed from 0.005 to 3.38 grams/tonne gold, while a seventh sample with the highest concentrations of arsenopyrite and chalcopyrite assayed 5.9 grams/tonne gold.

Chevron Minerals drill tested the showing with four diamond drill holes (Table 6.0) totalling 385 metres in 1987 (AR# 17,012) and 1988 (AR# 18,228). The drilling encountered interbedded hornfels and calcareous siltstone, with minor limestone and skarn containing up to 1% disseminated pyrite and 1% disseminated pyrrhotite. Gold values in the drill core ranged up to 0.35 gram/tonne over 2.16 metres (DDH 88-06, 42.01-44.17 metres). A number of other intersections gave weakly anomalous gold values in the 20 to 100 ppb range, with arsenic in the 50 to 2300 ppm range.

The Don showing is located approximately 150 metres north of the Speculator showing and consists of a zone of shearing and alteration that crosses a sill of the Hedley intrusions. The sill cuts argillite and limestone of the Hedley Formation. The zone consists mainly of quartz, epidote, calcite, pyroxene, zoisite and apatite with locally massive sulphides, mainly arsenopyrite. Two samples assayed 0.34 and 0.69 gram/tonne gold (Geological Survey of Canada Memoir 243, page 80).

The Lost Horse 86 showing is located approximately 1000 metres southwest of the Speculator showing on the western portion of tenure 514620. Westerly dipping (40 to 70 degrees) argillite, siltstone and tuff, locally with limestone and conglomerate has been intruded by a swarm of southerly striking, sulphide rich Hedley intrusive sills that are associated with extensive alteration and bleaching. The alteration is characterized by minor amounts of coarse pyroxene-garnet-scapolite-wollastonite-carbonate exoskarn alteration as well as purple-brown biotite alteration and siliceous, fine-grained pyroxene-orthoclase-quartz assemblages that are mottled pink and green in colour. Pyrrhotite and arsenopyrite mineralization is exposed in old trenches at a number of locations in the alteration zone. A 0.5 metre chip sample of calcic hornfels with 5% disseminated pyrite assayed 5.42 grams/tonne gold and 26 grams/tonne silver (AR# 17085).

Chevron Minerals drill tested the showing with four diamond drill holes totalling 757 metres (Table 6.0) in 1987 (AR# 17,085) and 1988 (AR# 18,233). The drilling intersected endoskarn and garnet-pyroxene exoskarn containing abundant scapolite with albite plagioclase, tremolite, idocrase, pyrrhotite, pyrite, rare arsenopyrite and chalcopyrite. As at the Nickel Plate mine, the scapolite was late and associated with the sulphide mineralization. Gold values ranged up to 0.565 gram/tonne over 2 metres (DDH 87-01, 95.76-97.76 metres). A number of other intersections gave weakly anomalous gold values in the 20 to 290 ppb range with arsenic in the 60 to 4400 ppm range.

Ray (1987), comments that the style of alteration in the area of the Speculator and Lost Horse 86 showings 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 skarn, similar to Nickel Plate.

<b>TABLE 6.0 – DRILL HOLE DATA SPECULATOR &amp; LOST HORSE 86 SHOWINGS</b>						
DRILL HOLE	SHOWING	EASTING NAD 83	NORTHING NAD 83	AZIMUTH DEGREES	INCLINATION DEGREES	DEPTH METRES
87-01	Lost Horse 86	711800	5462700	77	-65	187.76
87-02	Speculator	712750	5462950	66	-65	117.96
88-03	Lost Horse 86	711790	5462580	77	-50	187.75
88-04	Lost Horse 86	711600	5462680	77	-60	300.83
88-05	Speculator	712750	5462956	-	-90	89.61
88-06	Speculator	712820	5462850	80	-50	99.36
88-07	Speculator	712770	5462800	90	-50	78.33
88-08	Lost Horse 86	711860	5462800	55	-50	80.98

The third target area, the Blitz consists of four tenures (514402, 605484, 605485 and 605486) covering 1495.87 hectares. The Blitz target area is underlain by Nicola Group volcanic (Whistle Formation) and sedimentary (Stemwinder Formation) rocks including the Copperfield breccia which forms the basal unit of the Whistle Formation. Sedimentary rocks of uncertain origin underlie the eastern portion of the property. Two suites of intrusive rocks have intruded the Nicola Group, including the Cahill Creek pluton in the central portion of the target. Narrow dykes of the Hedley intrusions have been noted in several areas. The Whistle and Stemwinder formations are favourable units to host skarn related gold mineralization. The Blitz target area consists of the Blitz and Blitz North showings.

Fox Resources Ltd carried out a number of exploration programs on the Blitz showings between 1983 and 1986. These programs consisted of establishing grid lines, VLF-EM and magnetic geophysical surveying, soil geochemical sampling (gold, silver, arsenic, copper and zinc) and geological mapping over an area 2500 metres long by 2000 metres wide. The soil geochemical sampling indicated a broad north trending zinc anomaly over an area of old showings, with sporadic silver, arsenic and gold values. Two grab samples of a quartz vein with pyrite and arsenopyrite assayed 3.53 and 2.69 grams/tonne gold (Freeze 1986, AR #15,441).

Mineralization occurs at a number of different locations at the Blitz showing. The area is underlain by thinly bedded argillite and minor limestone of the Stemwinder Formation. A northerly trending magnetic high approximately 300 to 500 metres wide extends along baseline 10000E from line 9800N to 1100N. The argillite within the magnetic high is silicified and contains disseminated pyrrhotite that appears to be causing the magnetic high.

Crooker (1999) carried out rock sampling on the Blitz target area. The highest gold values came from a 10 to 20 centimetre wide quartz vein within a 75 to 140 centimetre wide shear zone exposed in trenches 7 and 8 (Blitz South). The quartz vein and associated shear zone have been exposed for about 10 metres along strike, strike 007° and dip 65° west, with the quartz vein containing 2 to 3% pyrite and 2 to 4% arsenopyrite. Two samples of the quartz vein (058, 062) gave 3.35 grams/tonne gold and > 10,000 ppm arsenic, and 8.3 grams/tonne gold and > 10,000 ppm arsenic respectively. Samples of the shear zone (057, 059, 061, and 063) on both the hanging wall and foot wall of the quartz vein gave weakly anomalous gold values ranging from 50 to 675 ppb, with anomalous arsenic and antimony.

A 60 to 140 centimetre wide quartz vein striking 009° and dipping 64° west is exposed over a strike length of 6 metres at the winze. The vein contains up to 5% pyrite locally with limonite filled boxworks. Four samples of the quartz vein (064-066, 069) gave weakly anomalous gold values ranging from 105 to 565 ppb. Arsenic was moderately anomalous (562 to 1010 ppm) and molybdenum was weakly anomalous (8 to 25 ppm). Two samples of silicified argillite (067, 068) with disseminated pyrrhotite and pyrite gave weakly anomalous gold (60 and 100 ppb) and arsenic (106 and 118 ppm) values.

At the shaft (Blitz North), a 120 to 140 centimetre wide zone of quartz stockwork and breccia striking 005° and dipping 76° west is exposed in the north wall. The zone is hosted by weakly sheared and fractured silicified argillite, and consists of 10 to 75% quartz veinlets with breccia fragments of quartz and silicified argillite. The quartz veinlets are strongly oxidized and contains 1% disseminated pyrite. Four samples of the quartz stockwork (073-076) gave weakly anomalous gold values ranging from 50 to 90 ppb. Arsenic (70-746 ppm) and molybdenum (40-120 ppm) were both moderately anomalous.

Silicified argillite with a weak quartz stockwork is also exposed in trench 16. The quartz veinlets contain 2 to 4% disseminated pyrrhotite and ½% disseminated pyrite. Two samples of the quartz stockwork (081, 082) gave weakly anomalous gold values of 65 and 90 ppb respectively. Arsenic (230, 66 ppm) was weakly anomalous and zinc (2510, 1295 ppm) moderately anomalous.

A grab sample (084) of silicified argillite with 1 to 3% disseminated pyrrhotite and 1% disseminated pyrite from trench 14 gave a weakly anomalous gold (20 ppb), moderately anomalous molybdenum (74 ppm) and moderately anomalous zinc (1885) values.

The quartz veins and stockwork exposed at the Blitz showing all have similar strikes (005° to 009°) and dips (64° to 76° west) and appear to be along the same strike. It is not known if they represent an echelon veins, or a single vein with different character along strike.

The fourth target area, the Lookout consists of ten tenures (605294, 605481-605483, 605488, 605489, 849947-849950) covering 3015.985 hectares and contains the Kel showing. The eastern portion of the Lookout target area is underlain by Nicola Group volcanic (Whistle Formation) and sedimentary (Hedley Formation) rocks including the Copperfield breccia which forms the basal unit of the Whistle Formation. The western portion of the Lookout target area is underlain by the Skwel Peken Formation, a younger volcanic unit. The Cahill Creek pluton intrudes the volcanic and sedimentary rocks from the south.

A number of showings with arsenopyrite are reported to occur on Indian Reservation 10 (Ashnola), immediately east of the Lookout target area. It is not known if any gold mineralization occurs with the arsenopyrite.

The Kel Minfile occurrence is located in the south-east corner of the target area on tenure 605481. The Kel showing consists of screens of hornfels altered argillite and tuffaceous and calcareous sedimentary rocks (Whistle Formation?) that are cut by large granodiorite dykes from the Cahill Creek pluton. Fine grained biotite hornfels alteration and pyroxene skarn alteration overprint both the metasedimentary rocks and dykes.

Trenches have exposed exoskarn with arsenopyrite, pyrrhotite and minor pyrite. The sulphides occur as disseminations and stratiform masses up to 20 centimetres thick. A mineralized grab sample taken from one trench assayed 1.1 grams/tonne gold, 0.13% copper and 2.69% arsenic (Ray et al, Bulletin 87). Bellamy (1998) reports an assay of 0.274 ounces/ton gold.

Crooker collected five, one metre chip samples of exoskarn with arsenopyrite, pyrrhotite and minor pyrite from an old trench in 2010. These samples gave anomalous gold (30 to 760 ppb), arsenic (308 to >10000 ppm) and copper (139 to 690 ppm) values. The pathfinder element tellurium was also anomalous with values ranging from 0.42 to 5.02 ppm. A select sample with massive arsenopyrite gave strongly anomalous gold (10.7 grams/tonne), arsenic (>10000 ppm), and tellurium (54.02 ppm) values, and a weakly anomalous copper (1038 ppm) value.

The fifth target area, the Paul consists of four tenures (605478-605480 and 605487) covering 1664.95 hectares. The Paul target area is underlain by Skwel Peken Formation, a younger volcanic unit that is not considered a favourable unit for skarn mineralization. However, four stream sediment samples with strongly anomalous gold values were collected from the upper reaches of Pettigrew Creek that drains the area. These samples gave gold values of 380, 720, 1305 and 3200 ppb. No cause has been determined for the gold

anomaly. The source may be epithermal or quartz-carbonate vein systems.

International Seadrift Explorations Ltd drilled three holes (Table 7.0) within the Paul target area in 1985, apparently for assessment purposes. The drill holes report various volcanic rocks with weak silicification, epidote alteration and pyrite concentrations of up to 3%. No assays are recorded from the drilling.

<b>TABLE 7.0-DRILL HOLE DATA PAUL TARGET</b>						
DRILL HOLE		EASTING NAD 83	NORTHING NAD 83	AZIMUTH DEGREES	INCLINATION DEGREES	METRES DEPTH
SD85-01		706590	5463120	170	-45	121.92
SD85-02		703975	5461880	180	-45	106.7
SD85-03		706140	5460770	180	-45	78.03

### 3.0 EXPLORATION PROCEDURE

#### 3.1 GRID PARAMETERS

- survey total -4.8 kilometres
- baseline direction north-south
- survey line separation 25 metres
- survey station separation 20 metres
- stations marked with flagging and metal tags with grid coordinates
- declination 19°
- line 0 + 00 and 0 + 00 located at UTM 10U, 704,660E and 5,466,750N
- UTM NAD 83

#### 3.2 GEOCHEMICAL SURVEY PARAMETERS

- survey total -77 soil samples collected
- 47 soil samples sent for analysis
- survey sample spacing 20 metres
- soil sample depth 10 to 20 centimetres
- samples taken from brown, B horizon
- approximately 400 grams of soil collected for each sample

The soil geochemical values for gold, silver and copper are illustrated on Figures 5.0 through 5.2 and the certificates of analysis are listed in Appendix I.

#### 3.3 SOIL SAMPLE ANALYSIS

The soil samples collected in 2011 were sent to Eco Tech Laboratory Ltd. (Stewart Group), 10041 Dallas Drive, Kamloops BC, V2C 6T4 for analysis. Laboratory technique for soil samples consisted of drying the samples and sieving to minus 80 mesh. Gold (30 gram sample, fire assay, atomic adsorption finish, results in parts per billion) and a 45-element ICPMS finish (Jarrel Ash 61E ICP, aqua-regia digestion) were carried out on the stream sediment samples.

Eco Tech Laboratory Ltd. is ISO 9001 certified and Eco Tech assayers are certified by the British Columbia government. Eco Tech dedicates more than 20% of analytical time to quality control procedures in order to ensure the validity of data. Repeat analyses were performed with good correlation to the original results.

#### 3.4 GEOPHYSICAL SURVEY PARAMETERS

##### GROUND VLF-EMM SURVEY

- survey total -4.8 kilometres
- survey line separation 25 metres
- survey station spacing 10 metres
- transmitting station - Seattle -24.8 KHz
- direction faced – south-easterly
- instrument – Geonics EM-16
- in-phase (dip angle) measured in per cent
- out-of-phase (quadrature) measured in per cent

The VLF-EM profiles are illustrated on Figure 6.0 and the VLF-EM data listed in Appendix III.

## 4.0 GEOLOGY AND MINERALIZATION

### 4.1 REGIONAL GEOLOGY

The Hedley Gold Basin is located within the Intermontane Belt of the Canadian Cordillera. The geology is taken from Ray and Dawson (Bulletin 87, 1994) and the geological history of the Hedley Gold Basin is summarized on Table 8.0.

The Hedley Gold Basin (Figure 4.0) is comprised of Paleozoic to Jurassic volcanic and sedimentary rocks that have been intruded by a series of stocks, plutons and batholiths and trends in a north-east to south-west direction for 35 kilometres, and in a north-west to south-east direction for 15 kilometres. The Similkameen River Valley (north-west to south-east trending valley) geographically subdivides the Hedley Gold Basin into a northern portion, Hedley Gold Basin North, (Nickel Plate mining district) and a southern portion, Hedley Basin South (Sterling Creek mining district). The Nickel Plate mine and all the other former gold skarn producers (Mascot Fraction, Canty, Good Hope, and French) are part of the Hedley Gold Basin North. The Hedley Gold Basin South contains identical geology to Hedley Gold Basin North with minor gold production from quartz veins at the Banbury mine (Maple Leaf and Pine Knot veins).

The oldest rocks are on the eastern margin of the Hedley Gold Basin and belong to the Paleozoic Apex Mountain Complex (Unit 1). The Apex Mountain Complex consists of a deformed package of chert, argillite, greenstone, tuffaceous siltstone and minor limestone that form the basement of the Hedley Gold Basin.

The Hedley Gold Basin is mainly composed of the Late Triassic Nicola Group rocks that overlay the Apex Mountain Complex. The Nicola Group is a westerly thickening calcareous sedimentary and arc-related volcanoclastic sequence that was deposited on a tectonically active, west-dipping paleoslope (Ray et al). The Hedley Gold Basin is in the upper eastern portion of a much larger regional tectonically controlled margin of a north-westerly deepening Late Triassic marine basin. The Nicola Group rocks are the host rocks for gold deposits in the Hedley Gold Basin.

The calcareous sedimentary succession of the Nicola Group is divided into three distinct stratigraphic packages of basal, proximal and distal facies. The Oregon Claims Formation (Unit 2) is the oldest and forms the basal unit of the Nicola Group. The Oregon Claims Formation consists of massive, mafic quartz-bearing andesitic to basaltic ash tuff and minor chert-pebble conglomerate. The Oregon Claims Formation is 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 reflect deposition across the tectonically controlled margin of a north-westerly deepening Late Triassic marine basin.

The French Mine (Unit 3) and Hedley (Unit 4) formations are the proximal facies. The French Mine Formation has a maximum thickness of 200 metres. The formation is comprised of massive to bedded limestone inter-layered with thinner units of calcareous siltstone, chert-pebble conglomerate, tuff, limestone-boulder conglomerate and limestone breccia. This formation hosts the gold skarn mineralization at the French and Good Hope mines.

The Hedley Formation is stratigraphically equivalent to the French Mine Formation and hosts the gold skarn deposits at the Nickel Plate mine (Nickel Plate, Sunnyside, and Bulldog). The Hedley Formation is 400 to 800 metres thick and is characterized by thinly bedded, turbiditic calcareous siltstone and units of pure to gritty, massive to bedded limestone that reach 75 metres in thickness. The formation includes lesser amounts of argillite, conglomerate and bedded tuff and the lowermost portion includes minor chert-pebble conglomerate. The gold skarn deposits occur in the upper section of the formation and are associated with the calcareous siltstones and gritty impure limestones.

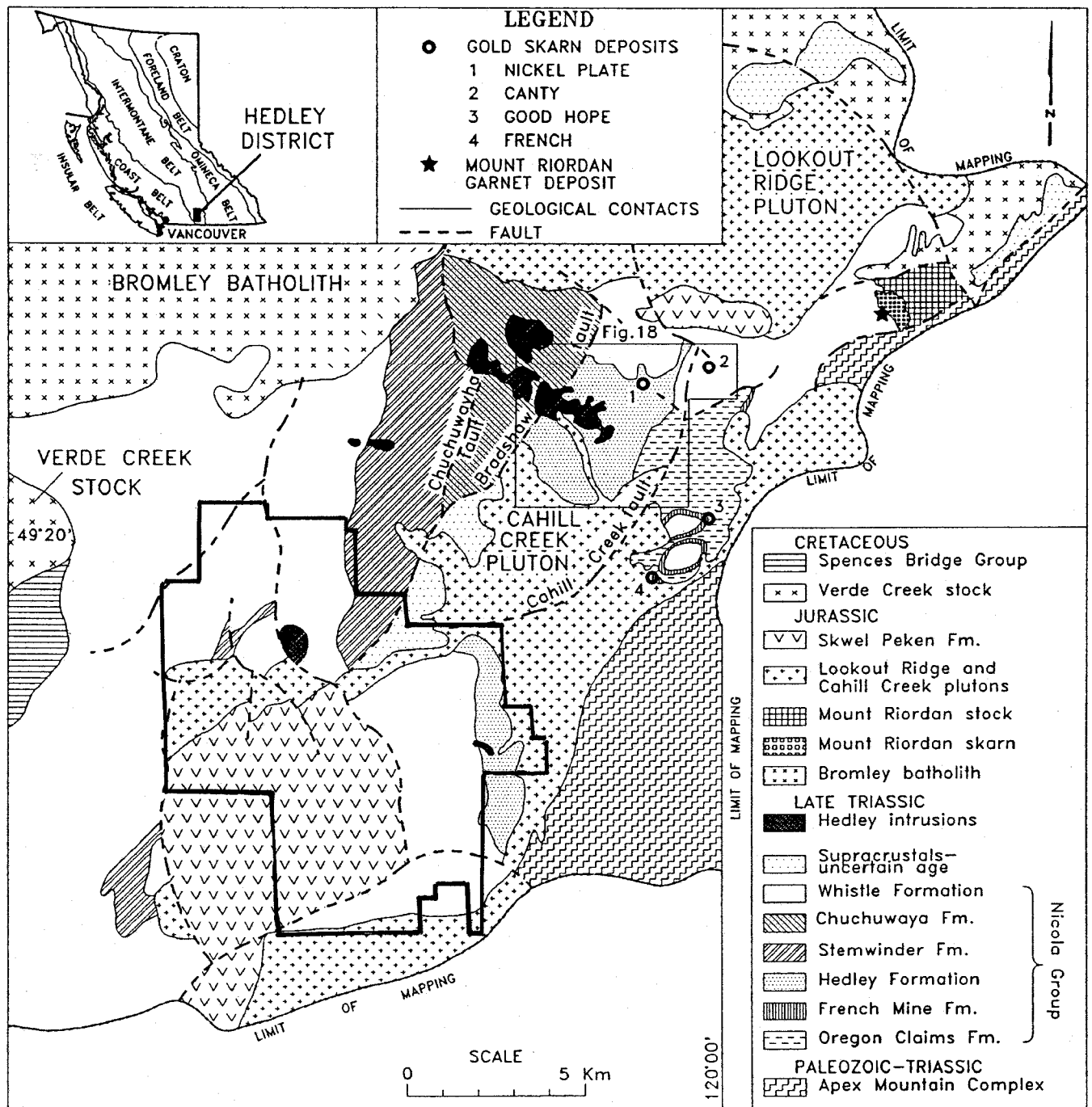


Figure 4. Geology of the Hedley district, southern British Columbia.

geotec

**GRANT F. CROOKER**

**HEDLEY GOLD PROJECT**

(92H-029, 030, 039 & 040)

SIMILKAMEEN & OSOYOOS M.D.S, BC

**REGIONAL GEOLOGY**

**HEDLEY DISTRICT**

DATE:

Aug 2011

FIGURE:

4.0

**TABLE 8.0**  
**HEDLEY GOLD BASIN GEOLOGICAL HISTORY**  
**(After Ray et al)**

**1.0 BASIN DEVELOPMENT EVENTS**

- 1.1 Paleozoic structural preparation of the region for the deposition Nicola Group rocks into the Hedley Gold Basin. The Nicola Group deposition was controlled by a westerly dipping paleoslope influenced by northerly trending normal faults. These faults controlled the development of the Hedley Gold Basin, influenced the emplacement of the Hedley intrusions and dictated the development of gold mineralization. These faults are the Chuchuwayha, Bradshaw, Cahill Creek and Winters Creek.
- 1.2 Early Triassic deposition of the Nicola Group with the basal Oregon Claims Formation containing mafic extrusive volcanic rocks.
- 1.3 Late Triassic sedimentary deposition of the French Mine, Hedley, Stemwinder and Chuchuwayha formations (sedimentary rocks with calcareous units).
- 1.4 Sudden collapse of the eastern margin of the basin resulting in the deposition of the Copperfield limestone breccia and the widespread deposition of the arc-related volcanoclastic Whistle Formation (volcanic rocks with calcareous tuff).

**2.0 GOLD MINERALIZING EVENTS**

- 2.1 During or shortly following deposition of the Nicola Group rocks, two phases of deformation (F1 & F2) occur.
- 2.2 Phase F1 deformation resulted in small-scale structures and the emplacement of the Hedley intrusions and the gold mineralization.
- 2.3 Phase F2 resulted in large-scale structures that produced major north-north-easterly striking, easterly overturned asymmetrical folds (Hedley anticline and Good Hope syncline). These are the overprinting structures in the Hedley Gold Basin as a result of the Late Triassic Bromley batholiths.

**3.0 POST GOLD MINERALIZING EVENTS**

- 3.1 Emplacement of the Mid Jurassic Cahill Creek pluton.
- 3.2 Deposition of the Mid Jurassic Skwel Peken Formation
- 3.3 Early Cretaceous phase of regional thrust faulting.
- 3.4 Eocene or more recent re-activation of the Chuchuwayha, Bradshaw, Cahill Creek and Winters Creek faults.

The Stemwinder Formation (Unit 5) is the distal facies that is at least 700 metres thick and characterized by a sequence of black, organic-rich, thinly bedded calcareous argillite and turbiditic siltstone, minor amounts of siliceous fine-grained tuff and impure limestone beds. The Stemwinder Formation is host to the Maple Leaf and Pine Knot gold veins of the Banbury mine.

The Chuchuwayha Formation (Unit 6) forms a steeply dipping, wedge shaped unit between the Stemwinder and Hedley formations. To the west and east it is bounded respectively by the Chuchuwayha and Bradshaw faults, while to the north it is intruded by the Lookout Ridge pluton. The formation is at least 1500 metres thick



and consists of predominately thinly bedded calcareous siltstone that resembles the siltstone 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 Chuchuwayha Formation hosts the Peggy gold skarn occurrence.

The sedimentary rocks of the French Mine, Hedley, Stemwinder and Chuchuwayha formations pass stratigraphically upward into the arc-related volcanoclastic sequence of the Whistle Formation (Unit 7). The formation is 700 to 1200 metres thick and is distinguishable from the underlying rocks by a general lack of limestone and a predominance of andesitic volcanoclastic material, with turbiditic siltstone, argillite and tuff. The lower portions of the formation contain calcareous units. The Whistle Formation is host to the Canty gold skarn deposit and numerous vein gold occurrences (Hed, Snowstorm, and Gold Hill).

The Copperfield breccia (Unit 7a) is characterized by the presence of large limestone clasts and marks the base of the Whistle Formation. The Copperfield breccia is a distinctive and widespread stratigraphic marker horizon in the Hedley Gold Basin and was originally interpreted to be a tectonic feature formed during low-angle thrust faulting (Billingsley and Hume, 1941). A more recent interpretation by Ray et al (1994) indicates that the Copperfield breccia is a stratigraphic feature that formed as a gravity-slide deposit. The Copperfield breccia resulted from the seismically triggered collapse of an unstable, shallow marine carbonate platform that originally lay along the Nicola Basin margin east of the Hedley Gold Basin. The Ray et al interpretation explains why the Copperfield breccia is so extensive in the Hedley Gold Basin. As a stratigraphic marker horizon, the Copperfield breccia is an important unit that indicates where the favourable host rocks for Hedley gold skarn deposits may be located in the Nicola Group formations of the Hedley Gold Basin. There are over 20 kilometres of Copperfield breccia presently indicated in the Hedley Gold Basin.

Calcaline waterlain tuffs, and derived epiclastic rocks of the Mid Jurassic Skwel Peken Formation (Unit 15) overlie the Nicola Group rocks in the Hedley Gold Basin. The Skwel Peken Formation is exposed as two erosional outliers in the basin. The largest outlier is centred on the Skwel Kwek Peken Ridge (Hedley Gold Basin South) and the smaller outlier lies north east of the Nickel Plate mine (Hedley Gold Basin North).

Several episodes of plutonism have occurred in the Hedley Gold Basin with three suites of plutonic rocks recognized. The Hedley intrusions (Unit 9) are the oldest (Late Triassic to Early Jurassic in age), and are associated with gold mineralization and occur over a broad stratigraphic section of the Nicola Group rocks. The Hedley intrusions form major stocks up to 1.5 kilometres in diameter and swarms of thin sills and dykes up to 200 metres in thickness and over one kilometre in length. The sills and dykes are coarse-grained and massive diorites and quartz diorites with minor gabbro, while the stocks are gabbro through granodiorite to quartz monzonite. When unaltered, they are dark coloured and commonly contain minor disseminations of pyrite and pyrrhotite. When altered to skarn, they are usually pale coloured and bleached. Both unaltered and altered Hedley intrusive rocks form gossans (rusty zones) and the intensity of weathering is exemplified by the abundance of iron sulphides.

In the Hedley Gold Basin, the Nicola Group has been extensively intruded over a broad stratigraphic range by the Hedley intrusions. Varying degrees of sulphide bearing skarn alteration have developed within and adjacent to many of these intrusions and their receptive Nicola Group rocks. The Hedley intrusions are associated with the gold skarn deposits at Nickel Plate (Nickel Plate, Sunnyside and Bulldog deposits), Canty, French and Good Hope mines and the gold veins at the Banbury mine.

The second plutonic suite is the Mid Jurassic Similkameen intrusions (Units 10-14). They are comprised of coarse-grained, biotite hornblende granodiorite to gabbro and quartz eye felsic intrusions. These intrusions form the Bromley batholiths and Cahill Creek pluton and have no known relationship to gold mineralization in the Hedley Gold Basin.

The third intrusive suite is the Early Cretaceous Verde Creek stock (Unit 16). The Verde Creek stock is generally comprised of a fine to medium grained, massive leucocratic microgranite and fine-grained, leucocratic, felsic quartz porphyry. The relationship of gold mineralization to these rocks is not known in the Hedley Gold Basin.

The Hedley Gold Basin has undergone three phases of structural activity. The first phase was the structural preparation of the region for the development of the Nicola Basin and the deposition of the Nicola Group rocks into a micro-basin referred to as the Hedley Gold Basin. The Nicola Group deposition was controlled by a westerly dipping paleoslope, influenced by northerly trending normal faults. These faults controlled the

development of the Hedley Gold Basin, influenced the emplacement of the Hedley intrusions and dictated the development of gold mineralization. Recurrent movements along these faults have identified them as the Chuchuwayha, Bradshaw, Cahill Creek and Winters Creek faults.

The Hedley intrusions were emplaced into the Nicola Group during deposition or shortly thereafter. The first phase of folding (F1) in the Nicola Group produced small-scale structures that contributed to the control of the gold skarn and vein gold mineralization. The second phase of folding (F2) occurred during the Early Jurassic with the intrusion of the Bromley batholiths. This phase resulted in large-scale structures, which overprinted the structural pattern on the Nicola Group rocks and the Hedley Gold Basin. The F2 event produced major and minor north-north-easterly striking, easterly overturned asymmetrical folds (Hedley anticline and Good Hope syncline).

## 4.2 REGIONAL GOLD MINERALIZATION

The gold deposits and occurrences in the Hedley Gold Basin are spatially associated with dioritic bodies of the Hedley intrusions and the gold mineralization is broadly classified as skarn-related or vein-related. The Nicola Group is the most receptive host for gold mineralization. Within the Nicola Group, the host rocks for skarn-related gold are stratigraphically situated within the calcareous siltstones, gritty impure limestones and calcareous tuffs that occur below and above the Copperfield breccia. For vein-related gold, the structural preparation of the Nicola Group rocks provides the ideal gold emplacement environment anywhere in the stratigraphic sequence.

The Hedley Gold Basin contains numerous gold occurrences. At present, there are 55 occurrences documented from MINFILE and other sources (Table 9.0). The gold occurrences in the Hedley Gold Basin constitute a concentration of gold within a relatively confined depositional and structural basin at a particular episode in geological time.

<b>GOLD</b>	<b>HEDLEY BASIN NORTH</b>		<b>HEDLEY BASIN SOUTH</b>	
	<b>OCCURRENCE</b>	<b>METALLIC ASSOCIATION</b>	<b>OCCURRENCE</b>	<b>METALLIC ASSOCIATION</b>
<b>SKARN</b>	Nickel Plate	Au As Bi Cu Co Te Ag Sb	Don	Au Ag As Cu
	Sunnyside	Au Ag Bi Cu Co Te As Sb	Speculator	Au Ag As Cu
	Bulldog	Au Ag As Bi Co Cu Te Zn	Lost Horse	Au As
	Mascot Fraction	Au Ag Cu As Bi Sb Co Te	LH 86	Au Ag As Cu
	Canty	Au Ag As Mo Sb Co Cu Te Bi	Kel	Au As Cu
	French	Au Ag Cu Bi Mo W As Co Te	IR-1	As
	Good Hope	Au Ag Cu Bi As Te W Mo	IR-2	As
	Spar	Au As	IR-3	As Cu
	York	Au As		
	Nordic	Au Cu As		
	Peggy	Au Ag Cu Co As Sb Te		
	Florence	Au As		
	Duffy	Au Ag Cu As		
	South Corall	Au As Cu		
	Kingston	Au Ag Cu As		
	Sweden	Au As Cu Pb Zn		
	Red Mountain	Au As Cu Sb Co Bi		
	Red Top	Au As Cu		
	Rollo	Au As Cu		
	Winters Gold	Cu As		
	Iota	Au Ag Pb Zn		
	JJ	Cu Zn As		
	Tough Oaks	Cu W As		
Patricia	Cu W			
<b>VEIN</b>	Toronto	Au Ag	Pine Knot	Au As Cu Zn Pb
	Victoria	Au Ag As Cu	Maple Leaf	Au Ag Cu Zn Pb
	Hedley Star	Au Ag Cu As	Gold Hill	Au As Zn Cu Au
	Wheelbarrow	Au As	Snowstorm	Au Ag As Cu Zn Pb
	Golden Oaks	Au As Cu Zn Sb Ag	Junction	Au As
	Golden Zone	Au Ag As Sb Bi Cu Zn	Patsy #1	Au As Zn Cu Ag
			Patsy #2	Au Ag As Sb
			U1	Cu Au Ag W

			U2	Cu As
			U3	Cu As
			Van	Au
			Mission	Ag Zn Au Cu
			Blitz	Au As
			Lamb 1	Ag Au Cu
			Camp	Ag Cu Au
			Polecutter	Au Ag As
			WP	Au Ag

#### 4.2.1 SKARN-RELATED GOLD MINERALIZATION

The skarn-related gold mineralization 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. The pathfinder elements are Ag, As, Bi, Co, Cr, Ni, Cu, Mo, Pb, Sb and Zn. This type of mineralization is found at the Nickel Plate, French, Good Hope, Peggy and Canty deposits. The skarn alteration occurs associated with strata-bound, layered massive sulphides and with disseminated sulphides within host environments.

Based on the analyses of over 300 samples from various ore zones of the Nickel Plate deposits (Nickel Plate, Sunnyside, Bulldog), Ray et al (1987) have established a geochemical model for skarn-related gold mineralization by providing an inter-relationship of the various pathfinder elements based on their Pearson correlation coefficients.

The strong positive correlation between gold and bismuth reflects the close association of native gold with hedleyite. The moderate positive correlation between gold, cobalt and arsenic confirms observed association of gold, arsenopyrite and gersdorffite. The strong 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). This may be the situation at the Camp zone at the WP target. 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 (Ray et al, 1987).

The skarn-related mineralization is generally strata-bound or disseminated. It follows the thinly-bedded, impure limestone and limey argillite/siltstone within the upper sections of the French Mine, Hedley, Stemwinder and Chuchwayha formations and the calcareous tuff in the lower sections of Whistle Formation. Swarms of diorite sills and dykes of the Hedley intrusions intruded the favourable hosts and altered them by contact metamorphism to hornfels. Both the intrusions and sediments were subsequently overprinted with the calc-silicate skarn alteration.

#### 4.2.2 VEIN-RELATED GOLD MINERALIZATION

The vein-related gold mineralization is characterized by gold and sulphide mineralization hosted in higher level, fracture-filled quartz-carbonate veins and shears, and stockwork systems. This type of mineralization occurs at the Maple Leaf, Pine Knot and Gold Hill occurrences. The information on these occurrences is taken from BC Ministry of Energy, Mines and Petroleum Resources Bulletin 87.

The geology at the Maple Leaf and Pine Knot occurrences (Banbury) consists of northerly striking, steeply dipping sedimentary and tuffaceous rocks that are intruded by two elongate, easterly trending diorite stocks belonging to the Hedley intrusions. They extend over a strike length of 1.3 kilometres and exceed 300 metres in width. The stocks intrude the Upper Triassic succession, crosscutting calcareous siltstone, argillite, and thin limestone of the Stemwinder Formation in the east, a 200 metre thick section of the Copperfield breccia in the centre, and andesitic tuff of the Whistle Formation in the west. Both stocks comprise two rock types, a leucocratic quartz diorite suite and a highly mafic diorite-gabbro suite. The stocks have irregular intrusive contacts that interfinger with the bedded country rocks, and are surrounded by hornfels alteration. The stocks and the hornfels alteration are both cut by several irregular, northerly trending fracture zones that are filled by steep and shallow-dipping quartz-carbonate vein systems (Maple Leaf and Pine Knot veins). Individual veins are up to 3 metres wide, exceed 100 metres in length and contain mainly glassy to white to pale pink-coloured, strained quartz with lesser amounts of coarse calcite, sporadic visible gold, arsenopyrite, pyrrhotite, pyrite,

sphalerite, and chalcopyrite. Locally they are sheared, vuggy and contain angular brecciated clasts of chloritised, silicified country rock. The leucocratic diorite locally contains pockets of intense skarn alteration. The quartz veins crosscut and postdate the skarn alteration.

A carbonate+quartz vein that cuts andesitic ash and lapilli tuff, and some tuffaceous sediments in the lowest stratigraphic portion of the Whistle Formation hosts the Gold Hill mineralization. Dykes and sills of fine and coarse-grained hornblende porphyritic diorite of the Hedley intrusions that locally carry disseminated pyrite and arsenopyrite intrude the tuffaceous rocks. Some tuff beds adjacent to one porphyritic diorite body are hornfels altered and sporadically overprinted with early calcite-diopside-pyrite-chalcopyrite skarn alteration.

On surface, the Gold Hill vein is comprised of coarse, crystalline, white to pale buff carbonate together with minor quartz and some disseminated pyrite. At depth, the vein contains abundant vuggy quartz vein material similar in appearance to the Maple Leaf and Pine Knot veins. This quartz-rich material contains massive blebs of coarse pyrite with traces of arsenopyrite, chalcopyrite, black sphalerite and galena. The sequence of events at Gold Hill are interpreted as follows: intrusion of the diorite body and biotite hornfels alteration of the country rock, weak skarn alteration with some sulphides, fault brecciation, minor ankerite injection, and injection of the carbonate+quartz+sulphide vein with hydrostatic brecciation.

### **4.3 CLAIM GEOLOGY**

The Hedley Gold project is underlain by a variety of sedimentary, volcanic and intrusive rocks. Sedimentary (Hedley and Stemwinder formations) and volcanic rocks (Whistle Formation) of the Late Triassic Nicola Group underlie a significant portion of the property. Volcanic rocks of the Jurassic Skwel Peken Formation underlie the south-western portion of the property.

Two small stocks (Larcan and Pettigrew) as well as numerous dykes and sills of the Late Triassic-Early Jurassic Hedley intrusions intrude the Nicola Group rocks. Granodiorite of the Cahill Creek pluton intrudes the Nicola Group rocks along the eastern and southern boundaries of the property.

## 5.0 GEOCHEMISTRY

### 5.1 SOIL GEOCHEMISTRY

Seventy-seven soil samples were collected from grid lines 350S and 375S at the Camp zone in June of 2011. Forty-seven of the samples were analyzed for gold and by 45 element ICPMS. The soil sampling was an extension of the survey initiated in 2009 to determine the strike and possible size of the silver-copper mineralization intersected in drill holes WP97-1 and WP97-2. A non UTM grid system was used for the survey to provide continuity of information with previous surveys.

The background and anomalous values calculated for the 2009 survey were also used for the 2011 survey.

The gold soil geochemical values are illustrated on Figure 5.0, silver on Figure 5.1 and copper on Figure 5.2.

#### GOLD

Gold values for the 2011 survey ranged from <5 to 75 ppb with background established at 12.5 ppb and anomalous values 20 ppb and greater. Anomaly Au-2 and the northern portion of anomaly Au-1 were outlined by the 2009 survey.

Anomaly Au-1 was extended to the south of drill holes WP97-1 and WP97-2, probably indicating the strike of the silver-copper mineralization intersected in the two drill holes. Silver and copper anomalies occur coincidentally with the gold.

Gold anomaly Au-3 was outlined 150 metres west of the drill holes and no cause is apparent for the anomaly. Silver and copper are not coincidentally anomalous with gold.

#### SILVER

Silver values for the 2011 survey ranged from <0.1 to 1.0 ppm with background established at 0.26 ppm and anomalous values 0.4 ppm and greater. Anomalies Ag-1, Ag-2 and Ag-3 were outlined by the 2009 survey.

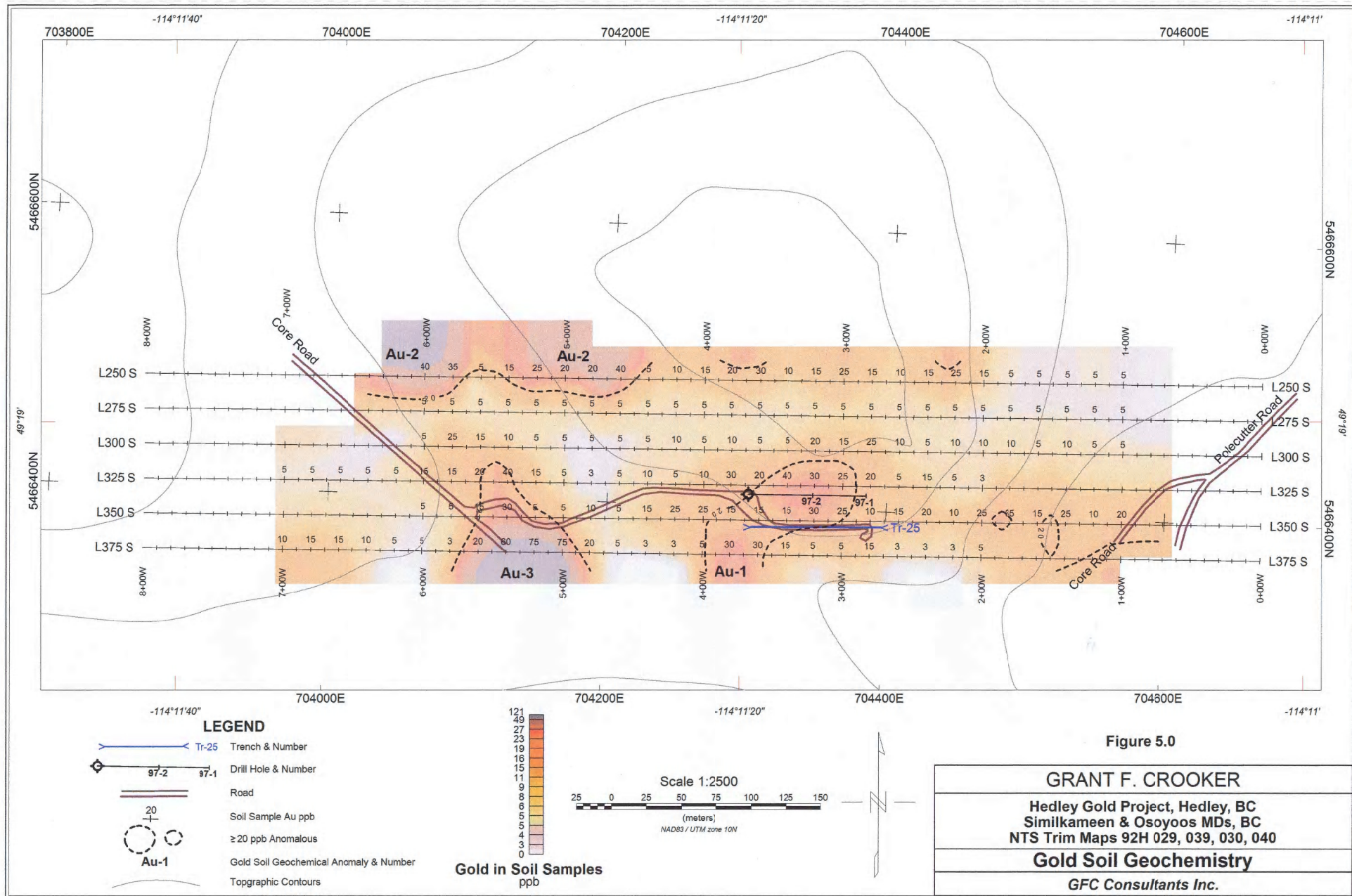
Silver anomaly Ag-6 was outlined south of drill holes WP97-1 and WP97-2, probably indicating the strike of the silver-copper mineralization intersected in the two drill holes. Silver anomalies Ag-1 and Ag-2 from the 2009 survey are located north of the drill holes and probably represent the northerly strike of the silver-copper mineralization intersected in the two drill holes. Copper and gold anomalies occur coincidentally with the silver.

Two single station anomalies (Ag-4 and Ag-5) were outlined 200 to 300 metres west of the drill holes in an overburden covered area. Anomaly Ag-5 occurs on the west flank of gold anomaly Au-3.

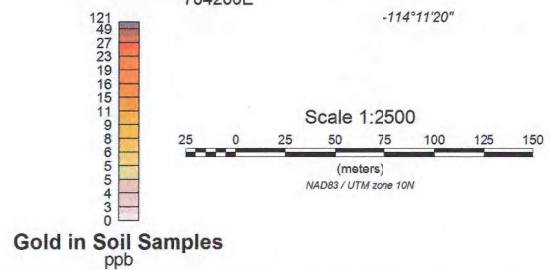
#### COPPER

Copper values for the 2011 survey ranged from 5.3 to 272.3 ppm with background established at 54 ppm and anomalous values 81 ppm and greater. Anomaly Cu-2 and the northern portion of anomaly Cu-1 were outlined by the 2009 survey.

Anomaly Cu-1 was extended to the south of drill holes WP97-1 and WP97-2 by the 2011 survey. Anomaly Cu-1 is probably indicating the strike of the silver-copper mineralization intersected in the two drill holes. Silver and gold anomalies occur coincidentally with the copper.



- LEGEND**
- Tr-25 Trench & Number
  - 97-2 97-1 Drill Hole & Number
  - Road
  - 20 Soil Sample Au ppb
  - ≥ 20 ppb Anomalous
  - Au-1 Gold Soil Geochemical Anomaly & Number
  - Topographic Contours



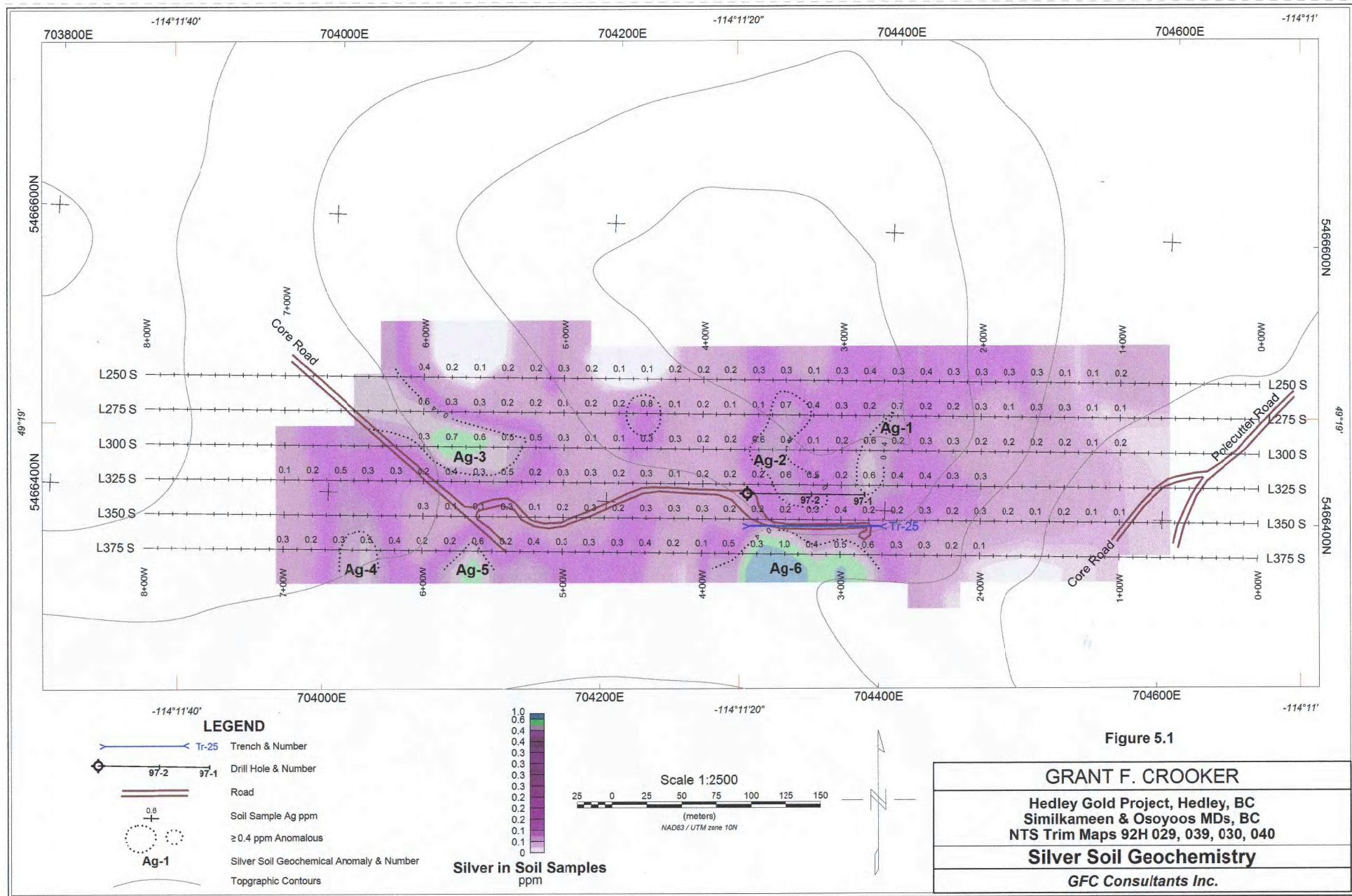
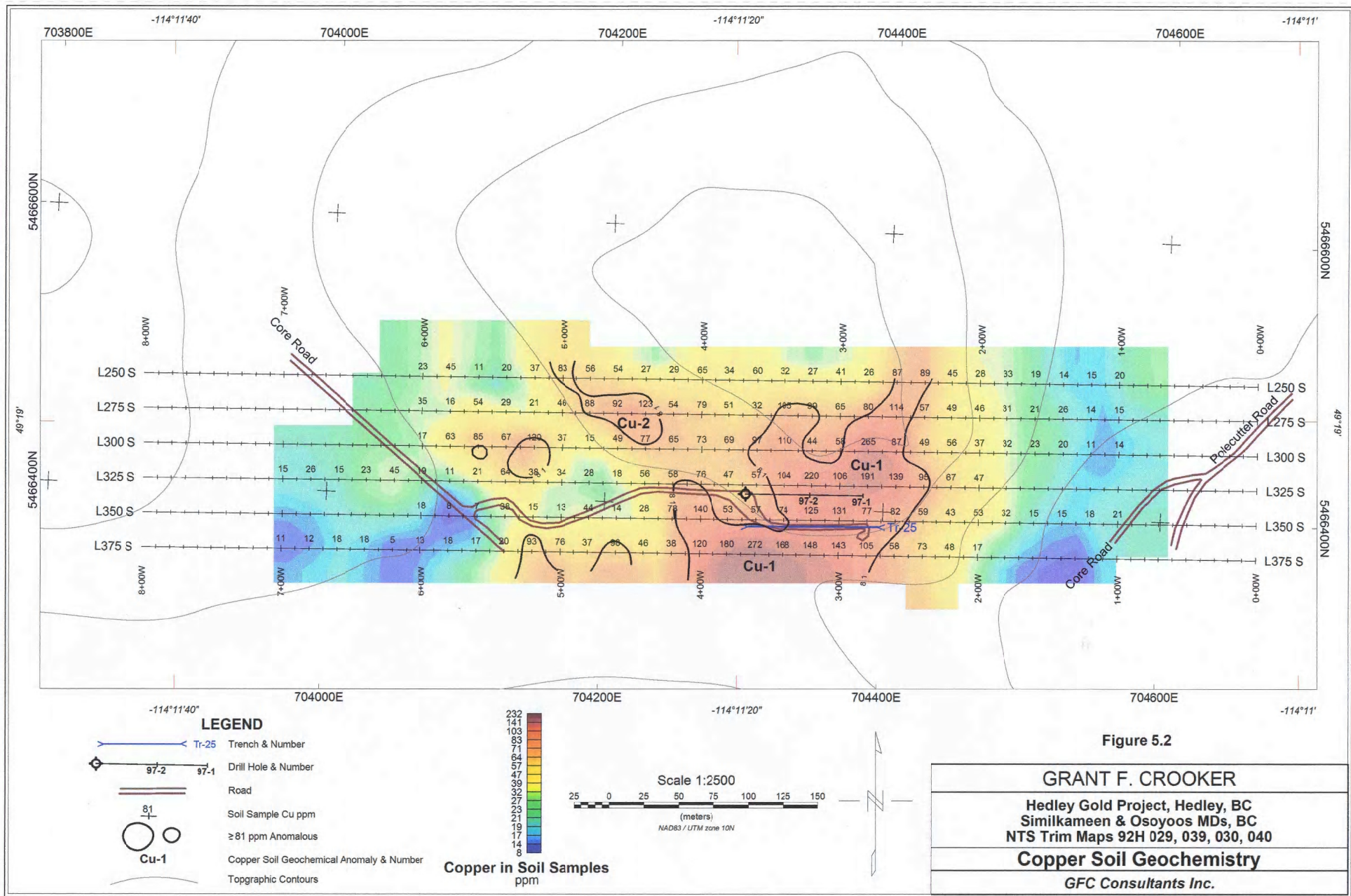


Figure 5.1

<b>GRANT F. CROOKER</b>
Hedley Gold Project, Hedley, BC Similkameen & Osoyoos MDs, BC NTS Trim Maps 92H 029, 039, 030, 040
<b>Silver Soil Geochemistry</b>
GFC Consultants Inc.





## 6.0 GEOPHYSICS

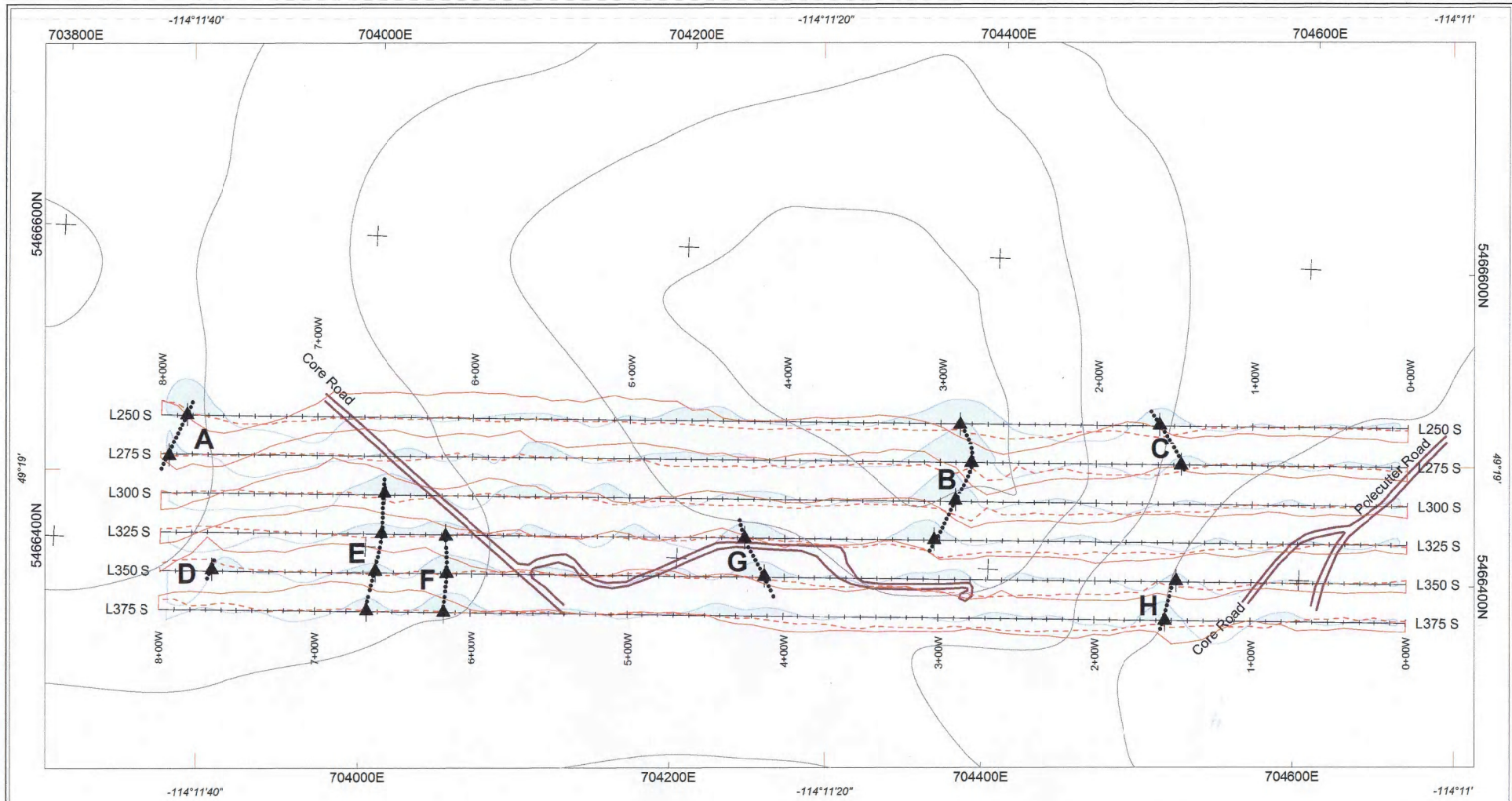
### 6.1 VLF-EM SURVEY

A total of 4.8 kilometres of VLF-EM survey was carried out over the Camp zone in June of 2011. Survey lines were spaced at 25 metre intervals with a 10 metre station spacing. The VLF-EM in-phase, and out-of-phase profiles are displayed on Figure 6.0 in percent. In-phase Fraser Filtered values are also displayed on Figure 6.0.

Eight conductors labelled A through H were outlined by the survey. The VLF-EM profiles generally show a weak response to conductivity. Topographic bias is evident as illustrated by conductor B that occurs at a strong "break-in-slope". Topographic bias in steep terrain can produce profile characteristics that resemble real conductors although they are usually broad and follow topographic conductors.

Conductor G occurs 40 to 50 metres west of drill holes WP97-1 and WP97-2, along the west flank of the silver-copper-gold soil geochemical anomalies associated with the silver-copper mineralization intersected in drill holes WP97-1 and WP97-2 (Figure 7.0). Conductor G may represent a structural feature associated with the silver-copper mineralization.

The remaining conductors outlined by the survey occur in overburden covered areas and no causes are apparent for them.



**LEGEND**

- VLF-EM In-phase Profile in % Seattle (EM-16 Facing SE)
- VLF-EM Out-of-Phase Profile in %
- VLF-EM In-Phase Fraser Filtered (4 Point Convolution)
- VLF-EM Conductor & Label
- Survey Line & Stations
- Topographic Contours
- Road
- Interpreted VLF-EM Conductor Axis

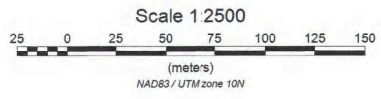
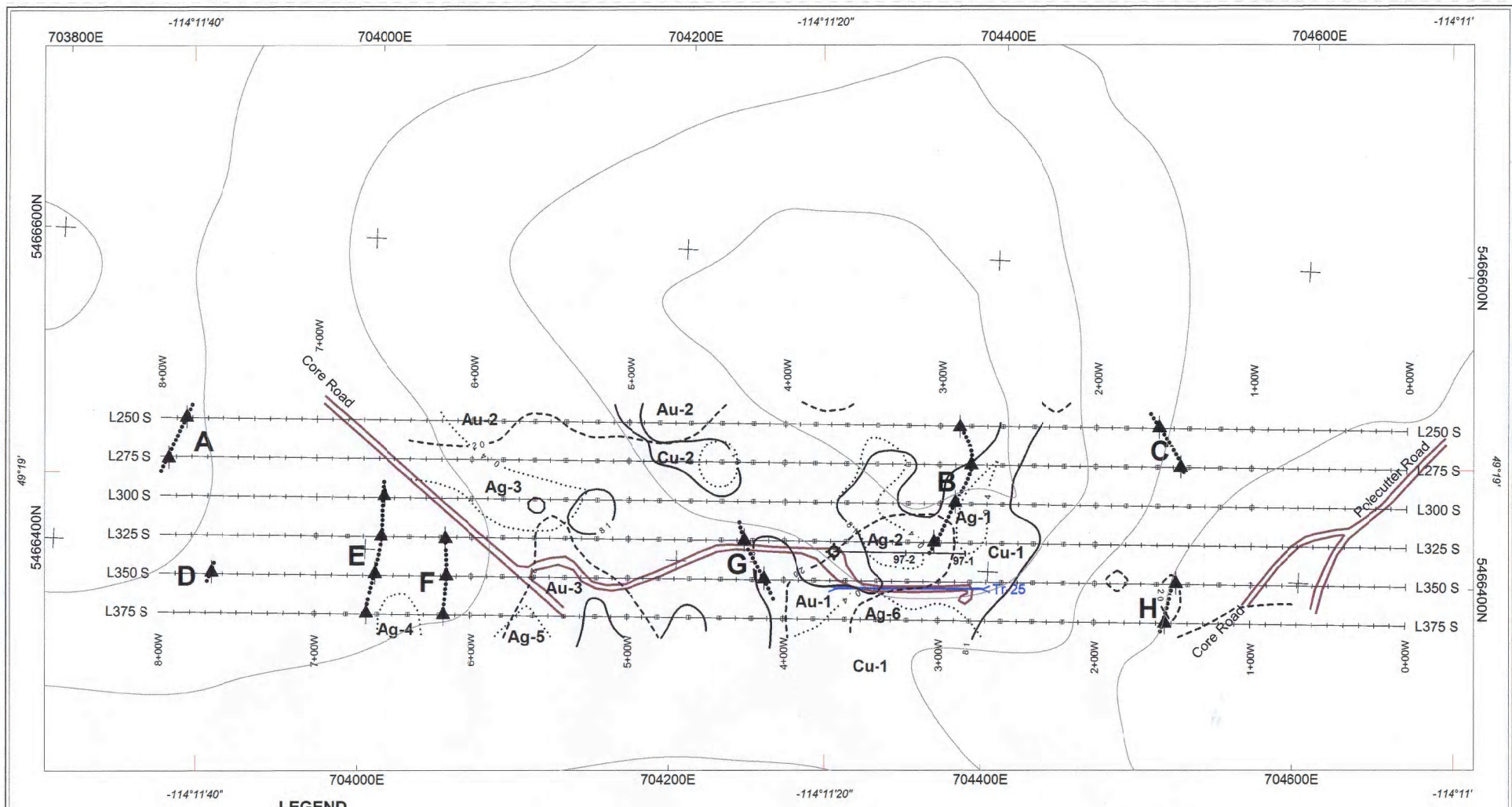


Figure 6.0

<b>GRANT F. CROOKER</b>
Hedley Gold Project, Hedley, BC Similkameen & Osoyoos MDs, BC NTS Trim Maps 92H 029, 039, 030, 040
<b>VLF Electromagnetic Survey</b>
<i>GFC Consultants Inc.</i>



**LEGEND**

- Copper Soil Geochemical Anomaly & No.
- Gold Soil Geochemical Anomaly & No.
- Silver Soil Geochemical Anomaly & No.
- VLF-EM Conductor & Label
- Tr-25 Trench & Number
- Drill Hole & Number
- Road
- Soil Sample Location
- Interpreted VLF-EM Conductor Axis
- Topographic Contours

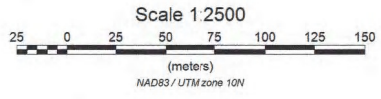
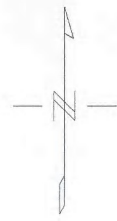


Figure 7.0

<b>GRANT F. CROOKER</b>
Hedley Gold Project, Hedley, BC Similkameen & Osoyoos MDs, BC NTS Trim Maps 92H 029, 039, 030, 040
<b>Compilation Map</b>
GFC Consultants Inc.

## 7.0 CONCLUSIONS

The following conclusions can be drawn from the 2011 work program:

- 7.1 The 2011 soil geochemical survey was successful in extending the silver-copper-gold soil geochemical anomalies south of drill holes WP97-1 and WP97-2.
- 7.2 The silver-copper-gold soil geochemical anomalies may represent the strike of the silver-copper mineralization intersected in the two drill holes.
- 7.3 The silver-copper-gold soil geochemical anomalies strike in an east north-easterly direction.
- 7.4 Conductor G outlined by the VLF-EM survey may represent a structural feature associated with the silver-copper mineralization intersected in drill holes WP97-1 and WP97-2.

## 8.0 RECOMMENDATIONS

Recommendations are as follows:

- Additional soil sampling should be carried out north and south of the present grid to define the extent of the silver-copper-gold soil geochemical anomalies associated with the silver-copper mineralization intersected in drill holes WP97-1 and WP97-2.
- A magnetic survey should be carried out over the present grid, and magnetic and electromagnetic surveys carried out over any grid extensions to assist in defining the zone of silver-copper mineralization.
- Trenching and core drilling should be conducted at drill holes WP97-1 and WP97-2 to determine the extent of the silver-copper mineralization intersected in them.
- Contingent on the success of the trenching and core drilling at drill holes WP97-1 and WP97-2, additional trenching and core drilling be conducted over the silver-copper-gold soil geochemical anomalies associated with the two drill holes.

Respectfully submitted,

**Grant F. Crooker, P.Geo.,**  
**Consulting Geologist**  
September 23, 2011

## 9.0 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.
- Bellamy, Allan F. (1998): Geophysical Survey of the Ninja 1 to 4 Mineral Claims, Osoyoos Mining Division, Crater Mountain-Paul Creek Area, British Columbia. AR 25,604.
- Burns, D.W. (1984): Prospecting Report on Paul Creek Claims for R.C. Grey, Osoyoos Mining Division, British Columbia. AR 12,475.
- Crooker, G.F. (1989): Geochemical Report on the WP 1-4 Claims, Hedley Area, Similkameen Mining Division for Cannelle Exploration Ltd. AR 19,413.
- Crooker, G.F. and Rockel, E.R. (1987): Geological, Geochemical and Geophysical Report on the WP 1-4 Claims, Hedley Area, Similkameen Mining Division for Cannelle Exploration Ltd. AR 16,896.
- Crooker, G.F. and Rockel, E.R. (1988): Geological, Geochemical and Geophysical Report on the WP 1-4 Claims, Hedley Area, Similkameen Mining Division for Cannelle Exploration Ltd. AR 18,453.
- Crooker, G.F. (1994): Geophysical Report on the WP 1-3 Claims, Hedley Area, Similkameen Mining Division for Grant F. Crooker. AR 23,412.
- Crooker, G.F. (1997): Geological and Geochemical Report on the WP 1A, 2, 3, 5A and 6A Claims, Hedley Area, Similkameen Mining Division for Northpoint Resources Ltd. AR 24,821.
- Crooker, G.F. (1999): Geological, Geochemical and Geophysical Report on the WP 1A, 2, 3, 5A-9A, W 1-4, 5A, 6, 7, 8A, 9-20, John 1A, 1-12, Van 1, 2, V 1-4, Paul 1, 2, Mineral Claims, Hedley Area, Similkameen and Osoyoos Mining Divisions for Grant F. Crooker. AR 26,088.
- Crooker, G.F. (2000): Geological and Geophysical Report on the WP 1A, 2, 3, 5A-9A, W 1-4, 5A, 6, 7, 8A, 9-19, John 1A, 1-12, Van 1-3, V 1-4, GH 1-20, D 1-10 and Paul 1-5 Mineral Claims, Hedley Area, Similkameen and Osoyoos Mining Divisions for Grant F. Crooker and W. Lee Mollison.
- 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.
- Crooker, G.F. (2002): Geological and Geochemical Report on the N 1-42 and Win 1-4 Mineral Claims, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corporation, 6976 Laburnum Street, Vancouver BC. AR 26,799.
- Crooker, G.F. (2003): Geological, Geochemical, Geophysical and Trenching Report on the N 1-53 and Win 1-7 Mineral Claims, Hedley Gold basin, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corp, 6976 Laburnum Street, Vancouver BC. AR 27,085.
- Crooker, G.F. (2004): Geological, Geochemical, Geophysical, Trenching and Core Drilling Report on the N 1-53 and Win 1-7 Mineral Claims, Hedley Gold basin, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corp, 6976 Laburnum Street, Vancouver BC. AR 27,389.
- Crooker, G.F. (2005): Geological, Geochemical, Trenching and Core Drilling Report on the N 1-53, 55-60 and Win 1-7 Mineral Claims, Hedley Gold Basin, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corporation, 6976 Laburnum Street, Vancouver BC. AR 27,791.
- Crooker, G.F. (2006): Geological, Trenching and Core Drilling Report on the N 19 & 20, NP 1-4, 6 & 7, APEX 2, G 1, 2 & 5, CU 1 & 2, KER 1, CAHILL1, SOUTH 1, GH 1 and Various Unnamed Mineral claims in Hedley Gold Basin, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corporation, 6976 Laburnum Street, Vancouver BC. AR 28,335.

Crooker, G.F. (2007): Geological, Trenching and Core Drilling Report on the N 19 & 20, NP 1-4, 6 & 7, APEX 2, G 1, 2 & 5, CU 1 & 2, KER 1, CAHILL1, SOUTH 1, GH 1 and Various Unnamed Mineral claims in Hedley Gold Basin, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corporation, 6976 Laburnum Street, Vancouver BC. AR 29,137.

Crooker, G.F. (2008): Geological, Trenching and Core Drilling Report on the N 19 & 20, NP 1-4, 6 & 7, APEX 2, G 1, 2 & 5, CU 1 & 2, KER 1, CAHILL1, SOUTH 1, GH 1 and Various Unnamed Mineral claims in Hedley Gold Basin, South Central British Columbia, Osoyoos Mining Division, for Goldcliff Resource Corporation, 6976 Laburnum Street, Vancouver BC. AR 30,076.

Crooker, G.F. (2008): Geochemical Report on Tenure Numbers 514620, 543460, 543461, 559657 and 559658 in Hedley Gold Basin South, South Central British Columbia, Osoyoos Mining Division for Grant F. Crooker, 2522 Upper Bench Road, Keremeos, BC, V0X 1N0.

Crooker, G.F. (March 2010): Geochemical Report on Tenure Numbers 514402, 514474, 514536, 514618, 514620, 543460, 543461, 559657, 559658, 601940, 605294 and 605478-605490 in Hedley Gold Basin South, South Central British Columbia, Similkameen and Osoyoos Mining Divisions for Grant F. Crooker, 2522 Upper Bench Road, Keremeos, BC, V0X 1N0. AR 31,429

Crooker, G.F. (August 2010): Geological, Geochemical and Prospecting Report on Tenure Numbers 514402, 514474, 514536, 514618, 514620, 543460, 543461, 559657, 559658, 601940, 605294, 605478-605490 and 735882 in Hedley Gold Basin South, South Central British Columbia, Similkameen and Osoyoos Mining Divisions (Hedley Gold Project) for Grant F. Crooker, 2522 Upper Bench Road, Keremeos, BC, V0X 1N0. AR 31,641

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.

Falconer, J., (1986): Geochemical, Geological, Geophysical and Physical Report on the Lost Horse 86 Mineral Claim, for Montello Resources Ltd. AR 15,177.

Falconer, J., Pawliuk, D. And Thomson, R. (1986): Geophysical, Geochemical and Geological Report on the Locke Project for Adrian Resources Ltd, NTS 92H/8E and 92H/1E for Shangri-La Minerals Limited. AR 15,982.

Jones, H.M. (1982): A Geological-Geochemical Report on Gold Mine and Gold Hill Claims, Whistle Creek, Hedley Area, Similkameen Mining Division for Philex Gold & Energy Corporation. AR 10,882.

Krause, R. and Timmins W.G. (1986): Assessment Report on Drilling and Physical Work on the Hedley Property, Rice, Brown, Bostock, Mills Claims, Osoyoos and Similkameen Mining Divisions, British Columbia for Operator: International Seadrift Explorations Ltd. Owner: Rick Simpson. AR 14,826.

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

McAllister, S.G. and McPherson, M.D. (1988): Drilling, Geochemical, Geological and Physical Report on the Jesse 1, Brown 1-4, Snafu 1-2, Camsell 1-4, Rice 2, Gap 1-3 and Annabree 1 Mineral Claims for Chevron Minerals Ltd. AR 17,012.

McAllister, S.G. and McPherson, M.D. (1988): Geological, Geochemical, Trenching and Diamond Drilling Report on the Lost Horse 1-4, Lost Horse A-B and Lost Horse 86 Mineral Claims for Chevron Minerals Ltd. AR 17,085.

McAllister, S.G., Duba, D. and Getsinger, S. (1988): Geological, Geochemical and Drilling Report on the Camsell 3-4 Mineral Claims for Chevron Minerals Ltd. AR 18,228.

McAllister, S.G., Duba, D. and Getsinger, S. (1988): Geological, Geochemical and Diamond Drilling Report on the Lost Horse 86 Mineral Claim for Chevron Minerals Ltd. AR 18,233.

Minfile 092HSE046: Banbury

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.

## 10.0 CERTIFICATE OF QUALIFICATIONS

I, Grant F. Crooker, of 2522 Upper Bench Road, PO Box 404, Keremeos, British Columbia, Canada, VOX 1N0 do certify that:

I 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 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 38 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 claims described in this report;

Respectfully submitted,

---

Grant F. Crooker, P.Geo.,  
GFC Consultants Inc.  
September 23, 2011



**APPENDIX I**  
**CERTIFICATES OF ANALYSIS**

Eco Tech Laboratory Ltd.  
10041 Dallas Drive  
Kamloops, BC  
V2C 6T4 Canada  
Tel + 250 573 5700  
Fax + 250 573 4557  
Toll Free + 1 877 573 5755  
www.stewartgroupglobal.com



**StewartGroup**  
Geochemical & Assay

## CERTIFICATE OF ANALYSIS AK 2011-0782

**Grant F Crooker**

Box 404

**Keremeos, BC**

VOX 1N0

07-Jul-11

*No. of samples received: 47*

*Sample Type: Soil*

**Project: Sterling**

**Shipment #: 2011-ST-S0-01**

*Submitted by: Grant F Crooker*

<b>ET #.</b>	<b>Tag #</b>	<b>Au (ppb)</b>
1	3+25S 2+00W	<5
2	3+25S 2+20W	5
3	3+25S 2+40W	15
4	3+25S 2+60W	5
5	3+25S 2+80W	20
6	3+25S 4+00W	10
7	3+25S 4+20W	5
8	3+25S 4+40W	10
9	3+25S 4+60W	5
10	3+25S 4+80W	<5
11	3+25S 5+00W	5
12	3+25S 5+20W	15
13	3+25S 5+40W	40
14	3+25S 5+60W	20
15	3+25S 5+80W	15
16	3+25S 6+00W	15
17	3+25S 6+20W	5
18	3+25S 6+40W	5
19	3+25S 6+60W	5
20	3+25S 6+80W	5
21	3+25S 7+00W	5
22	3+75S 2+00W	5
23	3+75S 2+20W	<5
24	3+75S 2+40W	<5
25	3+75S 2+60W	<5
26	3+75S 2+80W	15
27	3+75S 3+00W	5
28	3+75S 3+20W	5
29	3+75S 3+40W	15
30	3+75S 3+60W	30

Eco Tech Laboratory Ltd.  
 10041 Dallas Drive  
 Kamloops, BC  
 V2C 6T4 Canada  
 Tel + 250 573 5700  
 Fax + 250 573 4557  
 Toll Free + 1 877 573 5755  
 www.stewartgroupglobal.com



**StewartGroup**  
 Geochemical & Assay

**Grant F Crooker AK11-0782**

07-Jul-11

ET #.	Tag #	Au (ppb)
31	3+75S 3+80W	30
32	3+75S 4+00W	5
33	3+75S 4+20W	<5
34	3+75S 4+40W	<5
35	3+75S 4+60W	5
36	3+75S 4+80W	20
37	3+75S 5+00W	75
38	3+75S 5+20W	75
39	3+75S 5+40W	60
40	3+75S 5+60W	20
41	3+75S 5+80W	<5
42	3+75S 6+00W	5
43	3+75S 6+20W	5
44	3+75S 6+40W	10
45	3+75S 6+60W	15
46	3+75S 6+80W	15
47	3+75S 7+00W	10

**QC DATA:**

**Repeat:**

7	3+25S 4+20W	<5
18	3+25S 6+40W	5
19	3+25S 6+60W	<5
30	3+75S 3+60W	25
40	3+75S 5+60W	15
47	3+75S 7+00W	5

**Standard:**

OXE86	615
OXG83	985

**FA Geochem/AA Finish**

NM/cr/el  
 XLS/11

  
**ECO TECH LABORATORY LTD.**  
 Norman Monteith  
 B.C. Certified Assayer

Stewart Group  
 ECO TECH LABORATORY LTD.  
 10041 Dallas Drive  
 KAMLOOPS, B.C.  
 V2C 6T4

## ICP CERTIFICATE OF ANALYSIS AK 2011-0782

Grant F Crooker  
 Box 404  
 Keremeos, BC  
 VOX 1N0

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

No. of samples received: 47  
 Sample Type: Soil  
 Project: Sterling  
 Shipment #: 2011-ST-S0-01  
 Submitted by: Grant F Crooker

Values in ppm unless otherwise reported

Et #	Tag #	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	Ga	Ge	Hg	K	La	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
		ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
1	3+25S 2+00W	0.3	1.68	2.7	229.5	0.6	0.20	0.50	0.46	27.8	8.4	14.0	46.7	1.77	6.6	1.2	30	0.19	13.5	12.9	0.23	775	0.69	0.116	1.10	16.3	1888	7.8	12.2	<0.02	0.20	2.6	0.6	0.6	58.0	<0.05	0.04	0.8	0.096	0.12	0.7	46	0.3	9.9	126.8	2.83
2	3+25S 2+20W	0.3	1.72	4.3	270.0	0.5	0.20	0.97	0.51	29.6	10.4	19.5	67.4	2.34	6.6	1.6	30	0.30	16.5	14.5	0.28	746	0.50	0.107	0.76	21.7	2332	10.8	17.2	0.06	0.60	2.5	1.0	0.6	94.5	<0.05	0.06	0.3	0.072	0.14	0.8	56	0.3	14.1	120.1	2.15
3	3+25S 2+40W	0.4	1.49	6.5	278.0	0.8	0.24	0.95	0.67	30.8	11.3	21.5	94.9	2.06	6.2	1.6	40	0.30	18.0	13.4	0.28	830	0.55	0.107	0.70	26.4	1943	13.9	20.5	0.06	1.04	3.0	1.2	0.5	232.5	<0.05	0.08	0.5	0.064	0.18	0.7	58	0.2	14.5	153.6	3.03
4	3+25S 2+60W	0.4	1.82	4.9	271.0	0.6	0.24	0.91	0.94	35.4	18.8	32.5	138.6	2.62	7.5	2.0	45	0.41	20.0	18.2	0.44	1105	0.51	0.104	0.72	33.5	1557	13.7	31.2	0.04	0.86	5.9	1.5	0.5	117.0	<0.05	0.08	1.0	0.071	0.24	0.6	86	0.2	15.0	163.8	3.21
5	3+25S 2+80W	0.6	1.69	5.0	250.0	0.6	0.26	0.72	0.88	50.3	25.7	41.5	191.1	3.01	7.4	2.3	40	0.43	25.0	16.7	0.50	1625	0.47	0.097	0.44	47.6	1445	16.6	27.6	<0.02	0.94	7.3	1.3	0.4	80.5	<0.05	0.08	1.6	0.055	0.26	0.7	104	0.2	16.8	151.5	2.32
6	3+25S 4+00W	0.2	1.88	5.1	198.0	0.5	0.18	0.64	0.17	26.7	10.9	24.5	75.8	2.35	7.2	1.6	35	0.33	16.0	14.7	0.37	944	0.53	0.111	0.94	23.4	1571	6.5	15.0	0.04	1.08	3.2	0.9	0.5	63.0	<0.05	0.04	0.7	0.096	0.14	0.8	66	0.2	12.6	78.3	3.30
7	3+25S 4+20W	0.1	2.10	4.5	228.5	0.5	0.22	0.40	0.19	32.5	10.0	16.5	57.6	2.29	7.7	1.6	25	0.24	15.0	17.6	0.27	803	0.64	0.118	1.12	20.5	1747	7.1	13.1	<0.02	0.66	3.9	0.8	0.6	51.0	<0.05	0.06	2.3	0.131	0.14	0.8	54	0.2	11.6	103.1	10.53
8	3+25S 4+40W	0.3	2.16	4.7	195.5	0.6	0.22	0.64	0.16	32.6	9.6	16.5	56.3	2.10	7.3	1.5	30	0.19	16.0	17.3	0.27	835	0.65	0.117	1.12	22.0	2673	7.8	12.2	<0.02	0.62	4.0	0.8	0.6	65.5	<0.05	0.04	2.6	0.131	0.14	1.0	48	0.2	13.2	98.9	14.95
9	3+25S 4+60W	0.2	1.12	2.5	189.0	0.4	0.12	0.26	0.14	11.0	4.1	10.0	17.6	0.89	3.8	0.6	25	0.15	4.5	6.7	0.17	858	1.01	0.107	0.60	7.8	933	2.3	8.4	<0.02	0.02	1.7	0.3	0.3	25.5	<0.05	<0.02	0.8	0.055	0.08	0.2	24	<0.1	2.7	74.5	1.72
10	3+25S 4+80W	0.3	1.89	3.0	181.0	0.6	0.18	0.32	0.18	27.2	7.2	14.5	28.3	1.71	7.1	1.1	25	0.18	9.5	14.8	0.25	798	1.46	0.109	1.42	22.0	1953	8.7	12.6	<0.02	0.18	2.5	0.4	0.5	38.0	<0.05	0.02	1.8	0.113	0.12	0.6	42	0.1	5.2	151.9	8.74
11	3+25S 5+00W	0.3	1.75	2.5	145.0	0.5	0.16	0.38	0.28	26.8	7.9	14.5	33.6	1.79	7.2	1.1	25	0.14	11.5	14.0	0.27	859	1.25	0.115	1.22	26.4	937	12.8	12.1	<0.02	0.18	2.4	0.4	0.6	37.5	<0.05	0.04	1.6	0.114	0.10	0.6	50	0.2	5.4	134.7	5.31
12	3+25S 5+20W	0.2	1.65	1.9	223.5	0.6	0.16	0.30	0.24	25.1	6.3	14.5	37.6	1.56	6.3	1.1	20	0.20	12.0	15.5	0.29	856	0.88	0.119	0.68	19.3	320	7.0	25.0	<0.02	0.12	2.6	0.4	0.5	35.0	<0.05	<0.02	1.3	0.097	0.14	0.3	40	0.1	6.7	163.5	3.78
13	3+25S 5+40W	0.5	2.01	4.4	232.0	0.3	0.20	0.35	0.69	26.6	11.9	29.5	63.5	2.24	8.8	1.6	25	0.16	15.0	19.2	0.49	857	3.34	0.117	1.00	44.4	865	11.5	17.5	0.04	0.38	3.7	1.2	0.6	42.0	<0.05	0.04	1.3	0.125	0.14	0.4	80	0.1	6.1	281.7	3.00
14	3+25S 5+60W	0.3	1.45	2.5	183.5	0.4	0.14	0.42	0.57	17.1	5.1	13.5	20.6	1.39	5.5	1.0	20	0.20	8.0	14.2	0.28	808	1.99	0.115	0.74	17.3	622	4.1	19.1	<0.02	0.10	1.9	0.5	0.5	33.0	<0.05	<0.02	0.9	0.092	0.10	0.3	40	<0.1	3.8	168.0	1.76
15	3+25S 5+80W	0.4	1.09	1.9	146.5	0.2	0.10	0.42	0.16	13.0	3.7	7.5	11.0	0.95	4.0	0.7	25	0.22	5.0	8.7	0.15	303	1.21	0.112	0.72	9.3	2101	2.1	7.9	<0.02	<0.02	1.2	0.7	0.3	28.5	<0.05	<0.02	0.5	0.070	0.06	0.3	26	<0.1	2.6	72.7	2.07
16	3+25S 6+00W	0.2	1.51	1.4	79.5	0.5	0.16	0.40	0.17	20.3	5.1	12.0	19.1	1.31	6.2	0.9	10	0.11	9.0	31.5	0.23	108	0.48	0.121	1.08	12.8	177	6.1	13.7	<0.02	0.20	2.3	0.5	0.5	26.0	<0.05	<0.02	1.4	0.110	0.10	1.0	32	<0.1	3.6	108.2	5.88
17	3+25S 6+20W	0.3	1.57	4.9	122.5	0.5	0.16	0.40	0.54	27.6	8.8	18.0	45.0	2.11	6.6	1.3	20	0.17	12.5	19.0	0.42	346	2.76	0.112	0.94	26.8	1020	7.4	21.2	0.02	0.92	2.5	1.0	0.6	34.0	<0.05	<0.02	1.1	0.102	0.16	0.6	52	0.1	5.1	243.2	2.05
18	3+25S 6+40W	0.3	1.59	3.3	184.0	0.3	0.16	0.31	0.17	21.6	6.1	12.0	22.6	1.41	6.3	1.0	20	0.12	9.0	13.7	0.19	739	1.53	0.119	0.92	19.9	1787	5.3	8.8	<0.02	0.18	1.9	0.4	0.5	33.5	<0.05	0.04	1.1	0.103	0.16	0.6	38	<0.1	4.3	116.0	2.33
19	3+25S 6+60W	0.5	1.56	2.0	188.5	0.4	0.14	0.24	0.06	15.9	4.8	12.0	15.2	1.34	5.8	0.9	15	0.08	7.0	10.3	0.16	359	1.38	0.113	0.66	12.9	743	7.2	7.4	<0.02	0.08	1.7	0.2	0.6	33.0	<0.05	<0.02	1.4	0.108	0.10	0.4	36	<0.1	2.7	63.4	3.31
20	3+25S 6+80W	0.2	1.68	3.2	202.0	0.5	0.16	0.31	0.04	19.4	7.0	12.5	26.1	1.40	6.6	1.1	20	0.08	9.0	18.4	0.17	428	1.10	0.120	0.76	20.4	619	5.4	8.5	<0.02	0.40	1.8	0.6	0.6	33.0	<0.05	0.02	2.0	0.109	0.18	0.6	38	<0.1	3.4	60.2	5.88
21	3+25S 7+00W	0.1	1.57	1.8	150.5	0.4	0.14	0.29	0.04	15.9	4.3	11.5	14.5	1.34	5.2	0.9	15	0.09	7.5	10.2	0.16	207	0.76	0.111	0.70	9.2	287	5.1	8.9	<0.02	0.10	1.6	0.2	0.5	31.5	<0.05	<0.02	1.6	0.116	0.08	0.4	38	<0.1	2.9	37.1	4.66
22	3+75S 2+00W	<0.1	1.17	1.7	147.0	0.2	0.10	0.26	0.23	11.1	3.9	8.0	16.6	0.91	3.8	0.7	20	0.12	5.0	7.9	0.13	952	1.46	0.101	0.60	8.6	525	2.4	7.7	<0.02	0.06	1.4	0.2	0.3	31.5	<0.05	<0.02	0.7	0.061	0.08	0.2	24	<0.1	2.5	80.6	2.61
23	3+75S 2+20W	0.2	1.72	2.9	242.5	0.7	0.16	0.79	0.39	24.1	8.2	18.0	47.8	1.79	5.8	1.3	40	0.29	11.0	13.9	0.28	1039	0.84	0.111	0.76	17.1	825	6.6	13.2	<0.02	0.26	3.3	0.4	0.5	74.5	<0.05	0.04	1.5	0.089	0.14	0.4	50	<0.1	7.0	132.8	4.46
24	3+75S 2+40W	0.3	1.95	3.5	196.0	0.8	0.18	0.56	0.24	30.0	10.7	26.5	72.7	2.35	7.5	1.6	25	0.38	15.5	19.1	0.38	1002	0.64	0.110	0.94	22.3	829	8.6	21.3	<0.02	0.38	4.9	0.5	0.6	62.0	<0.05	0.04	2.1	0.107	0.18	0.7	64	0.1	11.9	114.8	7.99
25	3+75S 2+60W	0.3	1.65	2.8	329.0	0.6	0.14	0.92	0.62	24.6	7.7	21.0	57.9	1.69	5.7	1.2	35	0.38	11.5	13.8	0.32	1891	0.68	0.103	0.70	19.0	1380	6.8	24.2	0.02	0.20	3.5	0.4	0.4	82.5	<0.05	0.06	0.8	0.069	0.14	0.3	42	<0.1	7.8	191.9	3.06
26	3+75S 2+80W	0.6	1.67	8.2	404.0	0.9	0.38	1.06	0.60	41.0	14.3	19.0	104.8	2.77	6.9	2.0	55	0.41	20.5	29.0	0.38	2049	0.79	0.102	0.82	42.3	1254	35.2	30.7	0.04	1.46	4.7	1.4	0.5	127.0	<0.05	0.18	1.2	0.083	0.30	0.5	66	0.1	12.5	139.1	3.11
27	3+75S 3+00W	0.5	1.87	7.2	199.0	0.9	0.26	0.53	0.69	42.1	17.2	26.5	142.9	3.17	6.8	2.2	120	0.32	21.0	14.2	0.48	962	0.88	0.100	0.56																					

Et #	Tag #	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Ge ppm	Hg ppb	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Nb ppm	Ni ppm	P ppm	Pb ppm	Rb ppm	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
36	3+75S 4+80W	0.3	1.93	3.7	160.0	0.5	0.16	0.42	0.28	27.7	7.6	16.0	36.6	1.58	6.8	1.3	20	0.22	11.5	16.5	0.30	670	0.73	0.088	0.78	22.2	1126	13.6	17.0	<0.02	0.16	2.9	0.3	0.6	47.0	<0.05	<0.02	2.2	0.105	0.12	0.5	40	<0.1	6.7	155.3	12.15
37	3+75S 5+00W	0.3	2.25	3.6	286.5	0.7	0.22	0.57	0.56	40.7	11.4	25.5	76.4	2.29	8.9	1.5	40	0.34	20.5	19.3	0.56	1525	1.18	0.074	1.08	27.5	564	17.0	31.2	<0.02	0.32	5.2	0.7	0.7	47.5	<0.05	0.04	2.1	0.120	0.20	0.5	64	<0.1	12.2	201.4	10.67
38	3+75S 5+20W	0.4	2.04	4.2	315.0	0.6	0.20	0.76	0.62	48.7	14.4	34.5	92.5	2.79	8.9	1.8	35	0.46	23.5	21.0	0.78	1039	1.45	0.073	1.00	38.3	769	16.0	31.8	0.04	0.58	6.0	1.1	0.6	60.5	<0.05	0.04	2.1	0.104	0.22	0.4	78	<0.1	15.9	161.3	6.11
39	3+75S 5+40W	0.2	1.75	2.1	199.0	0.5	0.12	0.38	0.12	18.0	5.8	16.5	19.7	1.67	6.0	1.3	15	0.24	9.0	14.9	0.35	658	1.33	0.076	0.76	12.8	694	10.3	17.5	<0.02	0.14	2.7	0.5	0.5	30.0	<0.05	<0.02	1.0	0.089	0.12	0.3	48	<0.1	3.9	106.6	2.85
40	3+75S 5+60W	0.6	1.52	2.8	194.0	0.4	0.12	0.41	0.17	16.5	4.9	10.5	16.8	1.23	5.3	0.9	20	0.15	6.5	11.9	0.19	492	0.64	0.071	0.86	15.4	1991	11.5	10.9	<0.02	0.06	1.8	0.3	0.5	37.0	<0.05	0.04	1.0	0.086	0.06	0.4	30	<0.1	2.8	133.7	3.53
41	3+75S 5+80W	0.2	1.54	2.0	117.5	0.1	0.18	0.28	0.17	18.5	4.8	13.5	17.9	1.46	5.4	1.0	15	0.16	7.0	10.8	0.23	648	1.17	0.076	1.06	14.4	377	12.6	19.2	<0.02	0.12	2.0	0.3	0.5	24.5	<0.05	0.04	1.2	0.107	0.10	0.3	38	<0.1	2.6	128.8	2.91
42	3+75S 6+00W	0.2	1.42	1.6	106.0	0.3	0.12	0.26	0.14	12.2	4.6	11.0	12.8	1.28	5.1	0.9	15	0.15	5.0	10.5	0.19	464	1.03	0.075	0.82	8.6	491	16.4	17.6	<0.02	0.04	1.5	0.2	0.5	21.0	<0.05	<0.02	0.9	0.097	0.08	0.2	34	<0.1	1.9	100.8	2.20
43	3+75S 6+20W	0.4	0.78	1.5	55.0	0.1	0.06	0.17	0.06	4.2	1.6	3.0	5.3	0.37	2.1	0.5	15	0.06	1.5	27.3	0.06	39	0.16	0.074	0.42	6.3	257	8.3	3.4	<0.02	<0.02	0.5	0.6	0.2	11.0	<0.05	<0.02	0.4	0.037	0.02	0.2	10	<0.1	1.0	35.8	3.83
44	3+75S 6+40W	0.5	1.33	2.4	171.5	0.1	0.12	0.29	0.13	15.3	4.6	10.0	18.3	1.08	4.9	0.9	25	0.13	7.0	13.3	0.15	331	2.11	0.075	0.82	16.9	962	11.9	10.8	<0.02	0.20	1.6	0.8	0.4	31.0	<0.05	<0.02	1.2	0.086	0.14	0.3	32	<0.1	3.0	106.1	4.78
45	3+75S 6+60W	0.3	1.88	2.7	212.5	0.3	0.12	0.28	0.16	17.2	4.8	11.5	17.8	1.30	5.9	1.0	25	0.07	7.5	13.1	0.21	680	1.09	0.078	1.04	16.6	1826	12.5	6.4	<0.02	0.14	1.7	0.3	0.5	25.5	<0.05	<0.02	1.0	0.102	0.10	0.4	36	<0.1	3.3	113.7	3.91
46	3+75S 6+80W	0.2	1.37	1.8	147.5	<0.1	0.10	0.29	0.11	13.0	4.2	8.5	11.9	1.05	4.9	0.8	15	0.10	5.0	9.2	0.14	628	1.11	0.072	0.76	11.3	949	9.0	6.5	<0.02	0.04	1.1	0.2	0.4	26.5	<0.05	<0.02	0.8	0.083	0.08	0.3	30	<0.1	2.2	52.5	3.07
47	3+75S 7+00W	0.3	1.22	1.5	144.0	<0.1	0.10	0.19	0.05	11.3	3.3	8.0	10.7	1.04	4.4	0.8	15	0.08	5.0	8.1	0.12	289	0.68	0.071	0.74	8.3	902	10.0	5.7	<0.02	<0.02	1.2	0.1	0.4	25.5	<0.05	<0.02	1.0	0.082	0.06	0.3	28	<0.1	1.9	44.8	3.52

QC DATA:

Repeat:

1	3+25S 2+00W	0.2	1.66	2.5	219.5	0.7	0.16	0.50	0.43	26.7	8.0	13.0	43.7	1.68	6.3	1.3	25	0.19	13.0	12.9	0.22	807	0.64	0.119	1.04	15.8	1908	7.0	11.6	<0.02	0.18	2.7	0.6	0.5	55.0	<0.05	0.04	0.7	0.096	0.10	0.7	44	0.2	9.6	124.9	2.75
10	3+25S 4+80W	0.2	1.85	3.0	187.0	0.5	0.18	0.33	0.18	27.1	7.2	13.5	28.1	1.69	7.0	1.1	25	0.18	9.5	13.9	0.24	801	1.55	0.116	1.44	21.7	1901	8.2	12.7	<0.02	0.18	2.7	0.4	0.6	38.5	<0.05	0.02	1.7	0.111	0.12	0.6	42	0.1	5.2	149.3	8.85
19	3+25S 6+60W	0.5	1.61	1.9	194.5	0.2	0.14	0.24	0.06	15.9	4.7	11.5	14.9	1.30	5.9	0.8	15	0.08	7.0	10.4	0.16	356	1.38	0.118	0.70	12.3	757	6.6	7.4	<0.02	0.08	1.8	0.2	0.6	34.0	<0.05	<0.02	1.6	0.104	0.10	0.4	36	<0.1	2.8	62.2	3.24
28	3+75S 3+20W	0.4	1.59	6.5	215.0	1.0	0.24	0.62	0.53	46.0	17.4	33.5	149.4	3.35	7.0	2.3	40	0.38	23.5	16.8	0.56	1467	0.85	0.099	0.62	38.0	838	20.4	24.5	0.02	1.50	6.8	1.8	0.5	82.5	<0.05	0.08	2.6	0.076	0.22	0.6	94	<0.1	18.3	129.5	5.76
36	3+75S 4+80W	0.4	1.93	3.5	156.0	0.3	0.16	0.41	0.38	26.2	7.1	15.5	35.4	1.48	6.2	1.1	25	0.30	10.5	15.1	0.29	646	0.66	0.090	0.74	22.4	1151	15.3	16.3	<0.02	0.16	2.8	0.3	0.5	45.5	<0.05	0.02	2.0	0.100	0.12	0.5	38	<0.1	6.4	157.2	11.21

Standard:

TILL3		1.6	1.16	89.2	42.0	0.3	0.38	0.57	0.11	42.1	11.2	70.5	23.5	1.98	5.2	1.3	110	0.11	18.0	19.7	0.67	317	0.71	0.078	1.30	33.4	459	20.6	10.4	0.02	0.60	3.3	0.4	1.3	23.5	<0.05	0.02	3.5	0.103	0.10	1.5	40	0.2	7.1	40.4	2.44
TILL3		1.5	1.05	84.6	38.5	0.3	0.36	0.60	0.11	39.1	10.5	66.0	24.9	2.06	4.6	1.5	105	0.10	17.5	18.8	0.62	306	0.66	0.078	1.22	31.1	475	18.9	9.2	<0.02	0.60	2.9	0.3	1.2	22.5	<0.05	0.02	2.9	0.095	0.08	1.4	38	0.2	6.3	39.1	2.46

Aqua Regia Digest/ICPMS Finish

NM/cr/el  
dl/msr\_782S  
XLS/11

  
ECO TECH LABORATORY LTD.  
Norman Monteith  
B.C. Certified Assayer

**APPENDIX II**  
**GEOPHYSICAL EQUIPMENT SPECIFICATIONS**

GEONICS LIMITED  
VLF 116

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Source of Primary Field VLF transmitting stations

Transmitting Stations Used: Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.

Operating Frequency Range: About 15-25 Hz.

Parameters Measured: 1- The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid).  
2- The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).

Method of Reading: In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone

Scale Range: In-phase  $\pm 150\%$ ; quadrature  $\pm 40\%$

Readability:  $\pm 1\%$

Operating Temperature Range: -40 to 50° C.

Operating Controls: ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature dial  $\pm 40\%$ , inclinometer  $\pm 150\%$

Power Supply: 6 size AA alkaline cells  $\approx 200$  hrs.

Dimensions: 42 x 14 x 9 cm (16 x 5.5 x 3.5 in)

Weight: 1.6 kg. (3.5 lbs)

Instrument Supplied With: Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional) set of batteries.

Manufacturer: Geonics Limited  
1745 Meyerside Drive/Unit 8  
Mississauga, Ontario  
L5T 1C5

**APPENDIX III**

**VLF-EM DATA**



**APPENDIX IV**  
**COST STATEMENT**

		File Name	HG_VLF_June2011_1				
Instrument Type:			Geonics EM-16				
Data Type:			In-Phase values in percent				
			Quadrature values in percent				
Station:	Seattle		Faced Southeasterly				
Line south	Station west	UTM East	UTM North		In-Phase	Quad	Topography
line 250							
250	0				-14	-2	Flat
250	10				-14	-2	Flat
250	20				-11	-1	Flat
250	30				-11	-1	Flat
250	40				-11	-1	Flat
250	50				-9	-1	Flat
250	60				-9	1	Flat
250	70				-8	1	Flat
250	80				-9	-1	Flat
250	90				-9	-1	Flat
250	100				-7	1	Flat
250	110				-7	-2	Flat
250	120				-10	-1	Flat
250	130				-10	-2	Flat
250	140				-12	-6	Flat
250	150				-10	-9	Gentle Up
250	160				-3	-12	Gentle Up
250	170				3	-10	Gentle Up
250	180				4	-7	Steep Up
250	190				0	-5	Steep Up
250	200				-6	-7	Steep Up
250	210				-10	-7	Steep Up
250	220				-16	-10	Steep Up
250	230				-22	-13	Steep Up
250	240				-25	-13	Steep Up
250	250				-28	-15	Steep Up
250	260				-31	-15	Steep Up
250	270				-27	-12	Steep Up
250	280				-19	-10	Steep Up
250	290				-12	-6	Moderate Up
250	300				-3	-7	Moderate Up
250	310				2	-7	Moderate Up
250	320				5	-7	Moderate Up
250	330				7	-6	Moderate Up
250	340				8	-6	Moderate Up
250	350				6	-7	Moderate Up
250	360				5	-7	Gentle Down

250	370				4	-8	Gentle Down
250	380				5	-8	Gentle Down
250	390				3	-7	Gentle Down
250	400				2	-7	Gentle Down
250	410				1	-8	Gentle Down
250	420				1	-8	Gentle Down
250	430				1	-7	Gentle Down
250	440				3	-6	Gentle Down
250	450				12	-5	Gentle Down
250	460				11	-4	Gentle Down
250	470				20	-3	Gentle Down
250	480				20	-2	Moderate Down
250	490				22	-4	Moderate Down
250	500				21	-2	Moderate Down
250	510				25	-1	Moderate Down
250	520				22	-2	Moderate Down
250	530				18	-2	Moderate Down
250	540				20	-2	Gentle Down
250	550				19	-1	Gentle Down
250	560				23	0	Gentle Down
250	570				23	-1	Gentle Down
250	580				26	-3	Gentle Down
250	590				26	-3	Gentle Down
250	600				27	-1	Gentle Down
250	610				26	1	Gentle Down
250	620				26	1	Gentle Down
250	630				23	-1	Gentle Down
250	640				25	-2	Gentle Down
250	650				26	-1	Gentle Down
250	660				25	0	Gentle Down
250	670				25	-2	Gentle Down
250	680				24	-2	Gentle Down
250	690				26	-1	Gentle Down
250	700				14	-3	Gentle Down
250	710				7	-5	Gentle Down
250	720				-1	-5	Gentle Down
250	730				-6	-8	Gentle Down
250	740				-10	-8	Flat
250	750				-15	-8	Flat
250	760				-18	-5	Flat
250	770				-16	-1	Flat
250	780				-6	1	Flat
250	790				10	12	Flat
250	800				15	15	Flat
line 275							
275	0				-14	-4	Flat

275	10				-13	-4	Flat
275	20				-12	-2	Flat
275	30				-12	-2	Flat
275	40				-10	-1	Flat
275	50				-8	2	Flat
275	60				-10	-1	Flat
275	70				-12	0	Flat
275	80				-11	-1	Flat
275	90				-8	0	Flat
275	100				-9	2	Flat
275	110				-8	0	Flat
275	120				-8	2	Gentle Up
275	130				-9	-1	Gentle Up
275	140				-7	-4	Gentle Up
275	150				-2	-8	Gentle Up
275	160				-3	-11	Steep Up
275	170				-10	-10	Steep Up
275	180				-13	-11	Steep Up
275	190				-15	-11	Steep Up
275	200				-15	-10	Steep Up
275	210				-16	-9	Steep Up
275	220				-15	-5	Steep Up
275	230				-17	-7	Steep Up
275	240				-20	-10	Steep Up
275	250				-23	-3	Steep Up
275	260				-29	-17	Steep Up
275	270				-33	-18	Steep Up
275	280				-23	-5	Gentle Up
275	290				-5	-11	Gentle Up
275	300				1	-8	Gentle Up
275	310				11	-2	Gentle Up
275	320				12	-4	Gentle Up
275	330				13	-3	Gentle Down
275	340				9	-2	Gentle Down
275	350				10	-2	Gentle Down
275	360				6	-4	Gentle Down
275	370				6	-4	Gentle Down
275	380				8	-6	Gentle Down
275	390				7	-7	Gentle Down
275	400				5	-6	Gentle Down
275	410				1	-5	Gentle Down
275	420				3	-8	Gentle Down
275	430				3	-6	Gentle Down
275	440				7	-7	Gentle Down
275	450				6	-7	Steep Down
275	460				9	-7	Steep Down
275	470				12	-7	Steep Down

275	480				13	-6	Steep Down
275	490				16	-1	Steep Down
275	500				16	-3	Gentle Down
275	510				15	-2	Gentle Down
275	520				14	-1	Gentle Down
275	530				12	1	Gentle Down
275	540				11	0	Gentle Down
275	550				16	1	Gentle Down
275	560				17	1	Gentle Down
275	570				28	4	Gentle Down
275	580				24	-3	Gentle Down
275	590				21	-2	Gentle Down
275	600				24	-2	Gentle Down
275	610				24	4	Gentle Down
275	620				22	1	Gentle Down
275	630				20	-2	Gentle Down
275	640				23	-4	Flat
275	650				27	-5	Flat
275	660				26	-5	Flat
275	670				28	-4	Flat
275	680				26	0	Flat
275	690				24	2	Flat
275	700				23	2	Flat
275	710				18	1	Flat
275	720				14	3	Flat
275	730				9	1	Flat
275	740				1	1	Flat
275	750				-6	-1	Flat
275	760				-12	-1	Flat
275	770				-13	0	Flat
275	780				-10	-1	Flat
275	790				-16	-2	Flat
275	800				-4	2	Flat
line 300							
300	0				-12	1	Flat
300	10				-10	0	Flat
300	20				-8	0	Flat
300	30				-10	0	Flat
300	40				-10	-2	Flat
300	50				-9	-1	Flat
300	60				-11	-3	Flat
300	70				-11	-1	Flat
300	80				-8	-1	Flat
300	90				-7	-1	Flat
300	100				-10	0	Gentle Up
300	110				-10	-2	Gentle Up

300	120				-12	-4	Gentle Up
300	130				-13	-8	Gentle Up
300	140				-12	-8	Gentle Up
300	150				-10	-8	Gentle Up
300	160				-11	-8	Steep Up
300	170				-11	-9	Steep Up
300	180				-14	-12	Steep Up
300	190				-19	-10	Steep Up
300	200				-20	-12	Steep Up
300	210				-22	-11	Steep Up
300	220				-21	-13	Steep Up
300	230				-19	-12	Steep Up
300	240				-19	-11	Steep Up
300	250				-19	-13	Steep Up
300	260				-20	-13	Steep Up
300	270				-22	-6	Steep Up
300	280				-27	-20	Steep Up
300	290				-19	-14	Steep Up
300	300				-7	-8	Steep Up
300	310				1	-6	Gentle Up
300	320				3	-4	Gentle Up
300	330				3	-4	Gentle Up
300	340				2	-4	Flat
300	350				2	-3	Flat
300	360				1	-5	Flat
300	370				2	-6	Flat
300	380				-2	-6	Flat
300	390				-3	-9	Moderate Down
300	400				-3	-8	Moderate Down
300	410				0	-7	Moderate Down
300	420				2	-6	Moderate Down
300	430				5	-6	Moderate Down
300	440				7	-7	Moderate Down
300	450				8	-6	Moderate Down
300	460				6	-5	Moderate Down
300	470				2	-4	Moderate Down
300	480				2	-3	Moderate Down
300	490				-3	-4	Flat
300	500				-5	-7	Flat
300	510				-4	-7	Flat
300	520				4	-3	Flat
300	530				5	0	Flat
300	540				5	0	Flat
300	550				3	-2	Moderate Down
300	560				11	-1	Moderate Down
300	570				12	-1	Moderate Down
300	580				17	1	Moderate Down

300	590				19	3	Moderate Down
300	600				14	1	Moderate Down
300	610				9	0	Moderate Down
300	620				7	0	Flat
300	630				9	-3	Flat
300	640				13	-4	Flat
300	650				18	-8	Flat
300	660				27	-2	Flat
300	670				32	-3	Flat
300	680				33	3	Flat
300	690				38	1	Gentle Down
300	700				28	2	Gentle Down
300	710				24	1	Gentle Down
300	720				21	1	Gentle Down
300	730				16	2	Flat
300	740				12	2	Flat
300	750				5	4	Flat
300	760				2	3	Flat
300	770				-5	2	Flat
300	780				-9	2	Flat
300	790				-16	-1	Flat
300	800				-17	2	Flat
line 325							
325	0				-9	-2	Flat
325	10				-8	0	Flat
325	20				-5	0	Flat
325	30				-8	1	Flat
325	40				-9	1	Flat
325	50				-10	0	Flat
325	60				-10	-1	Flat
325	70				-8	-5	Flat
325	80				-8	-1	Flat
325	90				-8	-4	Flat
325	100				-12	-4	Gentle Up
325	110				-14	-6	Gentle Up
325	120				-13	-6	Gentle Up
325	130				-10	-7	Gentle Up
325	140				-12	-10	Gentle Up
325	150				-16	-12	Steep Up
325	160				-17	-11	Steep Up
325	170				-19	-10	Steep Up
325	180				-19	-11	Steep Up
325	190				-20	-12	Steep Up
325	200				-22	-10	Steep Up
325	210				-18	-13	Steep Up
325	220				-17	-14	Steep Up

325	230				-16	-11	Steep Up
325	240				-16	-12	Steep Up
325	250				-16	-11	Steep Up
325	260				-16	-11	Steep Up
325	270				-16	-12	Steep Up
325	280				-19	-14	Steep Up
325	290				-19	-16	Steep Up
325	300				-20	-18	Steep Up
325	310				-9	-10	Steep Up
325	320				-5	-8	Flat
325	330				-1	-5	Flat
325	340				-2	-5	Flat
325	350				-5	-8	Flat
325	360				-6	-8	Flat
325	370				-6	-8	Flat
325	380				-6	-5	Flat
325	390				-5	-3	Gentle Down
325	400				-9	-3	Gentle Down
325	410				-5	-1	Gentle Down
325	420				0	-1	Gentle Down
325	430				5	-2	Gentle Down
325	440				10	2	Gentle Down
325	450				6	0	Gentle Down
325	460				1	-3	Gentle Down
325	470				-1	-4	Flat
325	480				-4	-2	Flat
325	490				-3	-2	Flat
325	500				3	-2	Flat
325	510				6	0	Flat
325	520				2	0	Flat
325	530				-3	-2	Gentle Down
325	540				-2	-1	Gentle Down
325	550				-2	-1	Gentle Down
325	560				-1	0	Gentle Down
325	570				6	2	Gentle Down
325	580				5	1	Flat
325	590				2	2	Flat
325	600				5	3	Flat
325	610				6	0	Flat
325	620				10	-3	Flat
325	630				16	-2	Flat
325	640				17	-2	Flat
325	650				19	-3	Flat
325	660				22	-4	Flat
325	670				26	-4	Flat
325	680				28	-2	Flat
325	690				29	-1	Flat



325	700				26	0	Flat
325	710				23	0	Flat
325	720				19	1	Flat
325	730				18	2	Gentle Down
325	740				17	3	Gentle Down
325	750				15	4	Gentle Down
325	760				9	5	Gentle Down
325	770				4	6	Gentle Down
325	780				-3	6	Gentle Down
325	790				-10	4	Gentle Down
325	800				-12	3	Gentle Down
line 350							
350	0				-9	4	Flat
350	10				-8	2	Flat
350	20				-9	1	Flat
350	30				-9	1	Flat
350	40				-10	0	Flat
350	50				-9	0	Flat
350	60				-9	-1	Flat
350	70				-8	-1	Flat
350	80				-7	0	Flat
350	90				-6	0	Flat
350	100				-7	-2	Gentle Up
350	110				-9	-5	Gentle Up
350	120				-15	-8	Gentle Up
350	130				-18	-8	Gentle Up
350	140				-18	-5	Gentle Up
350	150				-15	-6	Gentle Up
350	160				-12	0	Steep Up
350	170				-17	-12	Steep Up
350	180				-20	-11	Steep Up
350	190				-20	-14	Steep Up
350	200				-20	-14	Steep Up
350	210				-20	-14	Steep Up
350	220				-20	-14	Steep Up
350	230				-19	-16	Steep Up
350	240				-18	-15	Steep Up
350	250				-18	-16	Steep Up
350	260				-11	-17	Steep Up
350	270				-19	-18	Steep Up
350	280				-20	-16	Steep Up
350	290				-17	-14	Steep Up
350	300				-12	-14	Flat
350	310				-13	-11	Flat
350	320				-8	-9	Flat
350	330				-9	-8	Flat

350	340				-9	-8	Flat
350	350				-12	-9	Flat
350	360				-14	-9	Flat
350	370				-11	-9	Flat
350	380				-12	-8	Flat
350	390				-12	-5	Moderate Down
350	400				-12	-4	Moderate Down
350	410				-8	-2	Moderate Down
350	420				-2	0	Moderate Down
350	430				2	1	Moderate Down
350	440				3	0	Flat
350	450				1	-1	Flat
350	460				0	-2	Flat
350	470				5	0	Flat
350	480				6	3	Flat
350	490				7	3	Flat
350	500				6	2	Gentle Down
350	510				1	-1	Gentle Down
350	520				-2	-1	Gentle Down
350	530				-2	1	Gentle Down
350	540				-1	0	Gentle Down
350	550				1	1	Gentle Down
350	560				4	2	Gentle Down
350	570				5	3	Gentle Down
350	580				1	3	Flat
350	590				5	2	Flat
350	600				8	3	Flat
350	610				14	1	Flat
350	620				19	-2	Flat
350	630				27	3	Flat
350	640				24	1	Flat
350	650				21	-2	Flat
350	660				24	-3	Flat
350	670				28	-1	Flat
350	680				29	-1	Flat
350	690				30	-1	Flat
350	700				28	0	Flat
350	710				25	1	Flat
350	720				20	0	Flat
350	730				22	1	Flat
350	740				20	2	Flat
350	750				20	4	Flat
350	760				22	7	Flat
350	770				35	12	Flat
350	780				18	12	Flat
350	790				10	11	Flat
350	800				-1	8	Flat

line 375							
375	0				-9	2	Flat
375	10				-9	1	Flat
375	20				-8	5	Flat
375	30				-7	2	Flat
375	40				-6	5	Flat
375	50				-8	3	Flat
375	60				-8	3	Flat
375	70				-9	1	Flat
375	80				-3	-1	Flat
375	90				-2	-7	Flat
375	100				1	-5	Flat
375	110				-3	-6	Flat
375	120				-9	-5	Flat
375	130				-19	-5	Flat
375	140				-22	-6	Flat
375	150				-24	-7	Steep Up
375	160				-12	-4	Steep Up
375	170				-10	-6	Steep Up
375	180				-12	-8	Steep Up
375	190				-16	-11	Steep Up
375	200				-15	-11	Steep Up
375	210				-19	-11	Steep Up
375	220				-19	-12	Steep Up
375	230				-17	-12	Steep Up
375	240				-17	-13	Steep Up
375	250				-16	-12	Steep Up
375	260				-15	-12	Steep Up
375	270				-12	-9	Steep Up
375	280				-11	-10	Steep Up
375	290				-13	-8	Steep Up
375	300				-14	-11	Flat
375	310				-14	-10	Flat
375	320				-14	-10	Flat
375	330				-14	-10	Flat
375	340				-15	-9	Flat
375	350				-14	-12	Flat
375	360				-14	-11	Moderate Down
375	370				-14	-8	Moderate Down
375	380				-16	-7	Moderate Down
375	390				-16	-8	Moderate Down
375	400				-15	-6	Moderate Down
375	410				-12	-4	Moderate Down
375	420				-9	-2	Moderate Down
375	430				-8	-3	Moderate Down
375	440				-5	-1	Flat

375	450				1	0	Flat
375	460				1	1	Flat
375	470				3	2	Flat
375	480				2	2	Flat
375	490				3	2	Flat
375	500				2	1	Flat
375	510				-1	1	Moderate Down
375	520				0	0	Moderate Down
375	530				0	0	Moderate Down
375	540				2	1	Moderate Down
375	550				4	1	Flat
375	560				3	2	Flat
375	570				2	1	Flat
375	580				3	2	Flat
375	590				1	2	Flat
375	600				3	0	Flat
375	610				10	0	Flat
375	620				16	1	Flat
375	630				22	2	Flat
375	640				23	2	Flat
375	650				20	1	Flat
375	660				21	0	Flat
375	670				28	1	Flat
375	680				30	3	Flat
375	690				31	2	Flat
375	700				28	1	Flat
375	710				26	1	Flat
375	720				21	1	Flat
375	730				19	-1	Flat
375	740				19	2	Flat
375	750				19	6	Flat
375	760				17	7	Flat
375	770				18	5	Flat
375	780				19	4	Flat
375	790				18	11	Flat
375	800				14	10	Flat



<b>Exploration Work type</b>	<b>Comment</b>	<b>Days</b>			<b>Totals</b>
<b>Personnel (Name)* / Position</b>	<b>Field Days (list actual days)</b>	<b>Days</b>	<b>Rate</b>	<b>Subtotal*</b>	
Grant Crooker/Geologist	May 26, 27, 29, 31, June 1 2, 2011	6	\$600.00	\$3,600.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
			\$0.00	\$0.00	
				\$3,600.00	<b>\$3,600.00</b>
<b>Office Studies</b>	<b>List Personnel (note - Office only, do not include field days)</b>				
Literature search			\$0.00	\$0.00	
Database compilation			\$0.00	\$0.00	
Computer modelling			\$0.00	\$0.00	
Reprocessing of data			\$0.00	\$0.00	
General research			\$0.00	\$0.00	
Report preparation	August 13, 14, 27, 2011	3.0	\$600.00	\$1,800.00	
Other (specify)					
				\$1,800.00	<b>\$1,800.00</b>
<b>Airborne Exploration Surveys</b>	<b>Line Kilometres / Enter total invoiced amount</b>				
Aeromagnetics			\$0.00	\$0.00	
Radiometrics			\$0.00	\$0.00	
Electromagnetics			\$0.00	\$0.00	
Gravity			\$0.00	\$0.00	
Digital terrain modelling			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				\$0.00	<b>\$0.00</b>
<b>Remote Sensing</b>	<b>Area in Hectares / Enter total invoiced amount or list personnel</b>				
Aerial photography			\$0.00	\$0.00	
LANDSAT			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
				\$0.00	<b>\$0.00</b>
<b>Ground Exploration Surveys</b>	<b>Area in Hectares/List Personnel</b>				
Geological mapping					
Regional					
Reconnaissance					
Prospect					
Underground	Define by length and width				
Trenches	Define by length and width			\$0.00	<b>\$0.00</b>
<b>Ground geophysics</b>	<b>Line Kilometres / Enter total amount invoiced list personnel</b>				
Radiometrics					
Magnetics					
Gravity					
Digital terrain modelling					
Electromagnetics	4.8 kms/Grant Crooker				
	4.8 kms/Grant Crooker				
SP/AP/EP					
IP					
AMT/CSAMT					
Resistivity					

Complex resistivity					
Seismic reflection					
Seismic refraction					
Well logging	Define by total length				
Geophysical interpretation					
Petrophysics					
Other (specify)					
					\$0.00
					<b>\$0.00</b>
<b>Geochemical Surveying</b>	<b>Number of Samples</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Drill (cuttings, core, etc.)			\$0.00	\$0.00	
Stream sediment			\$0.00	\$0.00	
Soil			\$0.00	\$0.00	
Rock	47, 30 gram gold, 35 element ICPMS	47.0	\$41.89	\$1,968.83	
Water			\$0.00	\$0.00	
Biogeochemistry			\$0.00	\$0.00	
Whole rock			\$0.00	\$0.00	
Petrology			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
					\$1,968.83
					<b>\$1,968.83</b>
<b>Drilling</b>	<b>No. of Holes, Size of Core and Metres</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Diamond			\$0.00	\$0.00	
Reverse circulation (RC)			\$0.00	\$0.00	
Rotary air blast (RAB)			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
					\$0.00
					<b>\$0.00</b>
<b>Other Operations</b>	<b>Clarify</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Trenching			\$0.00	\$0.00	
Bulk sampling			\$0.00	\$0.00	
Underground development			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
					\$0.00
					<b>\$0.00</b>
<b>Reclamation</b>	<b>Clarify</b>	<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
After drilling			\$0.00	\$0.00	
Monitoring			\$0.00	\$0.00	
Other (specify)			\$0.00	\$0.00	
<b>Transportation</b>		<b>No.</b>	<b>Rate</b>	<b>Subtotal</b>	
Airfare			\$0.00	\$0.00	
Taxi			\$0.00	\$0.00	
truck rental	2008 Chev 4 x 4	6.00	\$95.00	\$570.00	
kilometers			\$0.00	\$0.00	
ATV			\$0.00	\$0.00	
fuel				\$180.00	
Helicopter (hours)			\$0.00	\$0.00	
Fuel (litres/hour)			\$0.00	\$0.00	
Other					
					\$750.00
					<b>\$750.00</b>
<b>Accommodation &amp; Food</b>	<b>Rates per day</b>				

Hotel			\$0.00	\$0.00	
Camp		6.00	\$60.00	\$360.00	
Meals			\$0.00	\$0.00	
				\$360.00	<b>\$360.00</b>
<b>Miscellaneous</b>					
Telephone			\$0.00	\$0.00	
Drafting	Interpretex Resources			\$1,200.00	
Printing				\$100.00	
Supplies	Topo line, flagging, soil bags, tags			\$50.00	
				\$1,350.00	<b>\$1,350.00</b>
<b>Equipment Rentals</b>					
Field Gear (Specify)	VLF-EM 16	4.00	\$50.00	\$200.00	
Other (Specify)					
				\$200.00	<b>\$200.00</b>
<b>Freight, rock samples</b>					
			\$0.00	\$40.00	
			\$0.00	\$0.00	
				\$40.00	<b>\$40.00</b>
<b><i>TOTAL Expenditures</i></b>					<b>\$10,068.83</b>



**COST STATEMENT – JUNE 3, 2011  
EVENT NUMBER 4868450**

**SALARIES**

Grant Crooker, Geologist  
May 26, 27, 29, 31, June 1, 2, 2011  
6 days @ \$ 600.00/day \$ 3,600.00

**MEALS & ACCOMMODATION**

Grant Crooker - 6 days @ \$ 60.00/day 360.00

**TRANSPORTATION**

Vehicle Rental (2008 Chev 1/2 ton 4 x 4)  
6 days @ \$ 95.00/day 570.00

Gasoline 180.00

**RENTAL**

VLF EM-16  
4 days @ \$ 50.00/day 200.00

**ANALYSIS**

47 soil samples, gold (30 gram, FA, AA finish,  
results ppb), 35 element ICPMS @ \$ 41.89/sample 1,968.83

**SUPPLIES** 50.00

**FREIGHT** 40.00

**INTERPRETEX RESOURCES** (Preparation of Maps) 572.88

**PREPARATION OF REPORT** (Printing etc) 100.00  
Total \$ 7,641.71

**COST STATEMENT – September 23, 2011  
EVENT NUMBER 5016524**

**SALARIES**

Grant Crooker, Geologist  
August 13, 14, 27, 2011  
3 days @ \$ 600.00/day

\$ 1,800.00

**INTERPRETEX RESOURCES** (Preparation of Maps)

627.12

Total \$ 2,427.12

**APPENDIX V**  
**MAPS AND REPORT PDF**

AK11-0782	Certificates of Analysis
EM-16	EM-16 Specifications
HG_VLF_June2011_1	VLF-EM Data
ST_Fig1.0_Sept_2011	Location Map
ST_Fig2.0_Sept_2011	Claim Map
ST_Fig3.0_Sept_2011	WP Block Target Areas
ST_Fig4.0_Sept_2011	Regional Geology Hedley District
TitlePage_June3_2011_Hedley	Title Page
Sterlingap01_11	Report Appendix
Sterlingtp01_11	Report Title Page
Sterlingtx01_11	Report Text
Cost_Statement_August_2011	Cost Statement