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ACTION.	
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**GEOCHEMICAL REPORT**

on the

**WP 1-4 CLAIMS**

**Hedley Area  
Similkameen Mining Division**

**92H-8E  
(49°19' N. Lat., 120°11' W. Long.)**

for

**CANNELLE EXPLORATION LTD.  
#135, 4631 Shell Road  
Richmond, B.C.  
V6X 3H4  
(Operator)**

**GEOLOGICAL BRANCH  
GRANT F. CROOKER ASSESSMENT REPORT  
(Owner)**

by **19,413**

**GRANT F. CROOKER, B.Sc., F.G.A.C.  
Consulting Geologist**

December, 1989

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## SUMMARY AND RECOMMENDATIONS

The WP Claims are located 8 kilometers southwest of Hedley B.C. in the Hedley Gold Camp of southern British Columbia. The property consists of four claims totalling 72 units.

Placer mining was first carried out in the Hedley area in the 1860's and 1870's with the first hardrock claims being staked in 1896 on Nickel Plate Mountain. Gold production from the camp until 1986 was 3,693,985 tonnes of ore yielding 50,715,213 grams of gold and 6,007,730 grams of silver. Production at the Nickel Plate Mine resumed in 1987 with a milling rate of 2700 tons per day. Ore reserves as of December 1988 are in the order of 9,100,000 tons grading 0.088 ounces per ton gold.

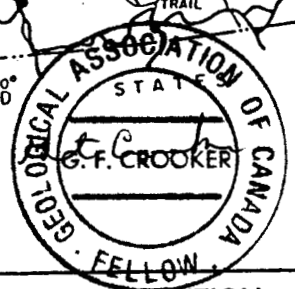
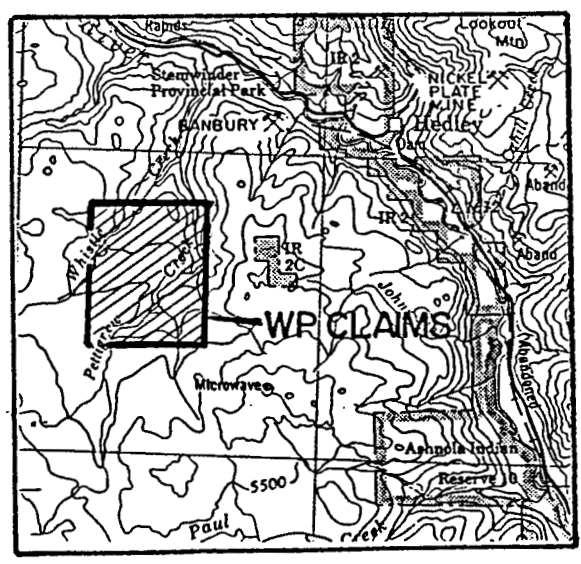
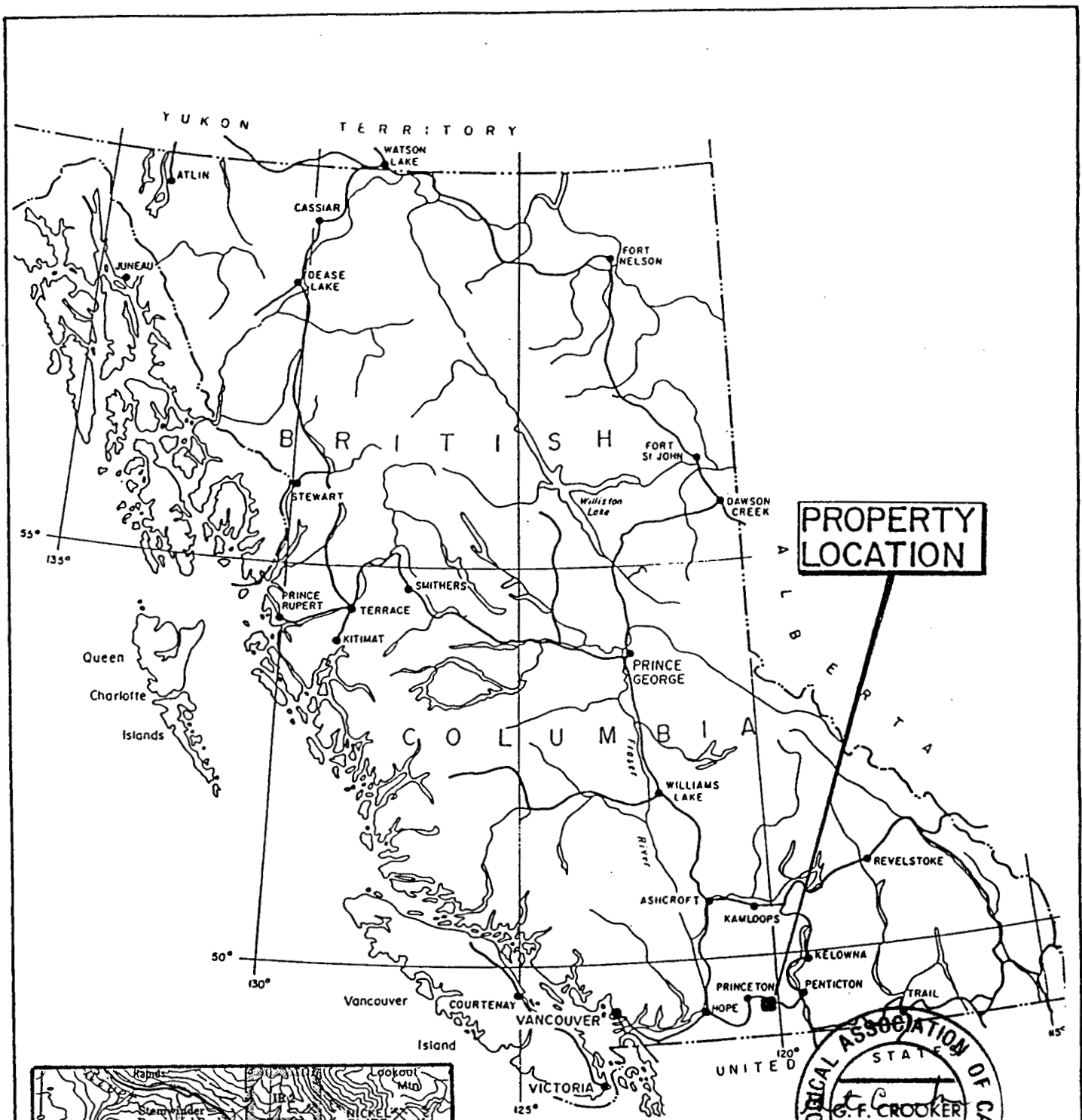
Gold mineralization in the Hedley Camp occurs as both skarn and vein type, and occurs within Nicola volcanic and sedimentary rocks. The gold mineralization is spatially related to the Hedley Intrusions.

The WP Claims are located in a favourable geological environment for gold mineralization. They are mainly underlain by the Stemwinder Mountain and Whistle Creek Formations of the Nicola Group. A stock of the Hedley Intrusions outcrops in the southeastern section of the property.

During 1987 exploration on the property consisted of soil sampling, VLF EM and magnetometer surveying, geological mapping and prospecting. A number of multi-element soil geochemical anomalies and favourable geophysical and geological structures were outlined on the property. Highly anomalous gold values (28000 ppb) were obtained from heavy metal concentrates taken from Pettigrew Creek at the northern boundary of the property and anomalous gold values of up to 270 ppb were obtained from rock samples. Recommendations were made to continue exploration on the property.

The 1988 exploration program consisted of establishing a grid at 100 and 200 meter spacing over the WP-3 and WP-4 Claims. Soil sampling, VLF EM and magnetometer surveying, geological mapping and prospecting were carried over the grid. Heavy metal concentrate samples were also taken at 250 meter intervals along Pettigrew and Whistle Creeks.

The heavy metal stream sediment sampling yielded very favourable results. Highly anomalous gold and silver values (up to 5500 ppb Au, 12.0 ppm Ag) were obtained from the northern portion of Pettigrew Creek, draining the WP-3 claim. One highly anomalous gold value of 2350 ppb was obtained from Whistle Creek at the northern boundary of the WP-4 claim. Two samples taken from Whistle Creek at the western boundary of the property also



CANNELLE EXPLORATION LTD.	
WP CLAIMS LOCATION MAP	
N.T.S. 92H-8E	SIMILKAMEEN M.D., B.C.
0 100 200 500 KM.	
SCALE AS SHOWN	DATE: 10 - 89
DRAWN BY: G.F.C.	FIGURE NO. 1

yielded anomalous lead and zinc values.

The soil geochemical sampling indicated several small multi-element soil geochemical anomalies, but due to the small number of samples analyzed, the dimensions of the anomalies were not defined.

The geophysical survey indicated a number of magnetic and VLF EM anomalies. Areas which exhibit strong magnetism with strong VLF EM conductors are of highest priority. Prospecting disclosed several small outcrops with pyrrhotite in the vicinity of the high magnetism and VLF EM conductors along line 1400N.

The program covered by this report consisted of analyzing 542 soil samples collected in 1988. The samples were taken from lines 5N to 13N and 15N to 20N and analyzed for gold, silver, copper, arsenic, cobalt, bismuth and lead.

The soil geochemical sampling indicated four areas of weak to moderate multi-element soil geochemical anomalies. The multi-element anomalies are made up of a combination of silver, copper, arsenic, cobalt and lead. Gold values are restricted to single sample locations, although some of these occur within the broader multi-element anomalies.

The multi-element soil geochemical values occur coincidentally with a number of magnetic features and weak to strong VLF EM conductors. These anomalies also occur on the steep slopes leading into Pettigrew Creek and could be the source for the anomalous heavy metal stream concentrate samples taken from Pettigrew Creek in 1987 and 1988.

Recommendations are to continue exploration on the property. This should include follow up evaluation of the multi-element soil geochemical anomalies by prospecting and fill-in soil sampling if required.

Based on an examination of the geochemical and geophysical anomalies and geological structures, trenching should be carried out over favourable areas to define possible drill targets.

Respectfully submitted,

G. F. CROOKER  
 Grant F. Crooker B.Sc., F.G.A.C.,  
 Consulting Geologist



## 1.0 INTRODUCTION

### 1.1 GENERAL

The work program covered by this report consisted of analyzing 542 soil samples collected in previous years. Samples taken on lines 5N to 13N and 14N to 20N east of the baseline were analyzed. The sample spacing is generally at 50 meters, with a few locations at 25 meters.

### 1.2 LOCATION AND ACCESS

The property (Figure 1) is located 8 kilometers southwest of Hedley in southern British Columbia. The property lies between 49°17'30" and 49°20' north latitude and 120°09'30" and 120°13' west longitude (NTS 92H-8E).

Access to the property is via Highway 3A, turning west onto the Sterling Creek logging road 8 kilometers west of Hedley. The Sterling Creek logging road is an all weather 2 wheel drive road, and the distance to the property is approximately 7 kilometers. A number of two wheel drive and four wheel drive roads give good access to all but the extreme southeast corner of the property.

### 1.3 PHYSIOGRAPHY

The property is located along the eastern edge of the Cascade Mountains. Elevation varies from 850 to 1500 meters above sea level and topography varies from flat to steep. Outcrop is generally sparse with the exception of the steep slopes leading into Pettigrew Creek.

Pettigrew and Whistle Creeks cut across the claims and a number of smaller tributaries drain into them. Pettigrew Creek has cut a steep canyon through the property, and it contains a substantial flow of water all year round.

Vegetation varies from open range land to a forest cover of pine and fir trees. Large areas of the property have been selectively logged, and several areas have heavy deadfall.

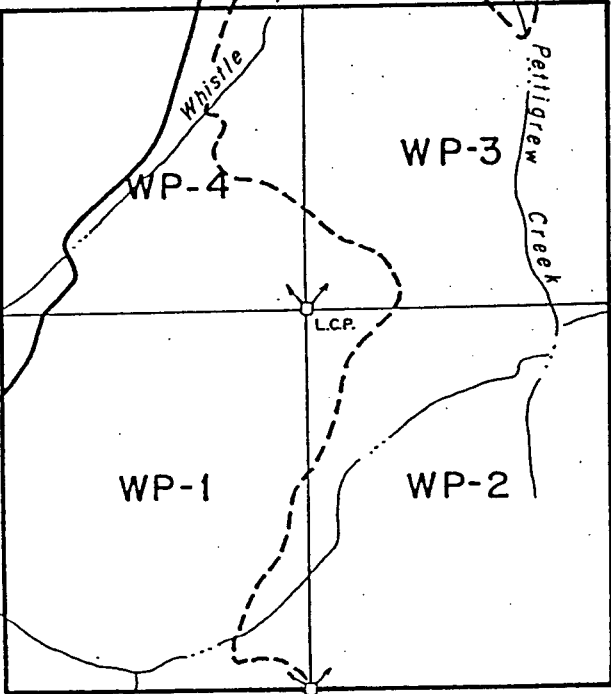
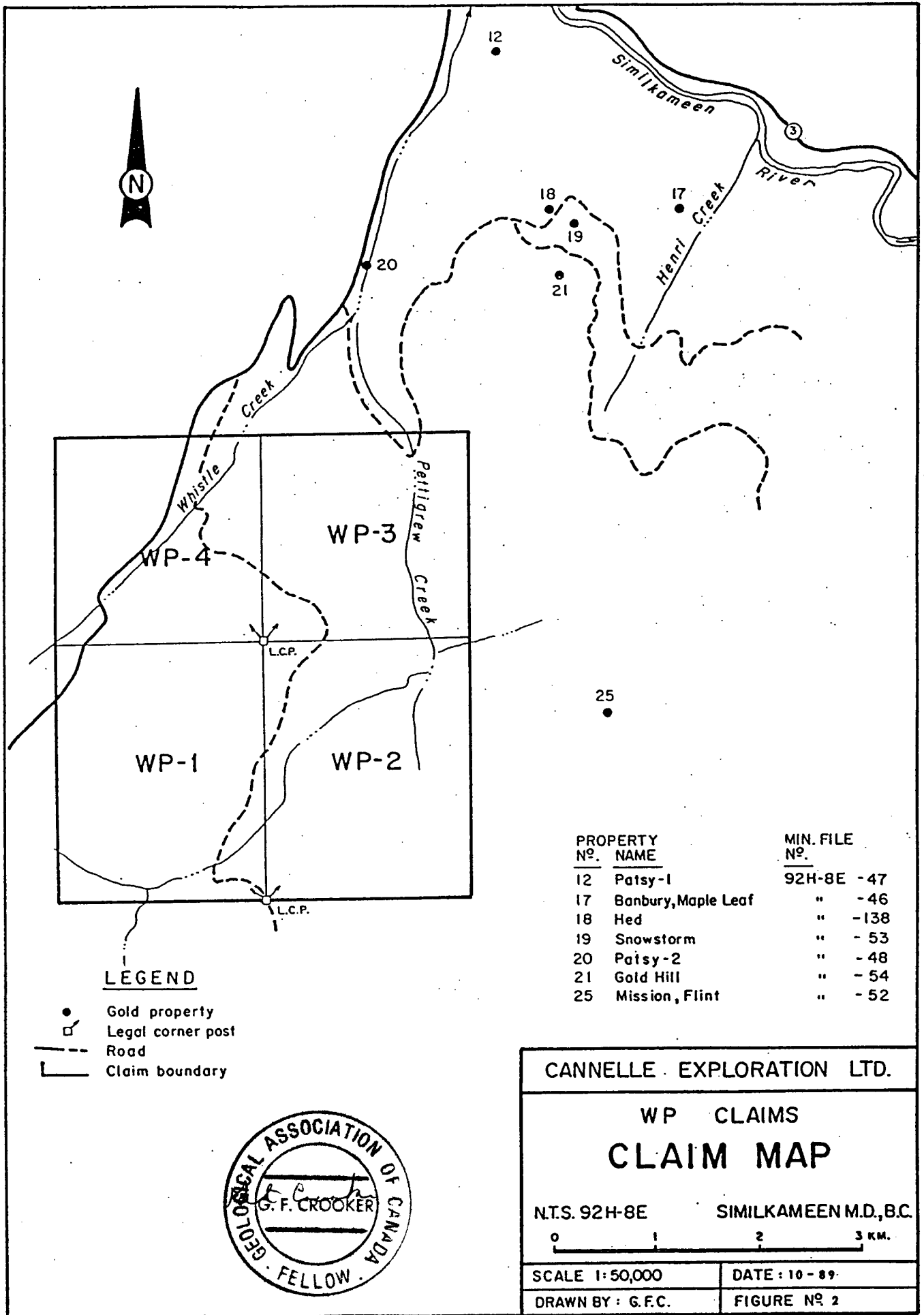
#### 1.4 PROPERTY AND CLAIM STATUS

The WP 1-4 Claims (Figure 2) are owned by Grant Crooker of Keremeos, B.C., and are under option to and operated by Cannelle Exploration Ltd., #135, 4631 Shell Road, Richmond, B.C., V6X 3H4. The property consists of four claims covering 72 units located in the Similkameen Mining Division.

Claim	Units	Mining Division	Record Number	Record Date	Expiry Date
WP-1	20	Similkameen	2766(12)	12/12/86	12/12/94
WP-2	20	Similkameen	2767(12)	12/12/86	12/12/95
WP-3	16	Similkameen	2768(12)	12/12/86	12/12/95*
WP-4	16	Similkameen	2908(5)	22/05/87	22/05/94*

\* Upon acceptance of this report.

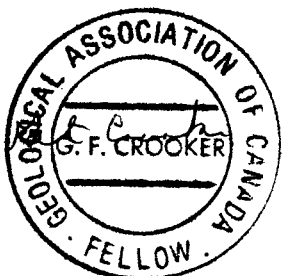




PROPERTY NO.	NAME	MIN. FILE NO.
12	Patsy-1	92H-8E -47
17	Banbury, Maple Leaf	" -46
18	Hed	" -138
19	Snowstorm	" -53
20	Patsy-2	" -48
21	Gold Hill	" -54
25	Mission, Flint	" -52

**LEGEND**

- Gold property
- Legal corner post
- Road
- ▭ Claim boundary



<b>CANNELLE EXPLORATION LTD.</b>	
<b>WP CLAIMS</b>	
<b>CLAIM MAP</b>	
N.T.S. 92H-8E	SIMILKAMEEN M.D., B.C.
SCALE 1:50,000	DATE: 10-89
DRAWN BY: G.F.C.	FIGURE NO. 2

### 1.5 AREA AND PROPERTY HISTORY

Placer mining was first carried out in the Hedley area in the 1860's and 1870's. The interest in placer mining led to the discovery of gold on Nickel Plate Mountain in the 1890's, with the first claims being staked in 1896. Many showings were found within the Hedley Gold Camp, both on Nickel Plate Mountain as well as the surrounding area.

The two major producers in the camp have been the Nickel Plate and Hedley Mascot properties. Production from the camp has been approximately 51 million grams (1.6 million ounces) of gold. Table I gives the production data from the camp.

TABLE I PRODUCTION DATA, HEDLEY GOLD CAMP (Ray-1986)

Mine	Minfile No.	Ore (Tonnes)	Gold (Grams)	Silver (Grams)
Nickel Plate 1904-1963	92H/SE-038	2,978,046	41,637,106	4,163,138
Hedley Mascot 1936-1949	92H/SE-036	619,022	7,248,106	1,707,021
French 1950-1955	92H/SE-059	29,450	786,420	NA
1957-1961		48,158	817,306	65,784
Jan.-Apr.1983		<u>1,519</u>	<u>11,462</u>	<u>58,412</u>
Total		79,127	1,615,188	124,196
Canty 1939,1941	92H/SE-064	1,483	16,480	NA
Good Hope 1946-1948	92H/SE-060	4,241	89,516	NA
1982		<u>4,990</u>	<u>75,270</u>	NA
Total		9,231	164,786	NA
Maple Leaf, Pine Knot veins (Banbury Gold Mines)	92H/SE-046			
1937		5,897	29,424	13,375
1982		<u>1,179</u>	<u>4,124</u>	NA
Total		<u>7,076</u>	<u>33,548</u>	<u>13,375</u>
Total Production		3,693,985	50,715,213	6,007,730

In the late 1970's exploration activity again began in the Hedley Gold Camp. Most of activity was concentrated on a number of properties on Nickel Plate Mountain, however exploration was also carried out on the south side of the Similkameen River.

The most significant property in the camp is the Nickel Plate Mine of Corona Corporation. Open-pit production resumed in April 1987 at a rate of 2450 tonnes of ore per day. As of December 1988, calculated mineable open pit ore reserves are in the order of 9.1 million tons grading 0.088 ounces per ton gold.

A number of gold properties are found on the south side of the Similkameen River north and east of the WP Property (Figure 2). Properties on the south side of the Similkameen River differ significantly from those on Nickel Plate Mountain in that gold mineralization is related to quartz-carbonate vein systems and associated shear zones as opposed to skarn related mineralization on Nickel Plate Mountain.

The most significant property in this area is that of Banbury Gold Mines which is currently under option to Noranda Mines Ltd.. This property includes the former Maple Leaf and Pine Knot properties. Initial exploration at Banbury was directed towards the higher grade narrow width vein systems. However recent exploration by Noranda has at least partially been directed towards lower grade but much wider shear systems. A number of drill intersections announced by Banbury Gold Mines in the Vancouver Stockwatch contained significant gold values. The results are as follows:

Drill Hole	From(ft)	To(ft)	Width(feet)	Au(oz per ton)
NB 87-13	92	255	133.0	0.110
NB 87-14	299	257.5	28.5	0.085
"	321	326	5.0	0.260
NB 87-16	472	482	10.0	0.250
"	576	587	10.5	0.060
NB 87-17	147	155	8.0	0.044
"	239	249	10.0	0.046
"	294	304	10.0	0.049
"	330.5	334	3.5	0.128
"	327	339	12.0	0.048
"	409	419	10.0	0.043
NB 87-18	156	161	5.0	0.064
"	186	191	5.0	0.099
"	234	239	5.0	0.517
"	234	257	23.0	0.152
"	327	330.3	3.3	0.166
NB 87-19	174	179	5.0	0.239

Surface and underground diamond drilling were carried out on the Patsy 1 and 2 (figure 2) properties during the fall of 1988. The results of this drilling are not known at this time.

Previous work on the WP Claims consisted of an airborne VLF EM and magnetometer survey, and a reconnaissance soil geochemical survey during the summer and fall of 1981.

A number of magnetic contrasts were indicated by the magnetic survey. The magnetic lows were attributed to a gabbroic intrusion, while the magnetic highs were attributed to a dioritic phase in an alteration zone around the gabbroic intrusion.

Only one strong VLF EM anomaly was indicated by the survey. This occurs in the central part of the WP-4 claim. A number of narrow and weak field strength increases were observed, and these were attributed to reflect small, slightly conductive, near surface features such as minor faults or contact zones.

The soil geochemical survey was of the reconnaissance nature, with lines on average 150 meters apart and samples taken at 150 meter intervals. The survey was carried out over approximately 50% of the claim area. Despite the widely spaced sampling a number of weak to moderate coincidental Ag-As-Cu-Zn anomalies were outlined. The anomalies occurred mainly in areas of little or no outcrop.

During the summer of 1983 additional soil geochemical sampling was carried out over the claim area. Sample density varied from lines 75 to 150 meters apart and samples taken at 75 to 150 meter intervals. The coincidental Ag-As-Cu-Zn anomalies indicated by the 1981 survey were confirmed and in many cases broadened. Gold values were spotty and in most cases low. However this may be attributed to a thick cover of glacio-fluvial gravels covering much of the property.

The 1987 program consisted of establishing a grid over the northern portion of the claims, and carrying out soil and heavy metal concentrate sampling, magnetometer and VLF EM surveying, geological mapping and prospecting. Ten exploration targets were outlined by a combination of geological, geochemical and geophysical parameters by the 1987 program. Heavy metal concentrate sampling from Pettigrew Creek at the north end of the WP Claims yielded highly anomalous gold and silver values (28,000 ppb Au (0.812 oz/ton) and 25.80 ppm Ag (0.75 oz/ton), respectively).

A statistical analysis carried out on the geochemical data indicated a strong correlation of gold with bismuth, silver, cobalt, copper and arsenic. This is significant as it coincides with the observed mineralogical assemblage (Ray 1987) of gold with hedleyite (BiTe), arsenopyrite (FeAsS), gersdorffite

(NiAsS), chalcopyrite (CuS) and sphalerite (ZnS) at the Nickel Plate Mine.

The 1988 program consisted of establishing a grid at 100 and 200 meter spacing over the WP-3 and WP-4 claims. Soil sampling, VLF EM and magnetometer surveying, geological mapping and prospecting were carried out over the grid. Heavy metal concentrate samples were taken at 250 meter intervals along Whistle and Pettigrew Creeks.

A combination of soil geochemical sampling, geophysical surveying, geological mapping and prospecting outlined several target areas. The most significant results were obtained from the heavy metal stream sediment sampling with both Whistle and Pettigrew creeks showing anomalous gold and silver values.

## 2.0 EXPLORATION PROCEDURE

The 1989 work program consisted of analyzing a number of soil samples collected in previous years. The samples were analyzed for gold and a six element ICP (Cu, Co, Ag, Pb, Bi, As).

### GEOCHEMICAL SURVEY PARAMETERS

- survey line separation 100 meters
- survey sample spacing 25 meters
- survey totals - 542 soil samples
- 542 soil samples analyzed by ICP(Cu, Co, Ag, Pb, Bi, As)
- 542 soil samples analyzed for Au,
- sample depth 10 to 30 centimeters
- sample taken from brown B horizon

All samples were sent to Rossbacher Laboratory Ltd., 2225 South Springer Avenue, Burnaby, B.C. for geochemical analysis. Laboratory techniques for geochemical analysis consists of preparing samples by drying at 95° C and seiving to minus 80 mesh. A 6 element ICP and gold (aqua-regia digestion, atomic adsorption finish) analyses were then carried out on the samples.

The soil geochemical data was plotted on figures 4 through 7 at a scale of 1:5000. The data was plotted on the base maps used for the 1988 survey, to provide continuity of information.

### 3.0 GEOLOGY AND MINERALIZATION

#### 3.1 REGIONAL GEOLOGY

The Hedley Gold Camp is located within the Intermontane Belt of the Canadian Cordillera. The oldest rocks in the area belong to the Apex Mountain Group (figure 3) and occur in the southeastern part of the camp. The Apex Mountain Group consists of a deformed package of cherts, argillites, greenstones, tuffaceous siltstones and minor limestones believed to range in age from Upper Devonian to Middle to Late Triassic.

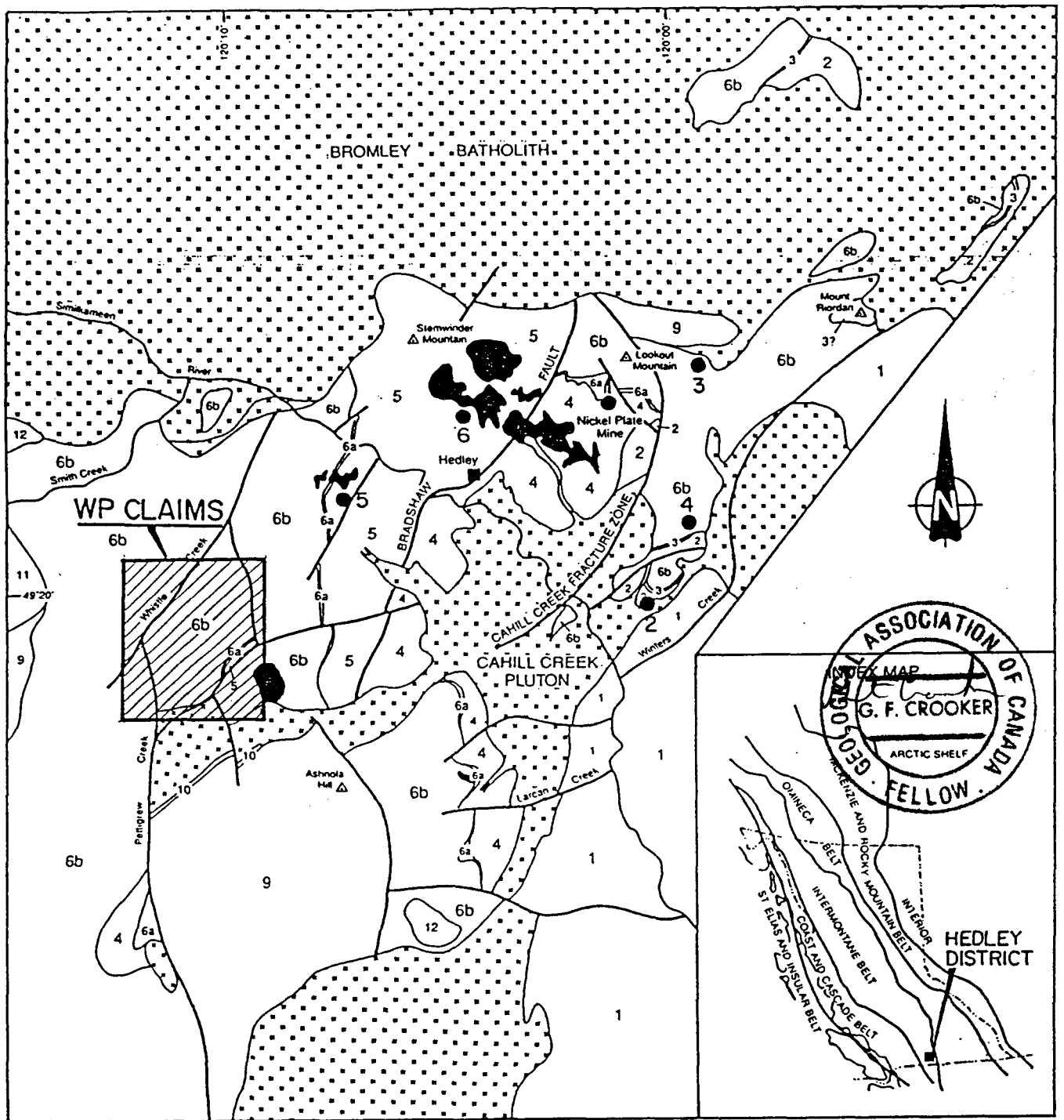
The remainder of the Hedley Gold Camp is underlain by Late Triassic Nicola Group volcanic and sedimentary rocks, and stocks, sills and dykes ranging in composition from granodiorite to gabbro.

Recent mapping by Ray and Dawson divides the Nicola Group into three distinct stratigraphic packages. The oldest, informally called the Peachland Creek formation, comprises massive, mafic, quartz-bearing andesitic to basaltic ash tuff and minor chert-pebble conglomerate. This previously unrecognized basal unit is poorly exposed in the Hedley district, but has been identified in several localities. This formation is named after a major tuffaceous sequence which underlies the Hedley formation in the Pennask Mountain area, 30 kilometers west of Peachland.

The Peachland Creek formation is stratigraphically overlain by a 100 to 700 meter thick sedimentary sequence in which a series of east-to-west facies changes are recognized. This sequence progressively thickens westward and the facies changes probably reflect deposition across the tectonically controlled margin of a northwesterly deepening Late Triassic marine basin.

The easternmost and most proximal facies, informally called the French Mine formation has a maximum thickness of 150 meters and comprises massive to bedded limestone interlayered with thinner units of calcareous siltstone, chert-pebble conglomerate, tuff, limestone-boulder conglomerate and limestone breccia. This formation hosts the auriferous skarn mineralization at the French and Goodhope mines.

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



GEOLOGY AFTER G. E. RAY, B.C.D.M. 1987

LEGEND

TERTIARY

12 Basalt flows

EROSIONAL UNCONFORMITY

EARLY CRETACEOUS

11 VERDE CREEK INTRUSION - granite and megacrysts

10 RHYOLITE INTRUSION - quartz porphyry

9 SPENCES BRIDGE GROUP - andesitic to dacitic pyroclastics and flows with minor sediments

CONTACT UNCERTAIN

EARLY JURASSIC

8 BROMLEY BATHOLITH AND CAHILL CREEK PLUTON - granodiorite to quartz monzonite

7 HEDLEY INTRUSION - quartz diorite, diorite, and gabbro

INTRUSIVE CONTACT

NICOLA GROUP

LATE TRIASSIC

6b WHISTLE CREEK FORMATION - bedded to massive ash and lapilli tuff, minor lufaceous siltstone

6a Copperfield Conglomerate - limestone boulder conglomerate

5 STEMWINDER MOUNTAIN FORMATION (WESTERN FACIES) - finely bedded argillite and limestone

4 HEDLEY FORMATION (CENTRAL FACIES) - finely bedded siltstone, thick limestone beds and minor tuffs

3 FRENCH MINE FORMATION (EASTERN FACIES) - limestone, limestone breccia and pebble conglomerate

2 PEACHLAND CREEK FORMATION - basaltic ash tuffs and flows with minor limestone and chert-pebble conglomerate

CONTACT OCCUPIED BY CAHILL CREEK PLUTON

PALEOZOIC

1 APEX MOUNTAIN COMPLEX - ophiolite sequence of cherts, gneisses, siltstones, argillites and minor limestones

● GOLD OCCURRENCES

LOCATION NO

NAME

- 1 NICKEL PLATE MINE (producing 1987)
- 2 FRENCH MINE
- 3 CANTY MINE
- 4 GOODHOPE MINE
- 5 BANBURY GOLD MINE
- 6 PEGGY (Hedley Amalgamated)

CANNELLE EXPLORATION LTD.

WP CLAIMS  
REGIONAL GEOLOGY  
HEDLEY DISTRICT

N.T.S. 92H-8E

SMILKAMEEN M.D., B.C.

0 2 4 6 KM.

SCALE: AS SHOWN

DATE: 10-89

DRAWN BY: G.F.C.

FIGURE NO. 3



The westernmost, more distal facies is represented by the Stemwinder Mountain formation which is at least 700 meters 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 hosts the gold occurrences at Banbury (vein) and Peggy (skarn).

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

The base of the Whistle Creek formation is marked by the Copperfield conglomerate, a limestone-boulder conglomerate that forms the most distinctive and important stratigraphic marker horizon in the district. The conglomerate is well developed west of Hedley where it forms a northerly trending, steeply dipping unit that is traceable for over 15 kilometers along strike.

The Whistle Creek formation is overlain by volcanoclastic rocks that may belong to the Early Cretaceous Spences Bridge Group.

Three suites of plutonic rocks are recognized in the area. The oldest, the Hedley intrusions is probably Early Jurassic in age and is economically important. It forms major stocks up to 1.5 kilometers in diameter and swarms of thin sills and dykes up to 200 meters in thickness and over 1 kilometer in length. The sills and dykes are coarse-grained and massive diorites and quartz diorites with minor gabbro, while the stocks range from gabbro through granodiorite to quartz monzonite. This plutonic suite is genetically related to the skarn-hosted gold mineralization in the district including that at the Nickel Plate, Hedley Mascot, French and Goodhope mines, and gold occurrences at Banbury, Goldhill, Peggy and Canty.

The second plutonic suite is the Early Jurassic? Similkameen intrusions which comprise coarse-grained, massive, biotite hornblende granodiorite to quartz monzodiorite. It generally forms large bodies, for example, the Bromley batholith and Cahill Creek pluton which generally separates the Nicola Group rocks from the highly deformed Apex Mountain complex.

The third and youngest intrusive suite includes two rock types that are possibly coeval and related to the formation of the dacitic volcanoclastic rocks within the Spences Bridge Group. One of these, the Verde Creek stock comprises a fine to medium

grained, massive leucocratic microgranite that contains minor biotite. The other type is represented by fine-grained, leucocratic, felsic quartz porphyry.

### 3.2 CLAIM GEOLOGY

The WP Claims (figure 3) are mainly underlain by Nicola Group volcanic and sedimentary rocks, including both the Whistle Creek and Stemwinder Mountain formations.

Two suites of intrusive rocks outcrop on the property. These include a stock of the Hedley Intrusions in the southeastern portion of the claims and the Cahill Creek pluton in the southern portion of the claims.

The oldest unit (Unit 5) consists of rocks of the Stemwinder Mountain formation which is characterized by a sequence of black, organic rich, thinly bedded calcareous argillite and turbiditic siltstone, minor amounts of siliceous fine-grained tuff and dark impure limestone beds that seldom exceed 3 meters in thickness.

Unit 6a is the Copperfield Conglomerate. The unit is composed of well rounded to angular limestone clasts up to 1 meter in width, and varies from clast to matrix supported. Several scattered outcrops of this unit were noted, with the largest exposure 25 meters wide and 75 meters long. This unit generally marks the boundary of the Stemwinder Mountain and Whistle Creek formations.

Unit 6b is made up of rocks of the Whistle Creek formation which predominates over the claims. In its lower portion the unit is predominately sedimentary, while higher in the unit it becomes more volcanic in nature. This unit varies from a massive, well indurated black to grey argillite and tuffaceous argillite to a massive to bedded dark green andesite tuff. Lesser amounts of angular to subangular clasts of grey to black argillite within a fine-grained green tuff and thinly bedded grey to blue limestone were also noted.

The general strike of the units is north to northeasterly, with dips predominately steep to the west. Subunits are often narrow, interbedded and of mixed lithologies, making mapping difficult.

Unit 7 is a medium to coarse grained hornblende diorite of the Hedley Intrusions. The unit forms a stock in the southeastern portion of the property and scattered dykes or sills over the remainder of the property.

Unit 8 is composed of rocks of the Cahill Creek pluton which is generally a medium grained biotite hornblende granodiorite. The unit intrudes the Nicola Group in the southern portion of the property.

### 3.3 MINERALIZATION

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

The skarn-type mineralization is the most widespread and economically important, and is characterized by the gold being intimately associated with variable quantities of sulphide bearing garnet-pyroxene-carbonate exoskarn alteration. The gold tends to be associated with sulphides, particularly arsenopyrite, pyrrhotite and chalcopyrite. Present in lesser amounts are pyrite, gersdorffite and calcium-rich sphalerite with minor amounts of magnetite and cobalt minerals. Trace minerals include galena, native bismuth, electrum, tetrahedrite and molybdenite. This type of mineralization is found at the Nickel Plate, Hedley Mascot and most other properties in the area.

The skarn-type mineralization is generally stratabound and follows calcareous tuffs and limestones within the upper parts of the Hedley, French mine and Stemwinder Mountain formations. Swarms of diorite sills and dykes of the Hedley Intrusions or larger bodies of the Hedley Intrusions have intruded the favourable beds and hornfelsed them. Both the intrusions and sediments were subsequently overprinted with the skarn alteration.

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

At the Banbury Property two elongate stocks of the Hedley Intrusions some 300 meters wide by 1.3 kilometers long intrude both the Hedley and Whistle Creek sequences. A hornfelsed aureole surrounds the stocks. Both the stocks and aureoles are cut by northerly trending fracture zones which are filled by steep and shallow dipping quartz-carbonate vein systems.

Exploration on the WP Claims is directed towards two types of gold mineralization, skarn type as is found at Nickel Plate Mountain, and quartz-carbonate veins within shear zones as is found at the Banbury Gold Mines Limited property.

Only one mineralized zone has been found on the claims to date. A quartz stockwork-breccia is exposed in an old road cut. The zone is approximately 4.5 meters wide, with a 2 meter wide central portion composed of angular argillite fragments within a quartz matrix, and a peripheral zone with a weak to moderate quartz stockwork. Minor amounts of fine grained pyrite and rusty boxworks are found within the quartz matrix. Anomalous gold and

silver values of up to 720 ppb and 5.9 ppm respectively were obtained from sampling. Quartz stockwork-breccia float is scattered over a wide area along strike in both directions from the road cut. The zone strikes approximately north-south and appears to be vertical.

## 4.0 GEOCHEMISTRY

### 4.1 SOIL SAMPLING

Five hundred and forty-two soil samples were analyzed by 6 element ICP and for gold. The elements analyzed by ICP analysis were silver, arsenic, bismuth, cobalt, copper, and lead. The 6 elements were chosen for ICP analysis on the basis of their coorelation with gold as determined by the 1987 soil survey.

The relatively good correlation of gold with bismuth, cobalt and arsenic is significant as this coincides with the observed mineralogical association of gold with hedleyite, gersdorffite and arsenopyrite at Nickel Plate Mountain.

The soil samples analyzed by the two laboratories in 1988 and 1989 do not show a good correlation of the magnitude of the background and anomalous values. For this reason a new set of background and anomalous values were calculated for this survey.

Background and anomalous values were calculated as follows:

ELEMENT	BACKGROUND	ANOMALOUS
Ag ppm	0.17	≥ 0.3
As ppm	4.88	≥ 8.0
Cu ppm	24.84	≥ 38.0
Pb ppm	4.08	≥ 7.0
Co ppm	6.05	≥ 10.0
Bi ppm	2.0	≥ 4.0
Au ppb	5.0	≥ 15.0

#### Gold

Gold values ranged from 5 to 100 ppb and no broad anomalies were outlined.

All of the anomalous values occurred at a single sample location. Several of the anomalous values do occur within broader silver, arsenic, copper and cobalt anomalies.

#### Silver

Silver values ranged from 0.1 to 1.5 ppm and four weak anomalies were outlined.

Anomaly Ag-6 is a fairly broad anomaly occurring on a gentle slope immediately before the sharp break into Pettigrew Creek. It occurs along lines 15N, 16N and 17N and coincidentally with copper, cobalt and lead. A number of weak VLF EM conductors pass through the anomaly.

Anomaly Ag-7 is a small anomaly occurring on the steep western slope dropping into Pettigrew Creek. The anomaly is downslope from a coincidentally occurring magnetic low and weak VLF EM conductor. No other elements are anomalous with the silver.

Anomaly Ag-8 is a large anomaly extending from Pettigrew Creek up the steep eastern slope to the east claim boundary. Smaller arsenic, copper and cobalt anomalies occur coincidentally with the silver.

Anomaly Ag-9 is a small but moderate five sample anomaly occurring along the eastern edge of the claims. Moderate arsenic, copper and cobalt anomalies along with a single 90 ppb gold occur with the silver.

#### Arsenic

Arsenic values ranged from 2 to 58 ppm and three weak anomalies were outlined.

Anomaly As-7 is a small five sample anomaly occurring on the steep eastern slope leading into Pettigrew Creek. It occurs coincidentally with silver and copper anomalies and a magnetic high.

Anomaly As-8 is a small five sample, moderate anomaly occurring in the northeast corner of the WP-3 claim. It occurs with copper, silver and cobalt, all of which are of moderate magnitude.

Anomaly As-9 is a linear anomaly occurring along the northern portion of Pettigrew Creek. Silver, copper and to a lesser extent cobalt are also anomalous within the area.

#### Copper

Copper values ranged from 5 to 186 ppm and four anomalies were outlined.

Anomaly Cu-8 is a weak linear anomaly occurring on the gentle slopes before the sharp break into Pettigrew Creek. It extends from line 14N to 19N and silver, cobalt and lead are anomalous within portions of the larger copper anomaly. The southern section of the anomaly overlaps a magnetic high, and a number of weak to moderate VLF EM conductors pass through the anomaly.

Anomaly Cu-9 is a moderate sized anomaly occurring on the steep western slopes leading into Pettigrew Creek. Smaller lead and cobalt anomalies along with several weak to strong VLF EM conductors occur coincidentally with the copper anomaly.

Anomaly Cu-10 is a broad anomaly extending from Pettigrew Creek up the steep eastern slope. Silver, cobalt and arsenic are also anomalous.

Anomaly Cu-11 is a small, strong anomaly occurring at the northeast corner of the WP-3 claim. Silver, cobalt and arsenic are also strongly anomalous.

#### Lead

Lead values ranged from 1 to 26 ppm and two small anomalies were outlined.

Anomaly Pb-4 is a small, moderate anomaly occurring at the steep break into Pettigrew Creek. Copper, silver and cobalt are also anomalous and several strong VLF EM conductors and a magnetic high occur coincidentally with the lead anomaly.

Anomaly Pb-5 is a linear anomaly occurring on the steep western slope leading into Pettigrew Creek. Copper is also anomalous and several weak to moderate VLF EM conductors pass through the anomaly.

#### Bismuth

No anomalous bismuth values were noted.

#### Cobalt

Cobalt values ranged from 1 to 24 ppm and five anomalies were outlined.

Anomaly Co-5 is a weak anomaly straddling Pettigrew Creek at the north end of the WP-3 claim. Silver, copper and arsenic are also anomalous.

Anomaly Co-6 is a small, strong anomaly occurring in the northeastern corner of the WP-3 claim. Silver, copper and arsenic are also anomalous.

Anomaly Co-7 is a moderate sized anomaly occurring on the western slope of the sharp break into Pettigrew Creek. Silver, copper and lead are also anomalous and several weak to strong VLF EM conductors pass through the anomaly.

Anomaly Co-8 is a broad anomaly occurring along the northern boundary of the WP-3 claim. Several weak VLF EM conductors pass through the anomaly.

Anomaly Co-9 is a small anomaly occurring on the steep western slope above Pettigrew Creek. Copper and lead are coincidentally anomalous with a portion of the cobalt anomaly.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The WP Claims are underlain by Whistle Creek and Stemwinder Mountain Formations of Nicola Group volcanic and sedimentary rocks. A stock of the Hedley Intrusions which are spatially related to gold mineralization in the Hedley Gold Camp outcrops in the southeastern section of the property.

The program covered by this report consisted of analyzing 542 soil samples collected in previous years. The samples were analyzed for gold, silver, copper, arsenic, cobalt, bismuth and lead.

The soil geochemical sampling indicated four areas of weak to moderate multi-element soil geochemical anomalies. The multi-element anomalies are made up of a combination of silver, copper, arsenic, cobalt and lead. Gold values are restricted to single sample locations, although some of these occur within the broader multi-element anomalies.

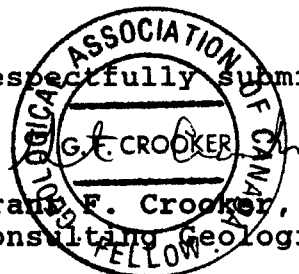
The multi-element soil geochemical values occur coincidentally with a number of magnetic features and weak to strong VLF EM conductors. These anomalies also occur on the steep slopes leading into Pettigrew Creek and could be the source for the anomalous heavy metal concentrate samples taken from Pettigrew Creek in 1987 and 1988.

Recommendations are to continue exploration on the property. This should include follow up evaluation of the multi-element soil geochemical anomalies by prospecting and fill-in soil sampling if required.

Based on an examination of the geochemical and geophysical anomalies and geological structures, trenching should be carried out over favourable areas to define possible drill targets.

Respectfully submitted,

G. F. CROOKER  
 Grant F. Crooker, B.Sc., F.G.A.C.,  
 Consulting Geologist



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Geology and Soil Geochemistry Survey Report VA Claim in the Similkameen Mining Division, British Columbia for Kadrey Energy Corporation. Assessment Report 10,015, Part 1 of 2.

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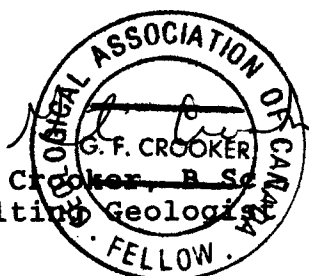
## 7.0 CERTIFICATE OF QUALIFICATIONS

I, Grant F. Crooker, of Upper Bench Road, Keremeos, in the Province of British Columbia, hereby certify as follows:

1. That I graduated from the University of British Columbia in 1972 with a Bachelor of Science Degree in Geology.
2. That I have prospected and actively pursued geology prior to my graduation and have practised my profession since 1972.
3. That I am a member of the Canadian Institute of Mining and Metallurgy.
4. That I am a Fellow of the Geological Association of Canada.
5. That I am the owner of the WP 1 to 4 claims.

Dated this 29th day of Nov, 1989, at Vancouver, in the Province of British Columbia.

Grant Crooker, B.Sc.  
Consulting Geologist



F.G.A.C.

**Appendix I**

**CERTIFICATES OF ANALYSIS**

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British Columbia, Can. V5B 3N1  
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**CERTIFICATE OF ANALYSIS**

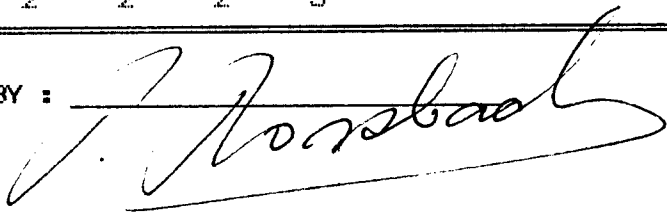
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P.O. BOX 234,  
KEREMEOS, B.C.

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 1

PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

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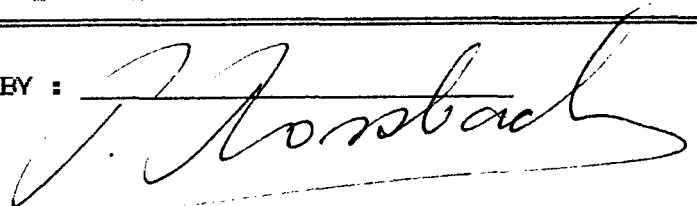
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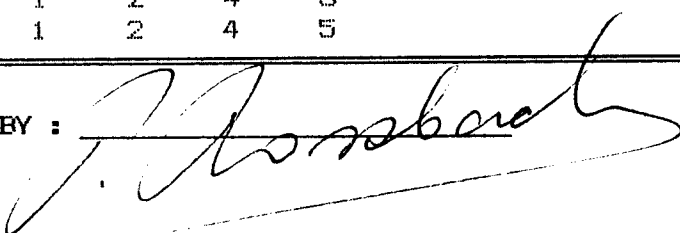
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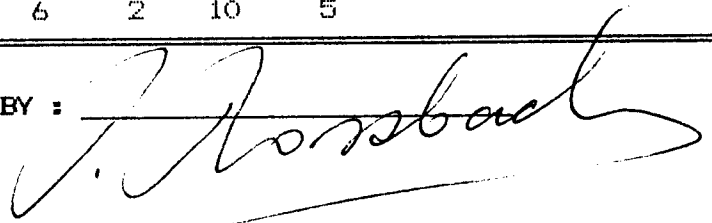
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PAGE # : 4

PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPB
Cu	Co	Ag	Pb	Bi	As	Au	AA
11	5	0.1	1	2	3	5	
18	6	0.1	2	2	6	5	
9	6	0.1	1	2	3	5	
9	4	0.1	2	2	4	5	
33	8	0.1	2	2	4	5	
27	8	0.1	1	2	7	5	
13	4	0.1	3	2	10	5	
14	7	0.1	2	2	6	5	
34	10	0.1	1	2	4	5	
15	3	0.1	1	2	6	5	
24	8	0.1	3	2	6	5	
49	11	0.1	1	2	10	5	
29	9	0.1	4	2	7	5	
20	6	0.1	3	2	7	5	
92	12	0.1	2	2	8	5	
63	9	0.1	4	2	14	5	
14	5	0.1	3	2	8	5	
80	13	0.1	6	2	18	40	
28	8	0.1	4	2	10	5	
24	1	0.1	1	2	7	5	
28	7	0.1	1	2	12	5	
33	5	0.1	5	2	10	5	
21	6	0.1	7	2	6	5	
12	5	0.1	2	2	4	5	
10	3	0.1	1	2	2	5	
9	4	0.1	1	2	6	5	
10	3	0.1	1	2	4	5	
14	3	0.1	1	2	2	5	
10	4	0.1	3	2	3	5	
9	2	0.1	1	2	2	5	
11	5	0.1	2	2	2	5	
12	4	0.1	2	2	2	5	
9	3	0.1	1	2	3	5	
13	3	0.1	3	2	4	5	
10	3	0.1	1	2	3	5	
12	4	0.1	1	2	4	20	
16	6	0.1	1	2	8	5	
15	4	0.1	4	2	2	5	
15	4	0.1	5	2	2	5	
47	3	0.2	6	2	10	5	

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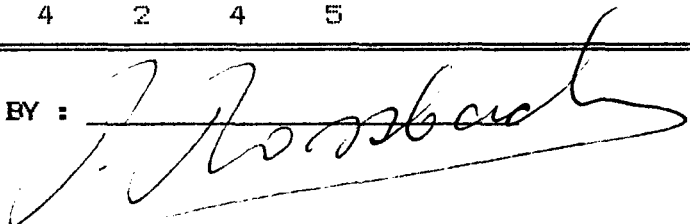
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O.BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 5

FILE FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPB Au	PPB AA
S	9N 900E	18	5	0.2	5	2	2	5	
S	9N 950E	25	4	0.1	3	2	2	5	
S	9N 1000E	20	3	0.1	5	2	2	5	
S	9N 1050E	11	2	0.1	4	2	2	5	
S	9N 1100E	38	9	0.1	6	2	2	5	
S	9N 1150E	27	6	0.1	5	2	2	5	
S	9N 1200E	52	9	0.3	5	2	7	5	
S	9N 1250E	13	3	0.1	3	2	2	5	
S	9N 1300E	22	6	0.1	5	2	2	5	
S	9N 1350E	21	7	0.1	3	2	2	5	
S	9N 1400E	15	5	0.1	4	2	2	5	
S	9N 1450E	30	8	0.1	6	2	2	5	
S	9N 1500E	23	5	0.1	9	2	2	5	
S	9N 1550E	27	8	0.1	5	2	2	5	
S	9N 1600E	25	6	0.1	4	2	2	5	
S	9N 1650E	23	5	0.1	8	2	2	5	
S	9N 1700E	22	5	0.1	8	2	2	5	
S	9N 1750E	60	7	0.1	13	2	2	5	
S	10N 050E	10	6	0.1	5	2	2	5	
S	10N 100E	10	1	0.1	2	2	2	5	
S	10N 150E	10	1	0.1	6	2	2	5	
S	10N 200E	8	3	0.1	7	2	2	5	
S	10N 250E	10	5	0.1	3	2	2	5	
S	10N 300E	14	4	0.1	4	2	2	5	
S	10N 350E	9	3	0.1	4	2	2	5	
S	10N 400E	20	3	0.1	5	2	2	5	
S	10N 450E	8	4	0.1	4	2	2	5	
S	10N 500E	8	3	0.1	7	2	2	5	
S	10N 550E	8	5	0.1	4	2	2	5	
S	10N 600E	9	5	0.1	5	2	2	5	
S	10N 650E	16	7	0.1	5	2	2	5	
S	10N 700E	21	6	0.1	6	2	2	5	
S	10N 750E	35	4	0.1	8	2	2	5	
S	10N 800E	12	7	0.1	6	2	2	5	
S	10N 850E	31	7	0.2	8	2	2	5	
S	10N 900E	27	11	0.1	7	2	4	5	
S	10N 950E	19	8	0.3	2	2	8	5	
S	10N 1000E	13	7	0.2	1	2	8	5	
S	10N 1050E	37	10	0.2	6	2	8	5	
S	10N 1100E	31	8	0.2	4	2	4	5	

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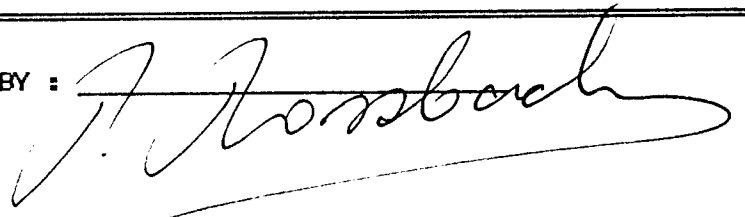
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O.BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 6

FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPM Au	PPM AA
S	10N 1150E	34	12	0.2	4	2	6	5	
S	10N 1200E	33	8	0.1	5	2	16	5	
S	10N 1250E	13	4	0.1	3	2	6	5	
S	10N 1300E	29	9	0.2	4	2	4	5	
S	10N 1350E	14	6	0.1	3	2	7	5	
S	10N 1400E	14	5	0.1	3	2	6	5	
S	10N 1450E	14	2	0.1	4	2	6	5	
S	10N 1500E	22	6	0.1	3	2	4	5	
S	10N 1550E	17	2	0.1	4	2	5	5	
S	10N 1600E	24	6	0.1	4	2	6	5	
S	10N 1650E	28	6	0.1	4	2	5	5	
S	10N 1700E	32	5	0.2	4	2	7	5	
S	11N 000E	15	8	0.1	2	2	4	5	
S	11N 050E	12	3	0.1	2	2	3	5	
S	11N 100E	10	1	0.1	2	2	2	5	
S	11N 150E	11	1	0.1	2	2	3	5	
S	11N 200E	7	3	0.1	5	2	4	5	
S	11N 250E	13	1	0.1	7	2	3	5	
S	11N 300E	10	3	0.1	3	2	2	5	
S	11N 350E	10	3	0.1	5	2	6	5	
S	11N 400E	9	3	0.1	3	2	2	5	
S	11N 450E	13	3	0.1	2	2	5	5	
S	11N 500E	10	2	0.1	2	2	7	5	
S	11N 550E	7	2	0.1	2	2	4	5	
S	11N 600E	11	2	0.1	3	2	2	5	
S	11N 650E	12	1	0.1	4	2	6	5	
S	11N 700E	16	2	0.2	3	2	10	5	
S	11N 750E	19	5	0.2	6	2	9	5	
S	11N 800E	15	3	0.3	2	2	8	5	
S	11N 850E	24	5	0.3	7	2	16	5	
S	11N 900E	32	4	0.3	5	2	12	5	
S	11N 950E	43	8	0.2	8	2	15	5	
S	11N 1000E	26	6	0.2	6	2	9	5	
S	11N 1050E	24	5	0.1	5	2	10	5	
S	11N 1100E	15	4	0.1	4	2	10	5	
S	11N 1150E	84	16	0.1	7	2	9	5	
S	11N 1200E	34	7	0.1	2	2	8	5	
S	11N 1250E	22	4	0.1	3	2	2	5	
S	11N 1300E	35	10	0.1	2	2	5	5	
S	11N 1350E	45	10	0.1	3	2	4	5	

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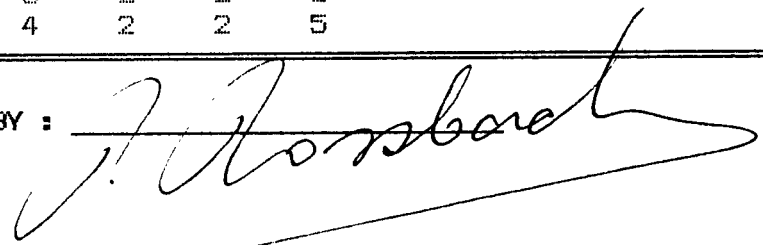
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O.BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 7

FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPM Au	PPM AA
S	11N 1400E	40	10	0.1	1	2	3	5	
S	11N 1450E	23	7	0.1	2	2	2	5	
S	11N 1500E	14	6	0.1	1	2	2	5	
S	11N 1550E	6	1	0.1	1	2	2	5	
S	11N 1600E	20	9	0.1	3	2	2	5	
S	11N 1650E	33	11	0.1	3	2	3	5	
S	11N 1700E	14	6	0.1	4	2	2	5	
S	12N 000E	10	4	0.1	2	2	2	5	
S	12N 050E	8	4	0.1	1	2	2	5	
S	12N 100E	9	3	0.1	2	2	2	5	
S	12N 150E	12	6	0.1	3	2	2	5	
S	12N 200E	10	5	0.1	3	2	2	5	
S	12N 250E	10	2	0.1	3	2	2	5	
S	12N 300E	11	2	0.1	2	2	2	5	
S	12N 350E	8	4	0.1	2	2	2	5	
S	12N 400E	9	2	0.1	2	2	2	5	
S	12N 450E	11	2	0.1	3	2	2	5	
S	12N 500E	10	1	0.1	2	2	2	5	
S	12N 550E	9	2	0.1	2	2	2	5	
S	12N 600E	9	6	0.1	3	2	2	5	
S	12N 650E	14	4	0.1	4	2	2	5	
S	12N 700E	10	5	0.1	2	2	2	10	
S	12N 750E	15	8	0.1	4	2	4	5	
S	12N 800E	17	4	0.1	5	2	4	5	
S	12N 850E	37	11	0.1	5	2	6	5	
S	12N 900E	30	8	0.1	7	2	8	5	
S	12N 950E	29	10	0.1	4	2	7	5	
S	12N 1000E	43	11	0.1	6	2	4	5	
S	12N 1050E	18	6	0.1	5	2	2	5	
S	12N 1100E	46	13	0.1	9	2	2	5	
S	12N 1150E	71	15	0.1	10	2	3	5	
S	12N 1200E	33	7	0.1	5	2	4	5	
S	12N 1250E	20	5	0.1	4	2	2	5	
S	12N 1300E	10	4	0.1	4	2	2	5	
S	12N 1350E	30	2	0.1	6	2	2	5	
S	12N 1400E	23	2	0.1	4	2	2	5	
S	12N 1450E	24	4	0.1	5	2	2	5	
S	12N 1500E	14	3	0.1	5	2	3	5	
S	12N 1550E	28	1	0.1	6	2	2	5	
S	12N 1600E	16	4	0.1	4	2	2	5	

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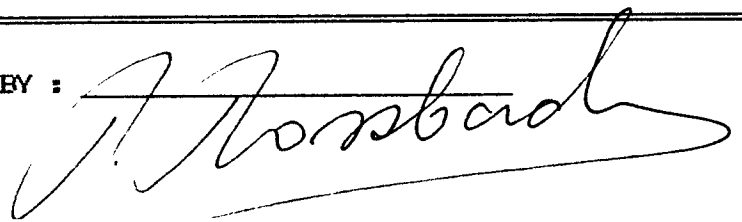
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O. BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 8

PRE FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPB Au	PPB AA
S	12N 1650E	15	3	0.1	4	2	2	5	
S	12N 1700E	67	7	0.1	10	2	8	5	
S	13N 000E	7	5	0.1	3	2	2	5	
S	13N 050E	9	1	0.1	3	2	2	5	
S	13N 100E	10	2	0.1	2	2	2	5	
S	13N 150E	11	1	0.1	3	2	2	5	
S	13N 200E	12	1	0.1	5	2	2	5	
S	13N 250E	12	1	0.1	2	2	2	5	
S	13N 300E	11	1	0.1	5	2	2	5	
S	13N 350E	11	2	0.1	2	2	2	5	
S	13N 400E	10	1	0.1	1	2	2	5	
S	13N 450E	13	1	0.1	5	2	2	5	
S	13N 500E	15	1	0.1	5	2	2	5	
S	13N 525E	11	1	0.1	6	2	2	5	
S	13N 550E	12	5	0.1	6	2	2	5	
S	13N 575E	14	4	0.1	5	2	2	5	
S	13N 600E	10	3	0.1	4	2	2	5	
S	13N 625E	16	4	0.1	4	2	2	5	
S	13N 650E	27	5	0.1	5	2	2	5	
S	13N 675E	37	8	0.1	8	2	2	5	
S	13N 700E	37	7	0.1	4	2	2	5	
S	13N 725E	37	9	0.1	6	2	2	5	
S	13N 750E	27	8	0.2	9	2	4	5	
S	13N 775E	30	7	0.1	7	2	6	5	
S	13N 800E	14	5	0.1	3	2	5	5	
S	13N 825E	19	4	0.2	6	2	4	5	
S	13N 850E	31	7	0.1	8	2	6	5	
S	13N 875E	21	5	0.1	8	2	3	5	
S	13N 900E	94	24	0.4	22	2	34	5	
S	13N 925E	56	9	0.1	12	2	11	5	
S	13N 950E	47	6	0.1	8	2	2	5	
S	13N 975E	60	19	0.2	13	2	14	5	
S	13N 1000E	40	8	0.1	9	2	6	5	
S	13N 1025E	44	10	0.2	9	2	14	5	
S	13N 1100E	53	10	0.2	6	2	2	5	
S	13N 1125E	76	11	0.2	6	2	6	5	
S	13N 1150E	68	9	0.3	4	2	2	5	
S	13N 1175E	24	3	0.2	2	2	2	5	
S	13N 1200E	35	7	0.2	4	2	4	5	
S	13N 1250E	44	8	0.1	3	2	2	5	

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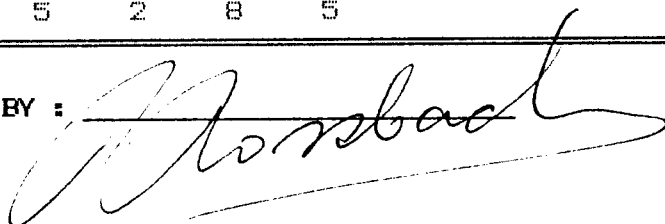
## CERTIFICATE OF ANALYSIS

TO : MR GRANT CROOKER,  
P.O. BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 9

PPM FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPB Au	PPB AA
S	13N 1300E	66	14	0.1	3	2	8	5	
S	13N 1350E	40	9	0.1	1	2	2	5	
S	13N 1400E	14	3	0.1	1	2	2	5	
S	13N 1450E	28	5	0.2	5	2	2	5	
S	13N 1500E	21	5	0.1	4	2	4	5	
S	13N 1550E	22	8	0.1	4	2	4	5	
S	13N 1600E	25	7	0.1	3	2	2	5	
S	13N 1650E	33	7	0.2	5	2	2	5	
S	15N 000E	8	2	0.1	1	2	2	5	
S	15N 050E	13	4	0.2	5	2	2	5	
S	15N 100E	12	4	0.1	1	2	2	5	
S	15N 150E	12	2	0.1	1	2	2	5	
S	15N 200E	11	4	0.1	1	2	2	5	
S	15N 250E	11	3	0.2	1	2	2	5	
S	15N 300E	13	4	0.2	3	2	2	5	
S	15N 350E	13	3	0.2	1	2	2	5	
S	15N 400E	20	2	0.2	3	2	2	5	
S	15N 450E	30	4	0.3	5	2	4	5	
S	15N 500E	40	10	0.3	3	2	4	5	
S	15N 525E	34	7	0.2	4	2	6	5	
S	15N 550E	33	7	0.2	4	2	2	5	
S	15N 575E	51	14	0.3	8	2	2	5	
S	15N 600E	60	15	0.3	8	2	4	5	
S	15N 625E	61	14	0.4	12	2	2	5	
S	15N 650E	45	12	0.2	22	2	2	5	
S	15N 675E	58	20	0.3	18	2	4	5	
S	15N 700E	28	7	0.2	11	2	2	5	
S	15N 725E	21	8	0.2	5	2	2	5	
S	15N 750E	27	9	0.2	8	2	8	5	
S	15N 775E	26	7	0.1	5	2	2	5	
S	15N 800E	23	9	0.2	3	2	48	5	
S	15N 825E	11	6	0.2	1	2	4	5	
S	15N 850E	15	3	0.3	3	2	10	5	
S	15N 875E	15	5	0.4	3	2	8	5	
S	15N 900E	12	4	0.3	2	2	4	5	
S	15N 925E	30	11	0.2	5	2	6	5	
S	15N 950E	10	4	0.1	3	2	8	5	
S	15N 975E	33	10	0.3	3	2	6	5	
S	15N 1000E	16	6	0.2	2	2	2	5	
S	15N 1025E	44	14	0.2	5	2	8	5	

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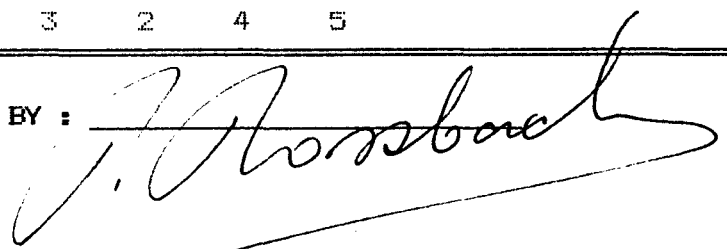
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
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KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GCB9399  
PAGE # : 10

PPM FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPB Au	PPB AA
S	15N 1050E	22	8	0.2	3	2	6	5	
S	15N 1075E	26	10	0.1	5	2	6	5	
S	15N 1200E	25	10	0.2	2	2	2	5	
S	15N 1250E	37	10	0.1	3	2	4	100	
S	15N 1300E	14	5	0.1	3	2	4	5	
S	15N 1350E	15	5	0.1	2	2	4	20	
S	15N 1400E	31	8	0.2	3	2	10	5	
S	15N 1450E	26	10	0.2	5	2	2	5	
S	15N 1500E	13	4	0.1	3	2	2	5	
S	15N 1550E	15	6	0.1	3	2	6	5	
S	15N 1600E	13	3	0.2	3	2	6	5	
S	15N 1700E	47	8	0.3	5	2	6	5	
S	16N 000E	12	4	0.2	6	2	4	5	
S	16N 050E	13	5	0.2	4	2	4	40	
S	16N 100E	23	4	0.2	3	2	4	5	
S	16N 150E	12	2	0.2	2	2	4	5	
S	16N 200E	12	3	0.2	2	2	6	5	
S	16N 250E	17	4	0.3	3	2	10	5	
S	16N 300E	14	3	0.4	2	2	6	5	
S	16N 350E	24	6	0.4	4	2	2	5	
S	16N 400E	48	8	0.3	6	2	6	5	
S	16N 450E	41	11	0.4	7	2	8	5	
S	16N 500E	39	10	0.3	5	2	8	5	
S	16N 550E	44	10	0.5	9	2	6	5	
S	16N 600E	33	14	0.3	9	2	6	5	
S	16N 650E	18	5	0.4	4	2	10	5	
S	16N 700E	27	8	0.3	5	2	8	5	
S	16N 750E	8	2	0.1	2	2	4	5	
S	16N 800E	17	3	0.3	1	2	6	5	
S	16N 850E	18	4	0.7	4	2	6	5	
S	16N 875E	27	4	0.3	4	2	6	5	
S	16N 900E	54	9	0.5	9	2	12	5	
S	16N 950E	23	6	0.4	5	2	8	50	
S	16N 1000E	45	8	0.4	4	2	8	5	
S	16N 1050E	15	5	0.2	3	2	6	5	
S	16N 1100E	55	8	0.3	3	2	10	5	
S	16N 1150E	30	7	0.5	2	2	10	5	
S	16N 1200E	20	1	0.4	6	2	14	5	
S	16N 1250E	15	5	0.2	2	2	6	5	
S	16N 1300E	14	5	0.2	3	2	4	5	

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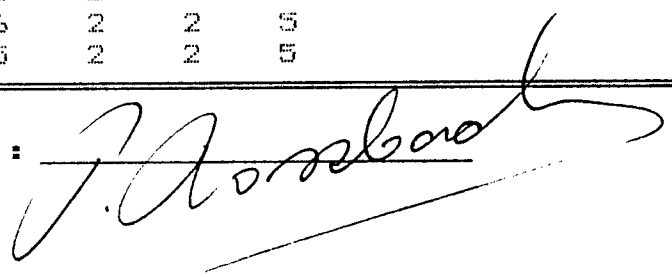
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O. BOX 234,  
KEREMEDS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 11

PRE FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPB Au	PPB AA
S	16N 1350E	17	7	0.2	3	2	6	5	
S	16N 1400E	33	7	0.1	1	2	8	20	
S	16N 1450E	17	6	0.2	2	2	8	10	
S	16N 1500E	15	5	0.3	3	2	12	5	
S	16N 1550E	18	4	0.3	3	2	10	5	
S	17N 000E	15	4	0.2	1	2	2	5	
S	17N 050E	21	1	0.2	1	2	2	5	
S	17N 100E	10	2	0.2	1	2	2	5	
S	17N 150E	14	3	0.3	2	2	4	5	
S	17N 200E	12	4	0.2	1	2	4	5	
S	17N 250E	20	5	0.1	2	2	8	5	
S	17N 300E	28	6	0.2	3	2	2	5	
S	17N 350E	27	1	0.1	2	2	3	5	
S	17N 400E	50	12	0.2	3	2	4	5	
S	17N 450E	70	17	0.3	3	2	2	5	
S	17N 500E	44	11	0.2	5	2	2	5	
S	17N 550E	26	5	0.3	3	2	4	5	
S	17N 600E	37	13	0.2	9	2	10	5	
S	17N 650E	30	6	0.4	3	2	4	5	
S	17N 700E	36	11	0.3	9	2	8	5	
S	17N 750E	41	9	0.2	3	2	12	5	
S	17N 800E	39	8	0.2	5	2	10	5	
S	17N 850E	50	15	0.1	6	2	6	5	
S	17N 900E	15	6	0.2	4	2	2	5	
S	17N 950E	37	8	0.3	4	2	4	5	
S	17N 1000E	12	3	0.1	2	2	6	5	
S	17N 1050E	20	7	0.2	4	2	8	5	
S	17N 1100E	17	3	0.1	3	2	2	5	
S	17N 1150E	14	3	0.1	4	2	2	5	
S	17N 1200E	66	12	0.2	5	2	20	60	
S	17N 1250E	35	5	0.4	4	2	10	5	
S	17N 1300E	19	1	0.5	2	2	6	5	
S	17N 1350E	14	2	0.3	2	2	2	5	
S	17N 1400E	7	3	0.2	4	2	2	5	
S	17N 1450E	13	4	0.2	5	2	4	5	
S	17N 1500E	20	4	0.2	5	2	2	5	
S	17N 1550E	20	7	0.3	5	2	2	5	
S	17N 1600E	23	6	0.3	6	2	4	5	
S	17N 1650E	18	4	0.4	6	2	2	5	
S	17N 1700E	9	2	0.3	5	2	2	5	

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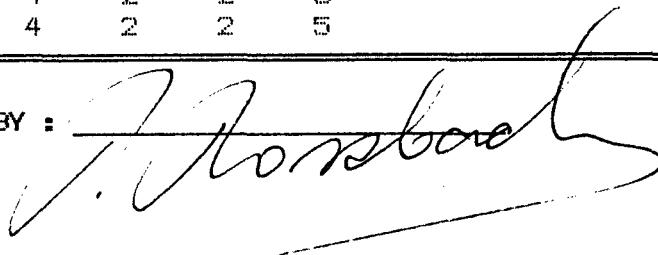
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O. BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 12

PRE FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPB Au	PPB AA
S	18N 000E	10	3	0.2	2	2	2	5	
S	18N 050E	6	4	0.1	1	2	2	5	
S	18N 100E	23	6	0.1	2	2	2	5	
S	18N 150E	13	5	0.2	3	2	2	5	
S	18N 200E	11	6	0.2	4	2	2	5	
S	18N 250E	11	4	0.3	3	2	2	5	
S	18N 300E	7	2	0.2	3	2	2	5	
S	18N 350E	35	8	0.2	8	2	6	5	
S	18N 400E	34	6	0.3	5	2	2	5	
S	18N 450E	38	7	0.4	4	2	4	5	
S	18N 500E	10	2	0.2	2	2	2	5	
S	18N 550E	40	10	0.3	3	2	4	5	
S	18N 600E	8	4	0.2	2	2	2	5	
S	18N 650E	22	7	0.1	9	2	4	5	
S	18N 675E	21	7	0.1	6	2	2	5	
S	18N 700E	9	5	0.1	3	2	2	5	
S	18N 750E	49	15	0.3	14	2	6	5	
S	18N 900E	30	5	0.5	26	2	58	10	
S	18N 950E	12	3	0.2	4	2	4	5	
S	18N 1000E	12	3	0.2	3	2	4	5	
S	18N 1050E	33	8	0.3	4	2	8	5	
S	18N 1100E	87	13	0.4	5	2	16	5	
S	18N 1150E	42	5	0.4	5	2	14	5	
S	18N 1200E	40	7	0.3	5	2	32	5	
S	18N 1250E	37	8	0.2	4	2	6	90	
S	18N 1300E	42	9	0.3	5	2	8	5	
S	18N 1350E	43	7	0.4	5	2	16	5	
S	18N 1400E	55	8	0.5	8	2	28	5	
S	18N 1450E	48	9	0.5	13	2	20	5	
S	18N 1500E	30	6	0.3	4	2	6	5	
S	18N 1550E	34	9	0.2	6	2	2	5	
S	18N 1600E	23	9	0.1	4	2	2	5	
S	18N 1650E	16	5	0.2	3	2	2	5	
S	19N 000E	11	4	0.1	4	2	2	5	
S	19N 050E	11	7	0.1	3	2	2	5	
S	19N 100E	21	7	0.1	5	2	2	5	
S	19N 150E	15	6	0.1	3	2	2	5	
S	19N 200E	12	4	0.1	2	2	2	5	
S	19N 250E	19	8	0.2	4	2	2	5	
S	19N 300E	17	9	0.2	4	2	2	5	

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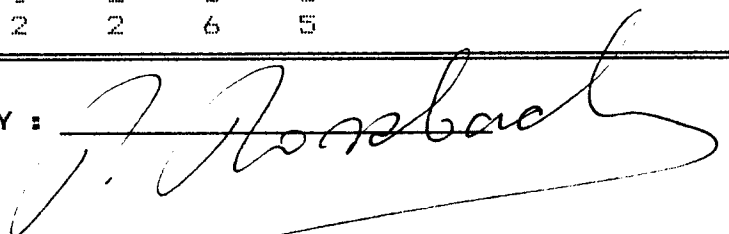
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O. BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 13

FILE FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPM Au	PPM AA
S	19N 350E	18	7	0.2	3	2	2	5	
S	19N 400E	18	7	0.2	6	2	2	5	
S	19N 450E	19	8	0.2	3	2	2	5	
S	19N 500E	8	6	0.1	2	2	2	5	
S	19N 550E	47	16	0.2	9	2	2	5	
S	19N 600E	49	16	0.1	5	2	2	5	
S	19N 650E	21	10	0.2	5	2	2	5	
S	19N 700E			MISSING					
S	19N 750E	26	14	0.2	7	2	4	5	
S	19N 800E	37	13	0.2	4	2	10	5	
S	19N 850E	15	7	0.1	1	2	2	5	
S	19N 900E	20	7	0.1	1	2	2	5	
S	19N 950E	17	8	0.1	3	2	6	5	
S	19N 1000E	9	7	0.2	3	2	2	5	
S	19N 1050E	35	12	0.1	3	2	6	5	
S	19N 1100E	86	18	0.4	7	2	20	5	
S	19N 1150E	34	10	0.4	1	2	4	5	
S	19N 1200E	32	10	0.3	3	2	8	5	
S	19N 1250E	96	18	0.9	7	2	48	5	
S	19N 1300E	46	12	0.2	6	2	8	5	
S	19N 1350E	96	16	0.5	6	2	12	5	
S	19N 1400E	46	13	0.3	5	2	6	5	
S	19N 1450E	75	14	0.3	3	2	6	5	
S	19N 1500E	25	10	0.2	3	2	6	5	
S	19N 1550E	48	13	0.3	4	2	10	5	
S	19N 1600E	23	9	0.2	2	2	6	5	
S	19N 1650E	94	14	0.6	7	2	14	5	
S	19N 1700E	30	10	0.3	6	2	4	5	
S	20N 000E	18	1	0.3	2	2	2	5	
S	20N 050E	37	7	0.3	1	2	10	5	
S	20N 100E	16	5	0.2	1	2	2	5	
S	20N 150E	17	6	0.2	1	2	4	5	
S	20N 200E	13	2	0.3	2	2	2	5	
S	20N 250E	16	4	0.2	2	2	6	5	
S	20N 300E	20	6	0.1	2	2	2	5	
S	20N 350E	15	2	0.1	3	2	4	5	
S	20N 400E	9	3	0.1	2	2	4	5	
S	20N 450E	12	4	0.1	3	2	2	5	
S	20N 500E	16	6	0.2	3	2	6	5	
S	20N 550E	21	6	0.2	2	2	6	5	

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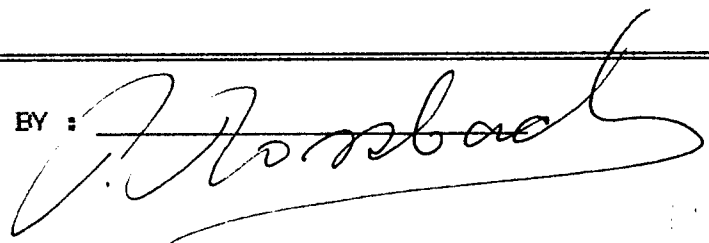
**CERTIFICATE OF ANALYSIS**

TO : MR GRANT CROOKER,  
P.O. BOX 234,  
KEREMEOS, B.C.  
PROJECT : CANNELLE/WP CLAIMS  
TYPE OF ANALYSIS : ICP

CERTIFICATE # : 89399  
INVOICE # : 10056  
DATE ENTERED : 89-10-18  
FILE NAME : GC89399  
PAGE # : 14

FIX	SAMPLE NAME	PPM Cu	PPM Co	PPM Ag	PPM Pb	PPM Bi	PPM As	PPM Au	PPM AA
S	20N 600E	29	11	0.1	4	2	6	5	
S	20N 650E	58	15	0.2	7	2	12	5	
S	20N 700E	24	3	0.1	1	2	4	5	
S	20N 750E	144	13	1.5	2	2	10	5	
S	20N 800E	47	2	0.3	1	2	10	5	
S	20N 850E	12	4	0.1	1	2	4	5	
S	20N 900E	10	3	0.1	1	2	6	5	
S	20N 950E	27	8	0.1	4	2	2	5	
S	20N 1000E	49	11	0.2	5	2	6	5	
S	20N 1050E	60	18	0.2	3	2	12	5	
S	20N 1100E	42	8	0.4	4	2	12	5	
S	20N 1150E	58	10	0.2	3	2	10	5	
S	20N 1200E	42	9	0.1	6	2	8	5	
S	20N 1250E	48	10	0.2	4	2	10	5	
S	20N 1300E	54	9	0.4	5	2	16	5	
S	20N 1350E	16	3	0.2	3	2	6	5	
S	20N 1400E	33	8	0.1	4	2	10	5	
S	20N 1450E	17	5	0.1	3	2	8	5	
S	20N 1500E	34	8	0.1	5	2	8	5	
S	20N 1550E	30	7	0.2	4	2	8	5	
S	20N 1600E	186	24	0.5	8	2	30	5	
S	20N 1650E	124	22	0.3	8	2	30	90	
S	20N 1700E	100	17	0.5	9	2	16	5	

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**Appendix II**

**COST STATEMENT**

**COST STATEMENT**

**SALARIES**

- Grant Crooker, Geologist  
Oct. 9, 26, Nov. 28, 29, 1989  
4 days @ \$ 350.00/day \$ 1,400.00

**FREIGHT** 31.90

**ANALYSIS**

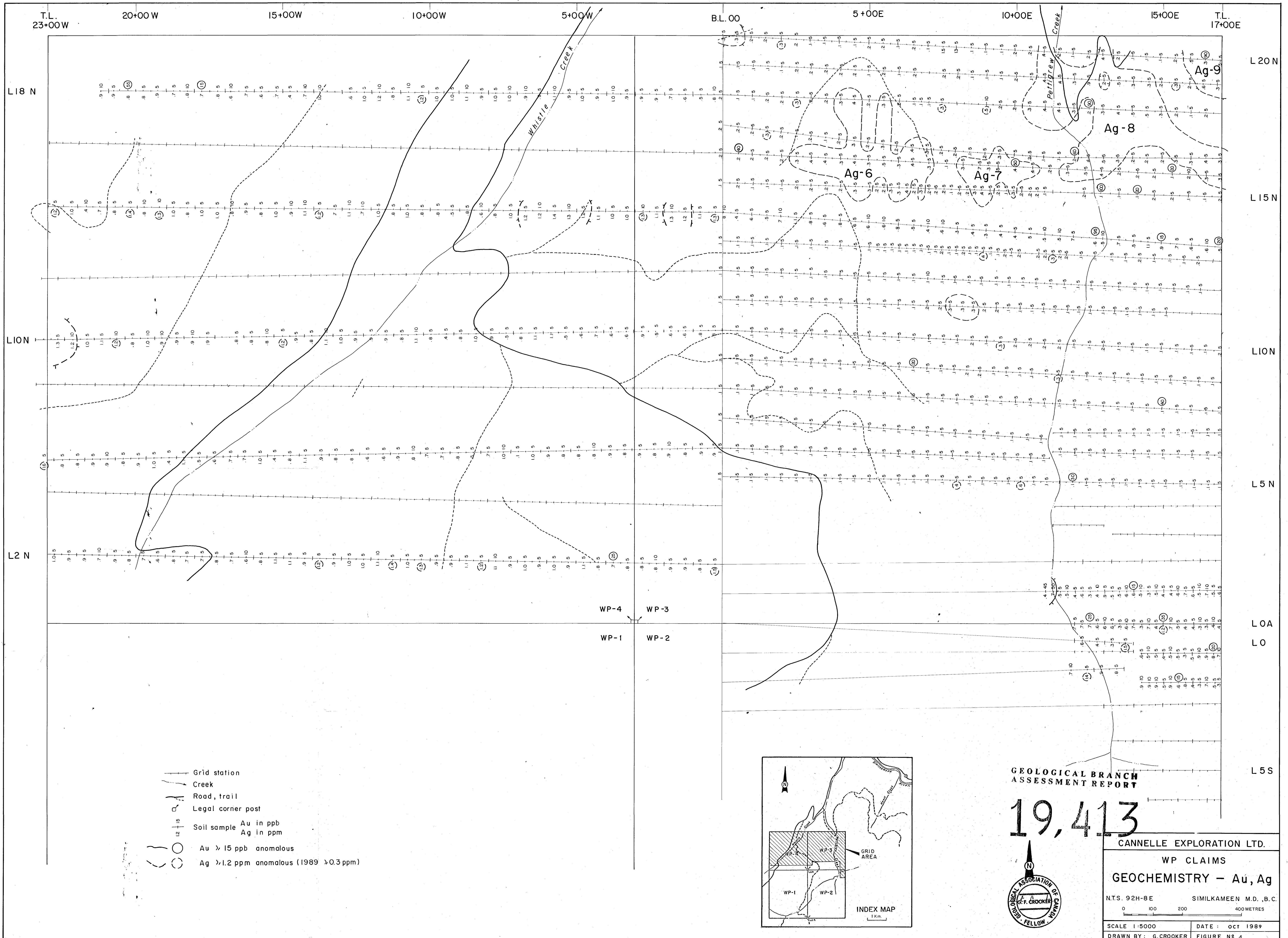
- 542 soil samples, 6 element ICP, Au-aqua-  
regia, @ \$ 8.07/ sample 4,369.88

**DRAUGHTING** 400.00

**PREPARATION of REPORT**

- Secretarial, reproduction, telephone,  
Office overhead etc. 400.00

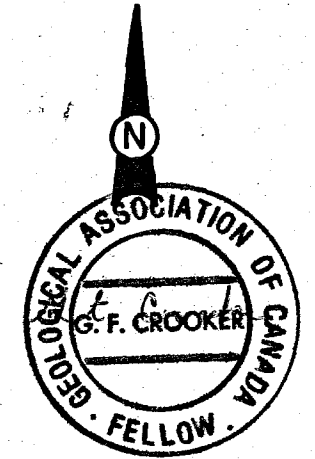
**TOTAL** \$ 6,601.78

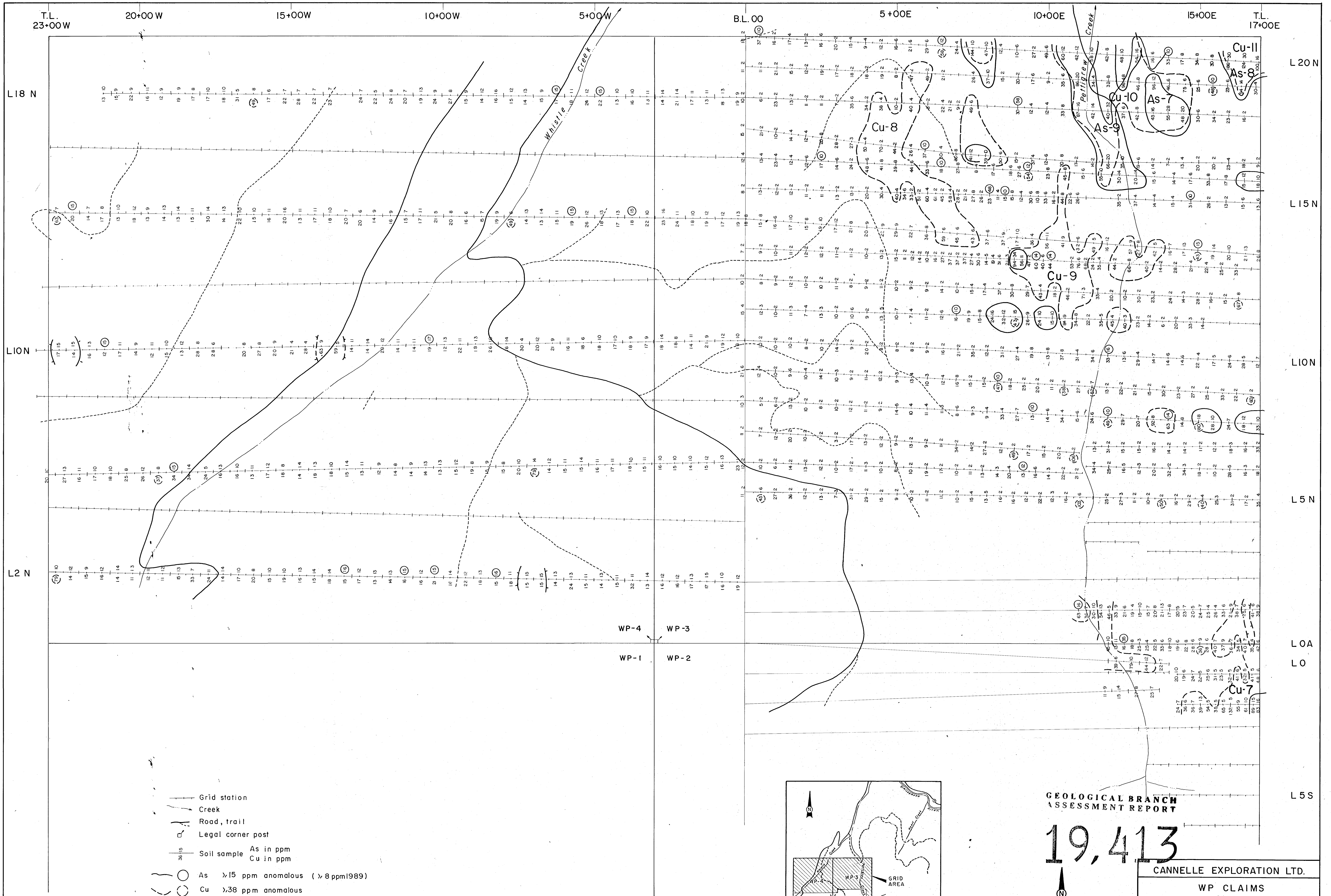


**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

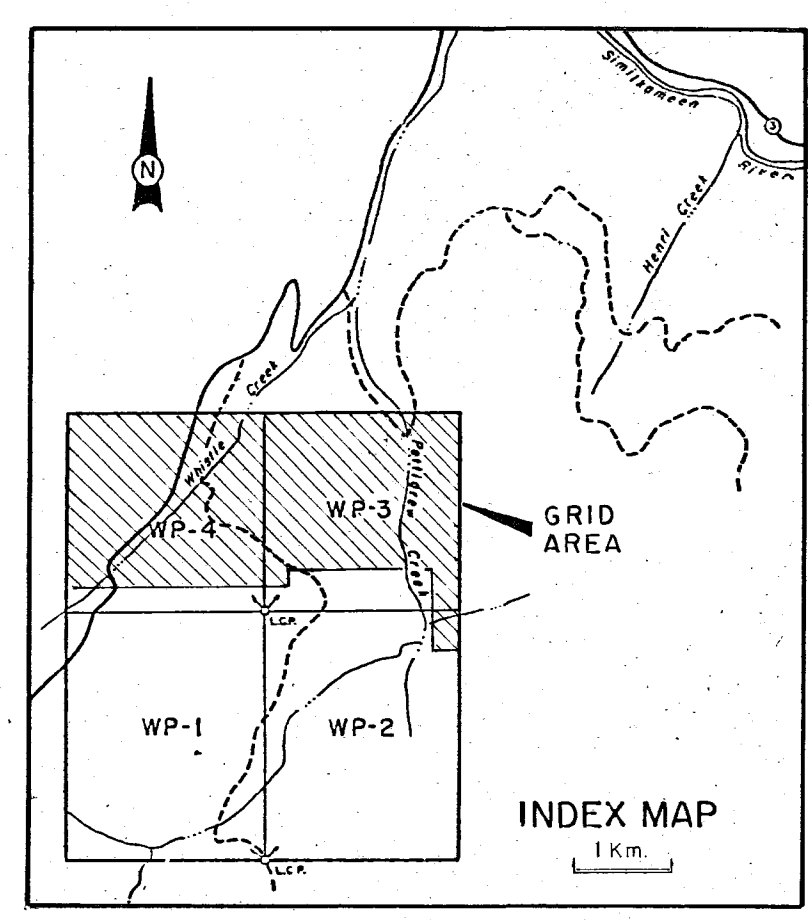
**19,413**

CANNELLE EXPLORATION LTD.	
WP CLAIMS	
GEOCHEMISTRY - Au, Ag	
N.T.S. 92H-8E	SIMILKAMEEN M.D., B.C.
0 100 200 400 METRES	
SCALE 1:5000	DATE: OCT 1989
DRAWN BY: G.CROOKER	FIGURE NO. 4



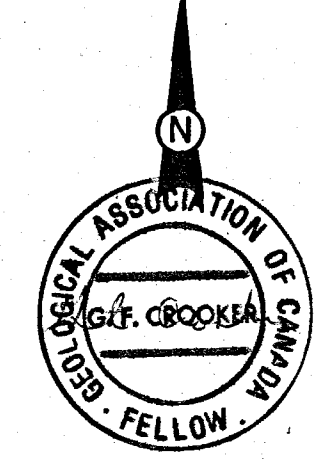


- Grid station
- Creek
- Road, trail
- Legal corner post
- Soil sample As in ppm  
Cu in ppm
- As >15 ppm anomalous (>8 ppm1989)
- Cu >38 ppm anomalous



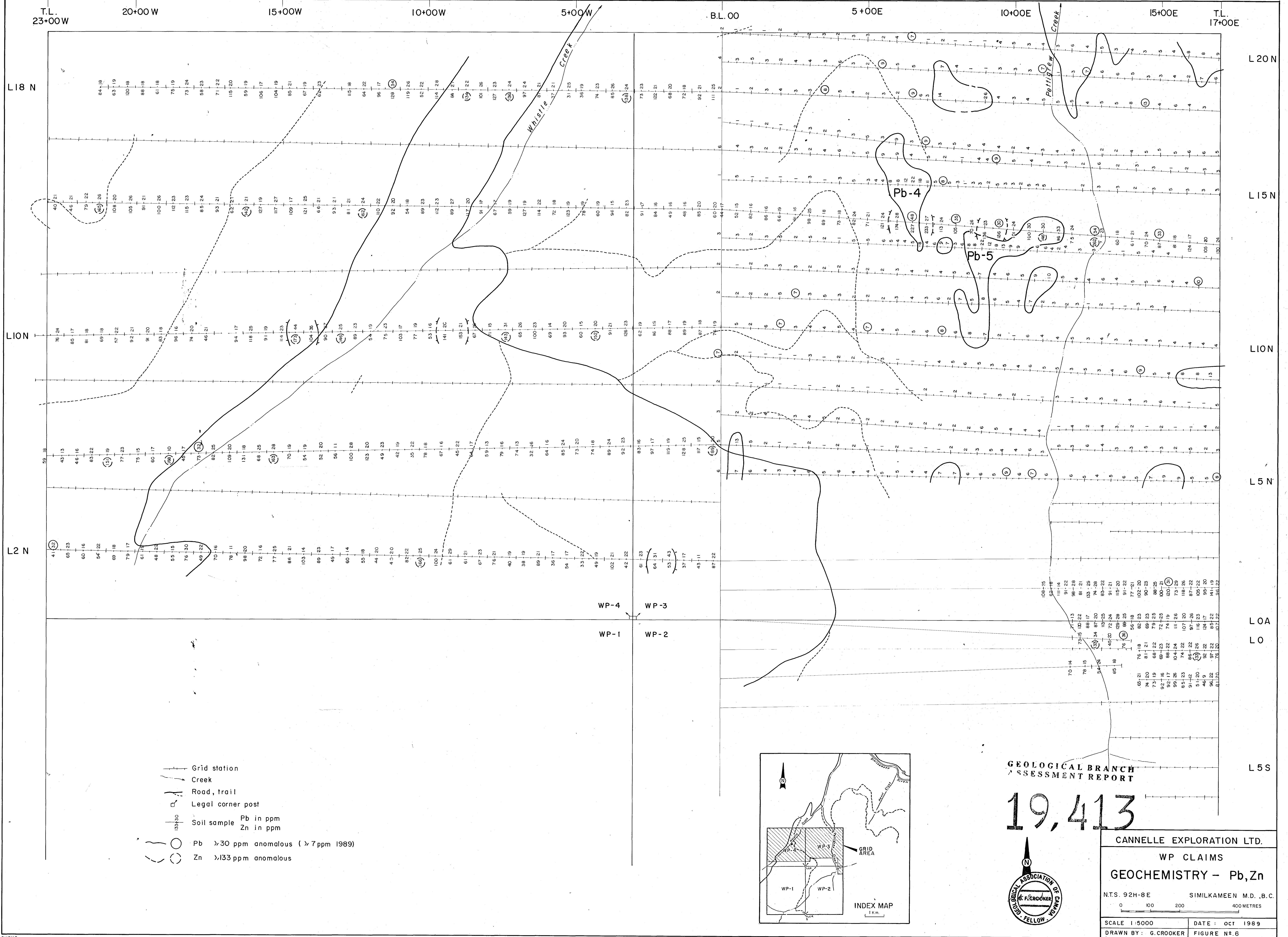
**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**19,413**

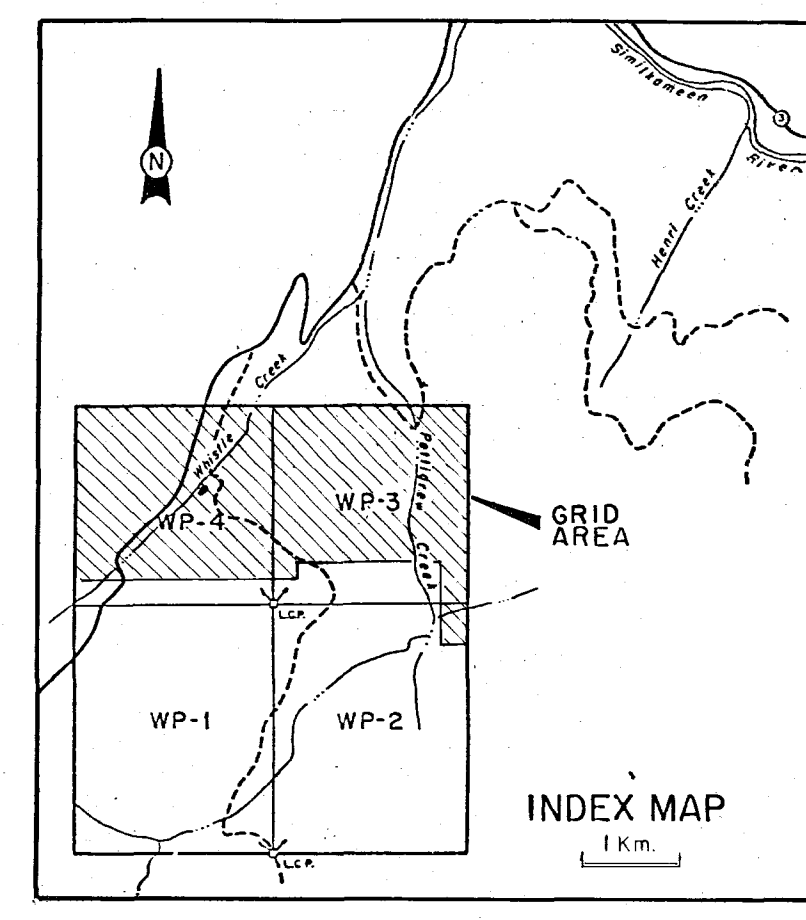


CANNELLE EXPLORATION LTD.	
WP CLAIMS	
GEOCHEMISTRY - As, Cu	
N.T.S. 92H-8E	SIMILKAMEEN M.D., B.C.
0 100 200 400 METRES	
SCALE 1:5000	DATE: OCT 1989
DRAWN BY: G.CROOKER	FIGURE NO. 5



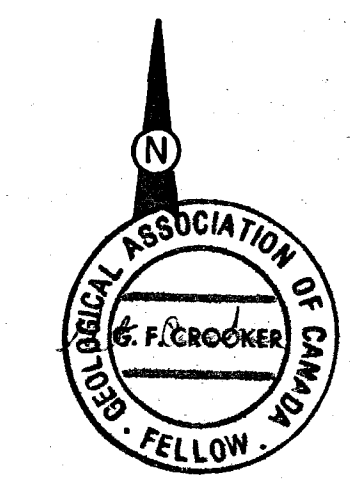


- ┆ Grid station
- ┆ Creek
- ┆ Road, trail
- ┆ Legal corner post
- ┆ Soil sample Pb in ppm  
┆ Zn in ppm
- Pb >30 ppm anomalous (> 7 ppm 1989)
- Zn >133 ppm anomalous

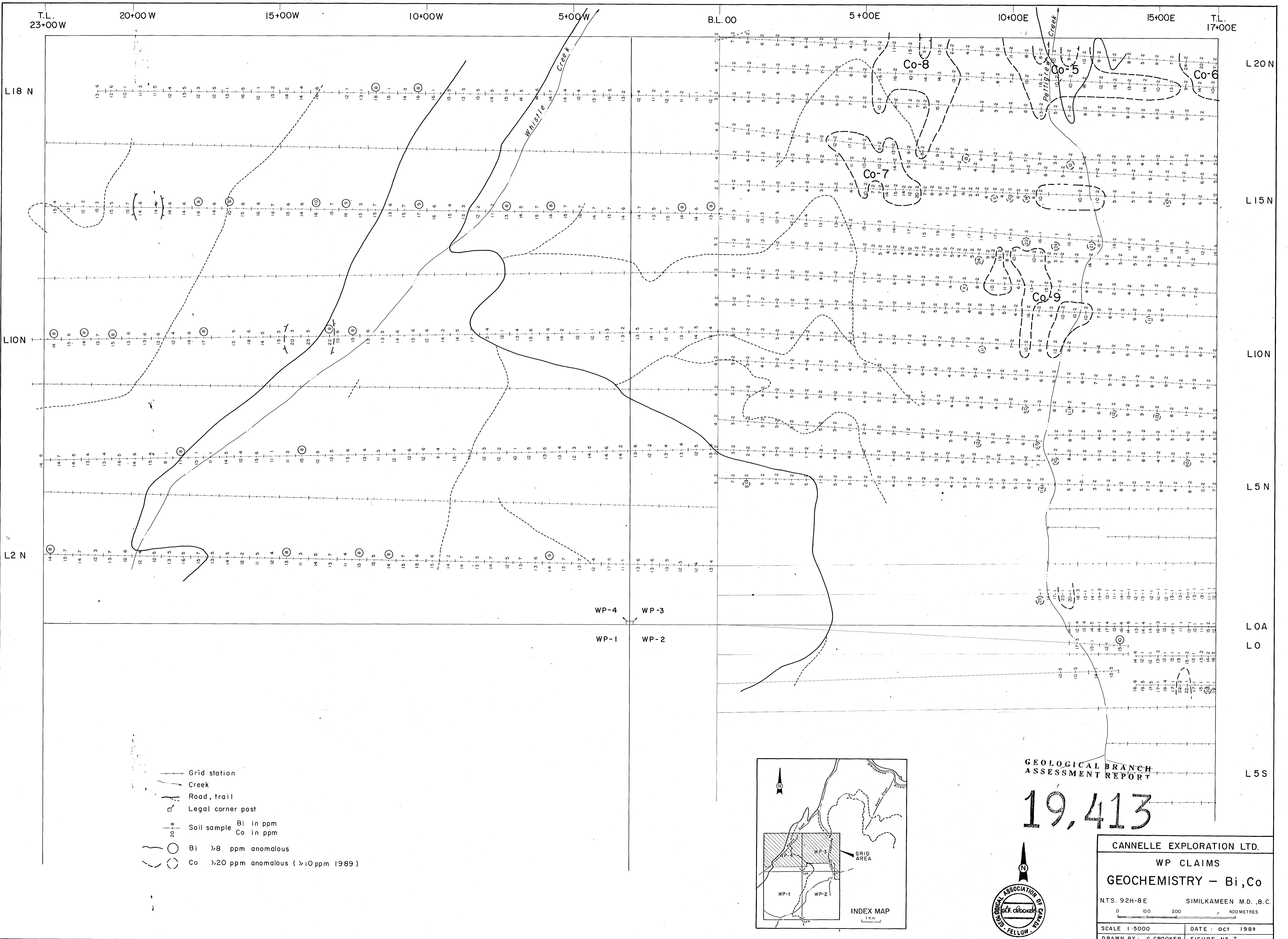


GEOLOGICAL BRANCH  
ASSESSMENT REPORT

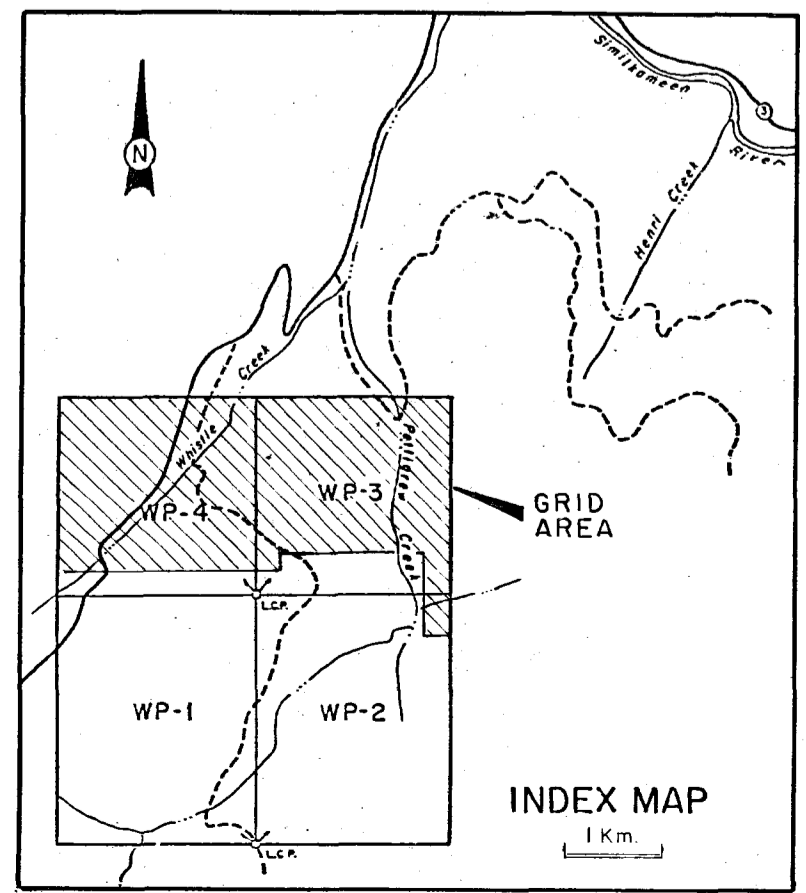
19,413



CANNELLE EXPLORATION LTD.	
WP CLAIMS	
GEOCHEMISTRY - Pb,Zn	
N.T.S. 92H-8E	SIMILKAMEEN M.D., B.C.
0 100 200 400 METRES	
SCALE 1:5000	DATE: OCT 1989
DRAWN BY: G.CROOKER	FIGURE No. 6

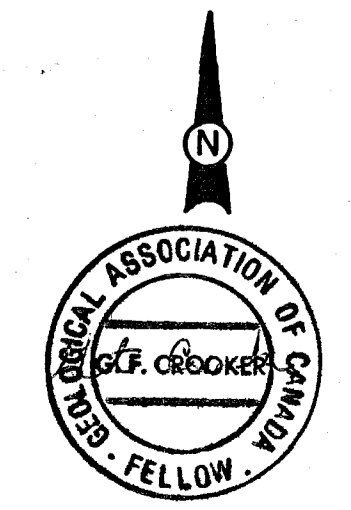


- ⊕ Grid station
- ~ Creek
- Road, trail
- Legal corner post
- Soil sample Bi in ppm  
○ Co in ppm
- Bi >8 ppm anomalous
- Co >20 ppm anomalous (>10 ppm 1989)



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

19,413



CANNELLE EXPLORATION LTD.	
WP CLAIMS	
GEOCHEMISTRY - Bi, Co	
N.T.S. 92H-8E	SIMILKAMEEN M.D., B.C.
0 100 200 400 METRES	
SCALE 1:5000	DATE: OCT 1989
DRAWN BY: G.CROOKER	FIGURE NO. 7