

GEOCHEMICAL, GEOPHYSICAL AND DIAMOND DRILLING REPORT

on the

MURPHY, MAGGIE, M 2, M 3 AND GOLDROP 1 TO 4 CLAIMS

Princeton Area
Similkameen Mining Division

92H-7E
(49°20' N. Lat., 120°38' W. Long.)

for

MURPHY SHEWCHUK

Keremeos, B.C.
VOV 1N0
(Owner and Operator)

by

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

February, 1991

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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,507

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SUMMARY AND RECOMMENDATIONS

The Goldrop Property is located 16 kilometers southwest of Princeton, near Whipsaw Creek in southern British Columbia. The property consists of 8 claims totalling 40 units.

The property is underlain by Upper Triassic Nicola Group volcanic and sedimentary rocks. Mineralization consists of calcite veinlets and carbonate altered zones with minor silicification, containing pyrite, sphalerite and minor chalcopyrite. Some gold values are associated with the mineralization.

During 1988 and 1989 three BQ diamond drill holes totalling 420.42 meters were drilled on the property. Drill holes 88-2 and 89-1 were both drilled on the main zone, while 88-1 was drilled approximately 350 meters southwest of the main zone. The best intersections are given below.

DDH No.	Intersection (m)	Width (m)	Au ppb	Zn ppm	Cu ppm
88-1	74.85-75.46	0.61	1225	1369	87
88-2	121.62-122.12	0.50	365	91226	2481
88-2	122.83-123.43	0.60	445	85063	2438
88-2	126.48-126.98	0.50	5590	76357	4039
89-1	104.27-105.18	0.91	40	630	158
89-1	105.18-105.79	0.61	45	6186	371
89-1	107.62-108.23	0.61	150	8.85%	4000
89-1	108.23-110.06	1.83	145	80000	7700

DDH-88-1 intersected one narrow zone from 74.85 to 75.46 meters which gave an anomalous gold value of 1225 ppb in a carbonate altered zone containing 5% pyrite.

DDH-88-2 intersected a number of carbonate altered zones containing pyrite, sphalerite and chalcopyrite between 121.62 and 128.08 meters which gave anomalous zinc, copper and gold values.

DDH-89-1 also intersected the carbonate altered zone found in DDH-88-2 between 104.32 and 110.06 meters. This confirmed the continuity of mineralization along strike and down dip between the two drill holes. The zinc and copper values were highly anomalous in 89-2 but the gold values were only weakly anomalous.

The 1990 program consisted of establishing a grid in the area of previous drilling, and carrying out VLF-EM and soil geochemical surveys. One BQ diamond drill hole (160.67 m) also tested the mineralized zone.

The VLF-EM survey indicated a large number of weak to strong north-south trending conductors. Conductor I maybe associated with copper anomaly Cu-1 but no causes are evident for the other conductors. The mineralized zone outlined by drilling was not delineated by the VLF-EM survey, at least in part because the zone and the grid lines are both east-west trending.

The soil geochemical sampling delineated two copper and three gold anomalies. Anomaly Cu-1 and three smaller anomalies to the west maybe picking up extensions of the mineralized zone outlined by drilling.

Anomaly Cu-2 and anomalies Au-1, 2, and 3 occur coincidentally 300 meters upslope from the area of drilling. This appears to be a separate zone outlining copper-gold mineralization.

The 1990 drilling was successful in intersecting the copper-zinc mineralization encountered in the 1988 and 1989 drilling. Three pyrite, sphalerite bearing carbonate altered zones were intersected. The zones exhibit narrow (0.5 meter) carbonate altered intervals separated by similiar sized intervals of barren andesite. From the drill data it appears the mineralization strikes east-west and dips steeply south.

The 1990 drilling gave lower gold, copper and zinc values than those from 1988 and 1989. Gold and copper values were very low with 75 ppb and 0.128% respectively being the best. Zinc again gave the highest values, but the best result was 3.19% over 0.80 meters. Mariposite was observed in the intervals from 133.03-134.12 and 137.80-138.60 meters.

The best mineralized intersections are summarized below.

DDH No.	Intersection (m)	Width (m)	Au ppb	Zn %	Cu %
90-1	93.60-94.21	0.61	65	0.82	0.150
90-1	130.23-130.83	0.60	30	0.012	0.007
90-1	131.80-132.30	0.50	50	0.032	0.013
90-1	133.03-134.76	1.73	75	0.36	0.015
90-1	137.80-138.60	0.80	20	3.19	0.128
90-1	138.92-140.65	1.73	40	0.27	0.030

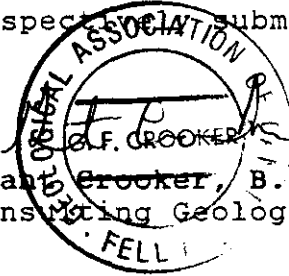
Recommendations are as follows:

- 1) The property as a whole should be geologically mapped. Particular attention should be paid to finding extensions of the mineralized zone east and west of the drilling.

2) Prospecting should be carried out on the geochemical anomalies to determine their causes. Particular attention should be paid to the area uphill from line 8N where coincidental copper-gold mineralization is indicated. The strong VLF-EM conductors should also be investigated.

3) Additional lines of geochemical sampling are warranted north of line 8N. The soil samples should be analyzed for zinc.

Respectfully submitted,



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

1.0 INTRODUCTION

1.1 GENERAL

Diamond Drilling was carried out on the Goldrop Property during August of 1990. A grid was also established over part of the property and soil sampling and VLF-EM surveying carried out over the grid. Murphy Shewchuk supervised the drilling and carried out the field work while Grant Crooker was retained to prepare the report.

1.2 LOCATION AND ACCESS

The property (Figure 1) is located approximately 16 kilometers southwest of Princeton in the Whipsaw Creek area of southern British Columbia. The property lies between 49°19' and 49°21' north latitude and 120°36' and 120°39' west longitude (NTS 92H-7E).

Access is from the Hope-Princeton Highway turning off the highway at Whipsaw Creek. A good two wheel drive logging road passes through the property and several four wheel drive roads provide access to different areas of the property.

1.3 PHYSIOGRAPHY

The property lies along the eastern margin of the Cascade Mountains and elevation varies from 945 to 1460 meters above sea level. Topography varies from moderate to steep with Whipsaw Creek flowing northeasterly through the property.

Fir and spruce trees cover most of the property, with varying amounts of brush. The area is subject to heavy snowfalls in the winter.

1.4 PROPERTY AND CLAIM STATUS

The Goldrop Property (Figure 1) consists of four modified grid claims and four two post claims covering 40 units in the Similkameen Mining Division. The property is owned by Mr. Roy Huff of Princeton, B.C. and Mr. Murphy Shewchuk of Keremeos, B.C.

Claim	Units	Mining Division	Record No.	Record Date	Expiry Date
Murphy	10	Similkameen	2641(07)	31/07/86	31/07/93*
Goldrop 1	1	Similkameen	2693(10)	06/10/86	06/10/93*
Goldrop 2	1	Similkameen	2694(10)	06/10/86	06/10/93*
Goldrop 3	1	Similkameen	2695(10)	06/10/86	06/10/93*
Goldrop 4	1	Similkameen	2696(10)	06/10/86	06/10/93*
M 2	10	Similkameen	2672(09)	11/09/86	11/09/93*
Maggie	8	Similkameen	2673(09)	11/09/86	11/09/93*
M 3	8	Similkameen	3045(10)	05/10/87	05/10/93*

* Including the work credits from this report.

1.5 AREA AND PROPERTY HISTORY

The mining history of the Princeton area goes back to the late 1800's. Initial prospecting was for placer gold, with hard rock prospecting following shortly afterwards.

The Whipsaw Creek area also has a long history of mining. The copper deposits at Copper Mountain located seven kilometers east of the Goldrop property were first discovered by a trapper named Jameson in 1884. Production did not begin from Copper Mountain until 1925, and large scale production has continued to the present time, with the exception of a 23 year period from 1957 to 1970.

Nothing is known of the early history of the Goldrop property, although it was probably first discovered in the early 1900's. A caved adit and a number of hand trenches indicate work was carried out on the property during this time. During the 1970's the Huff brothers of Princeton carried out trenching and drilling on the property. Little is known of this work, but anomalous gold, copper and zinc values were reported from the drilling.

The property was restaked by Huff and Shewchuk in 1986 and Shewchuk drilled two holes during 1988 and one during 1989.

Drill Hole No.	Bearing(°)	Angle(°)	Depth(m)
DDH-88-1	000°	-70°	115.24
DDH-88-2	005°	-59°	157.01
DDh-89-1	019°	-51°	148.17

DDH-88-1 was drilled near Fourteen Mile Creek and intersected one narrow zone between 74.85 and 75.46 meters which gave 1255 ppb gold and 1369 ppm zinc.

DDH-88-2 was drilled in the general vicinity of the 1970's drilling and intersected several zones of calcite veining and carbonate alteration with anomalous gold, zinc and copper values. The mineralized zones occur between 121.62 and 128.08 meters.

DDH-89-1 was also drilled on the main zone and intersected the main zone between 104.32 and 110.06 meters. Zinc and copper values were highly anomalous but gold was very low. A summary of the best drill intersections is given below.

DDH No.	Intersection (m)	Width (m)	Au ppb	Zn ppm	Cu ppm
88-1	74.85-75.46	0.61	1225	1369	87
88-2	121.62-122.12	0.50	365	91226	2481
88-2	122.83-123.43	0.60	445	85063	2438
88-2	126.48-126.98	0.50	5590	76357	4039
89-1	104.27-105.18	0.91	40	630	158
89-1	105.18-105.79	0.61	45	6186	371
89-1	107.62-108.23	0.61	150	8.85%	4000
89-1	108.23-110.06	1.83	145	80000	7700

2.0 EXPLORATION PROCEDURE

The program covered by this report consisted of drilling one BQ diamond drill hole (160.67 m), and establishing a grid and carrying out soil sampling and VLF-EM surveying.

GRID PARAMETERS

- main baseline direction N-S along 0
- survey lines perpendicular to baselines
- survey line separation 50 meters
- survey station spacing 25 meters
- survey total - 7.3 kilometers

GEOCHEMICAL SURVEY PARAMETERS

- survey line separation 50 meters
- survey sample spacing 25 meters
- survey totals - 6.7 kilometers
 - 278 soil samples collected
- 278 soil samples analyzed geochemically for Ag, Mo, Cu
- 63 soil samples analyzed geochemically for Au
- 9 drill sludge samples analyzed by 32 element ICP and Au
- 9 drill core samples analyzed geochemically for Au, Cu, Ag, Mo, Zn
- soil sample depth 5 to 15 centimeters
- soil samples taken from brown B horizon

The sludge samples were sent to Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver, B.C. for geochemical analysis. Laboratory technique for geochemical analysis consists of preparing samples by drying and crushing to minus 140 mesh. A 32 element ICP analysis and Au (fire assay/AA finish) were then carried out on the samples.

The drill core and soil samples were sent to Brenda Analytical Services, P.O. Box 420, Peachland B.C. for geochemical analysis. A description of the analytical techniques is given at the beginning of Appendix I, with the certificates of analysis.

Gold and copper were plotted on figure 3 at a scale of 1:2500.

GEOPHYSICAL SURVEY PARAMETERS

VLF-EM SURVEY

- survey line separation 50 meters
- survey station spacing 25 meters
- survey total 6.7 kilometers
- transmitting station - Cutler - 24.0 KHz
- direction faced - southerly
- instrument - Geonics EM-16
- in phase (dip angle) components measured in percent at each station

The VLF-EM profiles were plotted on figure 4 and the conductors on figure 5, at a scale of 1:2500.

3.0 GEOLOGY AND MINERALIZATION

The property lies along the western margin of the Intermontane Belt of southern British Columbia. Upper Triassic Nicola group volcanic and sedimentary rocks underlie the property. The volcanic succession includes massive flow units, coarse to very fine-grained pyroclastic units and some pillow lavas. These rocks are generally andesite to basaltic andesite in composition. The sedimentary succession includes siltstone, argillite, conglomerate and some reefoid limestone.

Mineralization on the property, as outlined by drilling consists of calcite veinlets and carbonate altered zones with minor silicification containing pyrite, sphalerite and minor chalcopyrite. Anomalous gold values are also associated with the mineralization.

The carbonate altered zones consist of a series of narrow (0.5 m) calcite veins with barren zones of andesite between them.

4.0 DIAMOND DRILLING

Diamond drilling was carried out on the property during August of 1990. Core recovery was generally good, especially away from the surface oxidation. The drill core is stored at the residence of Mr. Murphy Shewchuk at Keremeos, B.C.. A summary of the pertinent data is given below.

Drill Hole No.	Bearing(°)	Angle(°)	Depth(m)
DDH-90-1	000°	-70°	160.67

DDH-90-1 (figure 2) was drilled adjacent to 88-2 and 89-1 and intersected the carbonate altered zone encountered in the previous drilling. The mineralization consists of pyrite, sphalerite and chalcopyrite occurring within carbonate alteration (calcite).

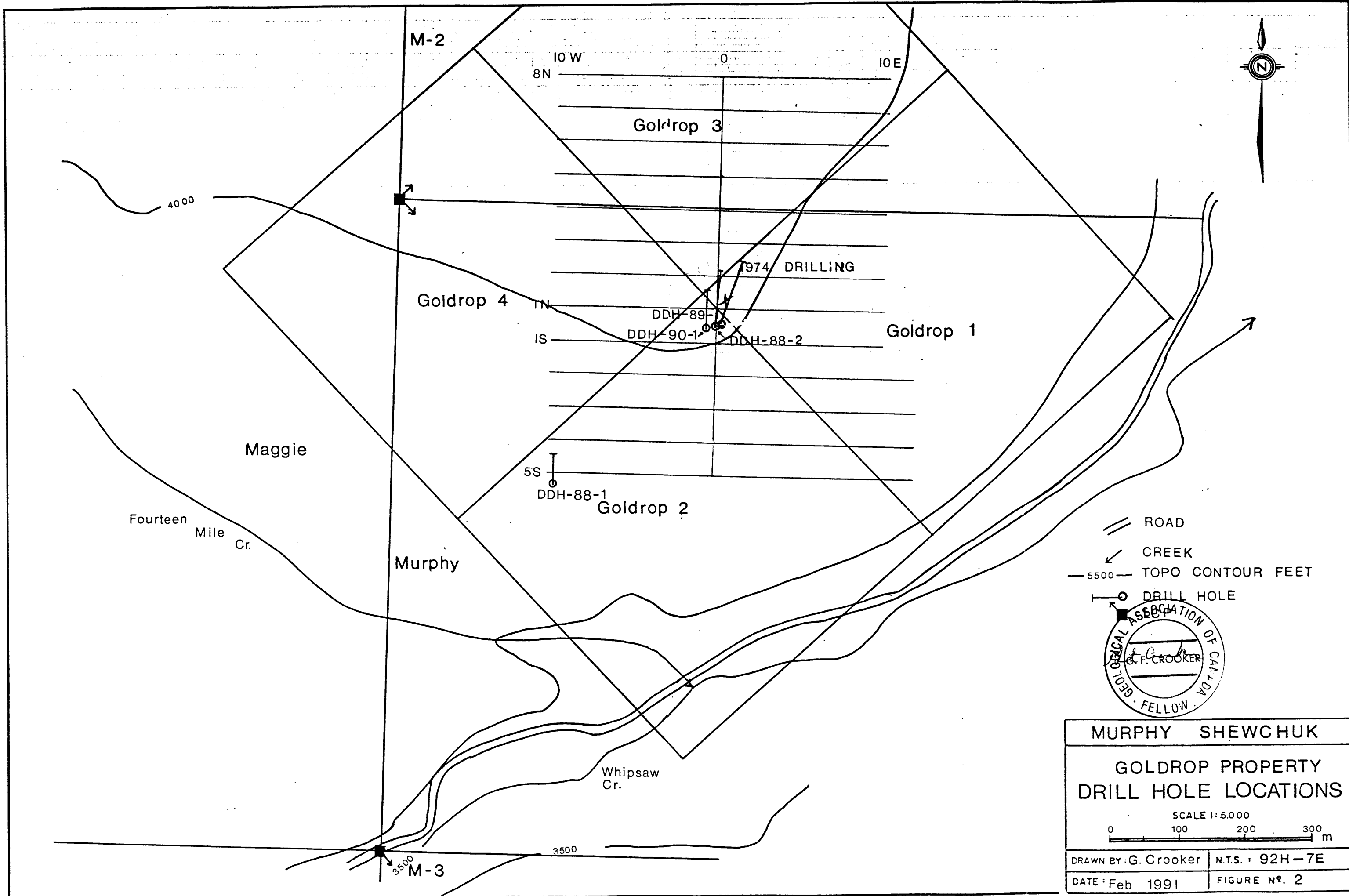
Three distinct zones of mineralization were encountered by drill hole 90-1. The upper zone (93.60-94.21) consists of an 0.60 meter wide zone of calcite with 10% pyrite and 1% sphalerite. The middle (130.23-134.76) and lower (137.80-140.65) zones again consist of calcite with varying amounts of pyrite and sphalerite. However within the lower two zones, 0.50 meter wide carbonate altered intervals are separated by similiar sized widths of barren andesite. The middle zone contains three mineralized intervals while the lower zone contains two mineralized intervals.

The 1990 drilling gave lower gold, copper and zinc values than those from 1988 and 1989. Gold and copper values were very low with 75 ppb and 0.128% respectively being the best. Zinc again gave the highest values, but the best result was 3.19% over 0.80 meter. Mariposite was observed in the intervals from 133.03-134.12 and 137.80-138.60 meters.

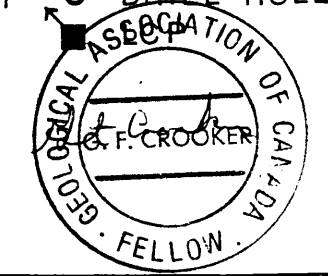
The information from the three drill holes indicates the mineralized zone is striking east-west and dipping steeply south. The best mineralized intersections are summarized below.

DDH No.	Intersection (m)	Width (m)	Au ppb	Zn %	Cu %
90-1	93.60-94.21	0.61	65	0.82	0.150
90-1	130.23-130.83	0.60	30	0.012	0.007
90-1	131.80-132.30	0.50	50	0.032	0.013
90-1	133.03-134.76	1.73	75	0.36	0.015
90-1	137.80-138.60	0.80	20	3.19	0.128
90-1	138.92-140.65	1.73	40	0.27	0.030

Sludge samples were sent for analysis from a number of sections of pyrite bearing Nicola Volcanic rocks. This sampling did not give any anomalous gold values.



- ROAD
- CREEK
- TOPO CONTOUR FEET
- DRILL HOLE



MURPHY SHEWCHUK	
GOLDROP PROPERTY DRILL HOLE LOCATIONS	
SCALE 1:5,000	
DRAWN BY: G. Crooker	N.T.S.: 92H-7E
DATE: Feb 1991	FIGURE No. 2

5.0 GEOCHEMISTRY

5.1 SOIL SAMPLING

Two hundred and seventy-eight soil samples were sent for analysis with all of them analyzed for silver, molybdenum and copper. Sixty-three of them were also analyzed for gold.

Background and anomalous values were chosen as follows:

ELEMENT	BACKGROUND	ANOMALOUS
Ag ppm	< 1.	> 1.0
Cu ppm	57.4	≥ 86.0
Mo ppm	2.1	> 3.0
Au ppb	23.65	≥ 30.0

Silver

Silver values ranged from <1 to 5 ppm and only two samples were anomalous.

Molybdenum

Molybdenum values ranged from <1 to 13 ppm and thirteen samples were anomalous. No broad anomalies were outlined by the survey.

Copper

Copper values ranged from 22 to 141 ppm and two geochemical anomalies were outlined.

Anomaly Cu-1 is centered on line 2N at the eastern edge of the grid. Three small, two and three station copper anomalies occur westerly from anomaly Cu-1 as far as the western edge of the grid. As the zinc and copper mineralized zone outlined by drilling appears to have an east-west strike, these copper anomalies maybe outlining extensions of the mineralized zone.

Anomaly Cu-2 is located in the northeast corner of the grid. It occurs coincidentally with gold anomalies Au-1 and Au-2. Several single line conductors also occur within the anomaly. These anomalies appear to be outlining copper-gold mineralization further north and upslope.

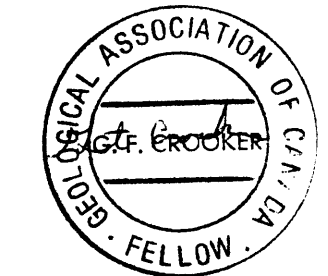
Gold

Gold geochemical analysis was carried out on lines 6N, 7N and 8N and values ranged from <10 to 70 ppb. Three weak to moderate geochemical anomalies were outlined by the survey.



10 + 120 - Au ppb, Cu ppm

• Cu anomalous \geq 86 ppm
 • Au anomalous \geq 30 ppb



MURPHY SHEWCHUK

GOLDDROP PROPERTY
 Soil Geochemistry - Au, Cu
 NTS: 92H-7E Similkameen M.D.

0 50 100 150(m)

Drawn BY: G.C	Scale: 1:2500
Date: Feb, 1991	Fig No 3

Anomalies Au-1 and Au-2 occur coincidentally with copper anomaly Cu-1. Anomaly Au-3 occurs 100 meters west of the other two anomalies. No causes are evident for the anomalies but they appear to be delineating copper-gold mineralization located upslope from line 8N.

6.0 GEOPHYSICS

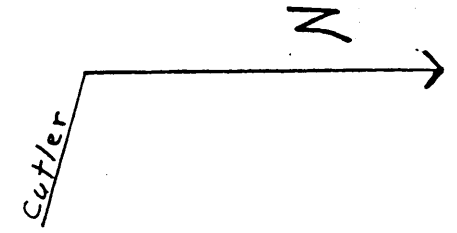
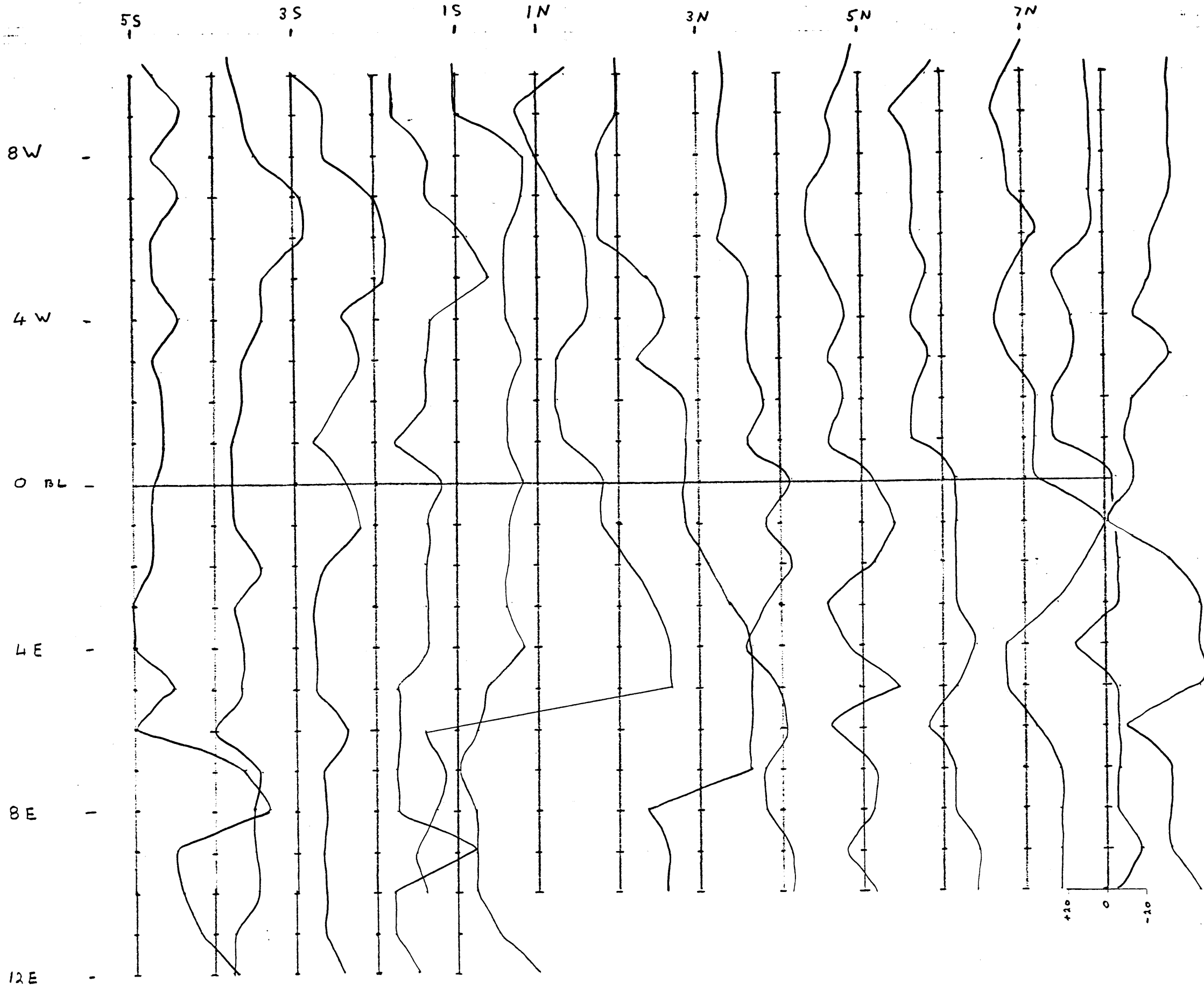
6.1 VLF-EM SURVEY

The VLF-EM survey was carried out over all lines on the grid. The anomalies generally exhibit long wavelengths and in-phase anomaly amplitude ranged from strong through moderate to weak.

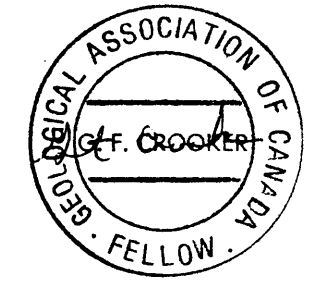
A large number of weak to moderate to strong, north-south trending conductors (figure 5) were delineated by the survey and conductors I and II are the strongest. Conductor I occurs on two lines and is northeast trending. It maybe associated with copper anomaly Cu-1 and a smaller copper anomaly. There is also a possibility that the each conductor is part of a separate conductor system. Conductor II is north-south trending and not associated with any geochemical anomalies.

A number of single line conductors occur in the northeast corner of the grid coincidental with several copper-gold geochemical anomalies.

The VLF-EM survey did not indicate any structures associated with the mineralized zone intersected in the drilling. This is probably due to the fact the mineralized zone appears to be trending east-west and the grid lines are also east-west.



Cutler 24.0 KHz
 + Anomalous Inflection
 - (In phase)



MURPHY SHEWCHUK	
GOLDDROP PROPERTY VLF-EM PROFILES	
NTS: 92H-7E	Similkameen M.D.
0 50 100 150(m)	
Drawn BY: G.C	Scale: 1:2,500
Date: Feb, 1991	Fig No 4

7.0 CONCLUSIONS AND RECOMMENDATIONS

The 1990 drilling was successful in intersecting the copper-zinc mineralization encountered in the 1988 and 1989 drilling. Three pyrite, sphalerite bearing carbonate altered zones were intersected. The zones exhibit narrow (0.5 meter) carbonate altered intervals separated by similiar sized intervals of barren andesite. From the drill data it appears the mineralization strikes east-west and dips steeply south.

Gold and copper values were very low for the 1990 drilling with 75 ppb and 0.128% respectively being the best. Zinc again gave the highest values, but the best result was 3.19% over 0.80 meters. The best mineralized intersections are summarized below.

DDH No.	Intersection (m)	Width (m)	Au ppb	Zn %	Cu %
90-1	93.60-94.21	0.61	65	0.82	0.150
90-1	130.23-130.83	0.60	30	0.012	0.007
90-1	131.80-132.30	0.50	50	0.032	0.013
90-1	133.03-134.76	1.73	75	0.36	0.015
90-1	137.80-138.60	0.80	20	3.19	0.128
90-1	138.92-140.65	1.73	40	0.27	0.030

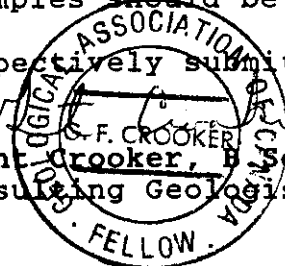
The VLF-EM survey delineated a number of conductors but no causes are apparent for them. Three gold and two copper soil geochemical anomalies were outlined by the soil sampling. Copper anomaly Cu-1 maybe associated with the mineralized zone outlined by the drilling. Several coincidental copper-gold anomalies occur in the northeast portion of the grid.

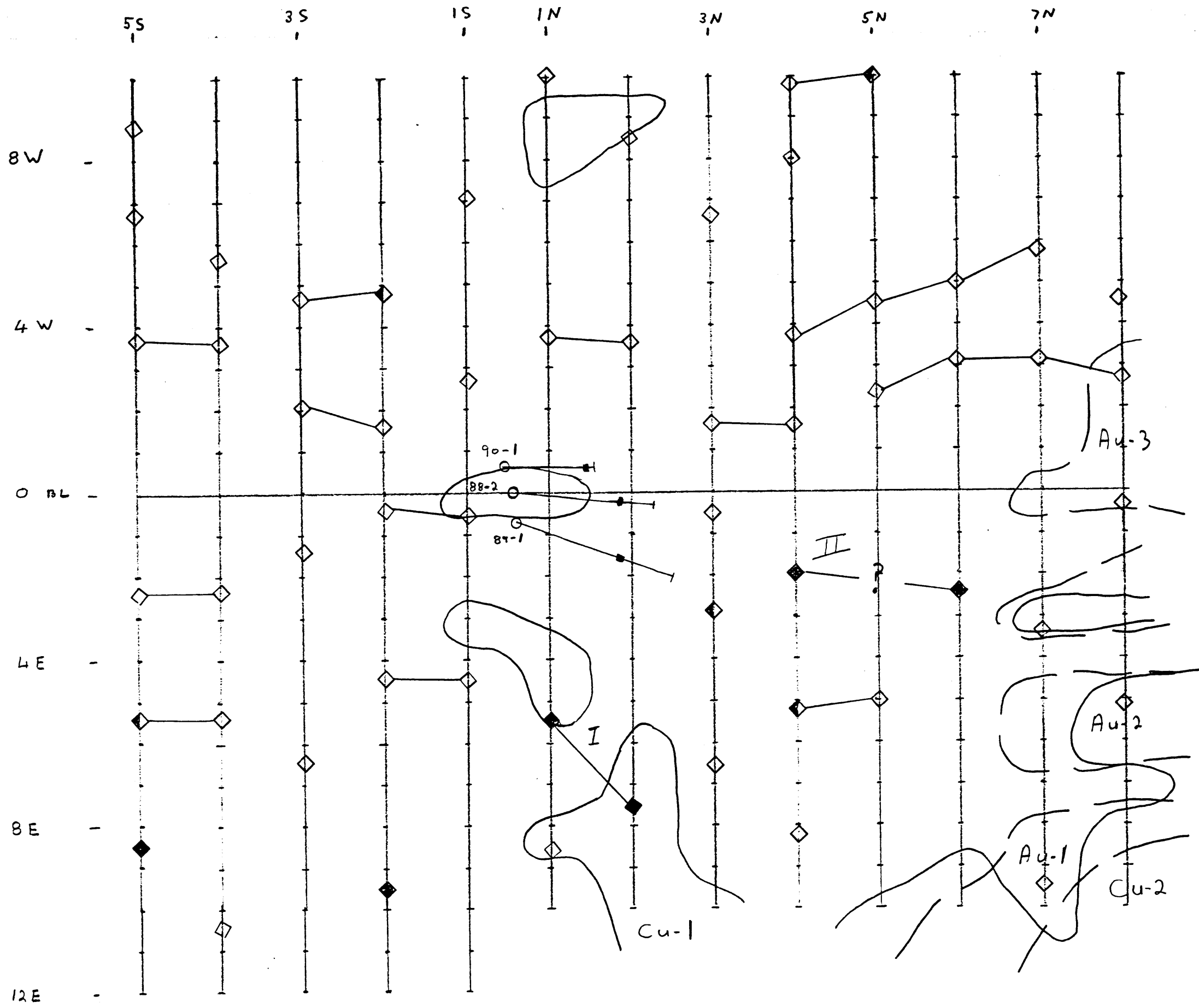
Recommendations are as follows:

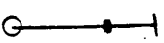




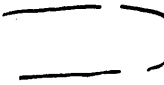
- 1) The property as a whole should be geologically mapped. Particular attention should be paid to finding extensions of the mineralized zone east and west of the drilling.
- 2) Prospecting should be carried out on the geochemical anomalies to determine their causes. Particular attention should be paid to the area uphill from line 8N where coincidental copper-gold mineralization is indicated. The strong VLF-EM conductors should also be investigated.
- 3) Additional lines of geochemical sampling are warranted north of line 8N. The soil samples should be analyzed for zinc.

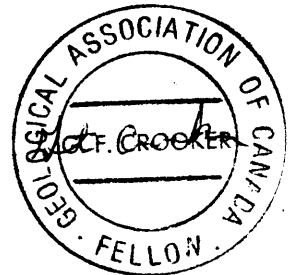
Respectively submitted,


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





-  Drill Hole, Mineralized Intercept
-  Weak
-  moderate, VLF-EM Conductor
-  strong
-  Cu anomalous, ≥ 86 ppm
-  Au anomalous, ≥ 30 ppb



MURPHY SHEWCHUK	
GOLDDROP PROPERTY Compilation	
NTS: 92H-7E	Similkameen M.D.
	
Drawn BY: G. C	Scale: 1:2,500
Date: Feb, 1991	Fig No 5

8.0 REFERENCES

B.C.D.M.: G.E.M., 1970 (pp379, 384); 1971 (pp272); 1973 (pp24, 158); 1974 (pp115); 1975 (ppE70).

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Crooker, G.F., (July 1988): Diamond Drilling Report on the Murphy, Maggie, M 2, M 3 and Goldrop 1 to 4 Claims, Princeton Area, Similkameen Mining Division, for Murphy Shewchuck.

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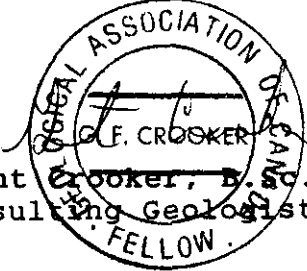
Rice, H.M.A. (1947): Geology and Mineral deposits of the Princeton Map-Area, B.C., Geological Survey of Canada, Memoir 243.

9.0 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 have no direct or indirect interest in the property.

Dated this 12th day of march , 1991, at Keremeos, in the Province of British Columbia.


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

Appendix I

CERTIFICATES OF ANALYSIS



Chemex Labs Ltd.

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

To: SHEWCHUK, MURPHY

S.10, C.9, R.R. #1
KEREMEOS, BC
V0X 1N0

Page Number : 1-A
Total Pages : 1
Invoice Date: 11-SEP-90
Invoice No. : I-9022022
P.O. Number :

Project :
Comments:

CERTIFICATE OF ANALYSIS

A9022022

SAMPLE DESCRIPTION	PREP CODE		Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
	FA+AA																				
M5 212-232	217	238	15	< 0.2	2.11	10	20	< 0.5	< 2	2.45	0.5	51	45	153	12.10	10	< 1	0.07	< 10	1.22	715
M5 292-307	217	238	20	< 0.2	2.12	20	60	< 0.5	< 2	2.77	3.5	43	55	153	10.40	10	< 1	0.17	< 10	1.06	825
M5 307-327	217	238	20	< 0.2	2.29	15	50	< 0.5	< 2	3.12	1.0	42	67	157	9.62	10	< 1	0.14	< 10	1.32	750

*Well sorted
samples*

CERTIFICATION:

B. Coughlin



Chemex Labs Ltd.

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

To: SHEWCHUK, MURPHY

S.10, C.9, R.R. #1
KEREMEOS, BC
VOX 1N0

Page Number : 1-B
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Invoice No. : I-9022022
P.O. Number :

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CERTIFICATE OF ANALYSIS

A9022022

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn	
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	
M5 212-232	217	238	< 1	0.07	32	700	22	< 5	4	207	0.01	< 10	10	39	20	114	64.63 - 70.73 m
M5 292-307	217	238	< 1	0.07	25	650	18	< 5	4	211	0.01	< 10	30	37	20	510	89.62 - 93.60 m
M5 307-327	217	238	< 1	0.07	27	720	10	5	4	335	< 0.01	< 10	10	42	20	212	93.60 - 99.70 m

CERTIFICATION:



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Analytical Chemists * Geochemists * Registered Assayers
212 Brooksbank Ave., North Vancouver
British Columbia, Canada V7J 2C1
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To: SHEWCHUK, MURPHY

S.10, C.9, R.R. #1
KEREMEOS, BC
VOX 1N0

Page Number : 1-A
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Invoice Date: 11-SEP-90
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CERTIFICATE OF ANALYSIS

A9022023

SAMPLE DESCRIPTION	PREP CODE		Au	Zn	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg
			oz/T	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%
M5 432-442	218	238	0.002	0.05	0.2	2.11	35	30	< 0.5	< 2	5.01	2.5	42	31	159	9.55	10	< 1	0.09	< 10	1.10
M5 452-462	218	238	0.002	0.68	0.6	1.98	60	40	< 0.5	< 2	5.59	47.5	44	44	454	12.30	10	2	0.08	< 10	0.94

CERTIFICATION:

B. Coughlin



Chemex Labs Ltd.

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

To: SHEWCHUK, MURPHY

S.10, C.9, R.R. #1
KEREMEOS, BC
VOX 1N0

Page Number : 1-B
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P.O. Number :

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Comments :

CERTIFICATE OF ANALYSIS A9022023

SAMPLE DESCRIPTION	PREP CODE		Mn	Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn	
			ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
M5 432-442	218	238	1235	2	0.06	24	830	14	< 5	3	266	< 0.01	< 10	10	33	< 10	396	131.71 - 134.76 m
M5 452-462	218	238	1235	< 1	0.07	38	720	6	5	4	228	< 0.01	< 10	20	32	< 10	6510	137.80 - 140.85 m

bridge

CERTIFICATION: B. Coughlin



Chemex Labs Ltd.

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

To: SHEWCHUK, MURPHY

S.10, C.9, R.R. #1
KEREMEOS, BC
VOX 1N0

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CERTIFICATE OF ANALYSIS

A9020883

SAMPLE DESCRIPTION	PREP CODE		Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
	FA+AA																				
M5 227-237	217	238	15	0.2	2.22	25	60	< 0.5	22	2.55	< 0.5	46	31	157	9.70	< 10	< 1	0.15	< 10	1.16	770
M5 347-367	217	238	15	0.2	1.76	30	40	< 0.5	10	2.50	< 0.5	60	63	186	11.25	< 10	< 1	0.14	< 10	0.84	630
M5 367-387	217	238	15	< 0.2	1.88	45	40	< 0.5	12	2.57	< 0.5	50	45	159	9.64	< 10	< 1	0.12	< 10	0.93	775
M5 460-475	205	294	30	0.2	1.83	30	40	< 0.5	6	9.23	23.5	22	52	119	4.53	< 10	< 1	0.15	< 10	0.65	2110

sludge

CERTIFICATION:

B. Conklin



Chemex Labs Ltd.

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

To: SHEWCHUK, MURPHY

S.10, C.9, R.R. #1
KEREMEOS, BC
VOX 1N0

Page Number: 1-B
Total Pages: 1
Invoice Date: 20-AUG-90
Invoice No.: I-9020883
P.O. Number:

Project:
Comments:

CERTIFICATE OF ANALYSIS

A9020883

SAMPLE DESCRIPTION	PREP CODE		Mo	Na	Ni	P	Pb	Sb	Sc	Sr	Ti	Tl	U	V	W	Zn	
			ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
M5 227-237	217	238	3	0.06	26	1000	34	10	3	300	< 0.01	< 10	< 10	32	40	164	69.21 - 72.26 m
M5 347-367	217	238	6	0.06	33	860	26	5	2	243	< 0.01	< 10	< 10	26	50	162	105.79 - 111.89 m
M5 367-387	217	238	3	0.06	25	850	14	5	3	212	0.01	< 10	< 10	31	40	156	111.89 - 117.99 m
M5 460-475	205	294	1	0.07	10	820	< 2	15	2	52	< 0.01	< 10	< 10	33	20	3470	140.24 - 144.82 m

Sludge

CERTIFICATION:

brenda

Brenda Analytical Services
P.O. 420
Peachland, B.C.
VOH 1X0

Mr. Grant Cooker
P.O. Box
Keremeos, B.C.
DOX 1N0

March 05, 1991

Dear Mr. Cooker

Analysis for gold, silver, molybdenum and copper was carried out on soil samples submitted by M. Shewchuk in October 1990. The methods used are as follows:-

1. Gold

A ten gram sample is attacked with aqua regia. The solution and solids are boiled to a low volume, cooled and the solids are removed by filtration. The solution is diluted to a known volume and the gold is then extracted using M.I.B.K. Standards of known gold concentration and gold solutions are passed through the same procedure. Standards and samples are then read on an atomic absorption spectrophotometer and the gold content calculated.


2. Silver and Copper

A one gram sample is dissolved in nitric and hydrochloric acids and then taken to dryness. The metals are solubilized by boiling with five percent hydrochloric acid. This solution is then diluted to a known volume and the silver and copper determined using an atomic absorption spectrophotometer.

3. Molybdenum

Ten mls. of the solution used for the determination of silver and copper is for the molybdenum. Aluminum Chloride solution is added to this solution and the standards to overcome interferences and then the samples and standards are read on an atomic absorption spectrophotometer using nitrous oxide/acetylene flame.

Yours truly
Brenda Analytical Services



Derek Perkins
Chief Chemist

File An_Rpt.geo

108-85-00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604) 860-0324
Telephone No: (604) 763-3220

Exploration - Rock and Core

Date Reported: October 31, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au 1	PPB Au 2	PPM Ag	% Mo	% Cu	% Zn	
MX 11 (ROCK)	70	60	4	.001	.068	.014	
MX 5 274-277'	10	20	2	.001	.007	.035	83.54 - 84.45 m
MX 5 307-309'	70	60	3	.001	.015	.82	93.60 - 94.21 m
MX 5 427-432'	30	30	2	.001	.007	.012	130.18 - 131.71 m
MX 5 432-437'	40	60	3	.002	.013	.032	131.71 - 133.23 m
MX 5 437-442'	80	70	3	.001	.015	.36	133.23 - 134.76 m
MX 5 452-457'	20	20	4	.002	.128	3.19	137.80 - 139.33 m
MX 5 457-462'	40	40	3	.001	.030	.27	139.33 - 140.85 m
MX 5 462-467'	50	30	2	.001	.008	.028	140.85 - 142.38 m
MX 5 472-474'	60	60	3	.001	.020	.20	143.90 - 144.51 m

FOOTAGE SAMPLES
ARE CORE

Comments:

[Signature]

RECD NOV 1

108-85-00

Brenda Analytical Services,
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soil Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB	PPM	PPM	PPM	DATE RECEIVED
	Au	Ag	Mo	Cu	FILE NO
1S		1	13	114	INITIALS:
1S1E		<1	1	82	
1S2E		<1	1	74	
1S3E		<1	1	118	
1S4E		<1	1	82	
1S5E		<1	2	51	
1S6E		<1	1	36	
1S7E		<1	1	67	
1S8E		<1	1	60	
1S9E		<1	<1	39	
2S		<1	1	53	
2S1E		<1	2	63	
2S2E		<1	2	62	
2S3E		<1	2	40	
2S4E		<1	2	41	
2S5E		<1	2	103	
2S6E		<1	1	52	
2S7E		<1	<1	46	
2S8E		<1	<1	45	
2S9E		<1	<1	53	
2S10E		<1	1	54	
2S11E		<1	1	32	
2S12E		<1	1	24	

Comments:

D. Perkins
Chief Analyst

108-85-00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soils Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
1S1W		<1	2	44
1S2W		<1	2	55
1S3W		<1	2	48
1S4W		<1	2	66
1S5W		<1	2	81
1S6W		<1	3	35
1S7W		<1	3	45
1S8W		<1	2	52
1S9W		<1	3	40
1S10W		<1	2	47
2S1W		<1	3	47
2S2W		<1	3	48
2S3W		<1	3	64
2S4W		<1	3	54
2S5W		<1	3	73
2S6W		<1	2	135
2S7W		<1	3	54
2S8W		<1	3	53
2S9W		<1	3	30
2S10W		<1	3	45
3S1W		<1	2	49
3S2W		<1	2	62
3S3W		<1	2	70
3S4W		<1	2	55
3S5W		<1	3	34
3S6W		1	2	67
3S7W		<1	2	60
3S8W		<1	2	48
3S9W		<1	2	29
3S10W		<1	2	36

Comments:

D. Perkins
Chief Chemist

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

108-85.00
Fax number: (604)860-0324
Telephone No: (604)763-3220

Soils Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
3S		<1	<1	62
3S2E		<1	1	82
3S3E		<1	1	89
3S4E		<1	1	34
3S5E		<1	1	27
3S6E		<1	1	44
3S7E		<1	<1	41
3S8E		5	1	77
3S9E		<1	<1	39
3S10E		<1	<1	26
3S11E		<1	2	32
3S12E		<1	1	26
4S		<1	1	69
4S1E		<1	1	76
4S2E		<1	1	41
4S3E		<1	1	41
4S4E		<1	<1	35
4S5E		<1	<1	62
4S6E		<1	<1	40
4S7E		<1	<1	23
4S8E		<1	1	61
4S9E		<1	1	35
4S10E		<1	1	26

Comments:



D. Perkins
Chief Chemist

108-85-00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soils Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
4S1W		<1	3	53
4S2W		<1	3	43
4S3W		<1	2	88
4S4W		<1	2	58
4S5W		<1	2	33
4S6W		<1	3	40
4S7W		<1	3	53
4S8W		<1	3	41
4S9W		<1	3	44
4S10W		<1	3	31
5S1W		<1	2	45
5S2W		<1	2	47
5S3W		<1	2	30
5S4W		<1	3	34
5S5W		<1	3	32
5S6W		<1	2	46
5S7W		<1	3	86
5S8W		<1	2	48
5S9W		<1	3	31
5S10W		<1	2	41

Comments:

D. Perkins
Chief Chemist

108-85-00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
V0H 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soils Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
5S		<1	1	38
5S1E		<1	1	28
5S2E		<1	1	32
5S3E		<1	1	36
5S4E		<1	<1	35
5S5E		<1	<1	32
5S6E		<1	<1	43
5S7E		<1	<1	49
5S8E		<1	1	61
5S9E		<1	1	49
5S10E		<1	1	49
No Tag		<1	1	34
6S		<1	1	32
1N1W		<1	3	70
1N2W		1	3	68
1N3W		<1	3	47
1N4W		<1	2	46
1N5W		<1	1	43
1N6W		<1	2	30
1N7W		<1	2	31
1N8W		1	1	98
1N9W		<1	1	96
1N10W		<1	1	39
2N1W		<1	1	40
2N2W		<1	1	51
2N3W		<1	2	46
2N4W		<1	2	71
2N5W		<1	3	35
2N6W		1	1	71
2N7W		<1	2	54
2N8W		<1	1	38
2N9W		1	1	86
2N10W		<1	2	39

Comments:

D. Perkins
Chief Chemist

108-85-00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soil Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
1N		2	3	93
1N1E		1	2	70
1N2E		<1	2	44
1N3E		<1	3	62
1N4E		<1	2	98
1N5E		<1	3	114
1N6E		<1	1	37
1N7E		<1	2	62
1N8E		1	1	87
1N9E		<1	1	79
1N10E		<1	2	48
2N		<1	2	80
2N1E		<1	2	82
2N2E		<1	1	59
2N3E		<1	2	49
2N4E		<1	7	56
2N5E		<1	2	45
2N6E		<1	2	117
2N7E		<1	3	120
2N8E		1	3	105
2N9E		<1	2	107
2N10E		1	2	121
3N		<1	2	50
3N1E		<1	2	47
3N2E		<1	2	89
3N3E		<1	2	81
3N4E		<1	3	71
3N5E		<1	2	65
3N6E		<1	3	47
3N7E		<1	2	44
3N8E		<1	2	61
3N9E		<1	1	45
3N10E		<1	2	97

Comments:

D. Perkins
Chief Chemist

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

108-85-00
Fax number: (604)860-0324
Telephone No: (604)763-3220

Soil Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
3N1W		<1	2	47
3N2W		<1	3	50
3N3W		<1	1	39
3N4W		<1	1	41
3N5W		<1	4	41
3N6W		<1	4	51
3N7W		<1	2	38
3N8W		<1	1	31
3N9W		<1	1	43
3N10W		<1	1	58
4N1W		<1	3	41
4N2W		<1	1	38
4N3W		1	1	93
4N4W		<1	4	39
4N5W		<1	4	41
4N6W		<1	2	49
4N7W		<1	2	41
4N8W		<1	2	25
4N9W		<1	2	47
4N10W		<1	2	38
5N1W		<1	2	45
5N2W		<1	4	30
5N3W		<1	3	36
5N4W		<1	1	48
5N5W		<1	1	62
5N6W		<1	2	26
5N7W		<1	2	27
5N8W		<1	3	22
5N9W		<1	2	22
5N10W		<1	2	29

Comments:

D. Perkins

108-85-00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soil Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: _____

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
4N		<1	2	43
4N1E		<1	3	92
4N2E		<1	3	47
4N3E		<1	2	127
4N4E		<1	3	66
4N5E		<1	3	39
4N6E		<1	3	52
4N7E		<1	3	75
4N8E		<1	3	57
4N9E		<1	3	62
4N10E		<1	2	51
4N11E		<1	2	70
5N		<1	2	58
5N1E		<1	2	54
5N2E		<1	2	44
5N3E		<1	3	58
5N4E		<1	2	55
5N5E		<1	3	37
5N6E		<1	3	56
5N7E		<1	3	47
5N8E		<1	3	78
5N9E		<1	3	52
5N10E		<1	4	103
6N	20	<1	5	65
6N1W	10	<1	3	83
6N2W	<10	<1	3	50
6N3W	10	<1	1	34
6N4W	10	<1	2	35
6N5W	10	<1	3	57
6N6W	20	<1	2	81
6N7N	20	<1	3	72
6N8W	10	<1	2	42
6N9W	10	<1	3	33
6N10W	10	<1	2	36

Comments:

D. Perkins
Chief Chemist

108-85-11

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soils Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPM Cu
6N1E	30	<1	3	80
6N2E	10	<1	3	64
6N3E	20	<1	4	74
6N4E	10	<1	3	43
6N5E	10	<1	3	37
6N6E	10	<1	3	50
6N7E	10	<1	3	86
6N8E	<10	<1	3	56
6N9E	10	1	4	117
6N10E	30	1	2	121
7N	30	1	2	79
7N1W	10	<1	2	68
7N2W	20	<1	3	71
7N3W	10	<1	3	45
7N4W	20	<1	3	60
7N5W	10	<1	2	43
7N6W	10	<1	3	68
7N7W	20	<1	3	35
7NBW	10	<1	2	51
7N9W	10	<1	2	50
7N10W	20	<1	2	60
7N1E	10	<1	2	59
7N2E	10	<1	2	72
7N3E	40	1	3	107
7N4E	20	<1	2	46
7N5E	30	<1	2	68
7N6E	50	<1	3	79
7N7E	20	<1	3	50
7N8E	40	<1	3	62
7N9E	40	<1	2	54
7N10E	30	<1	1	51

Comments:

D. Perkins
Chief Chemist

108-85.00

Brenda Analytical Services.
P.O. Box 420
Peachland, B.C.
VOH 1X0, Canada.

Fax number: (604)860-0324
Telephone No: (604)763-3220

Soil Exploration

Date Reported: October 30, 1990
Date Received: October 3, 1990

For: M. Shewchuk

Sample Name	PPB Au	PPM Ag	PPM Mo	PPMM Cu
8N	50	<1	1	92
8N1W	30	<1	2	48
8N2W	60	1	2	141
8N3W	40	<1	2	57
8N4W	20	<1	1	71
8N5W	20	<1	1	51
8N6W	30	1	2	87
8N7W	10	<1	1	46
8 No Tag	40	<1	1	34
8N9W	10	<1	1	34
8N10W	20	<1	1	48
8N1E	10	<1	2	46
8N2E	40	1	5	66
8N3E	50	1	4	122
8N4E	20	<1	3	39
8N5E	40	1	2	136
8N6E	70	1	3	137
8N7E	20	1	2	77
8N8E	40	1	3	114
8N9E	20	1	3	88
8N10E	20	<1	3	102

Comments:

D. Perkins
Chief Chemist

Appendix II

DRILL LOGS

DRILL HOLE EVALUATION SUMMARY

Company _____ Property _____ Section No _____ Hole No. DDH-70-1

Started		Bearing		Lot.		Collar El.		Logged by					
Completed		Angle		Dep.		Bottom El.		Remarks					
Driller		Length		Location		Level							
INTERVAL		CORE RECOVERED			DESCRIPTION	Sample No.	Interval m	Width m	ASSAY				
From	To	Wt.	Fr.	%					Au ppb.	Cu ppm	Zn ppm		
					82.07-82.12- Calcite veinlet								
82.52	83.54			97	grey-brown andesite, 1-2mm grey feldspar phenocrysts, 10% py, minor fracturing								
83.54	85.32			98	light grey volcanic breccia, 5% py on fractures	83.54-84.45	0.91	15	.007%	.035%			C
85.32	90.54			94	light green andesite, chlorite altered phenocrysts, 1-2mm grey feldspar phenocrysts, 2% diss. py								
90.54	93.0			85	cream volcanic breccia?, minor fracturing 5% diss. py, pervasive	89.02-93.60	4.58	20	153	510			S
					92.85-15cm calcite veinlet, 20% py								
93.0	93.60			99	light green andesite, minor grey feldspar phenocrysts								
93.60	94.21			85	carbonate altered (calcite), 10% py, 1% sph	93.60-94.21	0.61	65	.015%	.82%			C
94.21	106.60			97	light green andesite, minor 1mm grey feldspar phenocrysts, chlorite altered phenocrysts, minor fracturing with calcite	93.60-99.70	6.1	20	157	212			S
100.60	106.92			99	grey volcanic breccia?, upto 5cm clasts, 5% diss. py, minor calcite veinlets								
106.92	110.51			97	dark green andesite, minor feldspar phenocrysts	105.79-111.89	6.1	15	186	162			S
110.51	112.98			96	volcanic breccia?, minor calcite veining								
112.98	118.28			99	dark green andesite	111.89-117.99	6.1	15	159	156			S

DRILL HOLE EVALUATION SUMMARY

Company _____ Property _____ Section No _____ Hole No. DDH-90-1

Started	Bearing	Lat.	Collar El.	Logged by
Completed	Angle	Dep.	Bottom El.	Remarks
Driller	Length	Location	Level	

INTERVAL		CORE RECOVERED			DESCRIPTION	Sample No.	Interval m	width m	Au ppb	ASSAY		
From	To	Wt.	Fr.	%						Cu ppm	Zn ppm	
118.28	119.61			99	cream volcanic breccia?, minor fracturing, 2% py							
119.61	130.23			95	dark green andesite, minor grey, 1-2mm feldspar phenocrysts, minor fracturing with calcite 129.42 - 4cm calcite veinlet @ 60°, 10% py							
130.23	130.83			92	carbonate alteration (calcite) @ 30° to cone, 5% py.	130.23-130.83	0.60	30	007%	.012%		C
130.83	131.80			92	dark green andesite							
131.80	132.30			72	carbonate alteration (calcite) 10% py.	131.71-133.23	1.52	50	.013%	.032%		C
132.30	133.03			72	dark green andesite	131.71-134.76	3.05	002/T	159	396		S
133.03	134.12			98	moderate calcite veining within andesite, mariposite, 5% py	133.23-134.76	1.53	75	.015%	0.36%		C
134.12	134.76			98	carbonate alteration (calcite) 5% py, 1% sph							
134.76	137.80				dark green andesite, chlorite altered phenocrysts, fracturing with calcite							
137.80	138.60			98	carbonate alteration (calcite), mariposite, 20% py, 5% sph, trc py	137.80-139.33	1.53	20	.128%	3.19%		C
138.60	138.92			98	dark green andesite							

DRILL HOLE EVALUATION SUMMARY

Company _____ Property _____ Section No. _____ Hole No. DRH 90-1

Started		Bearing		Lat.		Collar El.		Logged by				
Completed		Angle		Dep.		Bottom El.		Remarks				
Driller		Length		Location		Level						
INTERVAL		CORE RECOVERED			DESCRIPTION	Sample No.	Interval m	width m	ASSAY			
From	To	Wt.	Fr.	%					ppb	Cu ppm	Zn ppm	
138.92	139.32			98	carbonate alteration (calcite) @ 60° to core 10% py, 2% sph, trace py	137.80-140.85	3.05	0.002 0.217	454	6510		S
139.32	140.65			98	andesite, strong calcite veining, 5% py, 1% sph, trace py	139.33-140.85	1.53	40	.030%	.27%		C
140.65	160.67			99	pale green andesite, minor fracturing with calcite, minor 1-3mm grey feldspar phenocrysts, chlorite altered phenocrysts	140.24-144.82	4.58	30	119	3470		S
					141.50-141.70 - calcite veining, 10% py	140.85-142.38	1.53	40	.009%	.028%		C
					142.12-142.37 - calcite veining, 5% py							
					143.90-144.20 - calcite veining, 10% py, 1% sph	143.90-144.51	0.61	60	.020%	.20%		C
					156.34 - 6cm calcite veinlet @ 60°							
160.67					End of Hole							
					py - pyrite, sph - sphalerite cpy - chalcopyrite							

Appendix III

GEOPHYSICAL EQUIPMENT SPECIFICATIONS

GEONICS LIMITED
VLF EM 16

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 ≈ 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 IV

VLF-EM DATA

Murphy Shewchuck
Area: Princeton B.C.
Grid: Golddrop
Date: February, 1991

Data Listing

Current File Name: MURDAT.WRI
From File Name: GOLFEB91.XYX

Instrument Type: Geonics EM-16

(Line & Station + = Northings and Eastings,
- = Southings and Westings)

DATA TYPE(S):
#1. VLF-EM In-Phase Values

DATA DETAILS:
Cutler Transmitter

E/W STATION	N/S LINE #	# 1.
-10	-5	-10
-9	-5	-23
-8	-5	-10
-7	-5	-23
-6	-5	-10
-5	-5	-10
-4	-5	-23
-3	-5	-10
-2	-5	-14
-1	-5	-14
0	-5	-10
1	-5	-10
2	-5	-9
3	-5	0
4	-5	0
5	-5	-20
6	-5	0
7	-5	-55
8	-5	-66
9	-5	-20
10	-5	-24
11	-5	-32
12	-5	-50
-10	-4	-10
-9	-4	-14
-8	-4	-20
-7	-4	-44
-6	-4	-44
-5	-4	-24
-4	-4	-24
-3	-4	-14
-2	-4	-14
-1	-4	-10
0	-4	-10
1	-4	-10
2	-4	-24
3	-4	-10
4	-4	-24

5	-4	-14
6	-4	0
7	-4	-23
8	-4	-20
9	-4	-20
10	-4	-21
11	-4	-10
12	-4	-10
-10	-3	0
-9	-3	-15
-8	-3	-15
-7	-3	-40
-6	-3	-44
-5	-3	-44
-4	-3	-24
-3	-3	-32
-2	-3	-25
-1	-3	-10
0	-3	-25
1	-3	-32
2	-3	-15
3	-3	-9
4	-3	-10
5	-3	-10
6	-3	-25
7	-3	-14
8	-3	-14
9	-3	-13
10	-3	-14
11	-3	-14
12	-3	-24
-10	-2	-10
-9	-2	-10
-8	-2	-25
-7	-2	-25
-6	-2	-46
-5	-2	-56
-4	-2	-28
-3	-2	-25
-2	-2	-25
-1	-2	-10
0	-2	-33
1	-2	-25
2	-2	-24
3	-2	-25
4	-2	-25
5	-2	-10
6	-2	-10
7	-2	-10
8	-2	-10
9	-2	-49
10	-2	-9

11	-2	-9
12	-2	-20
-10	-1	0
-9	-1	0
-8	-1	-32
-7	-1	-32
-6	-1	-24
-5	-1	-23
-4	-1	-24
-3	-1	-32
-2	-1	-25
-1	-1	-24
0	-1	-32
1	-1	-25
2	-1	-14
3	-1	-14
4	-1	-32
5	-1	-14
6	-1	-10
7	-1	0
8	-1	-10
9	-1	-10
10	-1	-10
11	-1	-20
12	-1	-40
-10	1	-14
-9	1	10
-8	1	0
-7	1	-10
-6	1	-24
-5	1	-24
-4	1	-24
-3	1	-10
-2	1	-10
-1	1	-14
0	1	-32
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5	1	-65
6	1	56
7	1	46
8	1	50
9	1	60
10	1	56
-10	2	0
-9	2	0
-8	2	10
-7	2	10
-6	2	10

-5	2	-14
-4	2	-23
-3	2	-10
-2	2	-32
-1	2	-32
0	2	-32
1	2	-32
2	2	-45
3	2	-54
4	2	-66
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6	2	-66
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9	2	-24
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-9	3	-10
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4	4	-32

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8	4	-45
9	4	-32
10	4	-46
-10	5	-32
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4	5	-55
5	5	-46
6	5	-32
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8	5	-46
9	5	-56
10	5	-56
-10	6	-32
-9	6	-24
-8	6	-32
-7	6	-32
-6	6	-45
-5	6	-32
-4	6	-25
-3	6	-32
-2	6	-46
-1	6	-46
0	6	-46
1	6	-81
2	6	-46
3	6	-57
4	6	-32
5	6	-32
6	6	-46
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10	6	-57
-10	7	-32
-9	7	-32
-8	7	-32

-7	7	-32
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-5	7	-14
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-3	7	-23
-2	7	-14
-1	7	-14
0	7	-45
1	7	-46
2	7	-46
3	7	-46
4	7	-25
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6	7	-46
7	7	-46
8	7	-46
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1	8	0
2	8	-32
3	8	-46
4	8	-46
5	8	-46
6	8	-10
7	8	-32
8	8	-32
9	8	-32
10	8	-46

Appendix V

COST STATEMENT

COST STATEMENT

SALARIES

- Grant Crooker, Geologist
March 2, 3, 9, 11, 1991
4 days @ \$ 350.00/day \$ 1,400.00

- Murphy Shewchuck, Field Assistant
Sept. 12-18, Oct. 8-11, 1990
11 days @ \$ 175.00/day 1,925.00

MEALS AND ACCOMODATION

- Murphy Shewchuck - 11 days @ \$ 60.00/day 660.00

TRANSPORTATION

- Vehicle Rental
Sept. 12-18, Oct. 8-11, 1990
11 days @ \$ 60.00/day 660.00

- Gasoline 165.00

DRILL COSTS

- Longyear 38 diamond drill
160.67 meters @ \$ 75.00/meter 12,050.25

EQUIPMENT RENTAL

- VLF-EM - Geonics EM-16
Oct. 8-11, 1990
4 days @ \$ 25.00/day 100.00

SUPPLIES

- Hipchain thread, flagging, geochem bags, etc. 25.00

GEOCHEMICAL ANALYSIS

- 216 soil samples, Ag, Mo, Cu @ \$ 3.85/sample 831.60
- 63 soil samples, Au, Ag, Mo, Cu @ \$ 8.35/sample 526.05
- 9 sludge, 32 element ICP, Au @ \$ 16.25/sample 146.25
- 9 drill core, Au, Ag, Mo, Cu @ \$ 11.50/sample 103.50

PREPARATION OF REPORT

- Secretarial, reproduction, telephone,
office overhead etc. 300.00
- Total** \$ **18,892.65**