

84-1211-12829

10/85

GEOCHEMICAL REPORT ON THE MS GROUP  
SIMILKAMEEN MINING DIVISION  
SUMMERS CREEK AREA, BRITISH COLUMBIA

LOCATION

N.T.S.: 92 H / 10E  
LATITUDE: 049° 42' 50"  
LONGITUDE: 120° 30' 36"

PREPARED FOR

GERALD BURR, PATRICIA MULLIN, WILLIAM STEPHENS  
BOX 673  
PRINCTEON, BRITISH COLUMBIA

PREPARED BY

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V6N 2K9



NOVEMBER 20, 1984

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**12,829**

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## SUMMARY

The MS Group consisting of 16 two post claims straddle Summers Creek and the Missezula Lake Road from 31 kilometers to 34.6 kilometer by good road from Princeton, British Columbia. The claims were staked to cover copper silver showings in the Triassic Nicola Group. Mineralization of the type found on the MS Group extends for several kilometers along the fault controlled Summers Creek Valley.

The present program consisted of locating the northern boundary of the claims and collecting soil samples at the break in slope on the east side of Summers Creek. A total of 51 soil samples were collected with analyses for copper, silver and zinc. The strongest geochemical response was for copper with over 15 percent of the samples considered anomalous. Weekly anomalous silver and zinc results were also obtained. Sampling and prospecting along the slope east of Summers Creek is warranted.

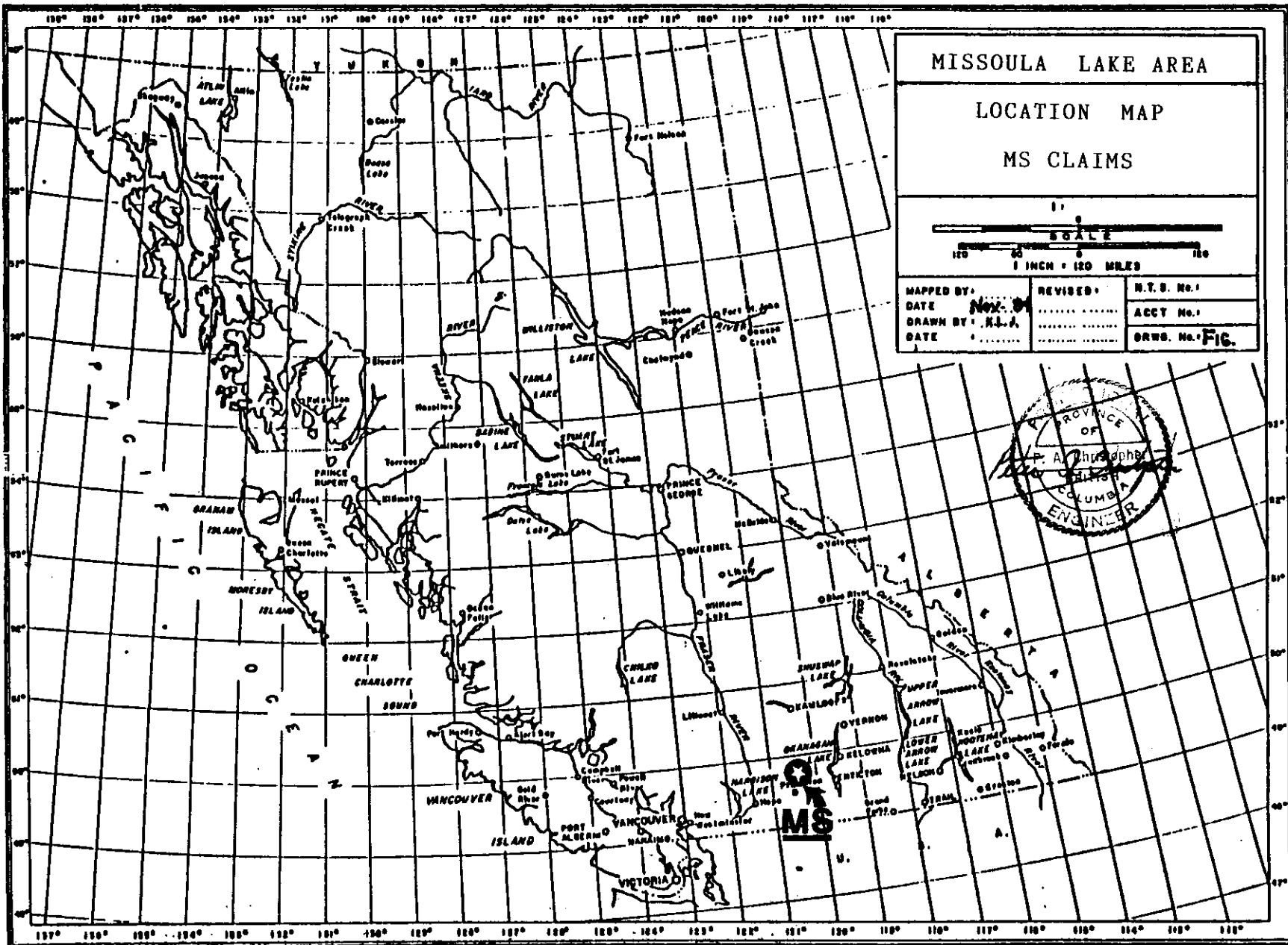
## INTRODUCTION

The MS Group consisting of the MS 1 through MS 16 claims is situated in the Similkameen Mining Division about 30 kilometer north of Princeton, British Columbia. The property has easy road access and can be worked from either Princeton or a camp on Summers Creek. The writer has agreed to maintain the proeprty in good standing for the claim owners. Peter Christopher & Associates was retained to conduct a geochemical sampling program on the property. Field work was undertaken by the writer between October 19 and October 21, 1984. This report summarizes the results obtained from 51 soil samples and provides recommendations for further exploration of the claim group.

## LOCATION AND ACCESS (Figures I & II)

The MS claim group straddles Summers Creek and the Missezula Lake Road from 31 kilometers to 34.6 kilometers by road from Princeton, British Columbia. The property is about 3 kilometers south of Missezula Lake and 30 kilometers north of Princeton. The area is considered part of the Thompson Plateau of south-central British Columbia. The property is situated at the eastern edge of map sheet 92 H 10E and centers at geographic coordinates of 049° 42' 50" N. latitude and 120° 30' 36" W. longitude.

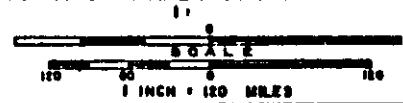
Access is by the Missezula Lake Road which branches of Highway 5 about 8 kilometers north of Princeton, British Columbia. Missezula Lake is 30 kilometers by good gravel road from Highway 5 with the claims straddling the road from 23 kilometer to 26.6 kilometer. Local claim access is by foot from the Missezula Lake Road with steep topography making for slow progress. Elevation vary from 945 meters (3100 feet) in the valley bottom to 1372 meters (4500 feet) on the valley wall.



MISSOULA LAKE AREA

LOCATION MAP

MS CLAIMS



MAPPED BY:	REVISED:	N.T.S. No.:
DATE: Nov. 21	.....	ACCT No.:
DRAWN BY: H.L.J.	.....	DRWD. No.:
DATE: .....	.....	FIG.





## PROPERTY DEFINITION

The MS Property consisting of the MS 1 through MS 16 mineral claims was recorded on November 10, 1984. The claims were staked using the two post system with record numbers 462 through 475 assigned to the claims. Table 1 summarizes pertinent claim data and Figure 2 from British Columbia government claim maps shows the approximate location of the MS Property. Claim posts that establish the MS claims were not located and the survey was conducted over the area of the northern claims shown on Figure 2.

Table I. Pertinent Claim Data For MS Claims.

<u>Claim</u>	<u>Tag #</u>	<u>Record #</u>	<u>Date Staked</u>	<u>Date Recorded</u>	<u>Staker</u>
MS 1	175357	462(11)	Nov. 2/78	Nov. 10/78	P.C. Mullin
MS 2	175358	463(11)	"	"	"
MS 3	175356	464(11)	"	"	"
MS 4	175359	465(11)	"	"	"
MS 5	437458	466(11)	"	"	W.C. Stevens
MS 6	437459	467(11)	"	"	"
MS 7	437460	468(11)	"	"	"
MS 8	437461	469(11)	"	"	"
MS 9	437462	470(11)	"	"	Edward Mullin
MS 10	437463	471(11)	"	"	"
MS 11	437464	472(11)	"	"	"
MS 12	437465	473(11)	"	"	"
MS 13	437467	474(11)	Nov. 3/78	"	Gerald Burr
MS 14	437466	475(11)	"	"	"
MS 15	437469	476(11)	"	"	"
MS 16	437468	477(11)	"	"	"

## HISTORY OF THE CLAIMS

The MS claims were staked in November 1978 by a group of prospectors from Princeton, British Columbia. The claims were acquired to cover copper showings in volcanic rocks of the Nicola Group. The claims were group with the HG and Prime claims and optioned to Newmont Exploration of Canada Ltd. between 1979 and 1981. Newmont's work was mainly on the HG-Prime claims with results reported in government assesment reports.

## WORK PROGRAM

The 1984 work program was conducted by the writer between October 19 and October 21, 1984. Two day were required for mobilization and demobilization from Vancouver, British Columbia and one day was spent soil sampling on the claim area shown on Figure 2. A total of 51 soil samples were collected with 2.5 kilometers surveyed. Samples were collected at 50 meter intervals along flagged and chained lines. Samples were dried and sent to Chemex Labs Ltd in North Vancouver for copper, lead, zinc and silver analyses. Geochemical results are plotted on Figure 3.

## REGIONAL GEOLOGY

The MS claims are situated in the Intermontane Tectonic Belt of the southern Canadian Cordillera. In southern British Columbia the upper Triassic Nicola Group dominates the belt. The Nicola Group consists of alkalic and calc-alkalic volcanic and volcanoclastic rocks that have been divided by Preto (1979) into three north-trending structural belts, bounded by major faults. The Summers Creek fault zone running through the center of the MS claims separates rocks of Preto's Central belt from rocks of the Eastern Belt.

Eastern Belt rocks along Summers Creek include both alkalic and calc-alkalic suites derived from comagmatic intrusions and are dominated by extensive tuffs, lahar deposits, some basaltic flows, and high-level syenitic rocks (Preto, 1979; Christopher, 1973). Float from the steep valley wall on the east side of Summers Creek consisted mainly of green and maroon lahars and tuff.

The Central Belt assemblage consists of massive pyroxene and plagioclase-rich flows of andesitic and basaltic composition, coarse volcanic breccia, conglomerate, and lahar deposits and by lesser amounts of fine-grained pyroclastic and sedimentary rocks (Preto, 1979). Along the west side of Summers Creek near the north boundary of the MS claims, fine volcanic sediments are exposed in road cuts. The Shamrock chalcocite prospect is situated in similar rocks to the north of the claims.

The Alleyne-Summers Creek Fault system, a major north-south rift system passes through the center of the claims and dominates the tectonic fabric of the property. Local faults generally parallel the northerly trend but N20°W and N40-45°E linears are probably also important fault directions.

Nicola rocks are generally only weakly metamorphosed with maximum regional grade reaching greenschist facies. Locally comagmatic intrusions have produced metamorphic and metasomatic effects with deposits like Ingerbelle, Copper Mountain, Afton, Axe and Craigmont resulting.

## GEOCHEMICAL SURVEY

A total of 51 soil samples were collected from the MS claims. Samples were collected at 50 meter intervals starting near the northern boundary of the claim with samples 1 and 2 collected from the road bank on the west side of Summers Creek and samples 3 through 51 collected from the break in slope on the east side of Summers Creek. The B horizon was sampled with a mattock at a depth of about 15 cm. The A horizon is generally shallow except in swampy areas or creek valleys. The B horizon is generally greyish brown. Sample stations were chained and flagged with orange and blue flagging.

## LABORATORY PROCEDURE

Samples were prepared and analyzed by Chemex Labs Ltd. in North Vancouver, British Columbia. Soil samples were dried, sieved to -80 mesh, split to obtain a 1 gram sample and digested for 2 hours in a mixture of perchloric ( $\text{HClO}_4$ ) and nitric  $\text{HNO}_3$  acid with copper, zinc and silver analyses by atomic absorption (AA). Silver AA values were background corrected.

## RESULTS AND INTERPRETATION

Results for Cu, Zn and Ag were plotted on a 1:5,000 scale map (Figure 3). Background, slightly anomalous and anomalous ranges were based on other surveys conducted over Nicola volcanic terrain. Statistical treatment was not attempted because of the low number of samples and generally weak response for silver and zinc. Assay results are included in the appendix at the end of this report.

### Copper

Copper values range from 10 ppm to 480 ppm with values between 75 and 150 ppm considered weakly anomalous and values over 150 considered anomalous. A total of 15 samples were weakly anomalous or anomalous with 8 of these sample in the anomalous range. About 30% of the samples are at least weakly anomalous in copper with over 15% of the samples anomalous in copper. Sample between 11+50S and 17+50S are all anomalous in copper and the ridge area east of this zone should contain copper prospects. Although zinc and silver values are not strongly anomalous, the higher silver and zinc results occur with the anomalous copper values.

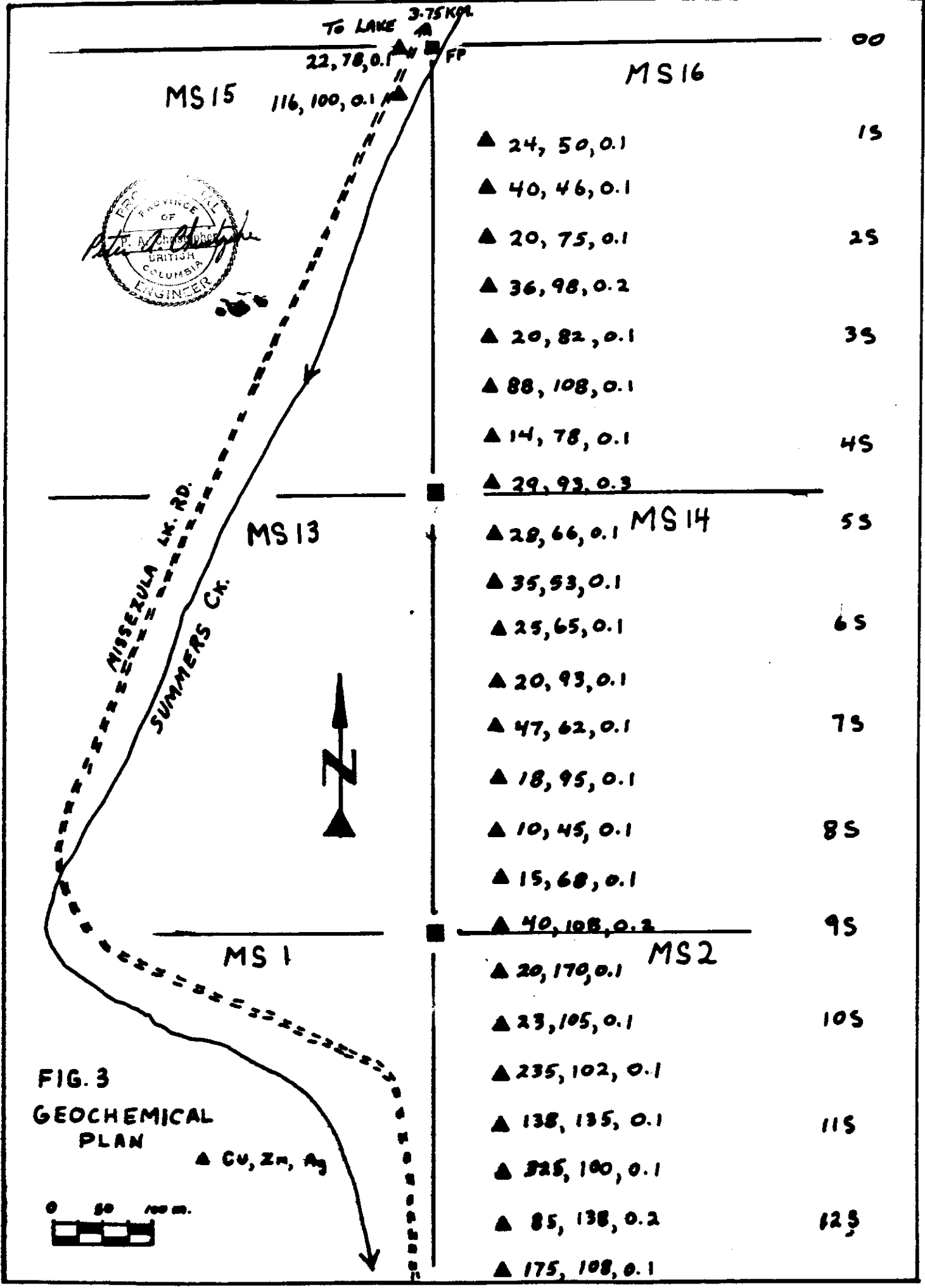
### Zinc

Zinc values range from 45 ppm to 190 ppm with six weakly anomalous values over 150 ppm. Weakly anomalous zinc values all occur in or near the anomalous copper values.

### Silver

Silver values range from the detection limit of 0.1ppm to 0.4ppm with no anomalous results obtained. Of the three values above 0.2ppm silver two occur with the strongest copper and zinc responses.





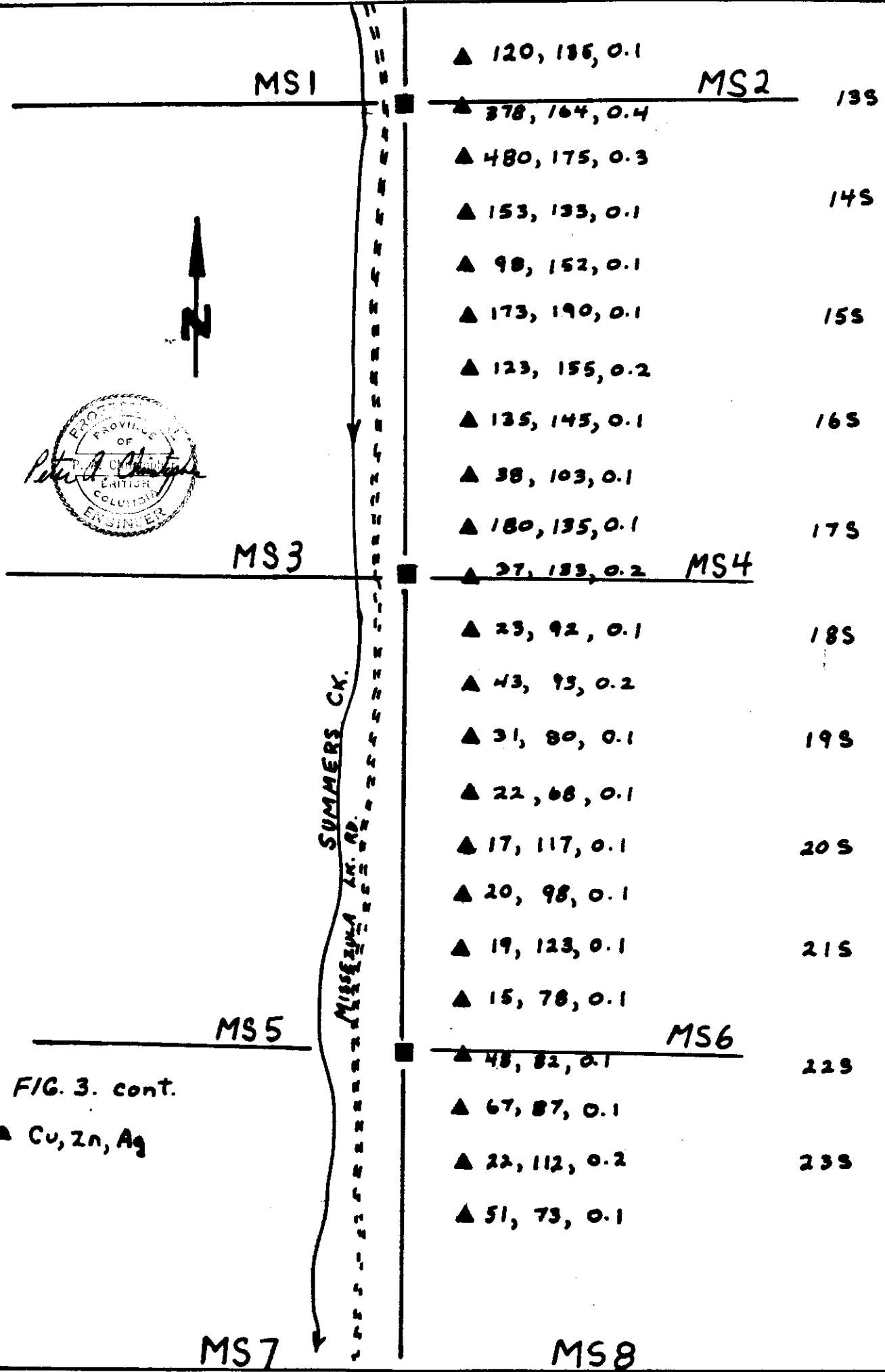


FIG. 3. cont.

▲ Cu, Zn, Ag

## SUMMARY AND RECOMMENDATIONS

The presence of a copper prospect on the MS claims has been strongly suggest by soil values up to 480 ppm in an anomalous zone that extends for 600 meters along the eastern bank of Summers Creek. Rock geochemistry and further soil sampling on the steep valley wall of Summers Creek is recommended to locate the source of the mineralization. The mineralized showings should be sampled for precious metal analyses. The costs for the exploration program outlined in this report are summarized on the following page.

## BIBLIOGRAPHY

- Christopher, P.A., 1973. Preliminary geological map of the Aspen Grove Area, British Columbia, B.C. Ministry of Energy, Mines & Petroleum Resources, Preliminary Map No. 10.
- Nebocat, J., 1980. Report on the Missezula Project 1979,1980. Assessment Report for Newmont Exploration of Canada Ltd. dated Dec. 19, 1980.
- Preto, V. A., 1979. Geology of the Nicola Group between Merritt and Princeton. B.C. Ministry of Energy, Mines & Petroleum Resources, Bulletin No. 69, P. 1 - 90.
- Visagie, D., 1981. Summary report on the Missezula Project 1979-1981, Similkameen Mining Division. Assessment Report for Newmont Exploration of Canada Ltd. dated Nov. 18, 1981.

COST STATEMENT

PERSONNEL

PETER A. CHRISTOPHER P.Eng.	3 days Oct. 19-21/84	\$ 1050
ROOM & BOARD	3 DAYS @ \$50 EA.	150
TRANSPORTATION	3 DAYS @ \$100 EA.	300
EXPENDABLES (Flagging, Soil Bags, Chain etc)		25
Rentals (Chain Saw, Magnetometer & EM-16 standby)		100
GEOCHEMICAL ANALYSES	51 @ \$4.50 EA	230
REPORT PREPARATION		
WRITING/RESEARCH		1000
TYPING, DRAFTING, PRINTING ETC.		300
MANAGEMENT		<u>345</u>
	TOTAL COSTS	<u>\$ 3500</u>
TO PAC ACCOUNT	\$ 300	
RECORD 1YR ASSESSMENT	3200	

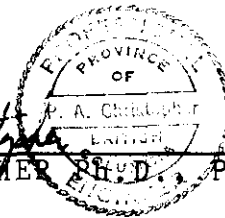


CERTIFICATE

I, Peter A. Christopher, with business address at 3707 West 34th Avenue, Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer registered with the Association of Professional Engineers of British Columbia since 1976.
- 2) I am a Fellow of the Geological Association of Canada and a member of the Society of Economic Geologists.
- 3) I hold a B.Sc. (1966) from the State University of New York at Fredonia, a M.A. (1968) from Dartmouth College and a Ph.D. (1973) from the University of British Columbia.
- 4) I have been practising my profession as a Geologist for over 15 years.
- 5) I hold an interest in the claims trough agreement with Gerald Burr, Patricia Mullina and William Stephens.
- 6) I have based this report on a review of available geological data, and on a geochemical program conducted by me between October 19 and October 21, 1984.

*Peter A. Christopher*  
PETER A. CHRISTOPHER B.Sc., M.A., Ph.D., P.Eng.  
November 20, 1984



APPENDIX A

CERTIFICATES OF ANALYSIS



# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1

Telephone: (604) 984-0221  
Telex: 043-52597

## CERTIFICATE OF ANALYSIS

TO : CHRISTOPHER, PETER & ASSOCIATES INC.

3707 WEST 34TH AVE.,  
VANCOUVER, B.C.  
V6N 2K9

CERT. # : A8417301-001-A  
INVOICE # : 18417301  
DATE : 23-OCT-84  
P.O. # : NONE  
M.S.

ATTN: PETER CHRISTOPHER

Sample description	Prep code	Cu ppm	Zn ppm	Ag ppm			
841019-01	201	22	78	0.1	--	--	--
341019-02	201	116	100	0.1	--	--	--
341019-03	201	24	50	0.1	--	--	--
341019-04	201	40	46	0.1	--	--	--
841019-05	201	20	75	0.1	--	--	--
841019-06	201	36	98	0.2	--	--	--
341019-07	201	20	82	0.1	--	--	--
841019-08	201	44	98	0.1	--	--	--
841019-09	201	25	80	0.1	--	--	--
841019-10	201	88	108	0.1	--	--	--
341019-11	201	14	78	0.1	--	--	--
841019-12	201	29	93	0.3	--	--	--
841019-13	201	28	66	0.1	--	--	--
341019-14	201	35	53	0.1	--	--	--
841019-15	201	25	55	0.1	--	--	--
841019-16	201	20	93	0.1	--	--	--
341019-17	201	47	62	0.1	--	--	--
841019-18	201	18	95	0.1	--	--	--
841019-19	201	10	45	0.1	--	--	--
341019-20	201	15	68	0.1	--	--	--
841019-21	201	40	108	0.2	--	--	--
841019-22	201	20	170	0.1	--	--	--
841019-23	201	23	105	0.1	--	--	--
841019-24	201	235	102	0.1	--	--	--
841019-25	201	138	135	0.1	--	--	--
841019-26	201	325	100	0.1	--	--	--
841019-27	201	85	138	0.2	--	--	--
841019-28	201	175	108	0.1	--	--	--
841019-29	201	120	135	0.1	--	--	--
841019-30	201	378	164	0.4	--	--	--
341019-31	201	480	175	0.3	--	--	--
841019-32	201	153	133	0.1	--	--	--
841019-33	201	98	152	0.1	--	--	--
841019-34	201	173	190	0.1	--	--	--
841019-35	201	123	155	0.2	--	--	--
341019-36	201	135	145	0.1	--	--	--
341019-37	201	38	103	0.1	--	--	--
841019-38	201	180	135	0.1	--	--	--
841019-39	201	37	133	0.2	--	--	--
841019-40	201	23	92	0.1	--	--	--

Certified by *Hart Bickel*





# Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.  
North Vancouver, B.C.  
Canada V7J 2C1  
Telephone: (604) 984-0221  
Telex: 043-52597

## CERTIFICATE OF ANALYSIS

TO : CHRISTOPHER, PETER & ASSOCIATES INC.

3707 WEST 34TH AVE.,  
VANCOUVER, B.C.  
V6N 2K9

CERT. # : A8417301-002-A  
INVOICE # : 18417301  
DATE : 28-OCT-84  
P.O. # : NONE  
M.S.

ATTN: PETER CHRISTOPHER

Sample Description	Prep code	Cu ppm	Zn ppm	Ag ppm			
841019-41	201	43	93	0.2	--	--	--
841019-42	201	31	30	0.1	--	--	--
841019-43	201	22	63	0.1	--	--	--
841019-44	201	17	117	0.1	--	--	--
841019-45	201	20	98	0.1	--	--	--
841019-46	201	19	123	0.1	--	--	--
841019-47	201	15	78	0.1	--	--	--
841019-48	201	48	82	0.1	--	--	--
841019-49	201	67	37	0.1	--	--	--
841019-50	201	22	112	0.2	--	--	--
841019-51	201	51	73	0.1	--	--	--

Certified by .....

*Hart Buchler*

