GEOCHEMICAL SOIL SURVEY

BRE 33-50 CLAIMS
SKEENA M.D.

NTS 103F-9E

Lat. 53° 32.5' N.
Long 132° 13' W.

OWNER AND OPERATOR -

MUTUAL RESOURCES LIMITED
#904-1199 West Hastings Street
Vancouver, British Columbia
V6E 3V4

AUTHOR - R. H. Beaton, P. Eng.
Date Submitted - January 31, 1980

TABLE OF CONTENTS

I INTRODUCTION:

1. Location and Access

The BRE 33-50 claims are situated on Graham Island of the Queen Charlotte Islands some 15.5 km. south of Port Clements. Canoe Creek, a tributary of Yakoun River, flows northeasterly through the claims which adjoin Consolidated Cinola's Babe and Ric claims on the north side.

MacMillan Bloedel's 4L branch logging road in December of 1979 ended 250 metres from the northwest corner of the claim block.

2. History and Ownership

The BRE claims were staked originally in conjunction with Efrem Specogna's Ric and Babe claims, currently optioned to Consolidated Cinola; but previously to Kennco (1971), Cominco (1972), Silver Standard (1973) and Quintana (1974-76). BRE 33-50 claims comprise one block of two that were retained by Silver Standard from 1973 onward.

3. Summary of Work Performed

From November 30, 1979 to December 11, 1979 a crew of four men were engaged in laying out and soil sampling a grid on BRE 33-50 claims. Unfavourable weather and airflight scheduling resulted in termination of the program when about 75% completed. Claims 40, 42, 44, 46, 48 and 50 were not sampled.

Samples, invariably augered, were taken at 30 metre intervals along flagged and blazed lines of 100-, 150-, and 200-metre separation.

A total of 17 kilometres of line were blazed and flagged from which 458 soil samples were taken all being run for mercury, arsenic, and gold by Chemex Labs Ltd., of North Vancouver, An additonal 21 rock geochemical samples, collected from outcroppings in Canoe Creek, were also run for mercury, arsenic, and gold. Total analytic determinations totalled 1390.

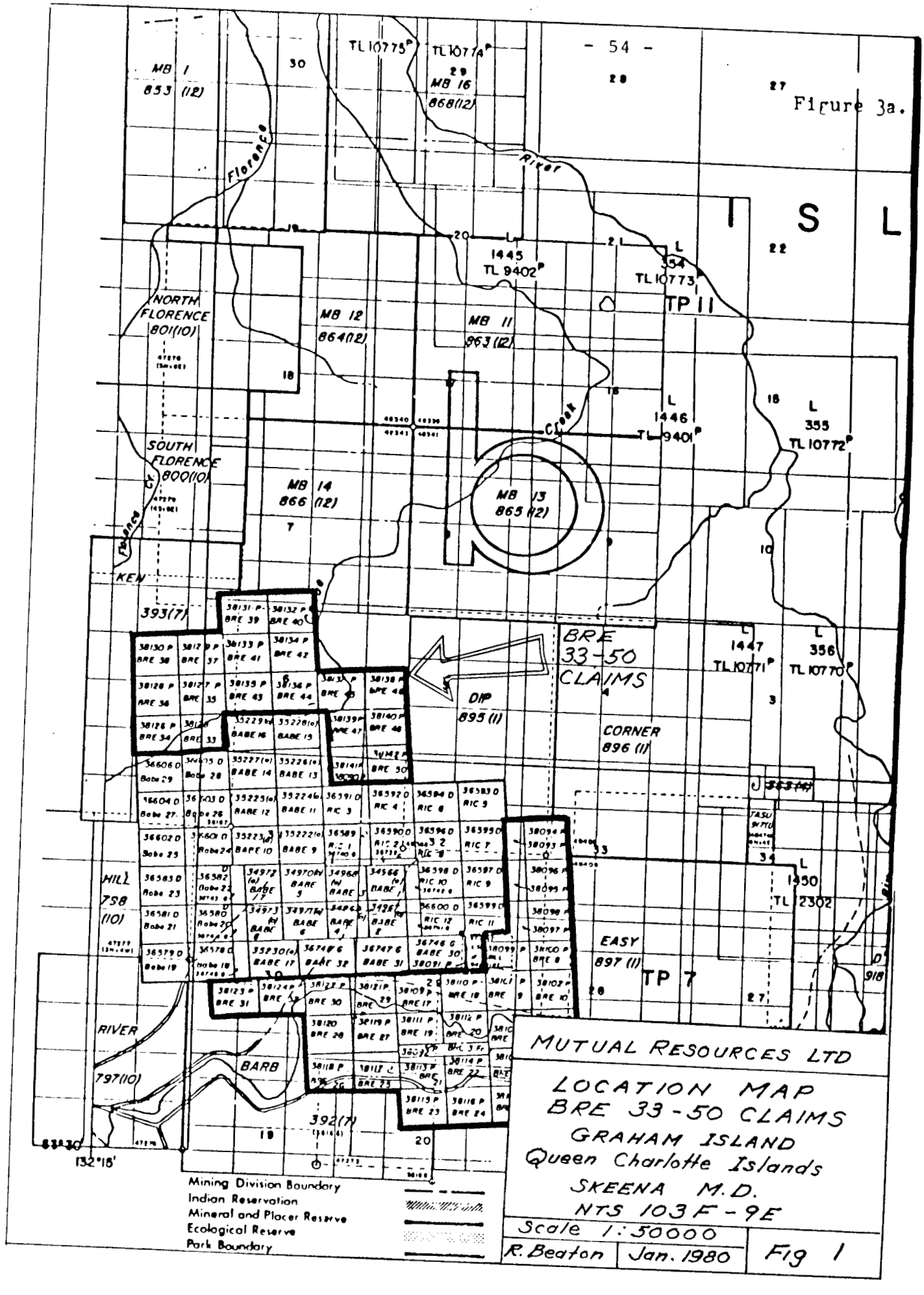
II PURPOSE

The purpose of the program was to determine if geochemistry might serve to define targets for subsequent investigation in an area where the only known outcroppings were limited to the bed of Canoe Creek particularly in BRE 34 claim.

Since the claims adjoin Consolidated Cinola's ground on the south; and since the favourable fault-contact of the discovery zone there would appear to strike northwesterly toward claims in the BRE block, such program was obviously considered justified.

..../2

Figure 3a.

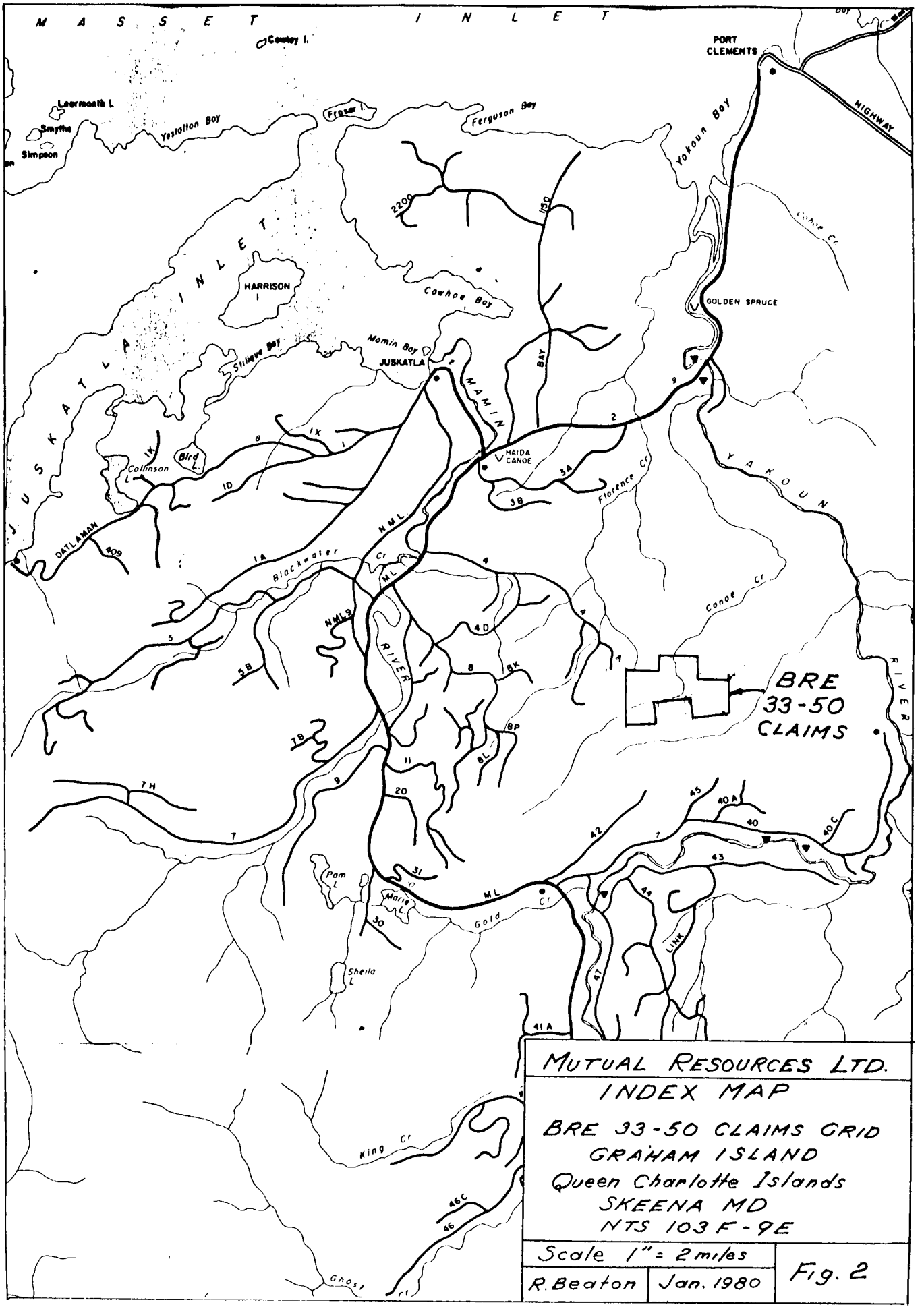


MUTUAL RESOURCES LTD

LOCATION MAP
BRE 33-50 CLAIMS
GRAHAM ISLAND
Queen Charlotte Islands
SKEENA M.D.
NTS 103F-9E

Scale 1:50000

R. Beaton	Jan. 1980	Fig 1



MUTUAL RESOURCES LTD.

INDEX MAP

BRE 33-50 CLAIMS GRID
GRAHAM ISLAND
Queen Charlotte Islands
SKEENA MD
NTS 103 F-9E

Scale 1" = 2 miles		Fig. 2
R. Beaton	Jan. 1980	

III PROCEDURE

Since the BRE 33-50 claim block had greatest dimension east-west, the location line was laid out in that direction to pass through the initial post of BRE 43, 44 claims. Soil lines were turned off from the location line at 100-metre intervals in the westerly third of the claims, 150-metre intervals in the centre third, and 200-metre intervals in the easterly third. Because of large trees, both standing and windfall, it proved impractical to cut lines with chain saw. Orange ribbon supplemented by blazing were employed to define lines and mark stations.

All lines were run by compass, corrected for deviation, using hip chain for distance.

Because of thick accumulation of forest litter and organic material, practically all samples were taken by auger commonly at depths from ½ to one metre. Normal soil development was found to be erratic, often absent, such that sample material frequently included much organic above, or clayey drift below, the desired B1 horizon. Field notes included soil description, depth sampled, and slope of terrain. Sample material was placed in water - resistant kraft envelopes and, after drying at room temperature, delivered to Chemex Labs Ltd. for analysis.

IV RESULTS

When plotted, analytic determinations of the three-element grid program showed both gold and arsenic to be invariably in background range whereas mercury ranged from background in the north and west to anomalous toward the southeast.

By inspection, and from data on file derived from earlier programs conducted just to the south the following were determined: -

Response	ppb Au	ppm As	ppb * Hg
Background	< 30	< 30	< 200
Threshold	30-60	30-60	200-500
Anomalous	> 60	> 60	> 500
Strongly Anomalous	100-300		1000-8500

* The mercury anomaly associated with the Consolidated Cinola occurrence is huge, extending in a circular halo some two kilometres or more northeasterly from the discovery area. Response levels are therefore abnormally high and apply to the grid area only.

Only one soil sample (in BRE 37) "Kicked" in gold, but since adjacent values were flat, little significance is attached to it. In BRE 33, two values in the middle background range may be of interest since they occur in the vicinity of the contact between rhyolite tuff on the west and recent wood-bearing sediment to the east. Mercury is weakly (relatively) anomalous in this same area.

..../3

Background values in arsenic tend to improve to the east reflecting, possibly, the mercury pattern; but at a much more subdued level.

V INTERPRETATION

Interpretation of results is influenced strongly by previous surveys conducted on the Babe claims adjoining to the south. On the basis of this earlier data coupled with latest findings it is believed that higher values particularly in mercury reflect the high level of concentration in overburden rather than in underlying bedrock. Since ice moved northeasterly (Sutherland Brown) over the Specogna occurrence it is logical to assume that anomalous material carried either by ice, rafting, or fluvio-marine activity would be distributed in that direction.

Depth of overburden on the BRE claims is not known. Outcroppings in Canoe Creek suggest that cover may be in the order of ten to 20 metres thick; but this may be local. Clayey material picked up by soil auger; and clay (blue-grey glacial marine?) noted in Canoe Creek just south of the central grid may indicate that even if cover were relatively thin, its nature might not be suitable for upward movement of metallic ions from bedrock.

Rock geochemical samples taken from outcroppings (largely ash tuff and quartz-eye porphyry but locally interrupted by young sediments and argillite) were not anomalous. Values in general were of the same order of response as overlying soil. The single rock-chip sample (No.19) that did respond was taken from one of a group of chert boulders lying in the bed of Canoe Creek near the south central boundary of BRE 35. Since no similar rock was found upstream, the boulders are likely erratics or derived from overburden. Clayey overburden near bedrock is invariably rich in felsic rock fragments, both angular and rounded, similar in appearance to much of the bedrock itself. This condition may account for the high mercury values in soil since cover is closely associated with bedrock.

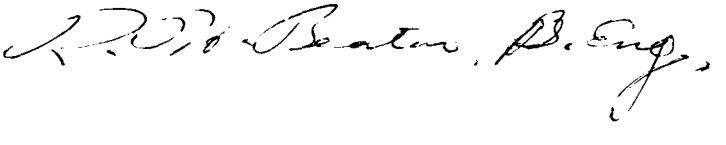
VI CONCLUSIONS

1. Very weak gold and mercury values in BRE 33 may reflect higher than normal concentration of metal in bedrock; but more likely are associated with a fault and/or contact between rhyolite porphyry and Skonun sediment.

2. Relatively high mercury-in-soil values toward the east and southeast portions of the grid are believed to be derived from overburden transported northeasterly from the Specogna zone of mineralization.

3. Background response with respect to arsenic and gold suggest that either there is no zone of economic mineralization present or that overburden effectively screens geochemical response (other than from the overburden itself such as in two preceding).

4. Rock geochemical values in Canoe Creek are not anomalous indicating that conditions similar to the Specogna zone to the south are not locally represented.



APPENDIX I

ITEMIZED COST STATEMENT -

Period November 27 - December 13 (field activity)

Bema Industries Ltd. (Invoice attached)		$ 10,544.25
Accommodation (in part) Guest House, PORT CLEMENTS (lodging three men, meals five men)		860.00
Tilden, vehicle rental (two pickups - 4x4 and crew cab)		1,023.56
Chemex Labs Ltd. (Invoice No. 34549)		4,406.04
Drafting, Altair		54.00
R. Beaton - Expenses - (17 Fields days)		
Pacific Western - four men, single fare		319.60
Pacific Western - self, return fare		159.85
Excess Luggage		16.00
Budget - Car Rental		65.54
Gas		28.25
Groceries & Meals		29.65
Taxis, telephone, postage		17.30
Ferry charge - Graham to Moresby Island		10.50
Report Preparation (15 office days) R. Beaton plus support costs.		3,038.09
	TOTAL	$ 20,572.63

EMA INDUSTRIES LTD. ~~9790 - 88 AVENUE, PR#1, LANGLEY, BC, V3A 6Y1 (604)888-7501~~
5780 - 203rd St., Langley, B.C. V3A 1W3
(604) 530-9731

INVOICE A 163

DATE December 31, 1979

FILE NO.

PROJECT 79-48

Mr. R. Beaton, P.Eng.,
Mutual Resources Ltd.
9th Floor - 1199 W. Hastings St.,
Vancouver, B. C.
V6E 3T5

Soil Geochemical Program
Bre Mineral Claims
Queen Charlotte Islands, B. C.

LABOUR

G. Rodgers	Supervisor,	16½	days @	$175.00/day	$2,887.50
J. McCaffrey,	Linecutter,	14	days @	$125.00/day	$1,750.00
S. Milroy,	Linecutter,	14	days @	$125.00/day	$1,750.00
J. Taylor,	Linecutter,	14	days @	$125.00/day	$1,750.00
S. Trenciansky,	Draftswoman,	1	day @	$120.00/day	$ 120.00
TOTAL LABOUR					$8,257.50

DISBURSEMENTS

Deakin Equipment Ltd.	$ 216.84	
Langley Travel	319.60	
Langley Travel	68.05	
Pacific Western Airlines	51.99	
Pacific Western Airlines	142.75	
West Country Hotel	65.60	
West Country Hotel	59.95	
Chevron Canada Ltd.	109.07	
Budget Rentals	67.44	
J. McCaffrey Expense Account	9.00	
G. Rodgers Expense Account	831.25	
Bema Supplied Materials:		
364 Soil Bags @ $7.95 per 100	28.94	
8 rolls topophil thread @ $2.25 per roll	18.00	
	$1,988.48	
15% Disbursement Charge	298.27	
	$2,286.75	$2,286.75

TOTAL: $10,544.25

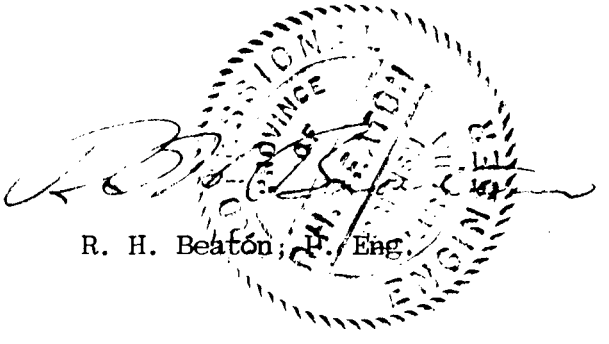
This is our account: $10,544.24
BEMA INDUSTRIES LTD.

Per:

APPENDIX II

AUTHORS QUALIFICATIONS

I, R. H. Beaton of the City of Vancouver in the Province of British Columbia certify that I am a Professional Engineer registered in the Province of British Columbia, that I graduated from the University of British Columbia in Geological Engineering in 1952, that I personally supervised and participated in the geochemical investigation on BRE 33-50 Mineral Claims, and that I was employed by and worked under direction of the officers of Mutual Resources Limited while so engaged.



Vancouver, British Columbia
January 31, 1980

R. H. Beaton, P. Eng.

APPENDIX III

(Analytic Procedure)

Sample Preparation

Sils, silts, lake bottom sediments - Samples are sorted and dried at 50°C for 12 - 16 hours. Dried material is then screened to obtain the -80 mesh component of each sample. Coarse material is discarded unless other instructions are received. Other mesh sizes are available if required.

Rock chips or pieces of core designated as rock geochem samples are dried, crushed and then pulverized to -100 mesh in a ring grinder. The sample is homogenized and packaged.

Sample Analyses

ppm Copper & Lead:
A 1.0 gm portion of sample is digested in conc. perchloric-nitric acid ($HClO_4$ -HNO_3) for approx. 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Copper and lead are determined by atomic absorption techniques using background correction for lead.

ppb Mercury:
The sample is digested with nitric acid plus a small amount of hydrchloric acid. Following digestion the resulting clear solution is transferred to a reaction flask connected to a closed system absorption cell. Stannous sulfate is rapidly added to reduce mercury to its elemental state. The mercury is then flushed out of the reaction vessel into the absorption cell where it is measured by cold vapour atomic absorption methods with a Jarrell Ash Multi-Versatility Spectrophotometer. The absorbance of samples is compared with the absorbance of freshly-prepared mercury standard solutions carried through the same procedure. The detection limit of this method is 5 ppb.

GEOCHEM PROCEDURES

PPB Gold: 5 gm samples ashed @ 800°C for one hour, digested with aqua regia - twice to dryness - taken up in 25% HCL^-, the gold then extracted as the bromide complex into MIBK and analyzed via A.A.
Detection limit - 10 PPB

PPM Arsenic: a 1.0 gram sample is digested with a mixture of perchloric and nitric acid to strong fumes of perchloric acid. The digested solution is diluted to volume and mixed. An aliquot of the digest is acidified, reduced with K1 and mixed. A portion of the reduced solution is converted to arsine with $NaBH_4$ and the arsenic content determined using flameless atomic absorption.
Detection limit - 1 PPM

PPM Silver: a 1.0 gm portion of sample is digested in conc. perchloric-nitric acid ($HClO_4$ - HNO_3) for approx. 2 hours. The digested sample is cooled and made up to 25 mls with distilled water. The solution is mixed and solids are allowed to settle. Silver is determined by atomic absorption technique using background correction on analysis.
Detection limit - 0.1 PPM

APPENDIX IV

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51837

INVOICE NO. 34549

RECEIVED Dec. 18/79

ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6C 3T5

ATTN: Mr. Beaton

ROCKS

SAMPLE NO.	PPM As	PPB Hg	PPB Au
1	0.5	110	< 10
2	2.0	870	< 10
3	0.5	970	< 10
4	0.5	1750	< 10
5	5.0	120	< 10
6	1.5	580	< 10
7	0.5	650	10
8	1.5	170	< 10
9	1.0	60	< 10
10	6.0	1400	< 10
11	0.5	40	< 10
12A	4.0	400	< 10
12B	2.0	320	< 10
12C	65	720	< 10
13	45	40	< 10
14	0.5	30	< 10
15	1.0	260	< 10
16	0.5	320	< 10
17	1.5	950	< 10
18	0.5	170	10
19	105	4750	500

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. G. Machan D.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 9[redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51822

INVOICE NO. 34549

RECEIVED Dec. 17/79

ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6E 3T5

ATTN: Mr. Beaton

SAMPLE NO. :	PPM As	PPB Hg	PPB Au
3700E 4340N	2.0	130	< 10
4370	9.5	250	< 10
4400	7.0	320	< 10
4430	7.0	150	< 10
4460	11	190	< 10
4490	9.0	190	< 10
4520	5.5	270	< 10
4550	4.0	300	< 10
4580	4.5	160	< 10
4610	19	190	< 10
4640	28	200	< 10
4670	18	160	< 10
4700	18	140	< 10
4730	20	140	< 10
4760	11	330	< 10
4790	11	250	< 10
4820	3.0	390	< 10
4850	5.5	150	< 10
4880	8.5	150	< 10
4910	32	210	< 10
4940	16	150	< 10
4970	9.5	170	< 10
5030	4.0	30	< 10
5060	1.5	560	< 10
5090	2.5	220	< 10
5120	8.0	230	< 10
5150	5.0	180	< 10
5180	2.5	150	< 10
5240	2.5	180	< 10
5270	2.0	60	< 10
5300	6.0	30	< 10
5330	2.0	230	< 10
5360	7.0	20	< 10
5490	<1.0	70	< 10
5410	<1.0	180	< 10
5450	10	150	< 10
5480	4.0	170	< 10
6490	1.0	170	< 10
3700E 6510N	2.5	120	< 10
3800E 4340N	5.0	160	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: D. G. Maddan

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 98[redacted] 984-0221
AREA CODE: 604
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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51823
INVOICE NO. 34549
RECEIVED Dec. 17/79
ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6E 3T5
ATTN: Mr. Beaton

SAMPLE NO.	PPM As	PPB Hg	PPB Au
3800E 4370N	7.0	330	< 10
4400	10	140	< 10
4430	5.5	110	< 10
4460	8.0	80	< 10
4490	1.0	570	10
4520	3.5	110	< 10
4550	15	200	< 10
4580	17	120	< 10
4610	21	100	< 10
4640	9.5	150	< 10
4670	2.0	530	< 10
4700	4.0	100	10
4730	4.0	370	< 10
4760	4.0	220	< 10
4790	11	340	< 10
4820	3.5	180	10
4850	9.5	80	< 10
4880	2.5	200	< 10
4910	5.0	80	< 10
4970	5.5	200	< 10
5030	<1.0	90	< 10
5060	17	150	< 10
5090	4.5	200	10
5120	9.0	190	< 10
5150	5.0	110	< 10
5180	15	70	< 10
5210	1.0	110	< 10
5240	7.0	10	< 10
5270	1.5	70	20
5300	10	90	< 10
5330	2.5	70	< 10
5360	6.0	100	< 10
5390	3.5	120	< 10
5410	12	150	< 10
5450	9.5	170	10
3800E 5470	6.0	220	< 10
3900E 4340N	22	100	< 10
4370	2.5	60	< 10
4400	16	180	< 10
3900E 4430N	6.0	200	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. McPherson

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 9[redacted] 984-0221
AREA CODE: 604
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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51824
INVOICE NO. 34549
RECEIVED Dec. 17/79
ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6E 3T5
ATTN: Mr. Beaton

SAMPLE NO.	PPM As	PPB Hg	PPB Au
3900E 4460N	6.0	100	< 10
4490	5.0	160	10
4520	3.5	200	< 10
4550	6.0	200	< 10
4580	9.5	170	10
4610	25	210	< 10
4640	10	190	< 10
4670	24	120	< 10
4700	21	160	10
4730	11	140	< 10
4760	7.0	70	< 10
4790	16	250	< 10
4820	25	130	< 10
4850	14	70	< 10
4880	24	50	< 10
4910	22	200	< 10
4940	16	400	< 10
4970	2.5	120	< 10
5030	4.0	180	< 10
5060	2.5	150	< 10
5090	2.0	60	10
5120	4.5	70	10
5150	4.0	110	< 10
5180	4.0	60	< 10
5210	5.0	140	< 10
5240	5.5	120	< 10
5270	6.5	190	< 10
5300	2.5	120	< 10
5330	2.0	70	< 10
5360	9.5	110	< 10
5390	8.0	240	< 10
5420	10	30	< 10
5450	4.5	270	< 10
5480	3.0	140	< 10
3900E 5510	<1.0	50	< 10
4000E 4370W	9.0	70	< 10
4400	4.0	250	< 10
4430	15	100	< 10
4460	15	310	< 10
400E 4490N	1.5	50	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: D. F. Macdonald

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 98[redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51825
INVOICE NO. 34549
RECEIVED Dec. 17/79
ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6E 3T5
ATTN: Mr. Beaton

SAMPLE NO.	PPM As	PPB Hg	PPB Au
4000E 4520N	9.0	90	< 10
4550	7.0	80	< 10
4580	8.0	100	< 10
4610	3.0	210	< 10
4640	6.0	170	< 10
4670	8.0	160	< 10
4700	27	50	< 10
4730	10	80	< 10
4760	7.0	90	< 10
4790	6.0	390	< 10
4820	4.0	260	< 10
4850	5.0	190	< 10
4880	4.5	270	< 10
4910	7.0	150	< 10
4940	4.0	80	< 10
400E 4970N	5.5	410	< 10
5030	6.0	90	< 10
5060	5.0	150	< 10
5090	5.0	70	< 10
5120	2.5	150	< 10
5150	6.0	250	< 10
5180	5.0	90	< 10
5210	9.5	140	< 10
5240	1.0	70	< 10
5270	<1.0	10	< 10
5300	1.5	30	< 10
5330	1.5	50	< 10
5360	5.0	160	< 10
5390	2.5	110	< 10
5420	5.0	220	< 10
5450	4.5	30	< 10
5480	7.0	360	< 10
4000E 5510N	2.5	20	< 10
4100E 4340N	11	300	< 10
4370	5.0	270	< 10
4400	5.5	230	< 10
4430	3.0	130	< 10
4460	1.0	110	< 10
4490	1.0	800	< 10
4100E 4520N	5.0	1250	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Haddon

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 9[redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51826
INVOICE NO. 34549
RECEIVED Dec. 17/79
ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings Street
Vancouver, B.C.
V6E 3T5
ATTN: Mr. Beaton

SAMPLE NO.	PPM As	PPB Hg	PPB Au
4100E 4550N	9.5	550	10
4580	9.5	600	< 10
4100E 4610N	15	350	< 10
4670	9.0	510	< 10
4700	5.0	400	< 10
4730	7.0	300	< 10
4730	12	420	< 10
4760	12	60	< 10
4790	3.0	380	< 10
4820	2.0	140	< 10
4850	4.5	200	< 10
4880	11	90	< 10
4910	10	120	< 10
4940	10	220	< 10
4970	9.5	90	< 10
5030	11	90	< 10
5060	8.0	120	< 10
5090	9.0	130	< 10
5150	5.0	130	< 10
5180	7.0	110	< 10
5210	6.0	130	< 10
5240	6.0	120	< 10
5270	5.0	280	< 10
5300	70	230	< 10
5330	11	160	< 10
5360	10	130	< 10
5390	4.0	150	< 10
5420	8.0	310	< 10
5480	1.5	110	< 10
4100E 5510N	8.0	5	< 10
4200E 4340N	3.0	50	< 10
4370	4.0	30	< 10
4400	12	40	< 10
4430	6.0	30	< 10
4460	21	30	< 10
4490	3.5	230	< 10
4520	3.0	40	30
4550	7.0	60	< 10
4580	2.0	180	< 10
4200E 4610N	6.0	280	20

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Madam

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51827

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings Street
Vancouver, B.C.
V6E 3T5

ATTN: Mr. Beaton

INVOICE NO.

RECEIVED Dec. 17/79

ANALYSED

SAMPLE NO.	PPM As	PPB Hg	PPB Au
4200E 4640N	4.5	410	< 10
4670	11	NSS	10
4730	1.0	280	< 10
4760	5.0	470	< 10
4790	4.5	370	< 10
4820	5.5	800	10
4850	5.5	560	< 10
4880	3.0	830	< 10
4910	6.0	140	< 10
4940	6.0	280	< 10
4970	6.0	200	< 10
5060	9.0	130	20
5090	9.0	100	< 10
5120	17	300	< 10
5150	25	50	< 10
5180	16	100	< 10
5210	14	140	< 10
5240	12	110	< 10
5270	10	380	160
5330	3.0	470	10
5390	6.0	340	< 10
5420	7.0	230	< 10
5450	6.0	340	< 10
5480	14	60	10
4200E 5510N	24	300	< 10
4300E 4730N	7.0	260	10
4760	4.0	480	< 10
4790	15	370	< 10
4820	12	350	< 10
4850	5.0	360	< 10
4880	11	480	< 10
4910	9.0	200	< 10
4940	10	400	10
4970	28	190	< 10
5030	5.0	140	< 10
5060	6.5	380	< 10
5150	12	270	< 10
5180	9.0	210	< 10
5240	3.5	410	< 10
4300E 5330N	1.0	220	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Richardson

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 9[redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51828

INVOICE NO. 34549

RECEIVED DE C. 17/79

ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings Street
Vancouver, B.C.
V6E 3T5

ATTN: Mr. Beaton

SAMPLE NO	PPM As	PPB Hg	PPB Au
4300E 5360N	14	190	< 10
5300	4.5	290	< 10
5390	5.0	240	< 10
5420	10	310	< 10
5450	5.0	110	< 10
5480	12	310	< 10
4300E 5510	10	360	< 10
4400E 4730N	16	410	10
4760	6.0	360	< 10
4990	7.0	90	< 10
4820	5.0	400	< 10
4850	11	160	< 10
4880	16	440	< 10
4910	9.0	340	< 10
4940	3.0	NSS	< 10
4970	3.0	NSS	< 10
5030	5.0	90	< 10
5060	8.0	190	< 10
5090	7.0	190	< 10
5120	5.0	150	< 10
5150	3.0	200	< 10
5180	9.0	230	< 10
5210	14	440	< 10
5270	15	270	< 10
5450	3.0	150	< 10
4400E 5510	5.0	120	< 10
4500E 4730N	5.0	NSS	< 10
4760	6.0	370	< 10
4790	5.0	90	< 10
4820	4.0	360	< 10
4850	3.0	650	< 10
4880	4.0	140	< 10
4910	3.0	110	< 10
4940	9.0	270	< 10
4970	8.0	290	< 10
5030	4.0	290	< 10
5060	5.0	340	< 10
5090	5.0	430	< 10
5120	6.5	280	< 10
4500E 5180N	11	230	< 10

NSS: Not sufficient sample

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Haddon

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 9[redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51829

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings Street
Vancouver, B.C.
V6E 3T5

ATTN: Mr. Beaton

INVOICE NO.

RECEIVED Dec. 17/79

ANALYSED

SAMPLE NO	PPM As	PPB Hg	PPB Au
4500E 5210N	16	120	< 10
5270	13	NSS	< 10
5330	7.0	220	< 10
5390	14	350	< 10
5420	20	80	< 10
5450	3.5	130	< 10
4500E 5510	8.0	110	< 10
4600E 4760N	5.0	350	< 10
4790	3.0	350	< 10
4820	3.0	300	< 10
4850	6.0	250	< 10
4910	6.0	310	< 10
4940	5.0	370	< 10
4970	13	330	< 10
5000	18	430	< 10
5030	11	340	< 10
5060	21	650	< 10
5090	19	100	< 10
5150	25	90	< 10
5180	10	180	< 10
5240	24	280	< 10
5270	17	190	< 10
5300	17	170	< 10
5360	19	70	< 10
5390	20	300	< 10
5450	9.0	210	< 10
5480	18	100	< 10
5540	19	280	< 10
5570	17	170	< 10
5630	6.0	280	< 10
5660	6.0	290	< 10
5690	11	420	< 10
5720	31	150	< 10
5750	21	190	< 10
5810	19	40	< 10
5840	15	90	< 10
4600E 5900	15	350	< 10
4700E 4760N	17	250	< 10
4790	4.0	410	< 10
4700E 4820N	10	410	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Madson

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 98[redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51830

INVOICE NO. 34549

RECEIVED Dec. 17/79

ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings Street
Vancouver, B.C.
V6E 3T5

ATTN: Mr. Beaton

SAMPLE NO	PPM As	PPB Hg	PPB Au
4700E 4850N	1.0	50	< 10
4880	12	50	< 10
4910	6.0	130	< 10
4940	6.0	20	< 10
4970	6.0	40	< 10
5030	10	210	< 10
5060	6.5	320	< 10
5090	17	430	< 10
5120	23	110	< 10
5150	14	30	< 10
5180	26	110	< 10
5210	17	780	< 10
5240	22	110	< 10
5270	10	100	< 10
5300	17	80	< 10
5330	28	250	< 10
5360	19	360	< 10
5720	7.0	200	< 10
5780	6.0	310	< 10
5810	20	220	< 10
5840	18	290	< 10
4700E 5870	14	170	< 10
4850E 4760N	10	100	< 10
4790	9.0	330	< 10
4820	7.0	200	< 10
4850	7.0	270	< 10
4880	7.0	170	< 10
4910	10	160	< 10
4940	20	240	< 10
4970	12	280	< 10
5030	37	690	< 10
5060	18	420	< 10
5090	20	370	< 10
5120	28	360	< 10
5180	32	160	< 10
5270	23	720	< 10
5300	22	240	< 10
5330	14	260	< 10
5360	24	120	< 10
4850E 5390N	12	370	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. G. Watson

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51831

INVOICE NO. 34549

RECEIVED Dec. 17/79

ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6C 3T5

ATTN: Mr. Beaton

SAMPLE NO.	PPM As	PPB Hg	PPB Au
4850E 5450N	16	340	< 10
5480	12	330	< 10
5510	9.0	190	< 10
5540	14	280	< 10
5570	4.0	280	< 10
5600	17	310	< 10
5630	21	150	< 10
5660	5.5	270	< 10
5690	9.0	260	< 10
5720	42	100	< 10
5750	16	390	< 10
5780	6.0	240	< 10
5810	12	300	< 10
5840	15	430	< 10
5870	9.5	410	< 10
4850E 5900E	6.5	550	< 10
5000N 3700E	10	820	< 10
3800	8.0	230	< 10
3900	3.0	150	< 10
4000	9.0	230	< 10
4100	30	230	< 10
4300	8.5	250	< 10
5000N 4700	6.0	260	< 10
5000E 4820N	9.0	270	< 10
4850	65	160	< 10
4880	6.5	650	< 10
4940	17	240	< 10
4910	15	330	< 10
4970	6.0	280	< 10
5000A	9.0	220	< 10
5000B	50	150	< 10
5030	5.0	190	< 10
5060	9.0	220	< 10
5090	2.0	170	< 10
5120	28	240	< 10
5150	21	170	< 10
5180	18	250	< 10
5210	16	390	< 10
5240	10	360	< 10
5000E 5270N	20	170	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Watson

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51832
INVOICE NO. 34549
RECEIVED Dec. 17/79
ANALYSED Jan. 14/80

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6C 3T5
ATTN: Mr. Beaton

SAMPLE NO.	PPM As	PPB Hg	PPB Au
5000E 5300N	19	770	< 10
5330	14	330	< 10
5360	17	310	< 10
5390	12	230	< 10
5420	14	420	< 10
5450	13	210	< 10
5480	15	390	< 10
5510	10	250	< 10
5540	17	300	< 10
5570	21	240	< 10
5600	9.0	310	< 10
5630	6.0	430	< 10
5660	10	380	< 10
5690	13	310	< 10
5720	15	370	< 10
5750	13	540	< 10
5780	10	420	< 10
5810	11	370	< 10
5840	6.5	320	< 10
5870	14	620	< 10
5000E 5900N	17	300	< 10
5500E 4340N	19	290	< 10
4370	24	760	< 10
4400	80	620	< 10
4430	14	950	< 10
4460	6.0	400	< 10
4520	8.0	410	< 10
4550	24	920	< 10
4580	8.5	730	< 10
4640	10	290	< 10
4670	16	420	< 10
4700	6.0	600	< 10
4730	4.0	990	Not sufficient sample
4760	7.0	800	< 10
4790	10	510	< 10
4820	19	520	< 10
4850	10	260	< 10
4910	1.5	210	< 10
5500E 4940	10	970	< 10
5700E 4400N	14	390	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Haddad

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: [redacted] 984-0221
AREA CODE: 604
TELEX: 043-52597

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 51833

TO: Silver Standard Mines Ltd.
904 - 1199 W. Hastings St.
Vancouver, B.C.
V6C 3T5

ATTN: Mr. Beaton

INVOICE NO. 34549

RECEIVED Dec. 17/79

ANALYSED Jan. 14/80

SAMPLE NO.	PPM As	PPB Hg	PPB Au
5700E 4430N	14	190	< 10
4460	12	150	< 10
4490	13	670	< 10
4520	11	650	< 10
4550	4.5	620	< 10
4580	6.0	620	< 10
4610	7.0	470	< 10
4640	5.5	640	< 10
4670	5.0	530	< 10
4700	16	570	< 10
4730	6.0	380	< 10
5700E 4790N	3.0	550	< 10
4820	12	220	< 10
4850	19	350	< 10
4880	11	200	< 10
4910	25	130	< 10
4940	5.5	110	< 10
5700E 4970N	8.0	250	< 10

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: J. F. Machan

MUTUAL RESOURCES LTD.
BRE 33-50 CLAIMS
SOIL SAMPLING GRID
ARSENIC PPM
5.0 ROCK GEOCHEM
Scale 1:2500 (1cm = 25M.)
January 1980
R.H.B.
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7904
4L BRANCH ROAD
Trib. of Florence Cr.
Recently Logged
Recently Logged (clear)
Forest
End Road Dec., 1979
trail
BASE LINE
CANOE CREEK
BRE 33
BRE 34
BRE 35
BRE 36
BRE 37
BRE 38
BRE 39
BRE 40
BRE 41
BRE 42
BRE 43
BRE 44
BRE 45
BRE 46
BRE 47
BRE 48
BRE 49
BRE 50
BRE 1 FR.
3700 E
3800 E
3900 E
4000 E
4100 E
4200 E
4300 E
4400 E
4500 E
4600 E
4700 E
4850 E
5000 E
5150 E
5300 E
5500 E
5700 E
Creek
NS Small Cr.
Chert boulder
Q eye rhyolite
Dike-gab.?
Q-eye rhyolite
bedded tuff or rhyolite
till with rhyolite frags
argillite
rhyolite
felsic dike
basal till-much rhy. fragments
Cse. Cong. with clay lens both including black wood fragments & white ash pellets
Chert boulders in Creek
Blue-grey clay, silt, pebbles, some rounded rhyolite (tuff) fragments
Blue-grey clay
100 0 100 200 300 400 500
METRES


MUTUAL RESOURCES LTD.
BRE 33-50 CLAIMS
SOIL SAMPLING GRID
MERCURY PPB
170 ROCK GEOCHEM
Scale 1:2500 (1cm = 25M.)
January 1980
R.H.B.
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7904
4 L BRANCH ROAD
Trib. of Florence Cr.
Recently Logged
Recently Logged (clear)
Forest
End Road Dec., 1979
trail
BASE LINE
CANOE CREEK
BRE 33
BRE 34
BRE 35
BRE 36
BRE 37
BRE 38
BRE 39
BRE 40
BRE 41
BRE 42
BRE 43
BRE 44
BRE 45
BRE 46
BRE 47
BRE 48
BRE 49
BRE 50
BRE 1 FR.
3700 E
3800 E
3900 E
4000 E
4100 E
4200 E
4300 E
4400 E
4500 E
4600 E
4700 E
4850 E
5000 E
5150 E
5300 E
5500 E
5700 E
Q eye rhyolite
Dike-gab.?
Chert boulder
bedded tuff or rhyolite
till with rhyolite frags
argillite
rhyolite
felsic dike
basal till - much rhy fragments
Cse. Cong. with clay lens both including black wood fragments & white ash pellets
Chert boulders in Creek
Blue-grey clay, silt, pebbles, some rounded rhyolite (tuff) fragments
Blue-grey clay
Small Cr.
Creek
METRES
100 0 100 200 300 400 500


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO 7904
AL BRANCH ROAD
Trib. of Florence Cr.
Recently Logged
Recently Logged (clear)
Forest
End Road Dec., 1979
trail
3700 E
3800 E
3900 E
4000 E
4100 E
4200 E
4300 E
4400 E
4500 E
4600 E
4700 E
4850 E
5000 E
5150 E
5300 E
5500 E
5700 E
BASE LINE
BRE 33
BRE 34
BRE 35
BRE 36
BRE 37
BRE 38
BRE 39
BRE 40
BRE 41
BRE 42
BRE 43
BRE 44
BRE 45
BRE 46
BRE 47
BRE 48
BRE 49
BRE 50
BRE 1 FR.
CANOE CREEK
Q-eye rhyolite
Chert boulder
Dike-gab.?
bedded tuff or rhyolite
till with rhyolite frags
argillite
rhyolite
felsic dike
basal till-much rhy fragments
Cse. Cong. with clay lens both including black wood fragments & white ash pellets
Chert boulders in Creek
Blue-grey clay, silt, pebbles, some rounded rhyolite (tuff) fragments
Blue-grey clay
METRES
MUTUAL RESOURCES LTD.
BRE 33-50 CLAIMS
SOIL SAMPLING GRID
GOLD PPB
<10 ROCK GEOCHEM
Scale 1:2500 (1cm = 25M)
January 1980
R.H.B.