

LOG NO: 0920

RD.

ACTION:

FILE NO:

ROCK CHIP SAMPLING

ON

SPHAL 25, 27, 29, 31, and 33,
Kim 38, 40, and 42
Claims

LIARD MINING DIVISION

NTS ^{104G}~~103G~~/3W
Lat. 131° 20'
Long. 56° 03'

OWNERS

CONSOLIDATED SILVER STANDARD MINES LIMITED
400 - 1199 West Hastings Street
Vancouver, B.C., V63 3T5

MCINTYRE MINES LTD.
40th Floor, Commerce Court West
Toronto, Ontario, M5L 1B4

KERR ADDISON MINES LTD
206 - 475 Howe Street
Vancouver, B.C., V6C 2B3

OPERATOR

CONSOLIDATED SILVER STANDARD MINES LIMITED

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

M. Holtby

19,083

August, 1989

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Appendices

1.	Sample Descriptions
2.	Assays, Analyses and Analytical Procedures

1. INTRODUCTION

The Sphal and Kim claims were sampled during this programme to further explore the precious metal potential of the known copper showings and possible extensions to those copper showings. A total of 24 rock chip samples were taken over a three day period in August, 1989. Results confirm copper grades in excess of 1% in select samples and indicate gold values in the 0.003 to 0.006 oz/ton range and silver values in the 0.12 to 1.05 oz/ton range.

2. LOCATION AND ACCESS

The claims are located on Sphaler Creek about 15 km upstream from its junction with the Porcupine River. Telegraph Creek lies 98 km to the north and Bob Quinn Highways Yard, on Highway 37, lies 65 km to the east.

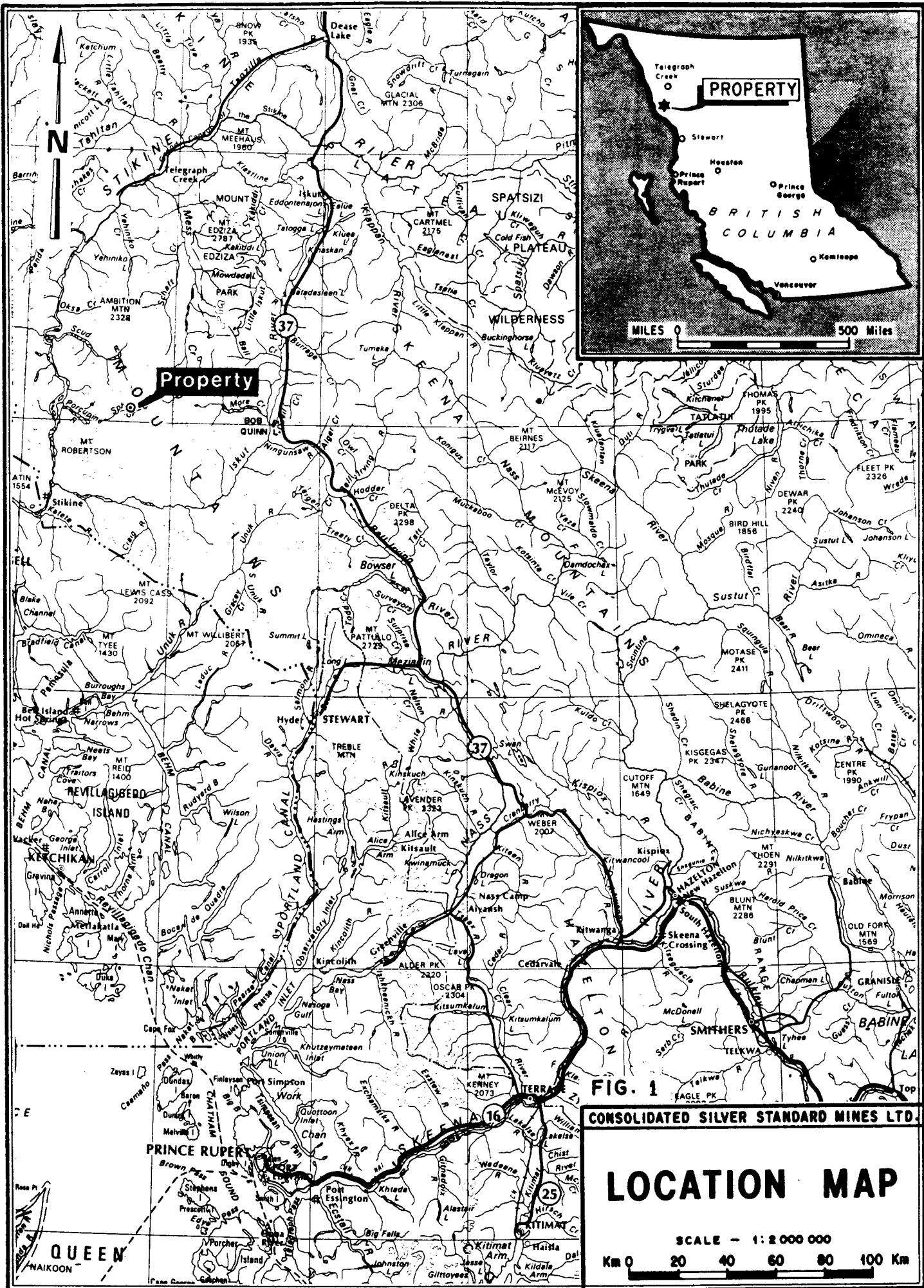
The Kim claims are on the north side of Sphaler Creek, extending from 2100 feet to 4500 feet elevation. The Sphal claims extend southward from Sphaler Creek and range from 1700 feet to 4200 feet elevation.

The terrain is very rugged with a dense undergrowth of alder, devils club and other noxious plants in the heavily wooded areas below 4,000 feet elevation.

For this programme, mobilization and demobilization were by helicopter from Bob Quinn to the Sphal claims. Sphaler Creek is unfordable so the Kim claims were accessed by helicopter from the Sphal claims.

3. HISTORY

The showings were first found by Silver Standard Mines prospectors for the BIK syndicate in 1957. The first staking was 10 Kim claims in 1962 by Silver Standard Mines. In 1963 Kennco Explorations staked claims surrounding the Kim claims and, subsequently, Kennco and the BIK Syndicate agreed to jointly explore their holdings. Between 1964 and 1970 geological mapping, trenching, 3 km of ground magnetic and I.P. surveying and seven diamond drill holes were carried out. Copper mineralization was explored in the Northeast, North, Lower North, West, Central, Silver Standard, Camp and South Zones.



In 1979, the BIK Syndicate gained 100% interest in the claims with withdrawal of Kennco.

In 1980 and 1981 Teck Explorations carried out soil sampling and ground magnetic surveys over the Camp Zone and rock sampling on the North Zone.

4. CLAIMS

The property, located in the Liard Mining Division, now consists of 8 claims in the Kim and Sphal groups. Ownership is Consolidated Silver Standard Mines Limited 51.12%, McIntyre Mines Ltd. 38.43% and Kerr Addison Mines Limited 6.36%.

<u>Claim</u>	<u>Record #</u>	<u>Anniversary Date</u>	<u>Expiry*</u>
Kim 38	48662	10 August	1992
Kim 40	48664	"	"
Kim 42	48666	"	"
Sphal 25	32687	18 October	"
Sphal 27	32689	"	"
Sphal 29	32691	"	"
Sphal 31	32693	"	"
Sphal 33	32695	"	"

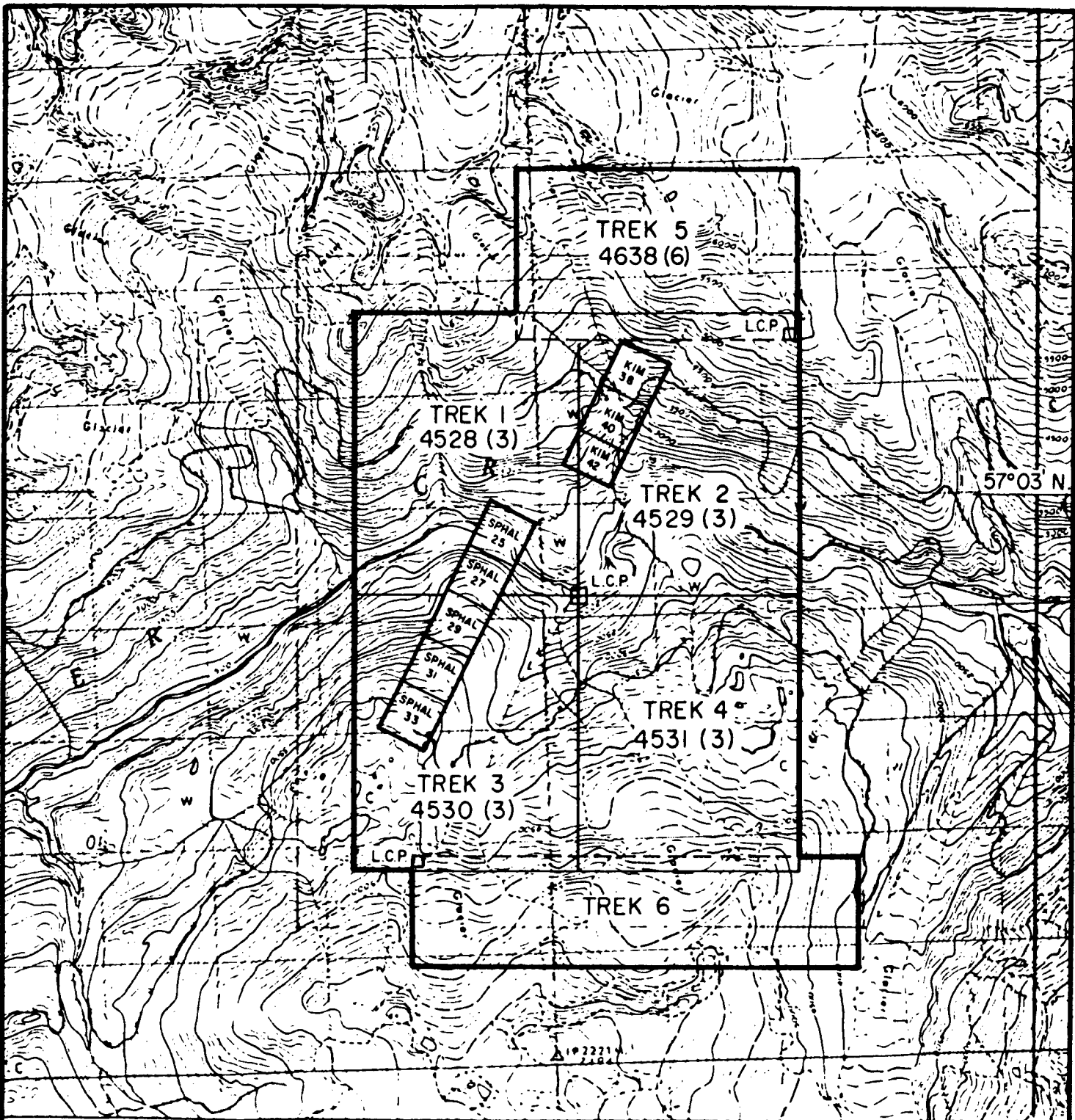
* Expiry - with assessment credits for 1989 programme.

5. PROGRAMME

Field work for 1989 was carried out on the Sphal claims on August 3rd and 4th and on the Kim claims on August 5th. Fourteen rock samples were collected on the Sphal 29, 31 and 33 claims at the northern end of the Camp Zone and between the Camp and West Zones. Ten rock samples were collected on the Kim 38, 40 and 42 claims to the east of the North Zone and at the southwest end of the Lower North Zone.

6. GEOLOGY

The region is underlain by Upper Paleozoic to Tertiary rocks of the Stikine terrane. In the vicinity of the Kim and Sphal claims Middle to Upper Triassic Stuhini Group rocks outcrop. Stuhini Group comprises a variety of flows, tuffs, volcanic breccias and sedimentary rocks, that represent an emergent Upper Triassic island arc with distal volcanoclastic and sedimentary turbidites.



57°03' N

56 57 131°20' 59 61 62 63 15' 64

FIG. 2



Km 0 5 1:50,000 2 Km

CONSOLIDATED SILVER STANDARD MINES LIMITED

STIKINE REGION BRITISH COLUMBIA

CLAIM MAP

NTS: 104 G/

SCALE 1:50,000

Intrusive into Stuhini Group rocks are syenites of the Galore Creek Intrusives. The main mass of Galore Creek syenites occurs at the Galore Creek alkalic porphyry deposit some 14 km northwest of the Kim and Sphal claims.

The Sphal claims presently cover the northernmost end of the Camp Zone and the West Zone. The Camp Zone consists of numerous small showings with blebs of chalcopyrite in leucocratic felsites, disseminated chalcopyrite in monzonites and contacting andesites, minor chalcopyrite in small shear zones in andesites, and small quartz-calcite lenses with chalcopyrite patches. Gold and silver analyses were not carried out in the early work but were carried out in 1980 and 1981. An average of 0.017 oz/ton Au, 0.10 oz/ton Ag and 0.37% Cu were found for samples collected in 1980 and 1981.

The West Zone is an 850 m long area of monzonite intruding volcanics. Chalcopyrite disseminations between fractures are localized in a few areas with the best section averaging 0.4% Cu over 60 m length and shorter areas grading 0.8% to 1% Cu. Strong biotitization occurs for about 1 m into adjacent andesites. Diamond drill holes beneath the West Zone did not intersect similar mineralization.

The Kim claims presently cover the North and Lower North Zones. The North Zone is a faulted area of volcanics, monzonite and intrusive breccia. The breccia is about 18 m thick and 50 m long, that is in part strongly mineralized. In 1980 and 1981 an average of 0.0066 oz/ton Au, 0.31 oz/ton Ag and 2.45% Cu was found in samples over the most accessible mineralization in breccia.

The Lower North Zone appears to be a northerly trending shear structure exposed for 200 m along a creek. Small bodies of monzonite intrude volcanics with pyrite and chalcopyrite disseminations in volcanics adjacent to the monzonite.

The widespread copper mineralization in the claims area has been interpreted as a very high level expression of a porphyry copper-gold-silver deposit.

7. 1989 CHIP SAMPLING RESULTS

7.a Sphal Claims

Sample numbers 333201-214 were collected on the Sphal claims. Locations are shown on map 89-1, sample descriptions are in appendix 1 and analyses values are in appendix 2. Gold analysis was by fire assay with an A.A. finish while other elements were by 32 element I.C.P. Any sample with greater than 0.3% Cu in I.C.P. analysis was also fire assayed. All samples were grab samples.

<u>Sample No.</u>	<u>Cu%</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>
333201	0.84	600	8.2
333202	0.0255	60	1.8
333203	0.78	1800	4.2
333204	1.04	1550	4.2
333205	0.0531	80	1.6
333206	0.0273	10	0.8
333207	0.0071	10	<0.2
333208	0.0458	25	<0.2
333209	1.18	1120	15.2
333210	0.292	150	3.8
333211	0.0164	5	0.4
333212	0.84	2150	11.6
333213	0.28	475	3.0
333214	0.067	30	0.6
Mean	0.392	576	3.97
Standard Deviation	0.424	(0.0168 oz/ton) 759	(0.116 oz/ton) 4.45
Correlation Coefficients:		Cu Au Ag	
		Cu 1 - -	
		Au 0.88 1 -	
		Ag 0.83 0.68 1	

Copper, gold and silver all have a high range of values with mean values very similar to averages of samples collected in 1980 and 1981. Those samples collected at the northernmost end of the Camp Zone indicate that the copper-gold-silver mineralization is within both monzonite and adjacent volcanics and that it appears to be preferentially distributed near two major north-south trending faults. If analyses for only those samples collected near the two major faults are considered (nos. 333202, 03, 04, 05, 09 and 10) average values increase to 0.698% Cu, 0.02 oz/ton Au and 0.146 oz/ton Ag.

Samples 333212 and 213 were collected from a cliff exposure of monzonite to the south of the West Zone. These two samples with 0.84% Cu, 0.006 oz/ton Au, and 0.34 oz/ton Ag and 0.28% Cu, 0.001 oz/ton Au and 0.04 oz/ton Ag, respectively, indicate that previously unreported mineralization exists between the Camp and West Zones.

7.b Kim Claims

Sample numbers 333215-224 were collected over the Kim claims. Locations are shown on map 89-2, sample descriptions are in appendix 1 and analyses values are in appendix 2. All samples were grab samples.

<u>Sample No.</u>	<u>Cu%</u>	<u>Au (ppb)</u>	<u>Ag (ppm)</u>	
333215	2.04	700	13.2	
333216	4.32	1000	36.2	
333217	0.60	30	0.6	
333218	0.58	330	10.0	
333219	0.0809	1100	9.8	
333220	0.0127	20	<0.2	
333221	0.0175	5	0.4	
333222	0.262	45	1.6	
333223	1.04	575	2.8	
333224	0.0103	5	<0.2	
Mean	0.896	381 (0.011 oz/ton)	7.5 (0.22 oz/ton)	
Standard Deviations	1.29	411	10.6	
Correlation Coefficients:		Cu	Au	Ag
		Cu 1	-	-
		Au 0.51	1	-
		Ag 0.59	0.75	1

The topography of the Kim claims area is very rugged. Outcrop is abundant above 4000 feet elevation but below that elevation outcrop is restricted to cliffs along creeks. A number of the samples collected in 1989 were taken at the foot of cliffs. These talus samples were taken where a source could be seen in the cliffs.

Sampling in 1989 was conducted along the west side of a ridge to the east of the North Zone showing and extended downslope through the southwest end of the Lower North Zone. Samples 333215-221 were collected in an area not shown as sampled in reports of the 1960's and 1970's programmes.

Both monzonites and volcanics were sampled. Alteration-silicification, sericitization and chloritization and strong weathering are prevalent in this area, especially to the east of the North Zone.

Mineralization observed during this sampling programme, north of the Lower North Zone is usually associated with areas of pervasive silicification and strong pyritization where the original rock types have been obscured. As much of the mineralization is exposed in non-accessible cliffs, its exact nature is not known. The sampling indicates that copper, gold and silver mineralization is more widespread than previously documented.

Intermediate volcanic samples 333222 and 223 collected at the southwest end of the Lower North Zone contain disseminated and fracture fillings of chalcopyrite and pyrite.

8. CONCLUSIONS

8.a Sphal Claims

Copper-gold-silver mineralization at the north end of the Camp Zone appears to be preferentially located near two major north-south trending faults. Mineralization occurs within both monzonites and adjacent volcanics.

Copper-gold-silver mineralization found in a monzonite exposure to the south of the West Zone indicates that previously unknown mineralization occurs in this area.

While previous reports on the Camp Zone have suggested that the amount of outcrop in that area precludes the possibility that an unrecognized copper deposit occurs there, and the main area of the West Zone is an obvious cliff exposure; most of the current Sphal claims area is heavily forested and has a thick undergrowth that could cover an unrecognized copper deposit.

8.b Kim Claims

The rugged nature of the Kim claims area has historically limited work to the main breccia exposure at the North Zone and to creek bed and cliff exposures in the Lower North Zone. Sampling this season indicates that copper-gold-silver mineralization is more widespread than previously documented. Mineralized breccias and other styles of the mineralization occur along the ridge to the east of the North Zone.

9. RECOMMENDATIONS

9.a Sphal Claims

Previous reports do not record any soil sample surveys other than on the Camp Zone. It is recommended that a soil sampling survey be undertaken between Sphaler Creek and 4000 feet elevation on the Sphal claims. Given the rugged nature of the terrain contour sampling rather than grid sampling is suggested

9.b Kim Claims

It is recommended that the mineralization documented this year on the ridge to the east of the North Zone be investigated. Follow-up of this precipitous area will require climbers using ropes. Mapping and further sampling is recommended.

The Lower North Zone has only been investigated in its creek bed and cliff exposures. A soil sample survey over the forested area of the Kim claims below 4000 feet elevation is recommended. As on the Sphal claims a contour survey rather than a grid survey is suggested.

10. COST STATEMENT

A Joint Charges: Kim and Sphal Claims

1.	Travel Time:		
	M. Holtby 1 day @ \$231.50	\$	231.50
	A. Potter 1 day @ \$127.50		127.50
2.	Transport:		
	Truck		124.70
	Airfare (1 person) Vancouver-Terrace		226.00
3.	Food & Accommodation		256.27
4.	Freight (samples to Vancouver)		30.95
5.	Helicopter charges:		
	Invoice 31570 mobilization		870.67
	Invoice 36889 demobilization		725.56
6.	Report preparation:		
	M. Holtby 1 day @ \$231.50		<u>231.50</u>
		TOTAL	\$2,824.65

B Exclusive Kim Claims Charges

1.	Labour:		
	M. Holtby 1 day @ \$231.50	\$	231.50
	A. Potter 1 day @ \$127.50		127.50
2.	Assays:		
	10 samples for Au and 32 element		
	I.C.P. @ \$17.50		207.50
	5 samples for Cu @ 6.50		
3.	Helicopter:		
	Invoice 36885		<u>725.56</u>
		TOTAL	\$1,292.06

C Exclusive Sphal Claims Charges

1. Labour:		
	M. Holtby 2 days @ \$231.50	\$ 463.00
	A. Potter 2 days @ \$127.50	255.00
2. Assays:		
	14 samples for Au and 32 element I.C.P. @ \$17.50	<u>284.00</u>
	6 samples for Cu @ 6.50	
	TOTAL	\$1,002.00

D Assessment Costs Apportioning

Joint charges are divided 2/3 to Sphal Claims and 1/3 to Kim claims based on two working days on the Sphal Claims and one working day on the Kim Claims.

Total Cost Per Group:

Kim claims: \$1,292.06 + \$ 941.52 = \$2,233.58

Sphal claims: \$1,002.00 + \$1,883.13 = \$2,885.13

\$5,118.71

Three years assessment has been filed for both claim groups.

11. REFERENCES


- Folk, P.G. (1981)
Report on Rock Chip Sampling of Sphal 7-12, 19-33, Kim 1-10, 38, 40 and 42, and Sphal Fraction, for Teck Explorations Ltd.
- Folk, P.G. and Spilsbury, T.W. (1980)
Report on Geological Mapping, Magnetometer and Soil Sampling Surveys of Sphal 7-12, 19-33, Kim 1-10, 38, 40 and 42 and Sphal Fraction, for Teck Exploration Ltd.
- Logan, J.M. and Koyanagi, V.M. (1989)
Geology and Mineral Deposits of the Galore Creek Area, Northwestern B.C., in B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 1988, Paper 1989-1, pages 269-284.
- Milne, B.D. (1970)
Report on Sphaler Creek Property, for Silver Standard Mines Limited.
- Rayner, G.H. (1966)
Report on Sphaler Creek Property - 1966, Goat and Kim claims, for Kennco Explorations (Western) Ltd.

12. STATEMENT OF QUALIFICATIONS

I, Max H. Holtby, residing at 103 - 1026 Queens Avenue, New Westminster, B.C. hereby certify that:

1. I graduated from the University of British Columbia in 1972 with a B.Sc. in Honours Geology.
2. I am Geological Association of Canada Fellow and Geological Society of Malaysia Member in good standing.
3. The work described herein was done under my direct supervision.
4. I have worked since graduation as an exploration geologist and in mine management in Canada, Malaysia and Liberia, West Africa.

Max H. Holtby
Max H. Holtby, F.G.A.C.



APPENDIX 1

Sample Descriptions

Sphal Claims

- 333201 hornfels, tuff, secondary biotite, silicified zone 11 cm wide cutting tuff at 60°/70°N, rusty, 1%-2% pyrite, 2% chalcopyrite.
- 333202 hornfels, tuff, very rusty, strongly fractured, 1+% pyrite, traces chalcopyrite.
- 333203 black, fine grained hornfels, tuff, 5% quartz stringers, epidote stringers ± quartz, fine grained disseminated chalcopyrite and pyrite, chalcopyrite fracture fillings, malachite stained.
- 333204 monzonite, barren appearance on outcrop surface but on broken surface malachite and azurite staining and disseminated chalcopyrite, 2%-3% thin epidote and quartz stringers.
- 333205 hornfels, black, 5%-10% pyrite in patches but outcrop averages 1%, very rusty.
- 333206 agglomerate, 1/2% pyrite, trace chalcopyrite, pervasive epidote alteration in patches that total 3%-5% of outcrop.
- 333207 siliceous, greyish white felsite with manganese staining, leached appearance, vugs, sample of rubble in east-west depression that may be quartz-carbonate alteration in shear along depression.
- 333208 felsite, bleached monzonite(?) siliceous, very fine grained to aphanitic with silica flooding, trace pyrite, trace chalcopyrite.
- 333209 felsite, from old trench, strong malachite staining, 1+% pyrite, pyrrhotite, 1+% chalcopyrite.
- 333210 tuff(?), buff weathering, strong silicification, carbonate alteration, pyrite, chalcopyrite, malachite, trace galena, trace sphalerite.
- 333211 tuff, siliceous appearance, 1+% very fine grained disseminated and fracture filling pyrite.
- 333212 monzonite, rusty, dark greenish grey, minor malachite, 1%-3% chalcopyrite and pyrite disseminated and fracture filling, at base of cliff.
- 333213 similar to 333212 but less sulphides.

333214 100 m south of 333212 and 213, at top of cliff, tuff, sample has strong pyrite and trace chalcopyrite.

Kim Claims

333215 talus below cliff, 1200 m elevation, strongly weathered, heavy malachite stain, chalcocite, pyrite, chalcopyrite.

333216 talus at foot of cliff, 1170 m elevation, strongly weathered, 3% chalcopyrite, less pyrite, very siliceous, minor quartz veinlets.

333217 same location as 216, siliceous alteration of volcanic, dark grey, very fine grained to aphanitic, malachite and azurite stained, 1+% fine grained chalcopyrite and pyrite.

333218 monzonite, 1160 m elevation, strongly fractured, rusty outcrop, greenish-grey, 1 cm wide massive pyrite-chalcopyrite veinlet.

333219 elevation 1050 m, very weathered outcrop, pervasive silicification, minor malachite, 3% pyrite as stringers and patches, outcrop about 8 m X 15 m.

333220 elevation 925 m, buff weathered outcrop, weakly rusty, very siliceous, white on fresh surface, 1% pyrite fracture fillings and disseminations.

333221 rubble just below outcrop, siliceous volcanic (?), 1% pyrite fracture fillings and disseminations, pervasively sericitized, rare quartz-pyrite stringers.

333222 Lower North Zone, 825 m elevation, outcrop very fractured, iron staining, malachite stains, red lichen patches, volcanic, disseminated and fracture filling pyrite and chalcopyrite.

333223 Lower North Zone, buff weathering, siliceous, very well fractured, malachite stain, pyrite and chalcopyrite fracture fillings and disseminations.

333224 715 m elevation, float, buff and rusty weathering, strongly weathered, siliceous, quartz network with dark grey to black salvages, pervasive silicification, trace malachite.

APPENDIX 2

Assays and Analytical Techniques



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: CONSOLIDATED SILVER STANDARD MINES LIMITED

400 - 1199 W. HASTINGS ST.
VANCOUVER, BC
V6E 3T5

Project: C1024

Comments: ATTN: R. QUARTERMAIN CC: M. HOLTBY

Page No.: 1-A

Tot. Pages: 1

Date: 23-AUG-89

Invoice #: I-8923410

P.O. #: NONE

CERTIFICATE OF ANALYSIS A8923410

SAMPLE DESCRIPTION	PREP CODE		Au ppb	Al %	Ag ppm	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	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%	ppm
333201	205	238	600	2.17	8.2	< 5	230	0.5	< 2	0.58	1.5	27	109	7950	5.60	< 10	< 1	1.05	< 10	1.93	290
333202	205	238	60	1.90	1.8	40	140	1.0	< 2	1.64	< 0.5	34	29	255	6.73	< 10	< 1	0.44	10	1.15	400
333203	205	238	1800	3.08	4.2	< 5	430	0.5	< 2	1.02	0.5	23	103	7870	4.84	< 10	< 1	2.47	< 10	2.35	560
333204	205	238	1550	1.28	4.2	10	50	0.5	< 2	0.89	< 0.5	15	22	>10000	6.12	< 10	< 1	0.93	< 10	0.97	425
333205	205	238	80	1.23	1.6	30	240	0.5	< 2	1.43	< 0.5	14	18	531	5.39	< 10	< 1	0.51	10	0.92	400
333206	205	238	10	1.79	0.8	< 5	100	0.5	< 2	1.01	< 0.5	29	14	273	3.51	10	< 1	1.40	10	1.37	530
333207	205	238	10	0.24	< 0.2	< 5	490	< 0.5	< 2	2.61	< 0.5	4	152	71	0.68	< 10	< 1	0.08	< 10	0.71	325
333208	205	238	25	1.49	< 0.2	20	70	1.0	< 2	5.66	< 0.5	8	28	458	0.84	10	< 1	0.29	< 10	1.13	515
333209	205	238	1120	1.89	15.2	35	70	1.0	< 2	1.66	2.5	49	70	>10000	6.33	10	< 1	0.31	10	1.64	675
333210	205	238	150	0.85	3.8	60	1500	0.5	< 2	6.37	6.0	22	30	2920	3.79	< 10	< 1	0.50	< 10	2.00	965
333211	205	238	5	1.14	0.4	< 5	50	< 0.5	< 2	0.69	< 0.5	25	23	164	2.54	10	< 1	0.08	< 10	0.90	225
333212	205	238	2150	1.22	11.6	15	40	< 0.5	< 2	1.40	0.5	12	20	8780	2.49	10	< 1	0.11	10	0.71	215
333213	205	238	475	1.33	3.0	25	30	< 0.5	< 2	1.85	< 0.5	13	19	3230	1.38	10	< 1	0.10	10	0.61	235
333214	205	238	30	2.34	0.6	45	20	0.5	< 2	2.23	< 0.5	38	48	670	4.43	10	< 1	0.27	< 10	1.81	455
333215	205	238	700	1.75	13.2	30	190	0.5	< 2	1.14	< 0.5	14	22	>10000	3.08	< 10	< 1	0.08	< 10	1.29	170
333216	205	238	1000	0.29	36.2	195	30	< 0.5	< 2	2.10	1.0	39	17	>10000	7.68	< 10	< 1	0.21	< 10	0.05	160
333217	205	238	30	1.32	0.6	10	70	< 0.5	< 2	5.34	0.5	11	38	5770	1.43	< 10	< 1	0.17	< 10	1.63	775
333218	205	238	330	2.38	10.0	15	20	0.5	< 2	1.98	0.5	53	20	5810	5.16	< 10	< 1	0.04	< 10	1.85	665
333219	205	238	1100	0.39	9.8	10	240	< 0.5	< 2	0.13	< 0.5	10	27	809	1.68	< 10	< 1	0.32	< 10	0.04	30
333220	205	238	20	0.80	< 0.2	< 5	140	< 0.5	< 2	6.48	< 0.5	21	11	127	2.83	< 10	< 1	0.21	< 10	1.24	495
333221	205	238	5	2.75	0.4	< 5	10	0.5	< 2	3.06	3.0	14	19	175	4.59	< 10	< 1	0.03	< 10	1.40	650
333222	205	238	45	2.51	1.6	< 5	40	0.5	< 2	0.92	0.5	60	23	2620	8.30	< 10	< 1	0.12	< 10	2.53	655
333223	205	238	575	0.45	2.8	25	560	< 0.5	< 2	3.60	< 0.5	22	13	>10000	2.75	< 10	< 1	0.21	< 10	1.03	900
333224	205	238	5	0.10	< 0.2	< 5	40	< 0.5	< 2	12.45	1.5	4	30	103	3.14	< 10	< 1	0.02	< 10	5.71	945

1533

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: CONSOLIDATED SILVER STANDARD MINES LIMITED

400 - 1199 W. HASTINGS ST.
 VANCOUVER, BC
 V6E 3T5

Project: C1024

Comments: ATTN: R QUARTERMAIN CC: M HOLTBY

Page No. : 1-B
 Tot. Pages: 1
 Date : 23-AUG-89
 Invoice # : I-8923410
 P.O. # : NONE

CERTIFICATE OF ANALYSIS A8923410

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
333201	205	238	49	0.05	46	300	4	< 5	7	43	0.31	< 10	< 10	195	20	118
333202	205	238	10	0.06	8	1740	2	5	5	233	0.36	< 10	< 10	190	10	34
333203	205	238	< 1	0.06	64	2330	6	10	5	78	0.33	< 10	< 10	115	20	88
333204	205	238	< 1	0.02	34	1040	4	10	6	79	0.15	< 10	< 10	117	< 100	90
333205	205	238	2	0.08	2	1960	12	10	5	108	0.28	< 10	< 10	124	< 10	44
333206	205	238	< 1	0.02	11	1900	< 2	10	5	111	0.23	< 10	< 10	107	30	50
333207	205	238	< 1	0.03	14	100	2	5	< 1	35	0.01	< 10	< 10	6	< 10	10
333208	205	238	< 1	0.09	26	1460	12	15	7	89	0.23	< 10	< 10	153	10	22
333209	205	238	7	0.08	125	1190	< 2	10	10	38	0.06	< 10	< 10	195	< 100	386
333210	205	238	< 1	0.02	17	1070	284	20	4	162	< 0.01	< 10	< 10	32	50	1035
333211	205	238	< 1	0.06	14	930	< 2	< 5	3	23	0.26	< 10	< 10	65	20	34
333212	205	238	2	0.06	9	2060	2	10	3	52	0.24	< 10	< 10	85	40	208
333213	205	238	5	0.04	4	2050	< 2	10	3	41	0.20	< 10	< 10	71	20	130
333214	205	238	< 1	0.17	24	1540	< 2	10	10	45	0.47	< 10	< 10	152	30	60
333215	205	238	861	0.05	11	1430	12	10	5	37	0.20	< 10	< 10	81	80	94
333216	205	238	128	0.01	48	300	54	5	4	28	< 0.01	< 10	< 10	7	100	348
333217	205	238	14	0.05	15	1840	4	5	20	110	0.10	< 10	< 10	132	< 100	92
333218	205	238	23	0.05	17	2140	< 2	5	13	46	0.21	< 10	< 10	124	30	210
333219	205	238	414	0.01	4	240	46	< 5	1	15	< 0.01	< 10	< 10	15	10	46
333220	205	238	7	0.10	7	2180	< 2	15	20	115	< 0.01	< 10	< 10	67	10	30
333221	205	238	< 1	0.03	8	680	4	5	8	41	0.18	< 10	< 10	159	10	132
333222	205	238	2	0.03	16	1590	< 2	< 5	15	88	0.32	< 10	< 10	187	20	72
333223	205	238	< 1	0.04	10	1770	2	10	9	67	< 0.01	< 10	< 10	18	< 100	100
333224	205	238	< 1	0.01	8	230	< 2	30	1	273	< 0.01	< 10	< 10	12	10	220

RECEIVED AUG 25 1989

ATTESTATION: *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: CONSOLIDATED SILVER STANDARD MINES LIMITED

MAX

400 - 1199 W. HASTINGS ST.
VANCOUVER, BC
V6E 3T5

A8923410

Comments: ATTN: R. QUARTERMAIN CC: M. HOLTBY

CERTIFICATE A8923410

CONSOLIDATED SILVER STANDARD MINES LIMITED
PROJECT : C1024
P O # : NONE

Samples submitted to our lab in Vancouver, BC.
This report was printed on 24-AUG-89.

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
205	24	Rock Geochem: Crush, splitting
238	24	ICP: Aqua regia digestion

* NOTE 1:

The 32 element ICP package is suitable for trace metals in soil and rock samples. Elements for which the nitric-aqua regia digestion is possibly incomplete are: Al, Ba, Be, Ca, Cr, Ga, K, La, Mg, Na, Sr, Ti, Tl, W.

ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
100	24	Au ppb: Fuse 10 g sample	FA-AAS	5	10000
921	24	Al %: 32 element, soil & rock	ICP-AES	0.01	15.00
922	24	Ag ppm: 32 element, soil & rock	ICP-AES	0.2	200
923	24	As ppm: 32 element, soil & rock	ICP-AES	5	10000
924	24	Ba ppm: 32 element, soil & rock	ICP-AES	10	10000
925	24	Be ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
926	24	Bi ppm: 32 element, soil & rock	ICP-AES	2	10000
927	24	Ca %: 32 element, soil & rock	ICP-AES	0.01	15.00
928	24	Cd ppm: 32 element, soil & rock	ICP-AES	0.5	100.0
929	24	Co ppm: 32 element, soil & rock	ICP-AES	1	10000
930	24	Cr ppm: 32 element, soil & rock	ICP-AES	1	10000
931	24	Cu ppm: 32 element, soil & rock	ICP-AES	1	10000
932	24	Fe %: 32 element, soil & rock	ICP-AES	0.01	15.00
933	24	Ga ppm: 32 element, soil & rock	ICP-AES	10	10000
951	24	Hg ppm: 32 element, soil & rock	ICP-AES	1	10000
934	24	K %: 32 element, soil & rock	ICP-AES	0.01	10.00
935	24	La ppm: 32 element, soil & rock	ICP-AES	10	10000
936	24	Mg %: 32 element, soil & rock	ICP-AES	0.01	15.00
937	24	Mn ppm: 32 element, soil & rock	ICP-AES	5	10000
938	24	Mo ppm: 32 element, soil & rock	ICP-AES	1	10000
939	24	Na %: 32 element, soil & rock	ICP-AES	0.01	5.00
940	24	Ni ppm: 32 element, soil & rock	ICP-AES	1	10000
941	24	P ppm: 32 element, soil & rock	ICP-AES	10	10000
942	24	Pb ppm: 32 element, soil & rock	ICP-AES	2	10000
943	24	Sb ppm: 32 element, soil & rock	ICP-AES	5	10000
958	24	Sc ppm: 32 elements, soil & rock	ICP-AES	1	100000
944	24	Sr ppm: 32 element, soil & rock	ICP-AES	1	10000
945	24	Ti %: 32 element, soil & rock	ICP-AES	0.01	5.00
946	24	Tl ppm: 32 element, soil & rock	ICP-AES	10	10000
947	24	U ppm: 32 element, soil & rock	ICP-AES	10	10000
948	24	V ppm: 32 element, soil & rock	ICP-AES	1	10000
949	24	W ppm: 32 element, soil & rock	ICP-AES	10	10000
950	24	Zn ppm: 32 element, soil & rock	ICP-AES	2	10000

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Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

To: CONSOLIDATED SILVER STANDARD MINES LIMITED

400 - 1199 W. HASTINGS ST.
VANCOUVER, BC
V6E 3T5

Project : C1024

Comments: ATTN: R. QUARTERMAIN CC: M HOITBY

Page No. : 1

Tot. Pages: 1

Date : 31-AUG-89

Invoice # : I-8924455

P.O. # : NONE

CERTIFICATE OF ANALYSIS A8924455

SAMPLE DESCRIPTION	PREP CODE	Cu %							
333201	214 ---	0.84							
333203	214 ---	0.78							
333204	214 ---	1.04							
333209	214 ---	1.18							
333212	214 ---	0.84							
333213	214 ---	0.28							
333215	214 ---	2.04							
333216	214 ---	4.32							
333217	214 ---	0.60							
333218	214 ---	0.58							
333223	214 ---	1.04							

CERTIFICATION :

R. Quartermain



Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE. NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

To: CONSOLIDATED SILVER STANDARD MINES LIMITED *Max*

400 - 1199 W. HASTINGS ST.
VANCOUVER, BC
V6E 3T5

A8924455

Comments: ATTN: R QUARTERMAIN CC: M HOLTBY

CERTIFICATE A8924455

CONSOLIDATED SILVER STANDARD MINES LIMITED
PROJECT : C1024
P O # : NONE

Samples submitted to our lab in Vancouver, BC.
This report was printed on 31-AUG-89.

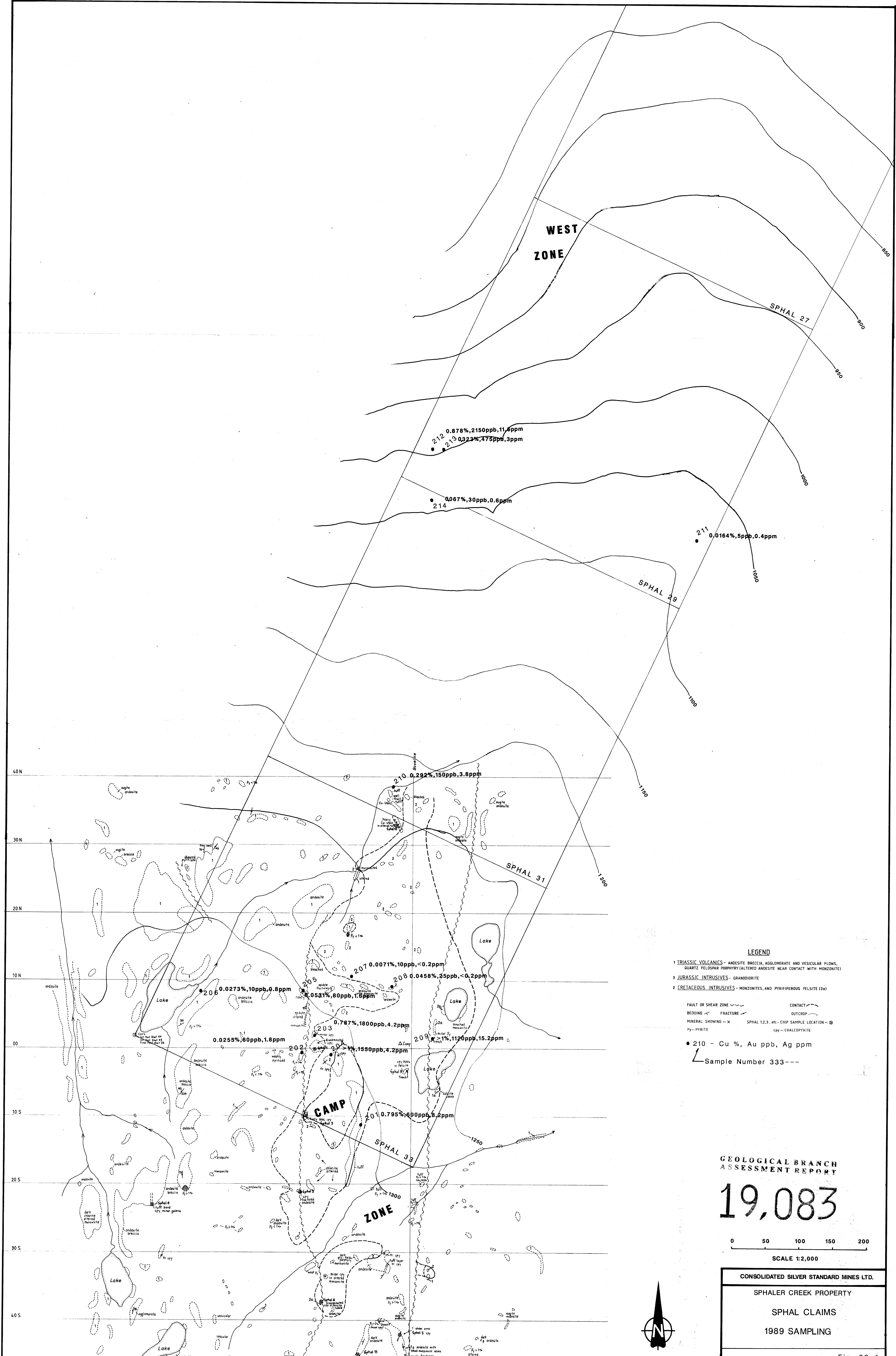
ANALYTICAL PROCEDURES

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION	METHOD	DETECTION LIMIT	UPPER LIMIT
301	11	Cu %: HClO4-HNO3 digestion	AAS	0.01	100.0

SAMPLE PREPARATION

CHEMEX CODE	NUMBER SAMPLES	DESCRIPTION
214	11	Received sample as pulp

RECEIVED SEP 06 1989



WEST
ZONE

SPHAL 27

SPHAL 29

SPHAL 31

CAMP
ZONE

LEGEND

1 TRIASSIC VOLCANICS - ANDESITE BRECCIA, AGGLOMERATE AND VESICULAR FLOWS, QUARTZ FELDSPAR PORPHYRY (ALTERED ANDESITE NEAR CONTACT WITH MONZONITE)

2 JURASSIC INTRUSIVES - GRANDIORITE

3 CRETACEOUS INTRUSIVES - MONZONITES, AND PYRIFEROUS FELSITE (2a)

FAULT OR SHEAR ZONE - - - - - CONTACT - - - - -
 BEDDING - - - - - FRACTURE - - - - - OUTCROP - - - - -
 MINERAL SHOWING - x - SPHAL 1,2,3, etc - CHIP SAMPLE LOCATION - ⊙
 Py - PYRITE cpy - CHALCOPYRITE

• 210 - Cu %, Au ppb, Ag ppm
 ◁ Sample Number 333 - - -

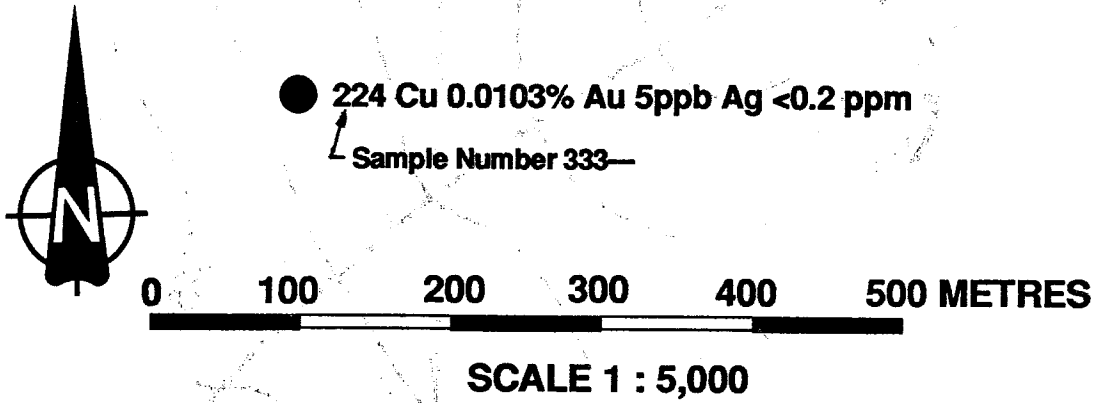
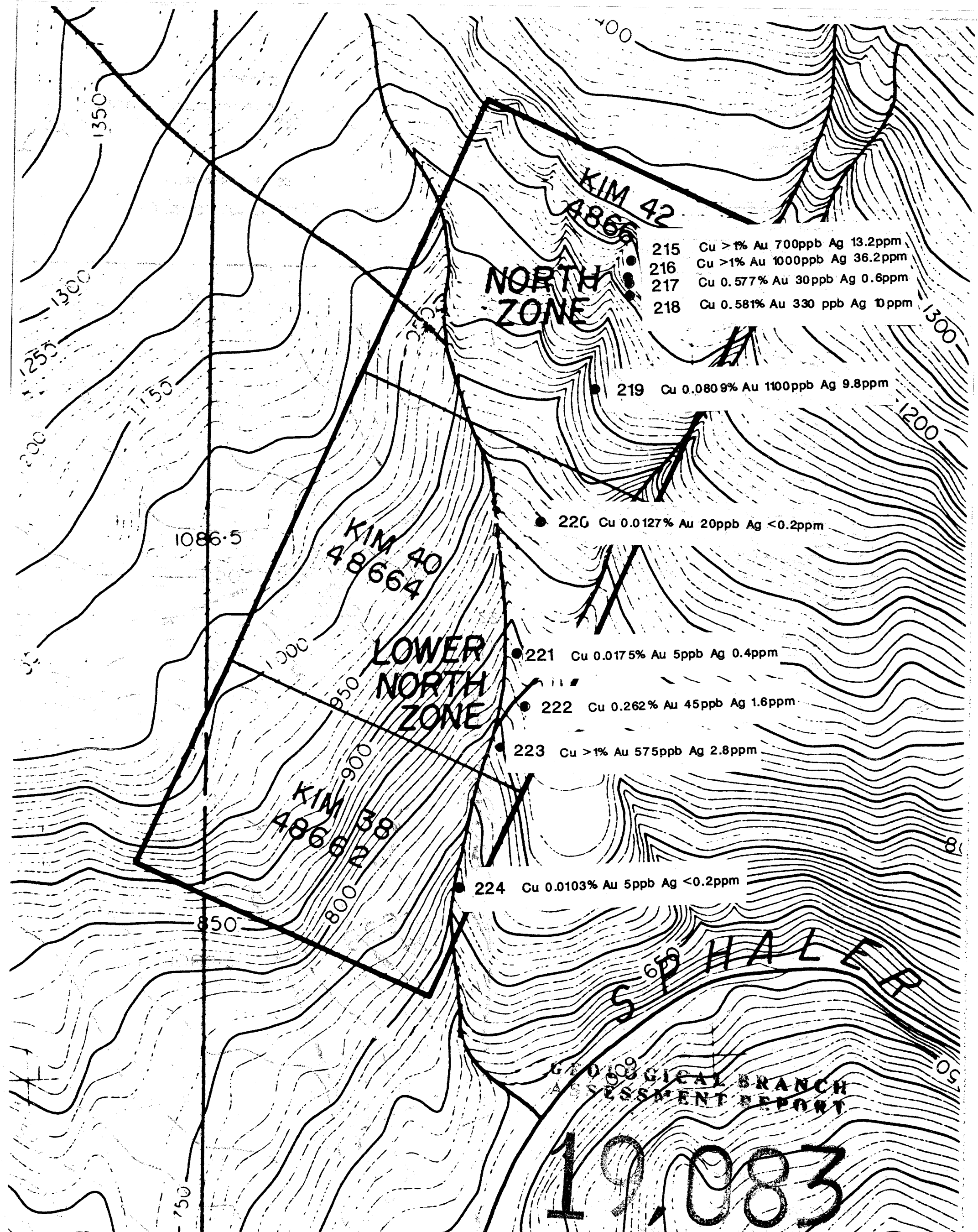
GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,083

0 50 100 150 200
SCALE 1:2,000

CONSOLIDATED SILVER STANDARD MINES LTD.
SPHALER CREEK PROPERTY
SPHAL CLAIMS
1989 SAMPLING





Consolidated Silver Standard Mines Ltd.

SPHALER CREEK PROPERTY

KIM CLAIMS
1989 Sampling

Fig. 89-2