

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS 104G /9,10

FILMED

ASSESSMENT REPORT  
DIAMOND DRILLING, ROCK SAMPLING AND MAPPING  
ON

RED DOG 1, RED DOG 2, RED, RED DOG 4, RED DOG 3, PINK  
MINERAL CLAIMS  
RECORD NO.'S  
53(9), 116(4), 725(10), 2041(7), 2040(8), 724(10)

SPECTRUM PROPERTY, MOUNT EDZIZA, B.C.

LIARD MINING DIVISION

LATITUDE: 57°40'N

LONGITUDE: 130°30'W

OPERATOR: COMINCO LTD.  
OWNER: CALNOR RESOURCES LTD.

NOVEMBER 28, 1989

P. A. MACROBBIE

COMINCO LTD. WESTERN DISTRICT  
 EXPLORATION ASSESSMENT REPORT  
 DIAMOND DRILLING, ROCK SAMPLING, MAPPING AT  
 SPECTRUM

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LOG NO: 1205	RD.
ACTION:	
FILE NO: .	

GEOLOGICAL BRANCH  
 ASSESSMENT REPORT

19,364

## COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

ASSESSMENT REPORT  
DIAMOND DRILLING, ROCK SAMPLING, MAPPING AT  
SPECTRUM

## 1.0 SUMMARY

Ten holes (1196 m total) were drilled at Spectrum. The holes were located in part to test high grade gold veins with coincident VLF conductors defined in 1984. Geological mapping at 1:2000 scale was conducted over a 1.7 x 1.3 km area during which 22 rock and 22 rock chip samples were collected.

Part of this work is submitted as assessment work on the Red Dog 1, Red Dog 2 and Red claims.

## 2.0 LOCATION AND ACCESS

The Spectrum Property is located within the Liard Mining Division on NTS maps 104G /9W, 10E. The claims are situated on the east flank of Mount Edziza within the Mount Edziza Recreation Area. Stewart is located 200 km to the south, Telegraph Creek is located 45 km to the northwest and the Stewart-Cassiar Highway is 25 km to the east (Fig. 1). Access to the property is by helicopter.

## 3.0 PROPERTY

The Spectrum Property consists of 6 claims comprising 75 units (Fig. 2). Cominco Ltd. optioned the property from Calnor Resources Ltd. subject to a Letter of Intent dated Aug. 12, 1988.

## 4.0 PREVIOUS WORK

The area was originally staked by Spartan Explorations in 1969 to cover porphyry copper occurrence 4 km southwest of Nuttlude Lake. Mitsui Mining and Smelting Company Ltd. and Imperial Oil Ltd. conducted geological, geochemical and geophysical surveys from 1970-73. In 1973 four holes (450 m) were drilled.

The Red Dog claims were staked for the Racicott Syndicate in 1975 and optioned to Consolidated Silver Ridge Mines Ltd. in 1977. Between 1978-79 Silver Ridge completed geological and geochemical surveys, road building and trenching. In 1979 ten holes (832 m) were drilled followed by eighteen holes (2462.2 m) in 1980.

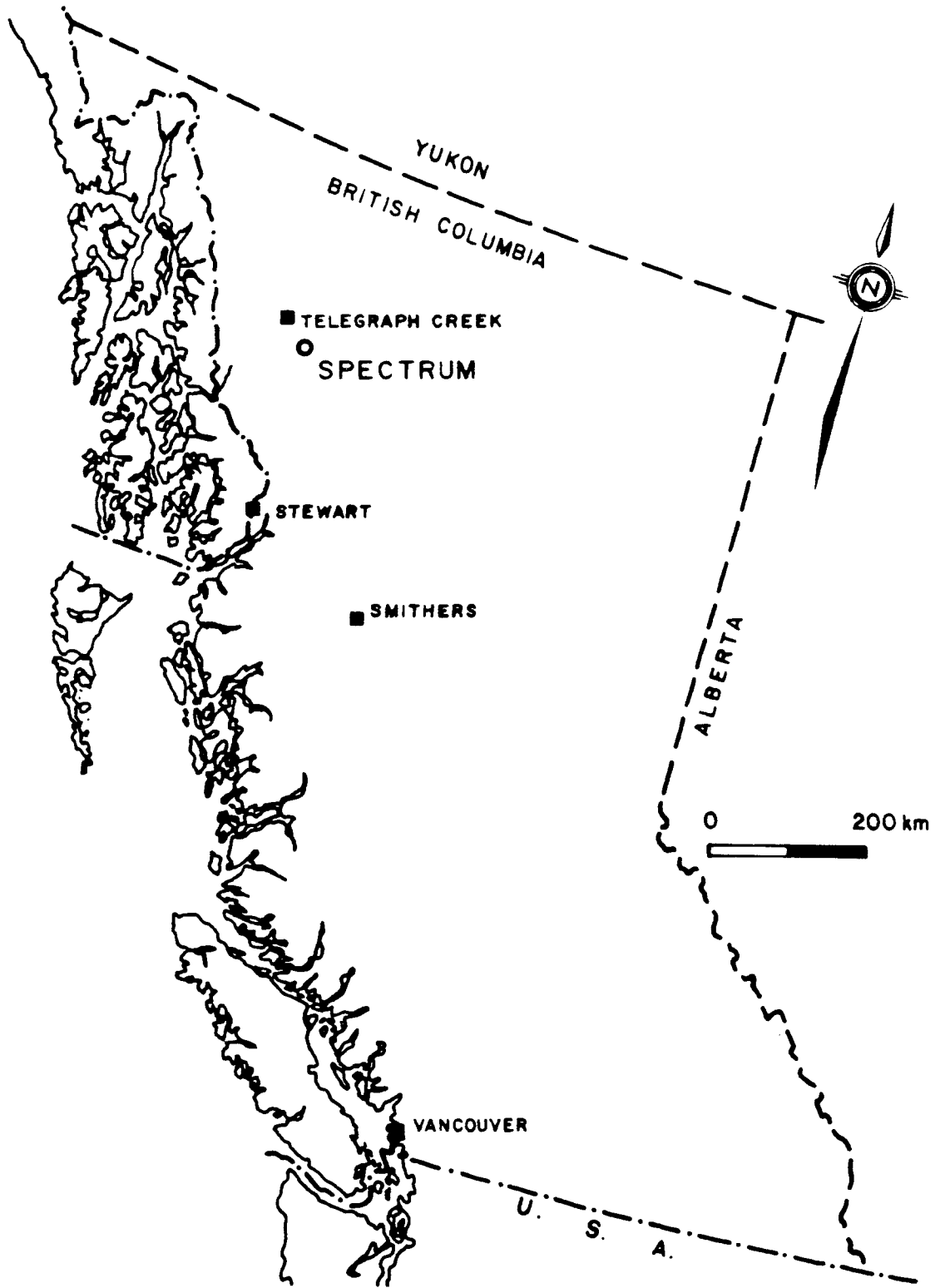


FIGURE 1. Location map

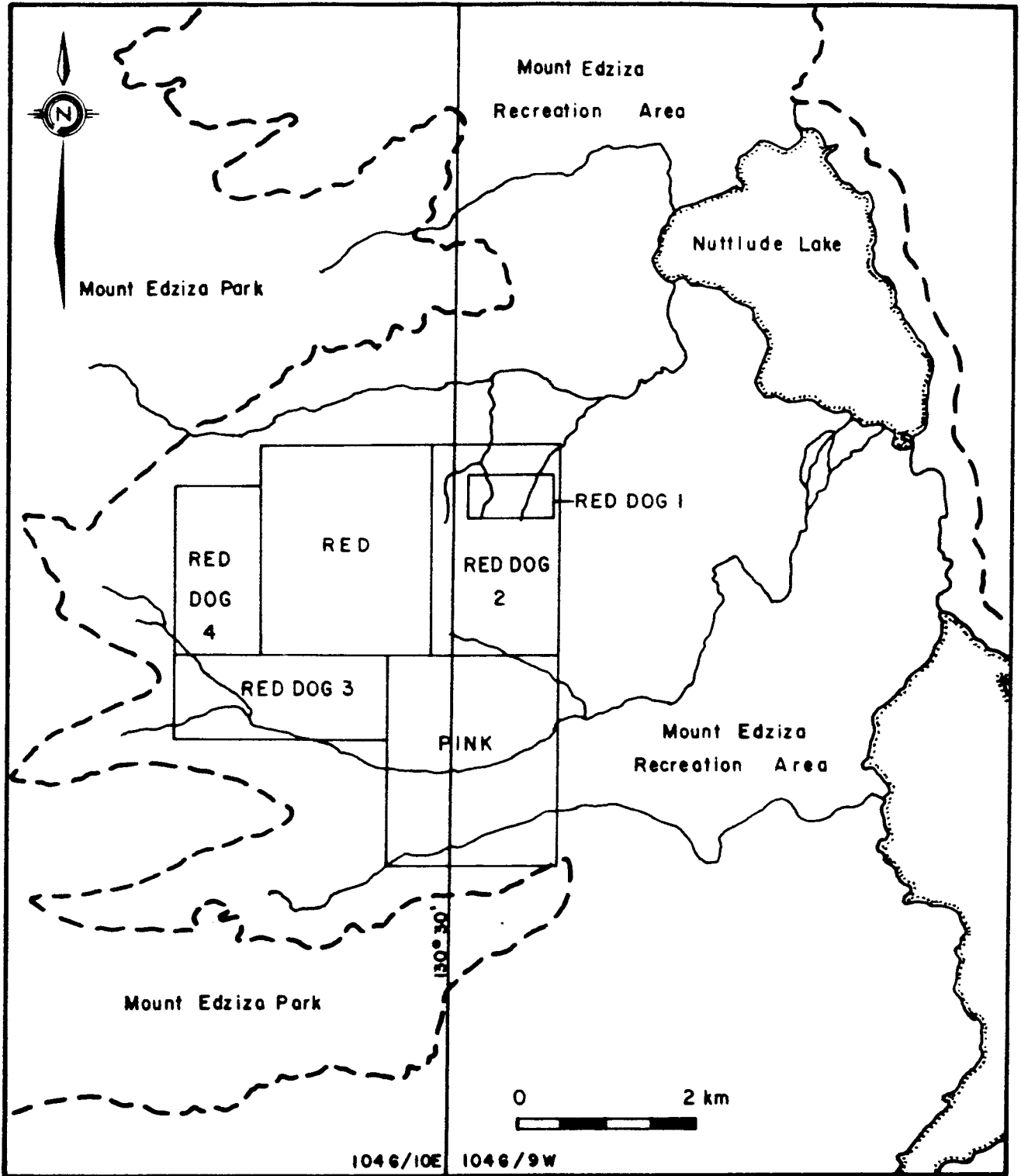


FIGURE 2. Property location

Cominco Ltd. optioned the property (including the Hawk 1 and 2 claims) in 1984 and conducted a program of soil and rock geochemistry, geological mapping, ground magnetometer and VLF surveys and core examination. The property was returned to the owners in 1985.

## 5.0 GEOLOGY

The property is underlain by an Lower Jurassic to Upper Triassic succession of fine to coarse grained andesitic pyroclastic rocks and synvolcanic intrusives underlain by well bedded andesite to dacite tuff and a basal sedimentary unit of argillite, limestone and minor chert. These rocks are cross-cut by Jurassic to Cretaceous diorite to quartz monzonite dykes.

This succession has been warped into open folds with east-west trending fold axes and subsequently cut into blocks by north-south, east-west, northwest and northeast trending faults.

Recent dykes represent feeders to flat lying basaltic flow and pyroclastic rocks of Tertiary to Pleistocene age which unconformably overlie the older strata.

## 6.0 DIAMOND DRILLING

Drilling this year commenced on August 1 and was completed on August 23, 1989. A total of 10 holes were drilled. The orientation and timing of these holes is given in the table below and the drill hole locations are illustrated on figure 3. Detailed descriptions of the core as well as gold and copper analyses are found in Appendix 1. Expenditures are itemized in Appendix 2.

TABLE 1  
SPECTRUM DRILL HOLES 1989

HOLE NO.	CLAIM	DATES	AZIMUTH	INCLINATION	DEPTH (m)
S89-33	Red Dog 2	1-3 Aug	270	-45	65.2
S89-34	Red Dog 2	3-5 Aug	270	-45	170.4
S89-35	Red Dog 2	5-6 Aug	270	-45	124.7
S89-36	Red Dog 1	7-8 Aug	90	-60	136.8
S89-37	Red Dog 1	9-11 Aug	90	-55	142.3
S89-38	Red	11-13 Aug	90	-60	197.2
S89-39	Red Dog 2	14-16 Aug	90	-65	50.0
S89-40	Red Dog 2	16-18 Aug	270	-45	125.0
S89-41	Red Dog 2	18-20 Aug	270	-45	92.0
S89-42	Red Dog 2	20-23 Aug	280	-55	95.4

total 1196.4

The drill contractor was Falcon Drilling Ltd. of Prince George, B.C. Drill pad preparation was also done by Falcon Drilling Ltd. The drill core size was BGDM, yielding a core diameter of 42mm. Cominco had established a wood frame tent camp between July 10 to Sept. 7, 1989. Logistics of the program, core sampling and drafting were done by G. Graham, technician. Supervision and core logging was by P. A. MacRobbie, geologist. Core was split and sampled approximately every 2 m. Analyses for gold and copper were done at the Cominco Exploration and Research Laboratory, 1486 E. Pender St., Vancouver. All the split core is stored at the camp site on the property (see figure 3).

The purpose of the drilling was to test along strike and downdip of previous high grade gold drill intersections and coincident VLF conductors, as well as gold soil anomalies and 2 gold/copper surface showings. Gold intersections of >2.5 g/t are listed below in Table 2.

TABLE 2  
SUMMARY OF 1989 HIGH GRADE GOLD DRILL INTERSECTIONS

HOLE NO.	INTERVAL(m)	LENGTH(m)	Au (g/t)*
S89-33	0.6 - 9.4	8.8	10.08
S89-34	61.4 - 63.1	1.7	17.83
	151.7 - 152.5	0.8	2.67
	152.5 - 153.3	0.8	9.34
S89-35	70.7 - 72.8	2.1	2.61
S89-36	6.7 - 8.4	1.7	6.10
	12.3 - 13.2	0.9	4.39
	20.1 - 22.8	2.7	9.12
	35.0 - 37.0	2.0	4.94
	48.4 - 49.2	0.8	3.56
	54.7 - 57.0	2.3	3.05
	93.4 - 93.7	0.3	2.54
S89-38	108.5 - 110.5	2.0	9.18
S89-41	37.5 - 39.2	1.7	2.57

\*Fire assays

The intersection at the top of S89-33 was from a interval in which core recovery was only 8%.

## 7.0 CONCLUSIONS

Diamond drilling in 10 holes intersected relatively poor high grade gold mineralization downdip and along strike from previously drilled high grade intersections. The coincident

VLF conductors defined in 1984 represent fault/gouge structures; however, these structures are not necessarily mineralized.

Reported by

P.A. MacRobbie  
P.A. MacRobbie  
Geologist 1

Approved for release

W.J. Wolfe  
W.J. Wolfe  
Manager, Exploration  
Western Canada.



APPENDIX 1  
1989 DRILL LOGS

DRILL HOLE RECORD

COMINCO LTD.

Property: SPECTRUM District:
Commenced: August 1, 1989 Location:
Completed: August 3, 1989 Core Size:
Co-ordinates: 9400N 9892E Claim:
Objective: to test along strike of vein structure intersected in S-4 and a coincident VLF conductor

Hole No. S89-33
Tests at:
Corr. Dip: -45°
True Brg: 270°
% Recov:
Collar Dip:
Length:

Hor. Comp:
Vert. Comp:
Logged by: P.A. MacRobbie
Date:

S89-33
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Table with columns: METERAGE (FROM, TO), DESCRIPTION. Includes entries for 0.0-0.6 (Casing), 0.6-2.6 (VEIN/STRONGLY ALTERED VOLCANIC ROCK), 2.6-9.4 (QUARTZ MONZONITE), and 9.4-24.0 (MEDIUM GREY GREEN-DARK GREY AND BLACK ALTERED FINE ASH TUFF/CRYSTAL FLOW OR INTRUSIVE).

ANALYSIS table with columns: SAMPLE, FROM, TO, Au (g/t), Cu (ppm), As (ppm). Includes a single data row for sample S893301 between depths 0.6 and 9.4.









DRILL HOLE RECOVERY

Interval (m)		Recovered Length (m)	% Recovery
From	To		
0.06	2.7	0.2	10.7
2.7	5.8	0.15	5
5.8	8.8	0.0	0
8.8	10.4	1.4	95
10.4	11.9	1.4	91.6
11.9	14.9	3.0	100
14.9	16.6	1.4	93.4
16.6	18.0	1.4	93.4
18.0	21.0	3.0	100
21.0	22.6	1.5	100
22.6	24.1	1.4	90
24.1	27.1	3.0	99.2
27.1	30.2	3.0	99.2
30.2	33.2	3.0	97.5
33.2	36.3	3.0	100
36.3	39.3	3.0	100
39.3	40.8	1.5	100
40.8	42.4	1.3	88
42.4	45.4	3.0	100
45.4	48.5	3.0	99.2
48.5	51.5	3.0	99.2
51.5	54.6	3.0	100
54.6	57.6	3.0	100
57.6	59.4	1.6	87.5
59.4	60.6	1.2	100
60.6	62.5	1.8	100
62.5	63.7	1.8	39.6
63.7	65.2	0.6	40

## Spectrum, DDH S89-33

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Fe %	Mg %	K %	Au g/T	
8913223	893301	0.6	9.4	8.8	11000	965	3.32	0.89	4.10	10.08	
8913224	893302	9.4	11.4	2.0	280	404	4.75	1.55	4.30		
8913225	893303	11.4	13.3	1.9	300	521	4.56	1.63	3.45		
8913226	893304	13.3	15.9	2.6	504	583	4.82	1.49	4.45		
8913227	893305	15.9	17.4	1.5	322	826	5.90	1.47	3.95		
8913228	893306	17.4	19.4	2.0	380	530	4.01	0.97	4.50		
8913229	893307	19.4	21.5	2.1	492	792	5.77	1.96	3.60		
8913230	893308	21.5	23.6	2.1	160	709	6.72	2.30	3.05		
8913231	893309	23.6	24.9	1.3	176	437	4.39	1.27	4.18		
8913232	893310	24.9	27.1	2.2	420	752	5.26	2.28	3.85		
8913233	893311	27.1	29.1	2.0	60	467	4.30	1.41	3.58		
8913234	893312	29.1	30.6	1.5	104	634	4.64	2.10	2.58		
8913235	893313	30.6	32.6	2.0	120	336	4.82	2.16	3.59		
8913236	893314	32.6	34.5	1.9	80	428	6.09	2.54	2.85		
8913237	893315	34.5	36.3	1.8	120	368	5.63	1.23	3.92		
8913238	893316	36.3	38.3	2.0	140	325	5.06	1.01	3.92		
8913239	893317	38.3	40.0	1.7	380	428	6.01	1.29	3.98		
8913240	893318	40.0	42.2	2.2	300	454	6.13	1.22	2.41		
8913241	893319	42.2	43.7	1.5	4800	466	5.08	1.19	3.88		1.65
8913242	893320	43.7	45.8	2.1	506	505	5.20	1.42	3.20		
8913243	893321	45.8	47.3	1.5	652	563	5.58	1.46	3.60		
8913244	893322	47.3	48.5	1.2	464	429	5.14	1.37	3.22		
8913245	893323	48.5	50.0	1.5	400	417	5.08	1.39	3.51		
8913246	893324	50.0	51.5	1.5	282	310	5.21	1.32	3.98		
8913247	893325	51.5	52.6	1.1	100	387	5.76	1.09	3.83		
8913248	893326	52.6	54.1	1.5	182	431	5.77	1.26	3.39		
8913249	893327	54.1	55.7	1.6	200	361	5.21	1.23	4.20		
8913250	893328	55.7	57.6	1.9	284	353	5.78	1.09	4.10		
8913251	893329	57.6	59.4	1.8	142	295	5.30	1.38	3.30		
8913252	893330	59.4	61.8	2.4	392	222	5.25	1.21	3.68		
8913253	893331	61.8	65.2	3.4	772	495	5.69	1.09	3.58		









DRILL HOLE RECORD

COMINCO LTD.

Property: SPECTRUM

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METERAGE FROM TO	DESCRIPTION	ANALYSIS								
		SAMPLE	FROM	TO	Au g/t	Cu ppm				
126.8 - 127.5	DARK GREEN, FINE GRAINED, AMYGDALOIDAL BASALT DYKE. Tertiary basalt dyke with banded and chilled margins, 55° to core axis.									
127.5 - 128.6	QUARTZ, CALCITE, KSPAR, PYRITE BRECCIA VEIN. Vein has gouged contacts (55° to core axis) and contains 1-5% fine grained pyrite with trace chalcopyrite and arsenopyrite.									
128.6 - 133.6	LIGHT GREEN-MAROON FINE ASH TUFF. Intensely brecciated and veined.									
133.6 - 135.4	QUARTZ, CALCITE, PYRITE BRECCIA VEIN AND MINOR GOUGE (80°, 70° to core axis).									
135.4 - 140.2	LIGHT-MEDIUM GREEN GREY FLOW/ASH TUFF?									
140.2 - 144.5	BRECCIA VEINS AND INTENSELY FRACTURED AND VEINED FLOW/ASH TUFF? 143.7-144.0 - breccia vein (with pyrite, trace chalcopyrite) and gouge 45° to core axis.									
144.5 - 146.0	FAULT/GOUGE.									
146.0 - 148.8	MEDIUM GREEN GREY-MAROON CRYSTAL LITHIC TUFF/FLOW?									
148.8 - 149.4	QUARTZ, CALCITE ± CHLORITE, PYRITE, SPHALERITE ± CHALCOPYRITE BRECCIA VEIN (5% sulphides).									
149.4 - 151.7	MEDIUM GREEN GREY FINE GRAINED CRYSTAL LITHIC TUFF/FLOW? (as above).									
151.7 - 152.5	QUARTZ, CALCITE, PYRITE (3%), CHALCOPYRITE (3%) AND ARSENOFYRITE (2%) VEIN with 20 cm wide silicified alteration halos.	S893465	151.7	152.5	2.67	1670				
152.5 - 153.3	MEDIUM-LIGHT GREEN GREY ASH TUFF/FLOW? At 152.7 a quartz chalcopyrite ± arsenopyrite vein (1 cm wide) with a chloritic alteration halo containing up to 20% very fine grained pyrite ± chalcopyrite, arsenopyrite.	S893466	152.5	153.3	9.34	600				



DRILL HOLE RECOVERY

Interval (m)		Recovered Length (m)	% Recovery
From	To		
1.5	4.6	3.0	100
4.6	5.8	0.9	75
5.8	8.8	3.0	96.7
8.8	11.9	3.0	95.8
11.9	14.9	3.0	95
14.9	18.0	3.0	98.3
18.0	21.0	3.0	98.3
21.0	24.1	3.0	97.5
24.1	27.1	3.0	96.7
27.1	30.2	3.0	98.3
30.2	33.2	3.0	100
33.2	36.3	2.8	92.5
36.3	39.3	3.0	96.7
39.3	42.4	3.0	98.3
42.4	45.4	3.0	95.8
45.4	48.5	3.0	95
48.5	51.5	3.0	95.8
51.5	54.6	3.0	98.3
54.6	57.6	2.7	86.7
57.6	60.7	3.0	99.2
60.7	63.7	3.0	96.7
63.7	66.8	3.0	100
66.8	69.8	3.0	98.3
69.8	72.9	3.0	100
72.9	75.9	2.4	80
75.9	79.0	3.0	97.5
79.0	82.0	3.0	100
82.0	85.1	3.0	100
85.1	88.1	1.8	57.5
88.1	91.2	3.0	100
91.2	94.2	3.0	100
94.2	97.3	3.0	96.7
97.3	100.3	3.0	99.2
100.3	103.4	2.5	80.8
103.4	106.4	3.0	100
106.4	109.5	3.0	100
109.5	112.5	3.0	100
112.5	115.6	3.0	100
115.6	119.6	2.4	80
119.6	121.6	3.0	100
121.6	124.7	2.0	63.3
124.7	127.7	2.4	80
127.7	130.8	2.9	94.2
130.8	133.8	3.0	99.2
133.8	136.9	2.7	85.8
136.9	139.9	2.8	90.8
139.9	143.0	3.0	100
143.0	146.0	2.9	94.2
146.0	149.0	3.0	100
149.0	152.1	3.0	100
152.1	155.1	2.9	93.3
155.1	158.2	3.0	98.3
158.2	161.2	2.1	68.3
161.2	164.3	3.0	96.7
164.3	167.3	3.0	96.7
167.3	170.4	3.0	100

## Spectrum, DDH S89-34

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Fe %	Mg %	K %	Au g/T
8913479	893401	1.5	3.4	1.9	120	217	7.53		1.50	
8913480	893402	3.4	5.8	2.4	150	305	7.68		1.00	
8913481	893403	5.8	7.8	2.0	120	275	10.10		1.32	
8913482	893404	7.8	9.6	1.8	254	343	6.55		1.25	
8913483	893405	9.6	11.9	2.3	1418	290	6.43		7.50	0.652
8913484	893406	11.9	13.9	2.0	326	476	6.10		0.87	
8913485	893407	13.9	15.9	2.0	160	400	5.61		0.81	
8913486	893408	15.9	17.9	2.0	460	509	6.96		1.02	
8913487	893409	17.9	19.9	2.0	238	359	7.31		1.62	
8913488	893410	19.9	22.1	2.2	162	447	6.82		0.96	
8913489	893411	22.1	24.0	1.9	220	326	5.72		2.00	
8913490	893412	24.0	26.0	2.0	200	476	10.80		1.48	
8913491	893413	26.0	28.1	2.1	64	457	6.41		1.80	
8913492	893414	28.1	30.0	1.9	126	497	7.39		0.92	
8913493	893415	30.0	31.5	1.5	88	323	4.78		1.72	
8913494	893416	31.5	33.0	1.5	50	286	5.55		1.35	
8913495	893417	33.0	34.0	1.0	522	222	5.36		2.52	
8913496	893418	34.0	35.5	1.5	72	149	4.92		1.89	
8913497	893419	35.5	37.6	2.1	98	218	5.41		2.10	
8913498	893420	37.6	40.1	2.5	190	277	5.40		1.30	
8913499	893421	40.1	42.0	1.9	260	208	4.59		1.90	
8913500	893422	42.0	44.0	2.0	192	232	4.38		3.20	
8913501	893423	44.0	45.8	1.8	102	298	4.92		1.00	
8913502	893424	45.8	47.8	2.0	82	281	5.15		0.84	
8913503	893425	47.8	49.8	2.0	106	246	5.05		0.85	
8913504	893426	49.8	52.0	2.2	142	232	4.90		2.43	
8913505	893427	52.0	54.0	2.0	404	350	6.65		1.60	
8913506	893428	54.0	57.0	3.0	250	296	4.59		1.59	
8913507	893429	57.0	58.2	1.2	320	268	4.47		0.84	
8913508	893430	58.2	60.2	2.0	260	800	12.30		1.50	
8913509	893431	60.2	61.4	1.2	260	308	5.24		2.68	
8913510	893432	61.4	63.1	1.7	13000	105	3.70		3.00	17.829
8913705	893479	63.1	65.1	2.0	40	166	4.18	0.48	2.40	
8913706	893480	65.1	66.7	1.6	40	153	3.21	0.55	2.50	
8913707	893481	66.7	68.4	1.7	594	172	3.62	0.53	2.40	
8913708	893482	68.4	70.4	2.0	20	136	3.23	0.60	2.22	
8913709	893483	70.4	72.4	2.0	332	204	3.57	0.57	2.05	
8913710	893484	72.4	74.4	2.0	342	193	3.44	0.57	2.20	
8913711	893485	74.4	76.6	2.2	60	142	3.60	0.46	1.98	
8913712	893486	76.6	79.0	2.4	240	177	4.15	0.51	2.35	
8913713	893487	79.0	79.8	0.8	200	113	3.52	1.09	2.00	
8913714	893488	79.8	82.0	2.2	352	153	4.24	1.19	2.05	
8913715	893489	82.0	84.5	2.5	400	169	3.74	1.44	1.50	
8913716	893490	84.5	86.5	2.0	62	210	4.65	1.39	1.74	
8913717	893491	86.5	88.5	2.0	60	146	4.00	1.68	1.70	
8913718	893492	88.5	90.1	1.6	10	185	4.12	1.33	1.60	
8913719	893493	90.1	92.1	2.0	98	201	3.99	1.76	1.32	
8913720	893494	92.1	94.0	1.9	402	317	5.12	2.34	1.00	
8913721	893495	94.0	96.0	2.0	740	312	6.42	2.26	0.93	
8913722	893496	96.0	98.0	2.0	700	163	4.24	2.12	1.10	
8913723	893497	98.0	100.2	2.2	720	181	3.91	1.87	0.98	
8913433	893433	100.2	100.4	0.2	304	15	3.89	0.54	0.09	
8913434	893434	100.4	101.4	1.0	646	190	4.04	1.97	1.31	
8913435	893435	101.4	102.9	1.5	540	547	5.78	3.84	1.10	
8913436	893436	102.9	104.5	1.6	140	335	4.47	2.88	0.33	
8913437	893437	104.5	106.9	2.4	124	1650	18.50	1.98	0.47	
8913438	893438	106.9	109.0	2.1	20	191	4.92	1.96	0.48	
8913439	893439	109.0	110.4	1.4	180	837	14.80	2.02	1.09	
8913440	893440	110.4	112.1	1.7	212	316	4.98	2.42	0.56	

## Spectrum, DDH S89-34

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Fe %	Mg %	K %	Au g/T
8913441	893441	112.1	113.6	1.5	10	96	2.53	2.62	1.15	
8913442	893442	113.6	115.5	1.9	20	73	2.15	2.34	1.62	
8913443	893443	115.5	118.6	3.1	60	135	2.88	2.28	1.75	
8913444	893444	118.6	120.3	1.7	64	747	14.50	2.22	0.57	
8913445	893445	120.3	121.8	1.5	72	742	12.00	2.76	0.48	
8913446	893446	121.8	124.7	2.9	10	113	2.63	1.72	1.05	
8913447	893447	124.7	125.8	1.1	126	122	3.13	0.48	1.29	
8913448	893448	125.8	126.9	1.1	10	52	3.12	0.37	0.52	
8913449	893449	126.9	128.6	1.7	10	101	2.61	0.52	0.92	
8913450	893450	128.6	130.8	2.2	20	46	2.12	1.03	2.09	
8913451	893451	130.8	132.3	1.5	22	166	4.05	1.71	2.26	
8913452	893452	132.3	133.6	1.3	10	161	4.42	1.77	2.15	
8913453	893453	133.6	135.0	1.4	80	154	3.67	0.45	2.20	
8913454	893454	135.0	137.3	2.3	76	277	4.11	1.02	4.20	
8913455	893455	137.3	139.5	2.2	352	420	5.86	1.40	3.34	
8913456	893456	139.5	140.6	1.1	100	369	6.18	1.26	3.22	
8913457	893457	140.6	143.0	2.4	10	321	4.81	1.16	2.32	
8913458	893458	143.0	144.0	1.0	80	500	5.41	1.44	3.98	
8913459	893459	144.0	144.5	0.5	102	178	5.05	0.80	1.32	
8913460	893460	144.5	146.3	1.8	144	412	4.75	1.19	3.79	
8913461	893461	146.3	148.0	1.7	240	477	4.73	1.57	4.20	
8913462	893462	148.0	148.8	0.8	160	552	5.72	1.76	3.35	
8913463	893463	148.8	149.4	0.6	648	244	4.49	1.91	1.24	
8913464	893464	149.4	151.7	2.3	506	531	6.34	1.52	3.85	
8913465	893465	151.7	152.5	0.8	1500	1670	3.57	1.56	2.20	2.674
8913466	893466	152.5	153.3	0.8	10420	600	5.52	1.54	4.68	9.394
8913467	893467	153.3	153.6	0.3	2400	267	5.50	0.85	1.80	2.4
8913468	893468	153.6	154.9	1.3	106	934	12.40	2.11	2.80	
8913469	893469	154.9	155.2	0.3	10	227	5.60	1.36	1.92	
8913470	893470	155.2	156.7	1.5	140	580	7.30	2.10	2.80	
8913471	893471	156.7	157.0	0.3	364	599	6.36	1.61	2.95	
8913472	893472	157.0	158.6	1.6	120	424	5.72	2.01	3.72	
8913473	893473	158.6	159.2	0.6	140	669	5.99	2.08	3.30	
8913474	893474	159.2	161.2	2.0	182	587	6.66	2.92	3.39	
8913475	893475	161.2	164.3	3.1	140	487	5.76	2.34	4.10	
8913476	893476	164.3	166.5	2.2	272	563	6.63	3.66	2.90	
8913477	893477	166.5	168.5	2.0	140	254	5.54	3.68	3.45	
8913478	893478	168.5	170.4	1.9	62	402	5.76	3.12	3.60	



DRILL HOLE RECORD

COMINCO LTD.

S89-35  
Page 1

Property: SPECTRUM District: Hole No. S89-35  
 Commenced: August 5, 1989 Location: Tests at: 124.7  
 Completed: August 6, 1989 Core Size: BQ thin wall Corr. Dip: -45  
 Co-ordinates: 9660N 9790E Claim: True Brg: 270°  
 Objective: to test down dip of the vein structure intersected % Recov:  
 in 79-5 (81.0 g/t Au over 2.3 m) Collar Dip:  
 Length:

Hor. Comp:  
 Vert. Comp:  
 Logged by: P.A. MacRobbie  
 Date:

ANALYSIS

METERAGE FROM TO	DESCRIPTION
0 - 1.5	Casing.
1.5 - 60.6	<p>QUARTZ MONZONITE.                      Light green-medium grey green (locally pink), kspar porphyritic to equiangular, fine-medium grained, weakly heterogenous (generally homogeneous). Contains generally 3% disseminated and veinlet pyrite and chalcopryrite and trace-5% magnetite and biotite. Mafic phenocrysts are biotized and feldspars are variably chloritized ± sericitized. Strong potassic alteration ± biotite alteration appears very closely related to microfractures. Sharp basal contact (weakly chilled) at 70° to core axis.                      2.9 - quartz, calcite, arsenopyrite, pyrite vein 1 cm, 60° to core axis.                      5.4-9.4 - abundant quartz ± calcite, chalcopryrite ± pyrite veinlets.                      6.6 - possible intrusive contact - 2 phases?                      12.1 - trace molybdenite in veinlet; kspar alteration is weaker, chlorite increases.                      14.0-15.8 - fault gouge 45° to core axis with 2-3% very fine grained sulphides.                      18.1-34.7 - monzonite is slightly bleached, increased kspar alteration locally giving a pink colour.                      21.7-21.9 - gouge zone, 75° to core axis.                      25.9 - well mineralized quartz, chalcopryrite, pyrite veins.                      34.7-34.9 - fault gouge, 45° to core axis.                      35.6-35.7 - fault gouge, 70° to core axis.                      42.6-45.1 - broken and gouged monzonite (45° to core axis).                      48.2-56.9 - strongly brecciated and gouged monzonite (45°, 50°, 30° to core axis).</p>
60.6 - 75.5	<p>MEDIUM TO DARK GREY GREEN MASSIVE FINE ASH TUFF TO CRYSTAL LITHIC TUFF/PORPHYRITIC DYKES.                      Weakly bedded unit with massive fine grained to crystal lithic sections. Crystals locally appear to be chloritized euhedral hornfelsed (possibly at a synvolcanic dyke). Sulphides decrease away from the quartz monzonite. This unit is strongly chlorite altered with moderate to strong biotite hornfels. Potassic alteration is vein related and generally weak. Unit is weakly magnetic.                      63.9-65.5 - abundant chalcopryrite bearing veinlets.                      70.1-70.7 - trace disseminated chalcopryrite.</p>

SAMPLE	FROM	TO	Au g/t	Cu ppm
S893507	13.9	15.8	1.37	546
S893508	15.8	16.8	0.93	1100
S893509	16.8	17.7	1.85	1430
S893510	17.7	19.9	0.89	712
S893511	19.9	21.9	1.37	1150
S893513	23.9	25.9	1.10	1290
S893515	27.1	29.1	1.23	1720
S893516	29.1	30.9	1.53	1770
S893517	30.9	32.6	1.37	2080
S893518	32.6	34.5	1.23	2380
S893524	46.2	48.5	1.10	2000
S893534	68.7	70.7	1.92	2010
S893535	70.7	72.8	2.61	2680





Interval (m)		Recovered Length (m)	% Recovery
From	To		
1.50	2.74	0.2	16.1
2.74	5.80	2.1	68.6
5.80	8.80	2.9	96.7
8.80	11.88	2.9	94.2
11.88	14.90	2.85	94.4
14.90	18.00	3.00	96.8
18.00	21.00	2.87	95.7
21.00	24.07	2.85	92.8
24.07	27.10	3.00	99.0
27.10	30.17	3.00	97.7
30.17	33.20	2.90	95.7
33.20	36.27	2.90	94.5
36.27	39.30	2.80	92.4
39.30	42.36	3.10	101.3
42.36	45.41	1.20	39.3
45.41	48.46	2.85	93.4
48.46	51.50	2.90	95.4
51.50	54.55	2.50	82.0
54.55	57.60	1.40	45.9
57.60	60.70	2.80	90.3
60.70	63.70	2.45	81.7
63.70	66.75	2.75	90.2
66.75	69.80	2.90	95.1
69.80	72.84	3.00	98.7
72.84	75.90	2.50	81.7
75.90	78.94	3.00	98.7
78.94	82.00	2.75	89.9
82.00	85.03	2.80	92.4
85.03	88.08	2.90	95.1
88.08	91.13	2.95	96.7
91.13	94.18	2.85	93.4
94.18	97.23	2.80	91.8
97.23	100.27	2.90	95.4
100.27	103.32	2.80	91.8
103.32	106.37	2.90	95.1
106.37	109.42	2.95	96.7
109.42	112.47	1.80	59.0
112.47	115.50	1.35	44.6
115.50	118.56	2.40	78.4
118.56	121.61	2.45	80.3
121.61	124.66	2.65	86.9

## Spectrum, DDH S89-35

Lab No.	Field No.	From	To	Length m	Cu (ppm)	Au (ppb)	Fe %	K %	Au g/T
8913724	893501	1.5	5.5	4.0	1230	336	3.17	2.82	
8913725	893502	5.5	7.4	1.9	1650	794	3.46	3.55	
8913726	893503	7.4	8.8	1.4	1140	720	3.24	3.77	
8913727	893504	8.8	10.7	1.9	944	340	2.95	3.55	
8913784	893505	10.7	12.7	2.0	727	552	2.74	3.40	
8913728	893506	12.7	13.9	1.2	486	302	3.18	3.45	
8913729	893507	13.9	15.8	1.9	546	1156	3.03	3.10	1.371
8913730	893508	15.8	16.8	1.0	1100	966	4.25	3.50	0.937
8913731	893509	16.8	17.7	0.9	1430	1424	3.45	4.05	1.851
8913732	893510	17.7	19.9	2.2	712	1220	3.28	3.40	0.892
8913733	893511	19.9	21.9	2.0	1150	1020	2.59	3.30	1.372
8913734	893512	21.9	23.9	2.0	1070	420	2.76	3.78	
8913735	893513	23.9	25.9	2.0	1290	1220	2.59	3.50	1.097
8913736	893514	25.9	27.1	1.2	1580	872	2.90	3.15	
8913737	893515	27.1	29.1	2.0	1720	1020	2.92	3.38	1.234
8913738	893516	29.1	30.9	1.8	1770	3200	2.63	3.20	1.543
8913739	893517	30.9	32.6	1.7	2080	1172	2.32	3.49	1.371
8913740	893518	32.6	34.5	1.9	2380	1550	2.38	3.50	1.234
8913741	893519	34.5	36.6	2.1	1350	880	2.62	3.39	
8913742	893520	36.6	38.7	2.1	1490	720	2.49	3.25	
8913743	893521	38.7	40.8	2.1	1480	774	2.06	3.55	
8913744	893522	40.8	42.7	1.9	1360	840	2.62	3.21	
8913745	893523	42.7	46.2	3.5	1750	660	2.20	3.05	
8913746	893524	46.2	48.5	2.3	2000	1052	2.28	3.49	1.303
8913747	893525	48.5	50.5	2.0	1900	944	2.31	3.85	
8913748	893526	50.5	52.5	2.0	1130	606	3.11	2.80	
8913749	893527	52.5	54.8	2.3	768	244	2.73	1.99	
8913750	893528	54.8	58.2	3.4	981	484	2.86	3.40	
8913751	893529	58.2	60.5	2.3	1260	346	2.80	3.00	
8913752	893530	60.5	62.4	1.9	2130	992	5.64	1.90	
8913753	893531	62.4	64.7	2.3	1580	652	6.29	1.30	
8913754	893532	64.7	66.7	2.0	1420	606	7.24	1.75	
8913755	893533	66.7	68.7	2.0	2000	840	6.52	2.35	
8913756	893534	68.7	70.7	2.0	2010	1954	6.59	2.75	1.92
8913757	893535	70.7	72.8	2.1	2680	4020	7.24	2.15	2.606
8913758	893536	72.8	75.1	2.3	2170	836	5.73	2.69	
8913759	893537	75.1	77.1	2.0	1970	532	5.22	1.65	
8913760	893538	77.1	78.9	1.8	1690	400	4.61	2.90	
8913761	893539	78.9	79.7	0.8	433	140	1.26	4.09	
8913762	893540	79.7	81.7	2.0	3360	632	4.00	2.60	
8913763	893541	81.7	83.8	2.1	2070	342	5.46	2.35	
8913764	893542	83.8	85.9	2.1	2140	280	5.40	2.85	
8913765	893543	85.9	88.2	2.3	2170	342	5.80	2.80	
8913766	893544	88.2	90.1	1.9	1540	312	6.15	1.90	
8913767	893545	90.1	92.0	1.9	1040	360	7.27	2.20	
8913768	893546	92.0	94.1	2.1	889	292	5.59	2.50	
8913769	893547	94.1	96.1	2.0	800	200	5.65	2.65	
8913770	893548	96.1	98.3	2.2	827	120	6.92	2.15	
8913771	893549	98.3	100.3	2.0	940	192	5.84	2.40	
8913772	893550	100.3	102.4	2.1	978	240	5.40	1.89	
8913773	893551	102.4	104.4	2.0	918	326	5.98	2.00	
8913774	893552	104.4	106.5	2.1	818	160	5.50	2.20	
8913775	893553	106.5	108.5	2.0	587	140	5.29	1.45	
8913776	893554	108.5	110.5	2.0	891	242	5.41	1.49	
8913777	893555	110.5	112.7	2.2	879	172	5.51	1.19	
8913778	893556	112.7	116.2	3.5	692	134	4.94	1.80	
8913779	893557	116.2	118.0	1.8	712	176	6.37	1.65	
8913780	893558	118.0	120.0	2.0	334	34	6.05	1.69	
8913781	893559	120.0	122.0	2.0	723	52	6.49	1.50	

8913782	893560	122.0	124.1	2.1	502	36	6.22	1.62
8913783	893561	124.1	124.6	0.5	281	10	5.08	1.19

DRILL HOLE RECORD

COMINCO LTD.

Property: SPECTRUM District: Hole No. S89-36  
 Commenced: August 7, 1989 Location: Tests at: 136.8  
 Completed: August 8, 1989 Core Size: BQ thin wall Corr. Dip: -60  
 Co-ordinates: 9850N 9870E Claim: True Brg: 90°  
 Objective: to test the east margin of the QM dyke and Au bearing vein structures intersected in DDH-21 (54.2 g/t Au over 0.5 m) % Recov: Collar Dip: Length:

Hor. Comp: S89-36  
 Vert. Comp: Page 1  
 Logged by: P.A. MacRobbie  
 Date:

METERAGE FROM	TO	DESCRIPTION
0 - 3.0		Casing.
3.0 - 17.9		LIGHT GREY-DARK GREY GREEN FINE ASH TUFF AND CRYSTAL LITHIC TUFF OR PORPHYRITIC FLOW/INTRUSIVE? Unit is generally massive, homogeneous with locally poor developed banding. Vague fragmental textures (primary features) are present. Fine-medium grained crystal rich zones contain abundant chloritized hornblende/plagioclase? crystals <1 mm. Unit is strongly chlorite and locally biotite altered. Minor zones of strong pervasive kspar alteration and silicification ± sericitization are present. Unit contains trace-10% locally of medium-coarse euhedral arsenopyrite associated with silicified ± sericitized zones adjacent to arsenopyrite bearing, pyrite, chalcopyrite veins. 4.0-5.1 - 3-10% disseminated and veinlet arsenopyrite. 5.9-8.9, 9.8-10.5 - 5-10% sulphides (pyrite, arsenopyrite, chalcopyrite) in siliceous matrix; veins? 13.5-17.0 - 5-10% arsenopyrite disseminated and associated with pyrite, chalcopyrite in <1 mm - 1 cm veins.
17.9 - 18.5		FAULTED/WEAKLY GOUGED ZONE.
18.5 - 22.2		LIGHT GREY-DARK GREY GREEN MASSIVE FINE ASH TUFF (as above). Patchy biotite hornfels with strong kspar locally overprinting. Contains 1-2% medium grained disseminated arsenopyrite and 3-5% pyrite ± chalcopyrite.
22.2 - 22.8		FAULT/GOUGE ZONE.
22.8 - 36.5		LIGHT-DARK GREY GREEN TO MASSIVE FINE ASH TUFF (as above). Massive, homogeneous locally appearing fragmental. Moderate-strong biotite hornfels, locally strong carbonate and silica/kspar alteration associated with quartz, calcite, pyrite ± chalcopyrite veinlets. Generally 3-5% pyrite ± chalcopyrite disseminations and veins. 32.5-33.1 - strong fracturing and veining.

SAMPLE	FROM	TO	ANALYSIS		
			Au g/t	Cu ppm	As ppm
S893604	6.7	8.4	6.10	2060	3360
S893607	12.3	13.2	4.39	955	940
S893612	20.1	22.8	9.12	1240	107
S893617	31.1	33.1	1.85	890	297

DRILL HOLE RECORD

COMINCO LTD.

Property: SPECTRUM

S89-36  
Page 2

METERAGE FROM TO	DESCRIPTION
22.8 - 36.5 continued	33.1-33.3 - 10-20% disseminated fine grained pyrite with patchy pervasive kspar alteration. 34.9-35.3 - 5% pyrite in 1-5 cm wide veins, 10°, 55° to core axis.
36.5 - 36.7	QUARTZ, CALCITE VEINS/GOUGE (40°, 60°, 70° to core axis with 2-3% fine grained pyrite).
36.7 - 69.8	MEDIUM-DARK GREY GREEN FINE ASH TUFF AND MINOR CRYSTAL LITHIC TUFF/FLOW/INTRUSIVES? (as above). Weak to strong patchy pervasive kspar alteration overprinting biotite hornfels and local strong propylitic alteration (chlorite ± epidote). Disseminated and vein pyrrhotite appears at about 44.0. 40.4, 41.1, 41.3 - quartz, calcite, pyrite veins and gouge (3-15% pyrite) 30°, 45° to core axis. 44.2 - 2-5% disseminated pyrite, pyrrhotite ± chalcopyrite. 45.3 - 2-3% disseminated pyrrhotite, pyrite. 47.2-48.1 - quartz, calcite, pyrite (2-5%) diffuse breccia vein with strong carbonate altered halo. 48.1-49.4 - contains 2-5% euhedral arsenopyrite in veins and halos. 51.7-54.7 - strong pyrrhotite (2-3%) weak pyrite. 55.0 - quartz calcite arsenopyrite, pyrite vein and gouge, 40° to core axis, trace sphalerite.
69.8 - 69.9	GOUGE (with 1-2% pyrite, 55° to core axis).
69.9 - 96.2	MEDIUM-DARK GREY TO GREY GREEN MASSIVE FINE ASH/CRYSTAL LITHIC TUFF TO LAPILLI ASH TUFF AND MINOR PORPHYRITIC INTRUSIVES AND EXTRUSIVE FLOWS (as above). 76.0-76.2 - quartz, calcite, chlorite, pyrite breccia vein, 30° to core axis. 76.2-76.5 - silicified (weak kspar, biotite) ash containing 5% pyrite and arsenopyrite locally. 76.5-76.7 - breccia vein (65° to core axis) with 5% pyrite, 2-5% pyrrhotite, 1-2% chalcopyrite, 1-2% sphalerite. 76.7-76.8 - 10% arsenopyrite, 2% chalcopyrite, 1% pyrite patches - either vein or alteration halo?

SAMPLE	FROM	TO	ANALYSIS		
			Au g/t	Cu ppm	As ppm
S893618	33.1	35.0	0.34	758	28
S893619	35.0	37.0	4.94	645	47
S893623	43.9	45.8	2.16	629	7
S893626	48.4	49.2	3.56	549	1720
S893630	54.7	57.0	3.05	638	2580
S893640	75.5	76.2	1.58	246	56







DRILL HOLE RECOVERY

<u>Interval (m)</u>		<u>Recovered Length (m)</u>	<u>% Recovery</u>
<u>From</u>	<u>To</u>		
3.04	4.26	1.20	98.4
4.26	7.31	2.40	78.7
7.31	10.36	2.60	85.2
10.36	13.41	2.65	86.9
13.41	16.45	2.50	82.2
16.45	19.50	2.45	80.3
19.50	22.55	1.10	36.1
22.55	25.60	2.25	73.4
25.60	28.65	2.75	90.2
28.65	31.69	1.90	62.5
31.69	34.74	2.90	95.1
34.74	37.80	2.80	91.5
37.80	40.84	2.10	69.1
40.84	43.89	2.70	88.5
43.89	46.90	2.90	96.3
46.90	49.90	2.70	90.0
49.90	53.04	2.85	90.8
53.04	56.09	2.85	93.4
56.09	59.13	2.90	95.4
59.13	62.17	2.85	93.8
62.17	65.22	2.85	93.4
65.22	68.27	2.75	90.2
68.27	71.32	2.40	78.7
71.32	74.37	2.25	73.8
74.37	77.41	2.80	92.1
77.41	80.46	1.60	52.5
80.46	83.50	2.55	83.9
83.50	86.56	2.00	65.4
86.56	89.60	2.60	85.5
89.60	92.65	2.40	78.7
92.65	95.70	2.60	85.2
95.70	98.75	2.30	75.4
98.75	101.80	2.40	78.7
101.80	104.80	2.10	70.0
104.80	107.90	2.70	87.1
107.90	110.90	2.65	88.3
110.90	114.00	2.80	90.3
114.00	117.00	2.55	85.0
117.00	120.00	2.85	95.0
120.00	123.10	2.70	87.1
123.10	126.18	2.90	94.2
126.18	129.24	2.75	89.9
129.24	132.28	2.70	88.8
131.28	135.33	2.50	82.0
135.33	136.80	1.45	98.6

## Spectrum, DDH S89-36

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	As (ppm)	Au g/T
8914356	893601	3.04	4.26	1.22	206	1380	1030	
8914357	893602	4.26	5.30	1.04	382	914	19680	
8914358	893603	5.30	6.65	1.35	256	1300	836	
8914359	893604	6.65	8.40	1.75	5600	2060	3360	6.103
8914360	893605	8.40	10.36	1.96	240	2160	1370	
8914361	893606	10.36	12.30	1.94	660	1690	2420	
8914362	893607	12.30	13.20	0.90	3200	955	940	4.389
8914363	893608	13.20	15.20	2.00	526	1180	2960	
8914364	893609	15.20	16.80	1.60	732	677	41	
8914365	893610	16.80	17.90	1.10	760	1700	3720	
8914366	893611	17.90	20.08	2.18	452	1210	1770	
8914367	893612	20.08	22.80	2.72	7400	1240	107	9.118
8914368	893613	22.80	24.75	1.95	606	647	37	
8914369	893614	24.75	26.80	2.05	180	769	353	
8914370	893615	26.80	28.65	1.85	692	693	15	
8914371	893616	28.65	31.10	2.45	560	746	10	
8914372	893617	31.10	33.08	1.98	1632	890	297	1.85
8914373	893618	33.08	35.00	1.92	3200	758	28	0.343
8914374	893619	35.00	37.00	2.00	4040	645	47	4.935
8914375	893620	37.00	39.00	2.00	486	674	40	
8914376	893621	39.00	41.74	2.74	272	701	90	
8914377	893622	41.74	43.90	2.16	324	534	12	
8914378	893623	43.90	45.80	1.90	1150	629	7	2.159
8914379	893624	45.80	47.90	2.10	264	540	3	
8914380	893625	47.90	48.40	0.50	280	448	8580	
8914381	893626	48.40	49.20	0.80	2000	549	1720	3.564
8914382	893627	49.20	51.20	2.00	282	591	40	
8914383	893628	51.20	53.20	2.00	62	404	540	
8914384	893629	53.20	54.70	1.50	120	645	425	
8914385	893630	54.70	57.00	2.30	1468	638	2580	3.05
8914386	893631	57.00	59.00	2.00	466	792	36	
8914387	893632	59.00	61.00	2.00	240	543	122	
8914388	893633	61.00	62.90	1.90	180	450	40	
8914389	893634	62.90	64.90	2.00	182	422	82	
8914390	893635	64.90	66.90	2.00	292	543	26	
8914391	893636	66.90	68.90	2.00	200	542	11	
8914392	893637	68.90	70.90	2.00	62	380	61	
8914393	893638	70.90	73.40	2.50	102	306	40	
8914394	893639	73.40	75.50	2.10	100	301	23	
8914395	893640	75.50	76.20	0.70	1532	246	56	1.576
8914396	893641	76.20	77.40	1.20	100	390	480	
8914397	893642	77.40	80.10	2.70	34	256	276	
8914398	893643	80.10	82.20	2.10	42	353	138	
8914399	893644	82.20	83.60	1.40	32	428	25	
8914400	893645	83.60	85.80	2.20	40	548	37	
8914401	893646	85.80	88.00	2.20	1184	251	1000	0.411
8914402	893647	88.00	90.00	2.00	122	256	23	
8914403	893648	90.00	92.00	2.00	52	222	17	
8914404	893649	92.00	93.90	1.90	30	183	41	
8914405	893650	93.90	95.90	2.00	106	171	38	
8914406	893651	95.90	98.00	2.10	20	210	39	
8914407	893652	98.00	100.00	2.00	24	136	193	
8914408	893653	100.00	101.30	1.30	82	184	1440	
8914409	893654	101.30	104.00	2.70	180	258	28	
8914410	893655	104.00	106.10	2.10	10	257	30	
8914411	893656	106.10	108.20	2.10	46	144	22	
8914412	893657	108.20	110.20	2.00	128	205	17	
8914413	893658	110.20	111.40	1.20	32	157	13	
8914414	893659	111.40	114.00	2.60	80	208	22	

8914415	893660	114.00	116.00	2.00	52	199	117
8914416	893661	116.00	116.80	0.80	40	137	17
8914417	893662	116.80	119.40	2.60	80	411	148
8914418	893663	119.40	121.00	1.60	124	293	19
8914419	893664	121.00	123.00	2.00	76	322	62
8914420	893665	123.00	125.30	2.30	36	363	16
8914421	893666	125.30	126.00	0.70	24	296	23
8914422	893667	126.00	127.90	1.90	48	229	30
8914423	893668	127.90	129.70	1.80	44	241	32
8914424	893669	129.70	131.90	2.20	20	163	35
8914425	893670	131.90	133.00	1.10	40	220	32
8914426	893671	133.00	135.00	2.00	52	271	30
8914427	893672	135.00	136.80	1.80	40	213	34











DRILL HOLE RECOVERY

Interval (m)		Recovered Length (m)	% Recovery
From	To		
10.05	11.27	0.20	16.4
11.27	14.33	0.85	27.8
14.33	17.37	1.70	55.9
17.37	20.42	1.75	57.4
20.42	23.46	2.10	69.1
23.46	26.51	2.80	91.8
26.51	29.50	2.20	73.6
29.50	32.61	2.90	93.2
32.61	35.66	2.90	95.1
35.66	38.70	2.85	93.8
38.70	41.75	2.80	91.8
41.75	44.80	2.75	90.2
44.80	47.85	2.70	88.5
47.85	50.90	2.20	72.1
50.90	53.94	1.55	51.0
53.94	57.00	2.70	88.2
57.00	60.00	2.30	76.7
60.00	63.09	2.80	90.6
63.09	66.14	2.85	93.4
66.14	69.18	2.40	78.9
69.18	72.23	2.65	86.9
72.23	75.28	2.80	91.8
75.28	78.33	2.80	91.8
78.33	81.38	2.60	85.2
81.38	84.42	2.55	83.9
84.42	87.47	2.70	88.5
87.47	90.52	2.95	96.7
90.52	92.04	1.50	98.7
92.04	93.57	1.25	81.7
93.57	96.62	2.35	77.0
96.62	99.67	1.20	39.3
99.67	102.71	2.00	65.8
102.71	105.77	2.80	91.5
105.77	108.81	2.65	87.2
108.81	111.86	2.70	88.5
111.86	114.90	2.75	90.5
114.90	117.95	2.80	91.8
117.95	121.00	2.95	96.7
121.00	124.05	2.70	88.5
124.05	127.10	2.75	90.2
127.10	130.15	2.40	78.7
130.15	133.19	2.30	75.7
133.19	136.24	2.50	82.0
136.24	139.29	2.80	91.8
139.29	142.34	2.95	96.7

## Spectrum, DDH S89-37

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Mg %
8915445	893701	10.05	14.90	4.85	<10	367	1.85
8915446	893702	14.90	17.37	2.47	<10	346	1.98
8915447	893703	17.37	20.42	3.05	<10	273	1.88
8915448	893704	20.42	21.90	1.48	<10	28	1.67
8915449	893705	21.90	24.10	2.20	<10	191	4.92
8915450	893706	24.10	25.60	1.50	40	32	0.92
8915451	893707	25.60	27.60	2.00	20	44	1.74
8915452	893708	27.60	30.50	2.90	<10	66	1.63
8915453	893709	30.50	31.20	0.70	126	112	1.41
8915454	893710	31.20	33.70	2.50	<10	101	3.30
8915455	893711	33.70	35.40	1.70	32	99	2.50
8915456	893712	35.40	37.00	1.60	<10	14	2.50
8915457	893713	37.00	38.30	1.30	<10	35	1.19
8915458	893714	38.30	39.80	1.50	24	148	2.00
8915459	893715	39.80	41.80	2.00	<10	158	3.10
8915460	893716	41.80	43.00	1.20	20	134	2.92
8915461	893717	43.00	45.30	2.30	24	132	2.88
8915462	893718	45.30	47.20	1.90	<10	100	2.68
8915463	893719	47.20	48.90	1.70	20	92	3.10
8915464	893720	48.90	49.70	0.80	<10	24	2.44
8915465	893721	49.70	51.60	1.90	58	181	1.51
8915466	893722	51.60	53.94	2.34	24	182	3.00
8915467	893723	53.94	56.00	2.06	24	106	2.56
8915468	893724	56.00	57.65	1.65	182	80	1.15
8915469	893725	57.65	60.00	2.35	<10	106	1.49
8915470	893726	60.00	62.00	2.00	<10	213	3.08
8915471	893727	62.00	64.00	2.00	20	126	3.06
8915472	893728	64.00	66.14	2.14	<10	249	3.02
8915473	893729	66.14	68.10	1.96	20	97	2.54
8915474	893730	68.10	70.50	2.40	24	75	2.38
8915475	893731	70.50	72.26	1.76	<10	41	2.48
8915476	893732	72.26	74.30	2.04	40	204	2.98
8915477	893733	74.30	77.00	2.70	24	89	3.04
8915478	893734	77.00	80.20	3.20	24	188	2.98
8915479	893735	80.20	82.23	2.03	<10	67	1.97
8915480	893736	82.23	83.40	1.17	<10	101	2.36
8915481	893737	83.40	85.40	2.00	<10	33	1.91
8915482	893738	85.40	87.50	2.10	120	20	1.62
8915483	893739	87.50	90.60	3.10	20	124	2.64
8915484	893740	90.60	91.80	1.20	<10	87	1.76
8915485	893741	91.80	92.04	0.24	<10	32	1.13
8915486	893742	92.04	92.80	0.76	<10	66	1.73
8915487	893743	92.80	94.80	2.00	<10	126	2.62
8915488	893744	94.80	96.50	1.70	<10	158	3.36
8915489	893745	96.50	98.50	2.00	40	315	3.26
8915490	893746	98.50	100.10	1.60	32	82	2.80
8915491	893747	100.10	102.00	1.90	<10	130	3.14
8915492	893748	102.00	104.00	2.00	<10	115	3.12
8915493	893749	104.00	105.30	1.30	22	306	2.80
8915494	893750	105.30	107.30	2.00	<10	204	2.96
8915495	893751	107.30	109.30	2.00	<10	63	2.66
8915496	893752	109.30	111.63	2.33	<10	61	2.84
8915497	893753	111.63	113.63	2.00	<10	87	2.90
8915498	893754	113.63	114.65	1.02	20	89	2.76
8915499	893755	114.65	117.55	2.90	24	152	2.74
8915500	893756	117.55	119.55	2.00	<10	58	2.36
8915501	893757	119.55	121.55	2.00	26	86	2.08
8915502	893758	121.55	123.55	2.00	<10	185	2.48
8915503	893759	123.55	125.55	2.00	<10	65	2.76

8915504	893760	125.55	126.00	0.45	<10	135	3.04
8915505	893761	126.00	128.05	2.05	<10	106	1.40
8915506	893762	128.05	130.10	2.05	<10	14	2.16
8915507	893763	130.10	132.50	2.40	<10	184	2.82
8915508	893764	132.50	134.30	1.80	<10	43	1.68
8915509	893765	134.30	135.90	1.60	<10	33	1.38
8915510	893766	135.90	138.10	2.20	72	322	2.56
8915511	893767	138.10	140.20	2.10	196	392	3.02
8915512	893768	140.20	142.30	2.10	102	296	3.00





DRILL HOLE RECORD

COMINCO LTD.

Property: SPECTRUM

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METERAGE FROM TO	DESCRIPTION
72.2 - 72.9	LIGHT-MEDIUM GREY GREEN CALC SILICATE ZONE (as above).
72.9 - 85.3	MEDIUM-DARK GREY GREEN, FINE-MEDIUM GRAINED EQUIGRANULAR INTRUSIVE. Upper contact 55° to core axis. Unit contains 2-5% fine grained disseminated and vein pyrite. Strong vein related kspar alteration overprints propylitic alteration.
85.3 - 85.9	CALCITE, QUARTZ, PYRITE (10%) VEIN BRECCIA AND GOUGE (60°, 65° to core axis).
85.9 - 87.4	STRONGLY FRACTURED AND OXIDIZED VOLCANICS (FAULT).
87.4 - 88.7	MEDIUM-DARK GREY GREEN FINE GRAINED INTRUSIVE/ASH TUFF? (as above). Propylitic alteration predominates with increased kspar ± silica near faults. Pyrite (5-15%) and sphalerite (1-5%) occur as disseminations and veinlets.
88.7 - 89.9	OXIDIZED GOUGE (45° to core axis) with quartz, sericite, calcite, pyrite veins.
89.9 - 127.5	LIGHT-MEDIUM GREEN GREY-MAROON, MASSIVE FINE GRAINED ASH TUFF/INTRUSIVE? (LOCALLY CRYSTAL LITHIC). Unit is generally not homogeneous or equigranular texturally, with 2-5% disseminated and veinlet pyrite, sphalerite ± chalcopryrite. Propylitic alteration is moderate-strong (chlorite, calcite ± epidote). Patchy strong silicification and kspar alteration is present related to veinlets. 90.6 - sphalerite, magnetite present in veinlets. 93.4-93.7 - strong propylitic (epidote, chlorite, calcite) alteration with 3-5% pyrite, 1% sphalerite, rare chalcopryrite. 94.3-96.6 - trace-2% disseminated sphalerite also in veinlets. Relatively few quartz, calcite, pyrite veinlets. 108.5-110.5 - possible intrusive breccia. 110.5-111.9 - sphalerite, pyrite, quartz, calcite veinlets 1-2 mm with kspar halos. 111.9-112.3 - several sphalerite, pyrite, chalcopryrite veins 0.5-1.5 cm. 112.9-113.0 - large 2 cm sphalerite ± galena, pyrite, chalcopryrite vein. 116.8-117.2 - abundant quartz, calcite, pyrite ± sphalerite veins. 121.6 - biotite hornfels increased down hole.

SAMPLE	FROM	TO	ANALYSIS		
			Au g/t	Cu ppm	Zn ppm
S893843	93.4	93.7	2.54	367	4900
S893846	96.6	98.5	1.89	186	2400
S893847	98.5	100.5	2.33	139	593
S893852	108.5	110.5	9.18	228	1040
S893853	110.5	111.9	1.71	201	1190
S893854	111.9	112.3	2.40	5820	28300





DRILL HOLE RECOVERY

Interval (m)		Recovered Length (cm)	% Recovery
From	To		
3.65	5.18	90	58
5.18	8.22	220	72
8.22	11.27	248	81
11.27	14.32	103	33
14.32	17.37	100	32
17.37	20.42	115	37
20.42	23.46	30	10
23.46	26.51	295	96
26.51	29.56	205	100
29.56	32.61	286	93
32.61	35.66	320	104
35.66	38.70	300	98
38.70	41.75	292	95
41.75	44.80	280	91
44.80	47.85	242	79
47.85	50.90	157	51
50.90	53.94	176	57
53.94	57.00	304	99
57.00	60.04	315	103
60.04	63.09	288	94
63.09	66.14	265	86.9
66.14	69.18	305	100
69.18	72.23	310	101
72.23	75.28	305	100
75.28	78.33	305	100
78.33	81.38	305	100
81.38	84.42	205	100
84.42	87.47	309	101
87.47	90.52	315	103
90.52	93.57	295	96
93.57	96.62	305	100
96.62	99.66	304	100
99.66	102.71	305	100
102.71	105.76	304	100
105.76	108.81	305	100
108.81	111.86	205	100
111.86	114.90	304	100
114.90	117.95	305	100
117.95	121.00	305	100
121.00	124.05	305	100
124.05	127.10	305	100
127.10	130.14	300	98
130.14	133.19	255	83
133.19	136.24	305	100
136.24	139.30	306	100
139.30	142.34	304	100
142.34	145.38	304	100
145.38	148.43	305	100
148.43	151.48	305	100
151.48	154.53	305	100

DRILL HOLE RECOVERY

<u>Interval (m)</u>		<u>Recovered Length (cm)</u>	<u>% Recovery</u>
<u>From</u>	<u>To</u>		
154.53	157.58	305	100
157.58	160.62	305	100
160.62	163.67	305	100
163.67	166.72	305	100
166.72	169.77	305	100
169.77	172.82	305	100
172.82	175.86	304	100
175.86	178.90	304	100
178.90	181.96	306	100
181.96	185.00	304	100
185.00	188.06	306	100
188.06	191.10	304	100
191.10	194.15	305	100
194.15	197.20	305	100

## Spectrum, DDH S89-38

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Zn (ppm)	Au g/T
8915344	893801	23.46	25.00	1.54	226	295	154	
8915345	893802	25.00	26.30	1.30	242	262	219	
8915346	893803	26.30	27.20	0.90	540	267	870	
8915347	893804	27.20	29.40	2.20	116	324	234	
8915348	893805	29.40	31.40	2.00	124	215	238	
8915349	893806	31.40	32.90	1.50	52	245	60	
8915350	893807	32.90	34.20	1.30	100	215	40	
8915351	893808	34.20	36.20	2.00	92	402	62	
8915352	893809	36.20	37.50	1.30	122	330	218	
8915353	893810	37.50	38.20	0.70	24	151	314	
8915354	893811	38.20	40.60	2.40	54	350	327	
8915355	893812	40.60	42.65	2.05	34	204	252	
8915356	893813	42.65	44.30	1.65	24	112	121	
8915357	893814	44.30	45.60	1.30	44	131	236	
8915358	893815	45.60	49.60	4.00	120	390	326	
8915359	893816	49.60	53.30	3.70	26	247	220	
8915360	893817	53.30	55.30	2.00	20	146	183	
8915361	893818	55.30	57.60	2.30	386	480	222	
8915362	893819	57.60	59.60	2.00	46	298	176	
8915363	893820	59.60	61.60	2.00	114	355	1540	
8915364	893821	61.60	62.90	1.30	56	228	232	
8915365	893822	62.90	64.30	1.40	580	303	121	
8915366	893823	64.30	65.50	1.20	360	88	225	
8915367	893824	65.50	67.60	2.10	644	195	867	
8915368	893825	67.60	68.70	1.10	172	131	80	
8915369	893826	68.70	69.50	0.80	60	78	69	
8915370	893827	69.50	70.50	1.00	640	413	79	
8915371	893828	70.50	72.23	1.73	118	333	210	
8915372	893829	72.23	72.90	0.67	192	312	659	
8915373	893830	72.90	74.90	2.00	184	350	508	
8915374	893831	74.90	76.97	2.07	392	310	1440	
8915375	893832	76.97	78.93	1.96	140	278	191	
8915376	893833	78.93	80.88	1.95	580	281	86	
8915377	893834	80.88	82.90	2.02	42	283	190	
8915378	893835	82.90	84.90	2.00	320	266	119	
8915379	893836	84.90	85.30	0.40	920	532	1260	
8915380	893837	85.30	85.90	0.60	120	224	652	
8915381	893838	85.90	88.00	2.10	520	365	5330	
8915382	893839	88.00	88.70	0.70	226	411	378	
8915383	893840	88.70	89.90	1.20	66	122	633	
8915384	893841	89.90	91.60	1.70	176	116	980	
8915385	893842	91.60	93.40	1.80	160	361	1620	
8915386	893843	93.40	93.70	0.30	2120	367	4900	2.536
8915387	893844	93.70	95.20	1.50	924	261	2290	
8915388	893845	95.20	96.60	1.40	164	283	1580	
8915389	893846	96.60	98.50	1.90	2240	186	2400	1.885
8915390	893847	98.50	100.50	2.00	2320	139	593	2.33
8915391	893848	100.50	102.71	2.21	352	85	1440	
8915392	893849	102.71	104.70	1.99	364	326	1860	
8915393	893850	104.70	106.70	2.00	72	280	1920	
8915394	893851	106.70	108.45	1.75	60	296	898	
8915395	893852	108.45	110.45	2.00	9600	228	1040	9.184
8915396	893853	110.45	111.90	1.45	1356	201	1190	1.713
8915397	893854	111.90	112.30	0.40	2800	5820	28300	2.399
8915398	893855	112.30	114.30	2.00	144	823	26100	
8915399	893856	114.30	116.30	2.00	262	237	1440	
8915400	893857	116.30	118.15	1.85	24	305	755	
8915401	893858	118.15	120.15	2.00	88	277	517	
8915402	893859	120.15	122.10	1.95	92	207	895	

8915403	893860	122.10	123.85	1.75	144	797	399	
8915404	893861	123.85	125.76	1.91	272	232	717	
8915405	893862	125.76	127.80	2.04	44	250	4030	
8915406	893863	127.80	129.70	1.90	58	188	327	
8915407	893864	129.70	132.20	2.50	1234	526	1330	1.028
8915408	893865	132.20	134.20	2.00	1472	215	2970	1.508
8915409	893866	134.20	136.10	1.90	372	208	2010	
8915410	893867	136.10	138.00	1.90	60	156	238	
8915411	893868	138.00	140.05	2.05	46	128	837	
8915412	893869	140.05	142.20	2.15	640	331	21100	
8915413	893870	142.20	144.05	1.85	160	103	1750	
8915414	893871	144.05	146.00	1.95	54	151	560	
8915415	893872	146.00	148.00	2.00	56	95	312	
8915416	893873	148.00	149.20	1.20	92	161	1180	
8915417	893874	149.20	149.80	0.60	144	210	263	
8915418	893875	149.80	151.10	1.30	256	178	886	
8915419	893876	151.10	152.80	1.70	140	246	2620	
8915420	893877	152.80	153.40	0.60	164	233	575	
8915421	893878	153.40	155.50	2.10	240	221	4100	
8915422	893879	155.50	157.60	2.10	404	232	7970	
8915423	893880	157.60	159.20	1.60	560	198	6320	
8915424	893881	159.20	160.80	1.60	188	139	3240	
8915425	893882	160.80	162.90	2.10	80	88	463	
8915426	893883	162.90	164.90	2.00	152	123	1570	
8915427	893884	164.90	166.72	1.82	140	138	894	
8915428	893885	166.72	168.20	1.48	42	136	498	
8915429	893886	168.20	169.35	1.15	76	130	1010	
8915430	893887	169.35	169.90	0.55	10	41	298	
8915431	893888	169.90	171.80	1.90	56	142	1140	
8915432	893889	171.80	173.80	2.00	182	222	2440	
8915433	893890	173.80	175.86	2.06	10	193	1300	
8915434	893891	175.86	177.80	1.94	22	175	980	
8915435	893892	177.80	179.80	2.00	60	214	1540	
8915436	893893	179.80	181.96	2.16	10	183	1420	
8915437	893894	181.96	184.08	2.12	380	110	1550	
8915438	893895	184.08	186.10	2.02	90	144	2050	
8915439	893896	186.10	188.06	1.96	100	140	1800	
8915440	893897	188.06	190.05	1.99	62	125	2290	
8915441	893898	190.05	192.10	2.05	80	131	710	
8915442	893899	192.10	194.15	2.05	110	132	859	
8915443	8938100	194.15	196.15	2.00	128	42	2760	
8915444	8938101	196.15	197.20	1.05	106	81	743	







<u>Interval (m)</u>		<u>Recovered Length (m)</u>	<u>% Recovery</u>
<u>From</u>	<u>To</u>		
2.13	5.18	1.85	60.7
5.18	8.23	2.70	88.5
8.23	11.28	3.00	98.4
11.28	14.33	2.70	88.5
14.33	17.37	2.90	95.4
17.37	20.42	2.85	93.4
20.42	23.47	3.05	100.0
23.47	26.52	2.20	72.1
26.52	29.57	3.15	103.3
29.57	32.61	2.30	75.7
32.61	35.66	3.05	100.0
35.66	38.71	2.55	83.6
38.71	41.76	3.05	100.0
41.76	44.81	3.00	98.4
44.81	47.85	2.15	70.7
47.85	48.77	0.00	0.00
48.77	49.68	0.45	49.5
49.68	49.99	0.35	100.0



Spectrum, DDH S89-39

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Mg %	Au g/T
8917825	893901	2.1	5.2	3.1	160	556	1.97	
8917826	893902	5.2	8.2	3.0	456	944	1.28	
8917827	893903	8.2	10.2	2.0	360	929	2.70	
8917828	893904	10.2	12.2	2.0	316	818	2.66	
8917829	893905	12.2	14.3	2.1	394	841	1.46	
8917830	893906	14.3	17.0	2.7	288	765	1.33	
8917831	893907	17.0	20.0	3.0	260	647	1.45	
8917832	893908	20.0	22.7	2.7	368	1210	1.05	
8917833	893909	22.7	24.0	1.3	216	1200	1.08	
8917834	893910	24.0	26.0	2.0	466	1600	1.23	
8917835	893911	26.0	28.0	2.0	1240	2420	1.28	1.166
8917836	893912	28.0	30.0	2.0	912	2250	0.70	
8917837	893913	30.0	31.8	1.8	520	1111	0.49	
8917838	893914	31.8	33.8	2.0	372	967		
8917839	893915	33.8	35.5	1.7	506	1508	1.35	
8917840	893916	35.5	37.1	1.6	280	1046	1.03	
8917841	893917	37.1	38.5	1.4	340	778	0.84	
8917842	893918	38.5	40.9	2.4	320	886	1.56	
8917843	893919	40.9	43.0	2.1	356	862	0.84	
8917844	893920	43.0	45.0	2.0	240	835	1.29	
8917845	893921	45.0	46.5	1.5	244	827	0.97	
8917846	893922	46.5	48.7	2.2	280	1800	1.30	
8917847	893923	48.7	50.0	1.3	424	2060	1.46	

DRILL HOLE RECORD

COMINCO LTD.

Property: SPECTRUM District: Hole No. S89-40  
 Commenced: August 16, 1989 Location: skarn showing Tests at:  
 Completed: August 18, 1989 Core Size: BQ thin wall Corr. Dip: -45  
 Co-ordinates: Claim: True Brg: 270°  
 Objective: to test beneath and along strike of the Skarn Showing % Recov:  
 (0.085 oz/t Au, 0.5% Cu over 20 m) Collar Dip: 125.0  
 Length: 125.0

S89-40  
 Page 1  
 Hor. Comp:  
 Vert. Comp:  
 Logged by: P.A. MacRobbie  
 Date:

METERAGE		DESCRIPTION	ANALYSIS						
FROM	TO		SAMPLE	FROM	TO	Au g/t	Cu ppm		
0	5.2	Casing.							
5.2	16.5	MEDIUM-DARK GREEN FINE ASH TUFF/CRYSTAL LITHIC TUFF/PORPHYRY INTRUSIVE? Unit is strongly magnetic with patchy strong epidote, chlorite, calcite and weak vein related potassic alteration. Numerous quartz, chalcopryite + calcite veinlets occur.							
16.5	18.3	GOUGE/FAULT. Bottom 30 cm is silicified + calcite with 2-4% chalcopryite.							
18.3	22.9	LIGHT-MEDIUM GREEN FINE ASH TUFF (MINOR COARSE ASH TUFF)(as above). Unit is strongly chlorite altered with moderate epidote and calcite development and moderately magnetic. Generally 2-3% disseminated and vein pyrite, chalcopryite (approximately 1:1). 18.3-19.7 - tuff contains fragments of epidote, chlorite, magnetite, pyrite + chalcopryite. 19.9-20.1 - calcite, magnetic, quartz vein with 1-2% pyrite, chalcopryite, sphalerite (70° to core axis). 21.8-22.4 - gouged.							
22.9	24.2	SILICA FLOODED ZONE/VEINS AND GOUGE containing, 1-2% chalcopryite, trace pyrite (25° to core axis).							
24.2	27.8	LIGHT-DARK GREEN FINE ASH TUFF (LOCALLY CRYSTAL LITHIC)(as above). Moderate to strong chlorite associated with increased magnetite. Magnetite, calcite, pyrite fragments occur 26.5-26.7, 27.3-27.6. Generally 1-2% chalcopryite, pyrite.							
27.8	30.6	GOUGE/FAULTED ZONE (strong gouge 30.3-30.6, 40°, 50° to core axis). Contains 5-10% pyrite, 2% chalcopryite from 27.9-28.1. Increased epidote, chlorite alteration from 30.0-30.3.							
30.6	44.1	LIGHT-MEDIUM GREY GREEN LAMINATED-THIN BEDDED FINE ASH TUFF. Contains abundant quartz, calcite and few magnetite, chalcopryite, quartz calcite veins.							







## SPECTRUM S89-40

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<u>Interval (m)</u>		<u>Recovered Length (m)</u>	<u>% Recovery</u>
<u>From</u>	<u>To</u>		
5.18	5.79	0.61	100
5.79	8.83	1.96	64
8.83	11.88	0.86	28
11.88	14.93	1.83	60
14.93	17.98	1.64	53
17.98	21.03	3.00	98
21.03	24.07	2.95	97
24.07	27.12	2.82	92
27.12	30.17	1.96	64
30.17	33.22	2.64	86
33.12	36.27	3.05	96
36.27	39.31	3.10	101
39.31	42.36	3.05	100
42.36	45.41	2.90	95
45.41	48.46	3.15	103
48.46	51.51	3.15	103
51.51	54.55	2.39	78
54.55	57.60	2.25	73
57.60	60.65	3.05	100
60.65	63.39	2.50	91
63.39	66.75	2.46	73
66.75	69.79	3.04	100
69.79	72.84	2.86	93
72.84	75.89	2.80	91
75.89	78.94	3.70	121
78.94	81.99	2.29	95
81.99	85.03	3.01	99
85.03	88.08	2.65	86
88.08	91.13	2.92	95
91.13	94.18	3.20	104
94.18	97.23	2.97	97
97.23	100.27	3.10	101
100.27	101.80	1.50	98
101.80	102.41	0.60	98
102.41	103.32	0.94	103
103.32	106.37	2.55	83
106.37	109.42	2.97	97
109.42	112.47	2.20	72
112.47	115.51	2.90	95
115.51	118.56	3.00	98
118.56	121.61	2.56	83
121.61	124.66	1.60	52

## Spectrum, DDH S89-40

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Mg %	Au g/T
8917848	894001	5.2	7.2	2.0	24	370	1.55	
8917849	894002	7.2	8.8	1.6	136	502	2.26	
8917850	894003	8.8	11.9	3.1	86	358	1.65	
8917851	894004	11.9	13.9	2.0	10	170	1.02	
8917852	894005	13.9	14.9	1.0	10	114	1.50	
8917853	894006	14.9	16.5	1.6	60	863	1.29	
8917854	894007	16.5	18.3	1.8	140	4080	0.49	
8917855	894008	18.3	19.9	1.6	176	938	1.48	
8917856	894009	19.9	20.1	0.2	500	556	0.50	
8917857	894010	20.1	22.1	2.0	160	1202	1.25	
8917858	894011	22.1	22.9	0.8	156	2320	1.49	
8917859	894012	22.9	24.1	1.2	124	1343	0.52	
8917860	894013	24.1	26.1	2.0	60	1024	1.21	
8917861	894014	26.1	27.8	1.7	184	1434	1.08	
8917862	894015	27.8	30.6	2.8	40	478	1.47	
8917863	894016	30.6	32.6	2.0	446	1539	1.31	
8917864	894017	32.6	35.2	2.6	374	1096	0.94	
8917865	894018	35.2	35.8	0.6	260	927	0.92	
8917866	894019	35.8	37.8	2.0	320	1157	1.72	
8917867	894020	37.8	39.8	2.0	202	1028	2.64	
8917868	894021	39.8	41.8	2.0	132	845	2.20	
8917869	894022	41.8	44.1	2.3	340	1171	1.42	
8917870	894023	44.1	45.8	1.7	100	567	1.05	
8917871	894024	45.8	47.1	1.3	642	1102	1.55	
8917872	894025	47.1	49.1	2.0	950	1920	0.64	
8917873	894026	49.1	50.1	1.0	252	746	0.67	
8917874	894027	50.1	52.1	2.0	324	886	1.04	
8917875	894028	52.1	54.1	2.0	2190	2010	1.59	1.372
8917876	894029	54.1	55.1	1.0	800	2140	1.11	
8917877	894030	55.1	57.1	2.0	352	1357	1.02	
8917878	894031	57.1	59.1	2.0	1084	2180	1.10	1.578
8917879	894032	59.1	60.8	1.7	1520	2230	0.94	1.818
8917880	894033	60.8	63.5	2.7	1288	1860	0.81	0.823
8917881	894034	63.5	65.5	2.0	286	584	0.78	
8917882	894035	65.5	67.5	2.0	226	1081	0.94	
8917883	894036	67.5	69.5	2.0	80	419	0.85	
8917884	894037	69.5	71.5	2.0	52	297	0.88	
8917885	894038	71.5	73.5	2.0	58	489	0.89	
8917886	894039	73.5	75.5	2.0	72	392	0.75	
8917887	894040	75.5	77.5	2.0	136	465	0.75	
8917888	894041	77.5	79.5	2.0	60	283	0.64	
8917889	894042	79.5	81.5	2.0	32	244	0.57	
8917890	894043	81.5	83.5	2.0	86	248	0.63	
8917891	894044	83.5	85.5	2.0	36	256	0.62	
8917892	894045	85.5	87.5	2.0	180	366	0.62	
8917893	894046	87.5	89.5	2.0	34	213	0.86	
8917894	894047	89.5	91.5	2.0	82	327	0.60	
8917895	894048	91.5	93.5	2.0	40	196	0.64	
8917896	894049	93.5	95.5	2.0	104	531	0.57	
8917897	894050	95.5	97.5	2.0	160	658	0.58	
8917898	894051	97.5	99.5	2.0	118	523	0.57	
8917899	894052	99.5	100.9	1.4	134	538	0.52	
8917900	894053	100.9	102.4	1.5	128	556	0.43	
8917901	894054	102.4	103.9	1.5	74	831	0.73	
8917902	894055	103.9	106.5	2.6	60	400	0.57	
8917903	894056	106.5	109.4	2.9	82	803	0.48	
8917904	894057	109.4	111.4	2.0	10	246	0.45	
8917905	894058	111.4	112.6	1.2	20	339	0.41	
8917906	894059	112.6	113.6	1.0	24	198	0.40	

8917907	894060	113.6	115.6	2.0	10	355	0.53
8917908	894061	115.6	117.6	2.0	56	658	0.51
8917909	894062	117.6	120.6	3.0	56	454	0.58
8917910	894063	120.6	122.0	1.4	92	585	0.56
8917911	894064	122.0	125.0	3.0	76	367	0.85









DRILL HOLE RECOVERY

<u>Interval (m)</u>		<u>Recovered Length (m)</u>	<u>% Recovery</u>
<u>From</u>	<u>To</u>		
10.05	11.88	0.20	10
11.88	14.93	1.98	65
14.93	17.98	1.65	54
17.98	21.03	1.50	49
21.03	24.07	2.56	84
24.07	27.12	1.42	46
27.12	30.17	3.00	98
30.17	33.22	2.30	75
33.22	36.27	2.55	83
36.27	39.31	2.60	85
39.31	42.36	3.05	100
42.36	45.41	2.85	93
45.41	48.46	3.05	100
48.46	51.51	2.90	95
51.51	54.55	3.05	100
54.55	57.61	3.00	98
57.61	60.65	3.03	99
60.65	63.70	3.05	100
63.70	66.75	3.05	100
66.75	69.79	3.03	99
69.79	72.84	3.15	103
72.84	75.89	2.70	88
75.89	78.94	3.40	111
78.94	81.99	3.00	98
81.99	85.03	2.90	95
85.03	88.08	2.42	79
88.08	91.13	3.14	102
91.13	92.04	1.07	117

## Spectrum, DDH S89-41

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Mg %	Au g/T
8917912	894101	10.1	13.0	2.9	1910	2710	0.83	1.681
8917913	894102	13.0	15.0	2.0	894	1208	0.64	
8917914	894103	15.0	17.0	2.0	368	433	0.59	
8917915	894104	17.0	19.0	2.0	958	918	0.90	
8917916	894105	19.0	21.0	2.0	754	721	0.92	
8917917	894106	21.0	22.3	1.3	150	317	0.67	
8917918	894107	22.3	23.8	1.5	136	324	0.86	
8917919	894108	23.8	25.8	2.0	60	155	0.53	
8917920	894109	25.8	27.8	2.0	132	538	0.70	
8917921	894110	27.8	29.8	2.0	310	765	0.64	
8917922	894111	29.8	31.8	2.0	144	251	0.65	
8917923	894112	31.8	33.8	2.0	68	244	0.48	
8917924	894113	33.8	35.4	1.6	100	300	0.51	
8917925	894114	35.4	37.5	2.1	424	1167	1.31	
8917926	894115	37.5	39.2	1.7	2440	6550	2.10	2.572
8917927	894116	39.2	41.2	2.0	902	1890	2.40	
8917928	894117	41.2	43.7	2.5	1124	3150	2.12	1.303
8917929	894118	43.7	45.4	1.7	1170	2080	2.44	0.96
8917930	894119	45.4	47.1	1.7	270	665	1.81	
8917931	894120	47.1	48.0	0.9	492	1220	1.52	
8917932	894121	48.0	48.4	0.4	342	665	0.79	
8917933	894122	48.4	49.5	1.1	366	993	1.19	
8917934	894123	49.5	51.5	2.0	944	1910	0.62	
8917935	894124	51.5	53.8	2.3	340	1020	0.71	
8917936	894125	53.8	55.8	2.0	270	858	0.70	
8917937	894126	55.8	57.8	2.0	162	505	0.78	
8917938	894127	57.8	59.8	2.0	110	381		
8917939	894128	59.8	62.6	2.8	398	832	0.67	
8917940	894129	62.6	64.6	2.0	996	1820	1.64	
8917941	894130	64.6	66.6	2.0	2100	1532	1.92	1.098
8917942	894131	66.6	67.4	0.8	1220	2560	0.98	1.681
8917943	894132	67.4	68.6	1.2	1930	2240	1.00	1.235
8917944	894133	68.6	70.6	2.0	936	1990	0.76	
8917945	894134	70.6	72.6	2.0	836	2240	0.75	
8917946	894135	72.6	74.5	1.9	778	1304	1.48	
8917947	894136	74.5	76.5	2.0	560	1166	1.51	
8917948	894137	76.5	79.1	2.6	684	1190	1.61	
8917949	894138	79.1	80.3	1.2	960	2550	0.82	
8917950	894139	80.3	82.3	2.0	1960	2840	0.88	1.818
8917951	894140	82.3	84.4	2.1	722	1321	1.08	
8917952	894141	84.4	86.2	1.8	978	1830	0.64	
8917953	894142	86.2	88.3	2.1	760	1562	0.91	
8917954	894143	88.3	89.3	1.0	276	591	0.71	
8917955	894144	89.3	91.2	1.9	1516	2250	1.04	1.543
8917956	894145	91.2	92.0	0.8	478	1180	1.45	









Interval (m)		Recovered Length (m)	% Recovery
From	To		
0	6.71	casing	-
6.71	8.84	1.3	61.0
8.84	11.89	1.25	41.0
11.89	14.94	1.87	61.3
14.94	17.37	2.3	94.7
17.37	21.03	2.2	60.1
21.03	24.07	1.7	55.9
24.07	27.13	1.63	53.3
27.13	30.18	2.62	85.9
30.18	33.22	2.3	75.7
33.22	36.27	2.43	79.7
36.27	39.32	2.6	85.2
39.32	42.37	2.75	90.2
42.37	45.42	7.84	93.1
45.42	48.46	7.95	97.0
48.46	51.51	3.0	98.4
51.51	54.56	2.95	96.7
54.56	57.61	7.92	95.7
57.61	60.66	2.90	95.1
60.66	63.70	3.15	103.3
63.70	66.75	3.0	98.4
66.75	69.80	2.05	67.2
69.80	72.85	2.9	95.1
72.85	75.90	2.95	96.7
75.90	78.94	2.95	97.4
78.94	81.99	2.50	82.0
81.99	85.04	2.47	81.0
85.04	88.09	2.85	93.4
88.09	91.14	2.8	91.8
91.14	94.18	7.84	93.1
94.18	95.40	1.15	94.3

## Spectrum, DDH S89-42

Lab No.	Field No.	From	To	Length m	Au (ppb)	Cu (ppm)	Mg %	Au g/T
8919278	894201	6.8	8.8	2.0	40	315	1.26	
8919279	894202	8.8	10.8	2.0	20	198	1.34	
8919280	894203	10.8	12.8	2.0	120	789	0.72	
8919281	894204	12.8	14.8	2.0	78	259	1.88	
8919282	894205	14.8	16.8	2.0	122	349	0.82	
8919283	894206	16.8	18.8	2.0	160	608	1.75	
8919284	894207	18.8	20.5	1.7	180	521	1.25	
8919285	894208	20.5	21.2	0.7	380	845	1.72	
8919286	894209	21.2	23.2	2.0	184	5240	1.75	
8919287	894210	23.2	25.2	2.0	232	770	2.06	
8919288	894211	25.2	27.5	2.3	320	1200	2.52	
8919289	894212	27.5	29.5	2.0	260	931	1.75	
8919290	894213	29.5	31.5	2.0	200	573	1.42	
8919291	894214	31.5	33.0	1.5	192	886	1.66	
8919292	894215	33.0	35.0	2.0	92	547	2.10	
8919293	894216	35.0	37.0	2.0	140	714	2.26	
8919294	894217	37.0	39.0	2.0	122	848	2.01	
8919295	894218	39.0	41.0	2.0	80	375	1.88	
8919296	894219	41.0	42.1	1.1	82	378	1.63	
8919297	894220	42.1	43.1	1.0	92	632	1.96	
8919298	894221	43.1	45.8	2.7	40	365	2.06	
8919299	894222	45.8	46.9	1.1	40	115	1.58	
8919300	894223	46.9	48.9	2.0	102	503	2.26	
8919301	894224	48.9	50.9	2.0	112	516	1.81	
8919302	894225	50.9	52.9	2.0	32	305	2.44	
8919303	894226	52.9	55.1	2.2	92	453	1.87	
8919304	894227	55.1	55.5	0.4	212	659	0.51	
8919305	894228	55.5	57.5	2.0	340	930	1.77	
8919306	894229	57.5	59.5	2.0	136	744	1.78	
8919307	894230	59.5	60.7	1.2	132	736	2.01	
8919308	894231	60.7	62.7	2.0	302	654	1.44	
8919309	894232	62.7	64.7	2.0	576	835	2.24	
8919310	894233	64.7	66.7	2.0	274	773	1.94	
8919311	894234	66.7	68.7	2.0	1160	953	1.18	0.617
8919312	894235	68.7	70.7	2.0	400	616	2.04	
8919313	894236	70.7	71.7	1.0	432	1130	1.79	
8919314	894237	71.7	73.7	2.0	264	685	0.96	
8919315	894238	73.7	75.7	2.0	388	796	2.04	
8919316	894239	75.7	77.0	1.3	240	893	2.32	
8919317	894240	77.0	79.0	2.0	520	1970	0.94	
8919318	894241	79.0	81.0	2.0	1112	1760	0.53	0.926
8919319	894242	81.0	83.0	2.0	380	857	0.52	
8919320	894243	83.0	84.0	1.0	1054	3040	0.67	1.063
8919321	894244	84.0	86.0	2.0	600	1830	0.65	
8919322	894245	86.0	88.0	2.0	432	1150	0.78	
8919323	894246	88.0	90.3	2.3	574	1610	0.79	
8919324	894247	90.3	91.0	0.7	1106	2440	0.75	1.303
8919325	894248	91.0	92.9	1.9	1800	1780	1.08	0.995
8919326	894249	92.9	93.8	0.9	352	1190	1.16	
8919327	894250	93.8	95.4	1.6	800	1300	0.92	

APPENDIX 2

EXPENDITURES

STAFF COSTS (PERMANENT SALARIES)	\$35,540	
(TEMPORARY SALARIES)	20,713	
		56,253.00
DOMICILE, CAMP SUPPLIES		24,926.77
TRUCKING		4,475.55
EXPENSE ACCOUNTS		9,338.75
EXPEDITING		3,964.00
FUEL		11,920.00
ANALYSES		5,112.25
HELICOPTER		60,709.25
DRILLING		105,790.83
TENURE		20,000.00
TOTAL		302,490.40

APPENDIX 3

STATEMENT OF QUALIFICATIONS

I, Paul A. MacRobbie, of 312 - 1790 W 10 th. St., Vancouver, B.C. hereby declare that I:

1. Graduated from Carleton University, Ottawa, Ontario with a B.Sc. in Geology in May, 1986 and a M.Sc. in Geology in June, 1988.

2. Have been actively engaged in mineral exploration primarily in Western Canada as a full time geologist with Cominco Ltd. since June 1988.

Date: November 28, 1989

*Paul MacRobbie*  
P.A. MacRobbie  
Geologist 1



