GEOLOGY AND GEOCHEMICAL REPORT

on the

ATO PROPERTY

Omineca Mining District

N.T.S. 93N/14 W

Latitude 55° 56' N
Longitude 125° 16' W

for

CATHEDRAL GOLD CORPORATION

by

SANDRA T. BISHOP

SEPTEMBER, 1989

SUMMARY

The ATO group of claims consist of 60 units located in the Omineca mountains, north central British Columbia. Geologically the claims straddle the boundary between the Triassic Takla andesitic volcanics and the Jurassic Hogem Batholith intrusive suite. The area has a history of alkalic copper porphyry style mineralization.

The 1989 program was divided equally between the northern and southern halves of the claim group. The ATO I and II, to the north, returned only isolated copper or gold values, which appear to be of limited extent. One sample from a shear returned over 22,800 ppb Au. The southern portion of the property (ATO III) reveals more potential, with more frequent anomalous copper and gold values returned from both rock and soil sampling. However, overburden obscures the nature and extent of mineralization.

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1.0 LOCATION, ACCESS AND TOPOGRAPHY

The ATO group of claims are located in the Omineca mountains, Swannell Range north central British Columbia (Figure 1) approximately 40 km northwest of Germansen Landing. The road from Germansen Landing to Uslika Lake branches into the southern edge of the property but does not reach into the two northern blocks of claims. The 1989 program was helicopter supported from Fort St. James.

Physiographically the area consists of densely forested valleys at 1,100 m which give way to alpine type vegetation on sharp ridges that rise up to 2,000 m. Most of the lower elevations are covered by a thick blanket of glacial drift.

2.0 CLAIMS AND OWNERSHIP

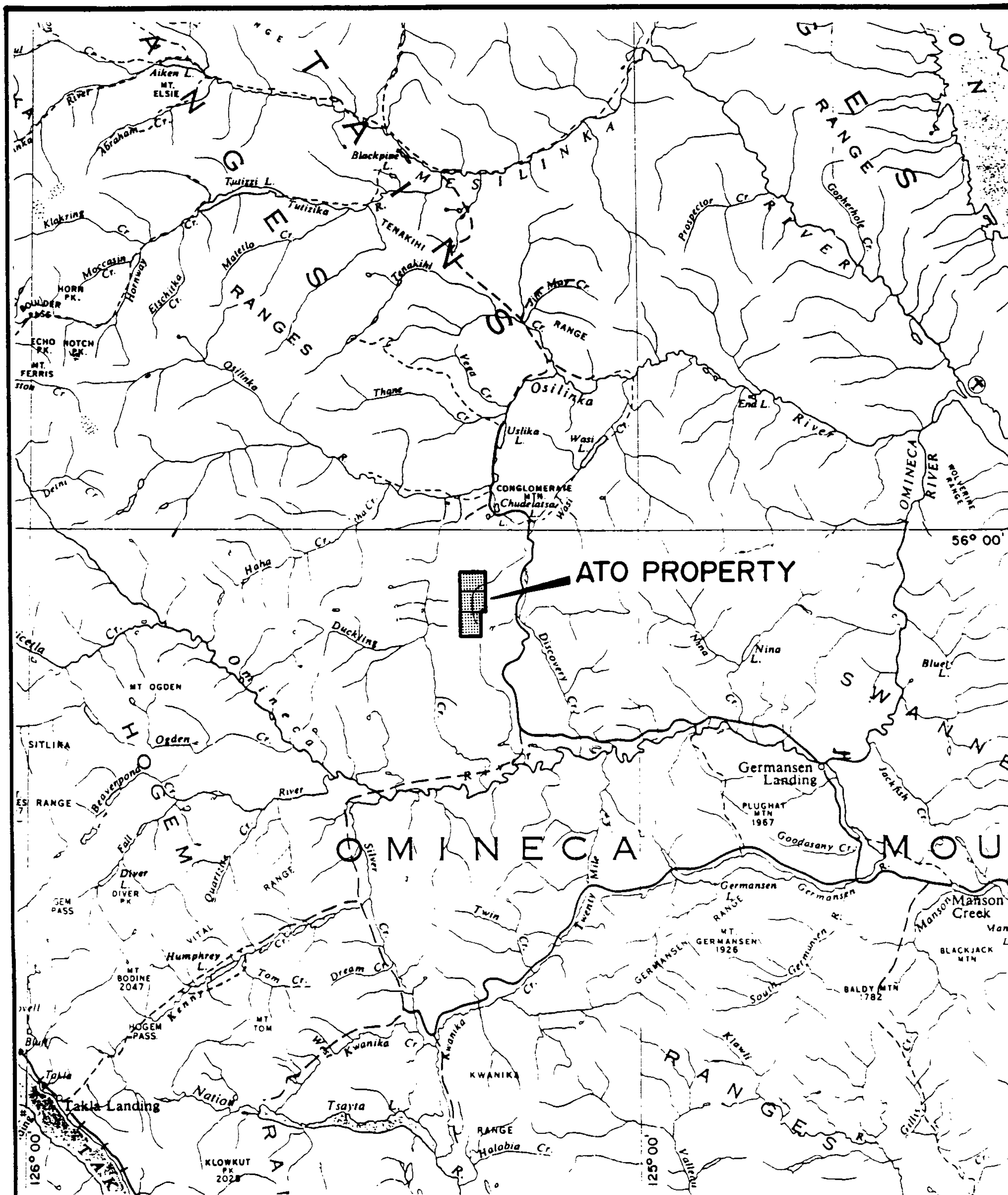
The ATO property consists of 3 claim blocks, which are 100% owned and operated by Cathedral Gold Corporation (Figure 2). The claims have been grouped and consist of the following:

Claim Name	Record Number	Number of Units	Expiry Date
ATO I	7948	20	Oct. 3, 1991
ATO II	7949	20	Oct. 3, 1991
ATO III	7950	20	Oct. 3, 1991

Upon acceptance of this report, the claims will be in good standing until the above expiry date.

3.0 WORK COMPLETED AND SAMPLING TECHNIQUES

A helicopter supported fly camp was first established in the northern portion of the property. It was then necessary to move camp to access the southern half of the ATO claims. A two man crew conducted a detailed prospecting and sampling program. Portions of the ATO II and III were mapped at a 1:10,000 scale. Work on the property was completed between August 7 and 16th, 1989.



CATHEDRAL GOLD CORPORATION

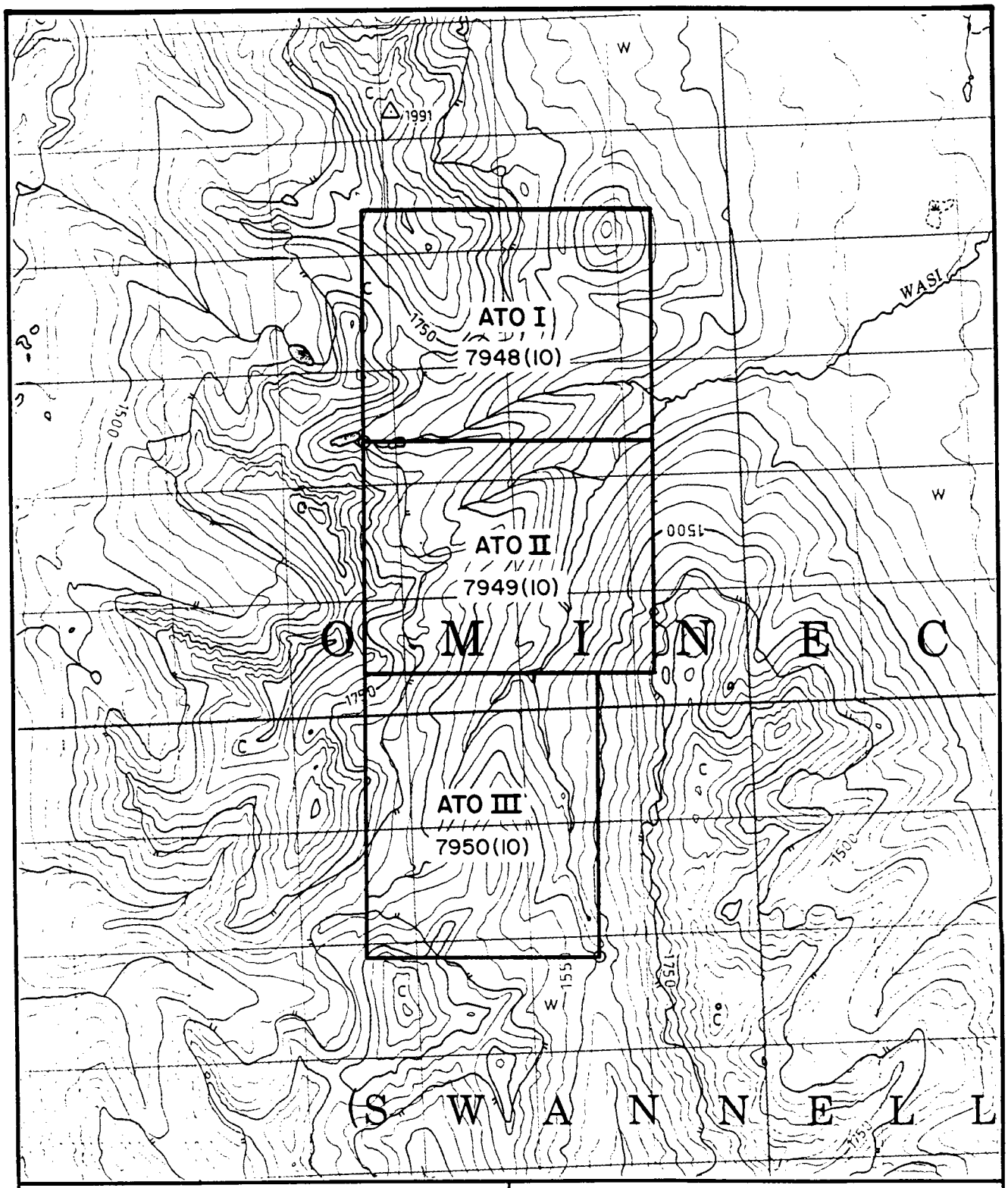
ATO PROPERTY

FIGURE 1 | N.T.S. 93N/14

LOCATION MAP

km 0 10 20 30 40 km

SCALE: 1:600 000	GEOLOGIST: A. TAYLOR
DATE: NOVEMBER 1987	DRAWN BY: J. CORKUM



CATHEDRAL GOLD CORPORATION

ATO PROPERTY

FIGURE 2 N.T.S. 93N/14

CLAIM MAP

km 0 1 2 3 km

SCALE: 1:50 000	GEOLOGIST: A. TAYLOR
DATE: NOVEMBER 1987	DRAWN BY: J. CORKUM

A total of 135 rock samples, 211 soil and 12 silt samples were collected from the property. In the northern property area (ATO I and II) soil samples were taken along reconnaissance ridge traverses and along the 1,750 m contour. In the southern block (ATO III) five east-west lines were compassed, chained, flagged and sampled over ground that is almost entirely blanketed by glacial till.

Rock samples were either chip or grab samples from outcrop or proximal scree. Rock sample descriptions are presented in Section 4.0. All soil samples were collected at 50 metre spacings. They were collected with a mattock and taken from the B-horizon soil layer found at a depth of 20-50 cm below surface.

The creek paralleling the eastern ATO III claim boundary was silt sampled at approximately 200 metre intervals. A trowel was used to collect the finest silt possible at the sample location site. All other drainages were silt sampled in the 1986 or '87 programs conducted by Imperial Metals. All sample locations were flagged in the field (Figure 3). Soil and silt samples were placed in high wet strength kraft paper bags and marked with an identifying number. The samples were dried before shipping.

Samples were shipped to Acme Labs in Vancouver, B.C., where they were analyzed for 30 elements by ICP methods. Gold was analyzed by atomic absorption to obtain an accurate ppb level.

Complete analytical results of all samples are presented in Appendix 1. Copper and gold values are plotted on the appropriate figures.

4.0 ROCK SAMPLE DESCRIPTIONS

ATO I, II, III claims August 1989

Note: S - 1 = AS - 89 - 1 in Appendix
D - 1 = AD - 89 - 1 in Appendix

Sample	Description
S - 1	Quartz diorite, pyrite, scree
S - 2	Gossan, rusty, oxidized, pyrite scree
S - 3	Gossan, rusty, silicified with wispy pyrite scree
S - 4	Rusty granodiorite, silicified, malachite, chalcopyrite
S - 5	

S - 6	Gossan, rusty, oxidized, pyrite, scree
S - 7	Silicified zone, rusty, pyrite
S - 8	Felsite, rusty, pyrite, scree
S - 9 to S - 11	Andesite, pyrite
S - 12	Gossan, silicified, pyritic
S - 13	Rusty scree (volcanic breccia?), pyrite
S - 14	Andesite, rusty, scree
S - 15	Tuff, rusty, pyritic
S - 16 to S - 17	Rusty andesite, pyritic
S - 18	Tuff, minor quartz, pyrite
S - 19 - 25	Rusty, tuff beds, pyrite in minor quartz veinlets
S - 26	Diorite scree
S - 27	Hybrid contact rock, pyrite, chalcopyrite
S - 28 - 31	Rusty, silicified andesite/tuffs, intense pyrite
S - 32	Quartz veinlet stockworking, pyrite
S - 33	Quartz vein/breccia and gouge
S - 34 - 35	Banded tuffs, rusty, pyritized
S - 36	Intense alteration, oxidation
S - 37 - 38	Silicified rusty tuff, pyrite
S - 39	Hybrid contact rock, pyrite, chalcopyrite, scree
S - 40	Diorite, K-spar veinlets, pyrite, scree
S - 41 to S - 43	Granodiorite scree, rusty, with pyrite veinlets
S - 44	Rusty pyritized scree in granodiorite
S - 45	Granodiorite
S - 46	Rusty andesite, minor quartz veinlets with pyrite
S - 47	Diorite
S - 48	Felsite scree, rusty, pyritized
S - 49	Augite porphyry, pyrite
S - 50	Shear zone in granodiorite
S - 51 -53	Rusty scree in diorite, minor quartz veinlets, pyrite, chalcopyrite
S - 54	Shear zone
S - 55	Gossan, subcrop, pyrite
S - 56	Rusty andesite, pyrite
S - 57	Andesite
S - 58	Silicified andesite, pyrite
S - 59	Andesite scree, quartz carbonate veinlets, pyrite
S - 60 - 61	Rusty gossanous scree, massive pyrite, minor chalcopyrite
S - 62 - 66	High grade, intense alteration with pods of massive pyrite, chalcopyrite
S - 67	Core, epidote rich, silicified
S - 68	Core, K-spar altered intrusive, chalcopyrite
S - 69 - 70	Silicified zone, chalcopyrite, molybdenite
S - 71	Massive magnetite, pyrite

D - 1	Silicified andesite, pyrite
D - 2	Intrusive, quartz flooding, pyrite
D - 3	K-spar altered diorite, pyrite
D - 4	Carbonate vein breccia
D - 5 - 6	Rusty andesite, scree
D - 7	Andesite, silicified, pyrite
D - 8 - 9	Gossanous zone, slightly silicified, pyrite
D - 10 - 18	Silicified andesite, pyritic
D - 19	Silicified andesite, scree
D - 20 - 21	Silicified andesite, pyrite
D - 22	Tuff, silicified, pyrite
D - 23	Shear zone
D - 24	Banded tuff, clay altered, pyrite
D - 25	Chlorite, epidote and K-spar alteration, scree
D - 26	Mafic intrusive, scree
D - 27	Gossan, scree
D - 28	K-spar altered intrusive, chalcopyrite
D - 29	Silicified andesite, scree
D - 30	Monzonite, K-spar alteration, pyrite, scree
D - 31	Magnetite rich zone, pyrite
D - 32	Monzonite, pyrite
D - 33	Monzonite with magnetite veinlets
D - 34	Shear zone, silicified, pyrite
D - 35 - 37	Magnetite veinlets in monzonite, pyrite
D - 38 - 40	Shear zone, slightly silicified, pyrite
D - 41 - 42	Diorite, pyrite
D - 43	Shear zone with quartz carbonate
D - 44	Quartz carbonate alteration
D - 45	Gossan, scree
D - 46	Shear zone
D - 47	Wallrock, altered to clay, limonite
D - 48	Carbonate altered andesite
D - 49	Silicified andesite, pyrite
D - 50	Clay altered intrusive, pyrite
D - 51	Gabbro, chalcopyrite, bornite
D - 52	Altered andesite, pyrite
D - 53, 54	Silicified zone in andesite, pyrite
D - 55	Shear zone
D - 56	Sheared, altered andesite
D - 57-58-59	Shear zone, pyrite
D - 60	Magnetite, pyrite in pyroxene porphyritic andesite
D - 61	Quartz carbonate vein, scree
D - 62	Quartz carbonate vein, pyrite
D - 63	Silicified andesite, pyrite
D - 64	Pyroxene porphyritic andesite, pyrite, chalcopyrite

5.0 HISTORY AND PREVIOUS WORK

The 20 units of ATO III overlie a portion of the old Rhonda claim group. This area has been actively explored for copper-molybdenum-gold mineralization since the early 1960's. In 1970-71, Marubeni-iida (Canada) Ltd. and Cominco Ltd. completed a program that included induced polarization, percussion drilling and 1,000 metres of diamond drilling.

The general area around the ATO group contains alkalic copper porphyry style mineralization including the Lorraine deposit, 7 km to the west, and the Duckling claims, 10 km to the south.

In 1986, Imperial Metals Corporation staked the ground based on the results of regional reconnaissance silt sampling program. In 1987, a prospecting and geological mapping program was carried out on the ATO I and II claims but no work was done on the ATO III claims, covering the old Rhonda workings.

6.0 PROPERTY GEOLOGY

The claims are underlain by the Hogem Batholith and Takla volcanic rocks. The contact between these two units runs north-south through the centre of the property. Takla rocks generally consist of a fine grained or porphyritic andesite with mm sized plagioclase or pyroxene phenocrysts. The intrusive is mostly dioritic but it may range in composition to a monzonite. Near the contact the intrusive has many hybrid phases formed by the assimilation of wall rock material.

7.0 GEOCHEMISTRY AND MINERALIZATION

Rock and Soil Sampling

The northern half of the property returned only isolated gold or copper values. One sample of a shear returned over 0.67 oz/t gold.

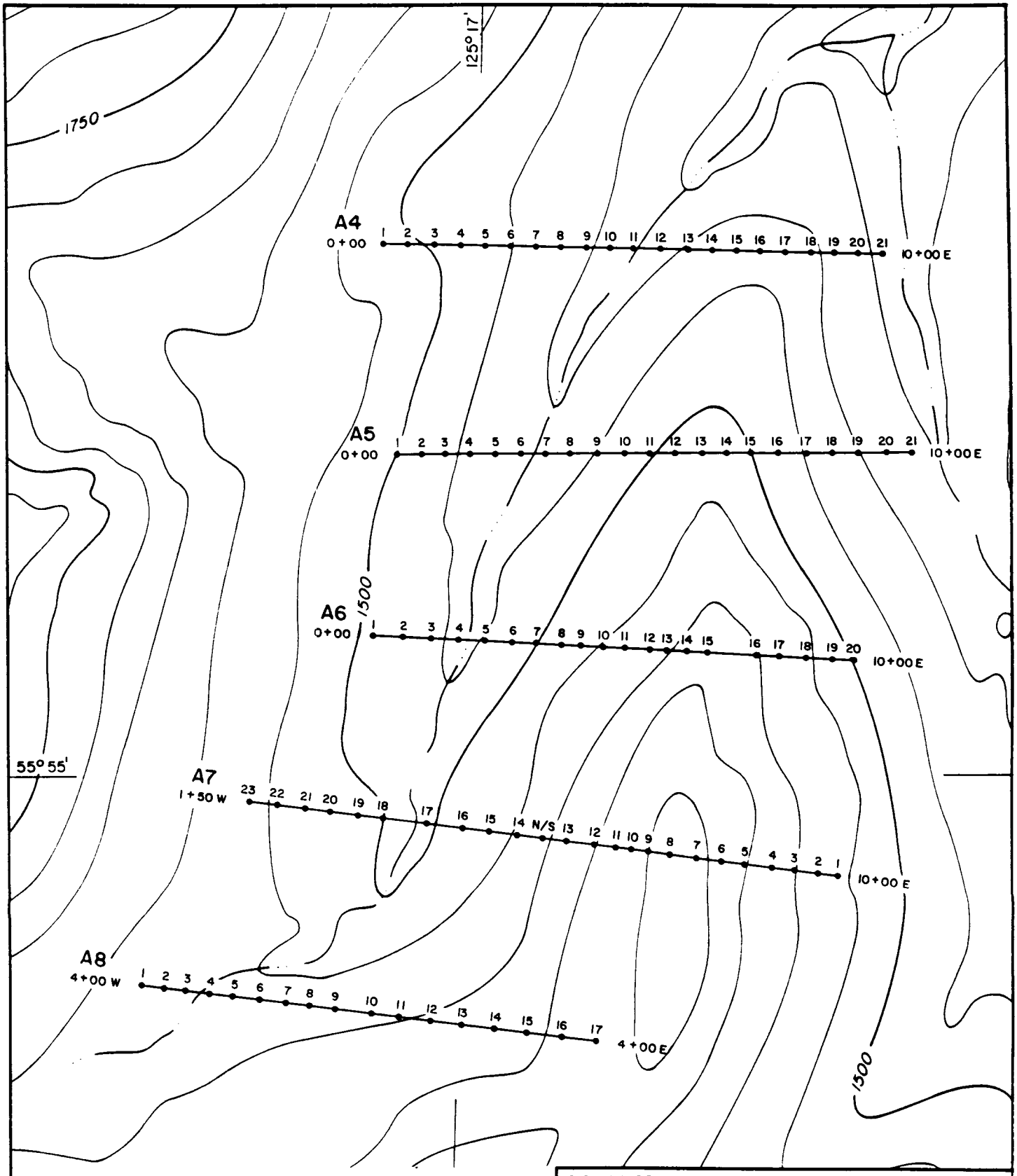
The most interesting mineralization occurs in the southern portion of the property, covered by the ATO III claims. A number of anomalous copper and gold values were returned from sampling in this area, including values of up to 7% copper with over 6,000 ppb Au, but most commonly ranging from 0.1% - 1% copper

with associated weakly anomalous gold (50-500 ppb). Rock sampling focused on the most obviously mineralized areas. Soil sampling in the ATO III area revealed a distinct zone of elevated copper values (>300 ppm, Figure 5).

8.0 CONCLUSIONS AND RECOMMENDATIONS

Sampling in the ATO I and II claims has returned only isolated anomalous copper and/or gold values. They are not considered to be of any appreciable size or extent to warrant future exploration programs.

The ATO III block hosts more significant mineralization including numerous copper-gold values from rock sampling and a pronounced zone of copper anomalies in soil. Exploration should continue in this area and include more detailed soil geochemistry and mapping, a geophysical survey (VLF, mag and possibly induced polarization) and follow up trenching.



CATHEDRAL GOLD CORPORATION

ATO

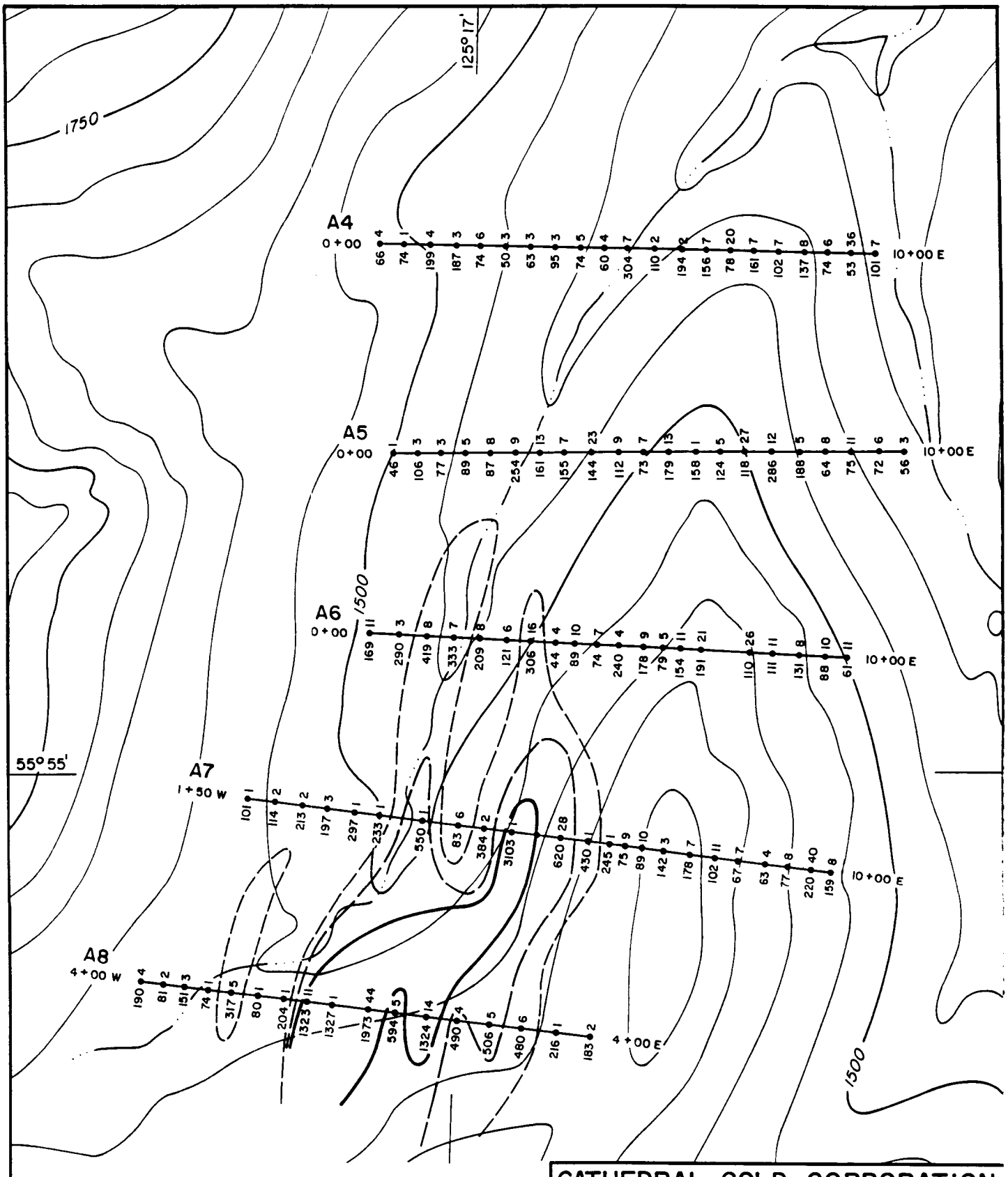
FIGURE 4

N.T.S. 93N/14
M.D. OMINECA

SOIL SAMPLE LOCATION MAP

m 0 200 400 600 m

SCALE: 1:10,000	GEOLOGIST: S. BISHOP
DATE: NOVEMBER, 1989	DRAWN BY: J. CORKUM



LEGEND

Cu (ppm) 480 ● 6 Au (ppb)

A4 LINE NUMBER

——— >300 ppm Cu

——— >500 ppm Cu

——— >1000 ppm Cu

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ATO

FIGURE 5

N.T.S. 93N/14
M.D. OMINECA

Au, Cu SOIL GEOCHEMISTRY

m 0 200 400 600 m

SCALE: 1:10,000	GEOLOGIST: S. BISHOP
DATE: NOVEMBER, 1989	DRAWN BY: J. CORKUM

9.0 COST STATEMENT

Transportation		
Helicopter 3 hrs and fuel	1,905	
Truck 2 days and fuel	280	2,185
Wages		
Senior Geologist 12 days @ $200/day	2,400	
Junior Geologist 12 days @ $125/day	1,500	3,900
(10 field days 2 mob/demob days)		
Geochemistry		
135 rock @ $15/sample	2,025	
211 silt @ $12/sample	2,532	
12 silt @ $12/sample	144	
Shipping	200	4,901
Room / Board		
24 man-days @ $40/day	960	
2 nights hotel accommodation	120	1,080
Supplies		600
Sample bags, flagging, radio rental		
Expediting		100
Report		
Writing 2 days @ $200/day	400	
Typing, drafting	1,500	1,900
TOTAL		**14,666**

10.0 STATEMENT OF QUALIFICATIONS

I, SANDRA T. BISHOP, residing at 3968 Commercial Drive, Vancouver, in the Province of British Columbia hereby certify that:

1. I received a B.Sc. (Geology) degree from the University of British Columbia, Vancouver, B.C. in May 1985.

2. Since May 1983, I have worked on mineral exploration programs in British Columbia, Ontario, Yukon Territory and Northwest Territories.

3. I am presently employed by Imperial Metals Corporation of Suite 800, 601 West Hastings Street, in the City of Vancouver, Province of British Columbia.

Dated this 26 day of APRIL, ~~1989.~~ 1990

Sandra Bishop
Sandra T. Bishop

VANCOUVER, B.C.

11.0 BIBLIOGRAPHY

Armstrong, J.E. 1949: Fort St. James Map-Area, British Columbia Map 907A, Geological Survey of Canada, Memoir 252.

Garnett, J.A. 1978: Geology and Mineral Occurences of the Southern Hogem Batholith, B.C. Department of Mines and Petroleum Resources, Bulletin #70.

Taylor, A.T. 1987: Geology and Geochemistry of the ATO Claim, Swannell Range, North Central B.C. Assessment Report #16830.

Tipper, H.W., Campbell, R.B., Taylor, G.C. and Stott, D.F. 1979: Parsnip River British Columbia. Map 1424A, Sheet 93, G.S.C.

Stevenson, R.W. 1963: Report on Geochemical Survey Rhonda Claim Group. Assessment Report #532.

SB:mes
April 18, 1990
#2/SB/Rpts/89(rb)

APPENDIX 1

SAMPLE PREPARATION AND ANALYSES

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

1110

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-P3 ROCK P4-P6 SOIL AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 17 1989 DATE REPORT MAILED: Aug 21/89. SIGNED BY C. Leong ..D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

IMPERIAL METALS CORPORATION PROJECT 7101 File # 89-2980 Page 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
AD-89-1	36	738	4	33	.3	48	91	218	7.99	2	5	ND	1	99	1	2	2	119	.98	.069	2	86	1.35	17	.24	5	1.63	.03	.06	1	7
AD-89-2	6	562	5	13	.1	9	3	81	.63	38	5	ND	3	34	1	2	2	22	1.38	.141	5	3	.09	17	.08	18	.97	.06	.04	1	1
AD-89-3	1	2963	2	35	.9	10	6	150	1.12	3	5	ND	1	315	1	2	2	43	1.03	.126	6	30	.41	75	.06	4	.76	.03	.04	1	380
AD-89-4	1	8	4	32	.1	2	5	1498	2.43	3	5	ND	1	99	1	2	2	29	17.75	.051	4	3	.12	13	.01	5	.64	.01	.18	1	1
AD-89-5	2	183	10	31	.3	30	21	242	4.90	2	5	ND	1	34	1	2	2	117	1.20	.065	4	34	.63	22	.30	2	1.71	.11	.07	2	1
AD-89-6	2	120	7	20	.2	27	17	160	2.59	2	5	ND	1	75	1	2	2	49	1.91	.048	2	18	.35	22	.18	3	2.26	.26	.04	1	3
AD-89-7	5	136	3	24	.2	64	21	183	2.66	2	5	ND	1	79	1	2	2	55	1.96	.049	3	29	.30	10	.17	6	2.01	.14	.06	1	7
AD-89-8	3	105	3	26	.2	12	11	164	2.62	2	5	ND	1	46	1	2	2	32	1.02	.053	3	13	.27	13	.23	2	1.03	.07	.02	1	1
AD-89-9	3	138	3	39	.3	14	15	274	3.54	2	5	ND	1	26	1	2	2	71	1.69	.045	3	13	.44	10	.27	3	1.60	.04	.04	1	2
AD-89-10	3	192	6	28	.1	40	24	264	4.47	2	5	ND	1	53	1	2	2	84	2.04	.055	4	31	.41	8	.25	7	1.98	.13	.03	1	1
AD-89-11	5	187	8	32	.2	14	19	207	4.89	91	5	ND	1	95	1	2	2	59	1.95	.052	3	15	.56	12	.21	7	2.74	.24	.04	1	1
AD-89-12	2	95	4	11	.1	19	14	77	1.63	2	5	ND	1	70	1	2	2	29	1.50	.053	2	6	.18	7	.21	5	1.41	.13	.03	1	1
AD-89-13	2	120	14	73	1.2	18	18	413	4.89	14	5	ND	1	153	1	2	2	103	1.45	.054	2	21	.86	20	.26	3	1.85	.09	.05	1	6
AD-89-14	3	129	3	24	.1	17	15	212	2.96	2	5	ND	1	35	1	2	2	66	.97	.059	2	15	.44	30	.22	2	1.16	.09	.10	1	2
AD-89-15	10	158	8	28	.2	28	19	280	3.50	5	5	ND	1	118	1	2	2	55	2.69	.054	4	16	.27	18	.19	6	2.84	.18	.06	1	9
AD-89-16	3	134	2	17	.1	13	19	148	3.21	2	5	ND	1	64	1	2	2	40	1.95	.043	2	8	.21	9	.20	4	2.17	.23	.04	1	1
AD-89-17	5	102	6	20	.1	23	15	192	2.94	2	5	ND	1	44	1	2	2	62	.93	.056	3	29	.61	17	.26	4	1.14	.10	.05	1	1
AD-89-18	3	156	4	23	.2	25	17	135	2.95	2	5	ND	1	63	1	2	2	36	4.00	.060	3	9	.14	37	.19	2	3.85	.31	.04	2	2
AD-89-19	6	137	4	32	.1	28	14	174	2.93	2	5	ND	1	77	1	2	2	44	1.30	.053	8	12	.17	9	.20	2	1.09	.07	.03	2	1
AD-89-20	3	124	2	21	.2	36	29	300	3.93	2	5	ND	1	42	1	2	2	69	1.86	.049	2	38	.44	7	.30	9	1.77	.08	.07	2	1
AD-89-21	8	181	6	24	.1	35	20	178	3.79	4	5	ND	1	71	1	2	2	70	2.40	.042	3	13	.21	16	.17	10	2.71	.18	.07	1	1
AD-89-22	2	67	7	49	.1	9	21	281	4.12	186	5	ND	1	122	1	2	2	69	1.64	.051	3	13	.51	13	.25	11	1.87	.08	.05	1	1
AD-89-23	2	97	10	78	.2	14	17	570	4.60	12	5	ND	1	36	1	2	2	128	3.19	.049	3	32	.95	6	.28	9	3.64	.04	.05	2	1
AD-89-24	6	109	2	29	.3	13	9	459	5.96	28	5	ND	1	19	1	2	2	145	2.89	.060	3	49	.86	4	.36	6	3.11	.04	.03	1	3
AD-89-25	1	12	4	13	.1	2	3	206	.71	6	5	ND	1	143	1	2	2	38	2.10	.283	7	5	.38	33	.17	2	1.08	.01	.08	2	1
AD-89-26	1	10638 ✓	2	117	.4	19	28	520	9.48	2	5	ND	1	33	1	2	3	342	.79	.075	4	40	.90	17	.21	9	.92	.03	.06	1	20
AD-89-27	70	3913	52	70	6.1	31	43	446	32.20	97	5	ND	1	24	9	7	4	192	.15	.127	10	14	.16	46	.03	3	.77	.01	.06	1	45
AD-89-28	1	467	9	32	.1	3	3	263	1.10	6	5	ND	1	50	1	2	3	58	3.19	.119	7	9	.73	16	.19	4	1.27	.02	.05	3	1
AD-89-29	6	101	6	16	.1	10	6	56	5.61	29	5	ND	1	4	1	2	2	12	.06	.071	3	7	.35	46	.01	2	.85	.01	.25	2	1
AS-89-1	9	946	5	27	.3	34	25	126	3.11	2	5	ND	1	189	1	2	2	77	1.72	.110	6	55	.65	30	.12	5	2.34	.05	.11	2	66
AS-89-2	25	730	5	29	.6	4	45	73	5.02	3	5	ND	1	55	1	2	2	30	.88	.126	6	6	.43	25	.04	8	1.19	.03	.06	2	27
AS-89-3	7	5166	2	23	.9	91	99	56	3.29	6	5	ND	1	48	1	2	4	27	.47	.096	4	5	.14	20	.06	4	.54	.05	.05	1	55
AS-89-4	1	10574 ✓	32	2149	5.8	6	13	293	1.57	16	5	ND	1	29	17	9	2	31	.61	.090	10	11	.67	85	.11	2	.99	.04	.04	1	1110
AS-89-5	2	18027 ✓	579	2206	12.6 ✓	9	24	545	3.48	4	6	3	2	21	21	2	2	23	.24	.009	8	20	.59	113	.04	4	1.26	.03	.11	1	1630
AS-89-6	15	11795	5	46	.5	28	22	126	3.36	2	5	ND	1	69	1	2	2	82	1.25	.062	3	29	.67	18	.16	5	1.52	.04	.08	2	131
AS-89-7	1	301	6	22	.2	56	16	88	1.75	2	5	ND	1	93	1	2	2	28	2.21	.044	2	35	.20	17	.14	2	3.13	.32	.04	34	1
STD C.AU-R	17	63	41	132	6.7	74	31	994	4.12	42	23	7	38	68	18	19	20	58	.48	.090	39	55	.85	174	.07	35	1.97	.06	.14	13	510

✓ - ASSAY REQUIRED FOR CORRECT RESULT -

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPB	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
AS-89-8	6	184	2	24	.2	28	18	156	2.90	2	5	ND	1	41	1	2	2	51	1.00	.048	4	26	.34	7	.19	2	1.06	.06	.03	3	4
AS-89-9	1	123	2	24	.2	9	9	196	2.85	2	5	ND	1	14	1	2	2	65	.78	.054	5	20	.51	6	.27	2	1.05	.05	.03	1	4
AS-89-10	3	180	2	40	.3	33	21	191	3.80	6	5	ND	1	39	1	2	2	61	.97	.049	3	27	.41	28	.21	2	1.14	.11	.18	1	4
AS-89-11	2	135	3	41	.2	20	16	280	2.93	2	5	ND	1	62	1	2	2	69	1.98	.052	4	17	.39	17	.23	5	2.10	.15	.07	1	1
AS-89-12	1	258	8	48	.3	6	27	232	3.31	6	5	ND	2	48	1	2	2	65	1.48	.151	7	5	.30	36	.08	5	1.39	.06	.09	1	2
AS-89-13	2	144	4	39	.3	24	19	253	3.84	6	5	ND	1	27	1	2	2	52	1.23	.074	3	21	.37	8	.23	7	1.21	.06	.05	1	2
AS-89-14	4	242	3	25	.2	34	35	136	3.40	2	5	ND	1	58	1	2	2	32	1.05	.053	4	16	.18	7	.13	4	1.23	.12	.03	1	1
AS-89-15	3	296	3	31	.3	52	26	202	2.72	2	5	ND	1	24	1	2	2	62	1.34	.032	2	52	.52	5	.19	4	1.36	.08	.03	1	2
AS-89-16	1	362	26	63	.5	7	20	308	3.89	2	5	ND	1	52	1	2	2	76	1.72	.141	7	11	.70	20	.12	5	1.95	.08	.07	1	19
AS-89-17	1	444	38	88	.5	8	20	249	3.90	3	5	ND	1	85	1	2	2	59	1.87	.137	7	9	.50	42	.11	2	1.91	.09	.07	1	14
AS-89-18	2	97	4	36	.2	41	20	315	3.27	4	5	ND	1	69	1	2	2	59	1.65	.045	2	38	.99	15	.12	3	2.18	.24	.04	1	1
AS-89-19	35	123	3	47	.3	35	18	329	4.33	2	5	ND	1	49	1	2	3	98	1.70	.047	3	29	.44	25	.27	12	2.05	.12	.08	1	3
AS-89-20	2	118	3	39	.2	28	15	361	4.57	10	5	ND	1	68	1	2	2	100	2.48	.075	3	42	.78	11	.25	12	2.83	.11	.04	2	2
AS-89-21	5	115	2	26	.1	12	16	222	3.86	3	5	ND	1	126	1	2	2	86	1.26	.055	2	19	.71	26	.28	2	1.81	.15	.07	1	2
AS-89-22	5	155	2	51	.2	22	16	307	4.73	10	5	ND	1	96	1	2	2	116	1.56	.066	3	25	.83	14	.30	5	2.33	.11	.03	1	2
AS-89-23	3	72	3	53	.2	11	8	435	5.02	7	5	ND	1	109	1	3	2	127	2.13	.063	4	31	1.20	15	.32	3	3.41	.06	.05	1	6
AS-89-24	2	82	6	60	.2	18	14	377	4.38	3	5	ND	1	25	1	2	2	71	1.05	.065	2	33	1.00	18	.27	7	1.61	.09	.07	1	1
AS-89-25	18	151	2	25	.1	15	31	218	3.61	82	5	ND	1	58	1	2	2	68	1.28	.051	4	23	.51	7	.21	2	1.96	.12	.03	2	1
AS-89-26	1	465	2	29	.2	5	11	209	5.93	3	5	ND	1	30	1	2	2	229	.95	.101	3	41	.40	16	.15	7	.85	.07	.13	1	1
AS-89-27	1	114	37	85	.4	18	22	250	6.46	49	5	ND	1	52	1	2	2	90	1.23	.070	2	22	.92	12	.15	11	2.63	.03	.04	2	7
AS-89-28	3	95	2	33	.1	6	5	224	3.90	3	5	ND	1	11	1	2	2	107	5.59	.052	4	13	.26	1	.20	12	4.17	.01	.01	1	12
AS-89-29	3	82	9	26	.3	7	6	247	4.71	4	5	ND	1	12	1	2	2	84	6.23	.044	2	20	.21	1	.18	9	4.91	.01	.01	1	12
AS-89-30	4	67	3	16	.2	6	4	233	4.39	5	5	ND	1	29	1	2	2	73	3.48	.054	4	16	.34	2	.22	6	3.42	.02	.02	1	15
AS-89-31	12	63	5	19	.1	7	5	256	5.19	8	5	ND	1	92	1	2	2	101	1.98	.071	5	24	.41	8	.31	3	2.38	.03	.04	1	10
AS-89-32	3	66	6	22	.1	14	10	148	3.60	42	5	ND	1	5	1	2	7	73	1.52	.053	4	15	.29	1	.27	2	1.49	.03	.01	1	1
AS-89-33	1	650	58	22	5.4	3	13	969	5.06	96	5	22	1	21	1	5	2	51	1.63	.054	4	6	.38	3	.09	639	1.78	.01	.01	1	22800
AS-89-34	4	123	5	53	.3	24	14	437	4.84	5	5	ND	1	14	1	2	2	126	8.21	.073	5	44	.43	1	.23	12	5.56	.01	.01	1	124
AS-89-35	25	270	13	63	.4	32	29	302	6.85	79	5	ND	1	7	1	4	2	155	3.46	.047	4	48	.58	1	.29	17	2.79	.03	.01	1	102
AS-89-36	2	405	31	211	1.2	4	28	1858	29.83	306	7	ND	1	1	1	14	2	307	.24	.017	3	64	2.20	1	.14	2	6.09	.01	.01	2	25
AS-89-37	9	155	3	25	.1	41	25	181	5.74	7	5	ND	1	131	1	3	2	89	1.76	.072	6	34	.42	16	.29	7	2.45	.26	.11	1	7
AS-89-38	12	109	9	61	.3	14	8	413	4.90	12	5	ND	1	6	1	2	2	128	5.80	.057	4	24	.51	1	.22	8	4.55	.01	.01	1	8
AS-89-39	1	365	4	17	.2	27	33	141	4.90	17	5	ND	1	153	1	2	2	134	2.71	.073	3	32	.25	26	.13	8	3.52	.28	.04	1	3
AS-89-40	11	1532	5	117	1.5	18	27	1245	8.13	12	5	ND	1	64	1	2	2	185	2.29	.077	6	128	4.15	71	.14	8	3.31	.05	1.08	1	13
AS-89-41	9	2602	5	28	.4	170	111	199	7.87	3	5	ND	1	68	1	2	8	41	1.11	.053	2	96	1.13	29	.07	4	2.11	.14	.13	1	50
AS-89-42	1	6699	2	56	.9	424	212	311	18.26	12	5	ND	1	10	1	2	2	31	.48	.064	2	113	1.27	7	.05	6	2.30	.03	.04	1	111
AS-89-43	16	63	26	6	1.4	12	7	31	3.24	121	5	ND	1	14	1	2	3	13	.08	.060	9	5	.03	30	.01	4	.21	.01	.16	2	310
STD C/AU-R	17	63	40	133	6.9	74	30	956	4.21	41	19	7	38	49	18	15	22	59	.49	.092	39	56	.86	177	.07	36	1.99	.06	.13	12	520

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
AS-89-44	3	741	10	62	.6	11	13	471	4.91	2	5	ND	1	28	1	2	13	111	.38	.152	5	16	1.41	46	.10	2	1.39	.02	.10	4	21
AS-89-45	1	4679	5	61	1.2	13	25	337	9.76	9	5	ND	1	75	1	3	2	293	2.12	.417	15	25	1.13	78	.17	8	1.47	.03	.07	1	53
AS-89-46	2	196	2	42	.3	19	22	387	3.94	2	5	ND	1	13	1	2	2	92	1.14	.060	2	23	.68	10	.21	8	1.36	.08	.05	1	9

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPB	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
A1-SL-1	1	70	7	76	.3	10	5	371	3.15	13	5	ND	1	44	1	2	2	75	.29	.200	5	22	.41	71	.04	2	3.69	.01	.03	1	7
A1-SL-2	1	63	2	69	.1	10	5	301	3.24	10	5	ND	1	43	1	2	6	93	.26	.163	5	25	.40	75	.04	2	3.64	.01	.04	1	5
A1-SL-3	1	91	3	85	.1	16	8	281	3.63	17	5	ND	1	50	1	2	2	102	.37	.153	5	28	.61	72	.07	2	4.25	.01	.02	1	3
A1-SL-4	1	109	10	87	.1	22	11	662	3.92	17	5	ND	2	59	1	2	2	104	.46	.190	6	31	.72	103	.09	2	4.64	.02	.06	1	14
A1-SL-5	1	97	10	88	.1	23	11	1097	3.60	17	5	ND	.1	56	1	2	2	93	.39	.136	5	29	.67	102	.08	2	4.05	.02	.05	1	20
A1-SL-6	1	75	7	101	.1	15	9	667	3.48	12	5	ND	1	71	1	2	2	97	.55	.090	6	24	.61	88	.07	2	2.74	.01	.05	1	29
A1-SL-7	1	97	9	98	.1	18	10	351	4.67	19	5	ND	4	48	1	2	2	132	.41	.165	7	28	.61	68	.08	2	4.45	.01	.04	3	9
A1-SL-8	1	137	7	87	.1	19	10	430	4.04	5	5	ND	2	60	1	2	2	113	.42	.124	6	32	.80	95	.08	2	3.21	.02	.05	1	9
A1-SL-9	1	302	9	84	.1	24	18	560	4.84	12	5	ND	3	46	1	2	2	150	.42	.178	9	45	.82	220	.11	2	5.02	.01	.09	1	12
A1-SL-10	1	112	11	71	.1	24	11	324	3.27	14	5	ND	3	50	1	2	2	78	.42	.107	14	28	.70	88	.08	2	3.18	.02	.05	2	13
A1-SL-11	1	62	6	69	.2	17	7	299	3.23	10	5	ND	2	46	1	2	2	78	.36	.109	7	24	.54	65	.08	2	3.77	.02	.05	1	11
A1-SL-12	1	85	2	84	.1	23	10	269	3.20	20	5	ND	2	56	1	2	2	77	.40	.133	5	30	.67	70	.08	2	4.42	.02	.03	1	26
A1-SL-13	1	101	8	84	.1	30	16	1060	3.96	20	5	ND	1	82	1	2	2	92	.69	.148	3	39	.79	79	.05	4	4.17	.03	.09	1	36
A1-SL-14	1	107	3	100	.1	28	16	701	4.33	13	5	ND	1	78	1	2	2	108	.77	.110	4	36	.94	81	.10	2	5.46	.02	.07	1	8
A1-SL-15	1	134	18	122	.1	46	32	1758	5.34	32	5	ND	2	170	1	2	2	90	2.11	.138	5	31	.63	63	.07	2	6.71	.02	.13	1	88
A1-SL-16	1	112	14	123	.1	49	26	1502	4.30	38	5	ND	2	149	1	2	2	89	2.25	.142	8	37	.72	70	.05	2	6.95	.02	.12	2	38
A1-SL-17	1	79	8	101	.1	34	15	531	3.51	34	5	ND	2	141	1	4	2	76	1.08	.113	5	33	.74	76	.07	2	4.93	.02	.09	1	24
A1-SL-18	2	95	13	111	.1	30	24	1551	3.91	22	5	ND	1	174	1	2	2	88	1.86	.137	4	30	.82	185	.10	2	6.73	.02	.14	1	38
A1-SL-19	1	97	13	102	.1	31	23	1202	3.41	29	5	ND	1	143	1	2	2	104	2.45	.114	3	29	.77	58	.09	2	7.52	.01	.11	4	41
A1-SL-20	1	74	13	118	.1	24	12	671	4.49	37	5	ND	1	92	1	2	2	128	.77	.156	4	32	.63	81	.08	2	5.20	.01	.06	1	32
A1-SL-21	1	128	20	171	.1	39	42	1463	4.74	59	5	ND	2	207	2	2	2	107	2.29	.059	5	34	1.04	53	.06	2	5.83	.02	.11	1	72
A1-SL-22	1	97	15	104	.1	32	27	1131	4.19	59	5	ND	1	137	1	2	2	97	1.65	.085	6	30	.84	68	.03	2	6.77	.01	.12	2	99
A1-SL-23	1	117	14	134	.1	28	29	2064	5.56	35	5	ND	1	205	1	2	2	118	2.08	.137	4	25	.74	70	.06	2	7.47	.01	.16	1	51
A1-SL-24	1	143	34	92	.1	23	26	1330	4.87	55	5	ND	2	186	1	2	2	96	2.81	.056	4	22	.62	35	.04	2	6.44	.02	.11	1	47
A1-SL-25	1	172	19	150	.1	41	41	1594	6.60	61	5	ND	2	228	1	2	2	125	1.70	.091	5	32	.88	58	.08	2	6.22	.02	.11	1	29
A1-SL-26	3	177	32	145	.1	36	50	2361	6.59	160	5	ND	3	218	2	2	2	96	2.66	.086	6	21	.64	48	.06	2	6.52	.03	.13	2	159
A1-SL-27	1	195	12	131	.1	34	49	2137	6.59	70	5	ND	2	207	1	2	2	112	1.70	.104	5	24	.94	61	.07	2	6.06	.02	.11	1	82
A1-SL-28	1	108	4	112	.1	26	15	524	5.60	50	5	ND	2	254	1	2	2	103	.82	.098	3	24	.66	252	.06	2	6.53	.01	.08	1	47
A1-SL-29	1	110	15	104	.1	22	27	1749	4.89	24	5	ND	2	324	1	2	2	79	1.87	.114	5	17	.68	95	.04	2	6.32	.01	.12	1	41
A1-SL-30	1	186	32	143	.1	27	35	2039	5.86	40	5	ND	2	247	1	2	2	99	1.64	.104	6	23	1.18	64	.07	2	6.33	.02	.10	1	163
A1-SL-31	1	112	20	130	.5	28	21	932	4.46	30	5	ND	2	174	1	3	2	96	.99	.133	4	29	.97	94	.06	2	6.40	.03	.06	1	58
A1-SL-32	1	182	5	138	1.3	53	53	2278	6.84	41	5	2	2	234	1	2	2	114	1.78	.096	5	30	1.08	76	.08	2	6.54	.03	.15	1	48
A1-SL-33	1	112	15	113	.1	31	27	1380	4.51	34	5	ND	2	295	1	2	2	90	1.90	.102	5	29	1.07	85	.06	2	6.47	.04	.11	4	25
A1-SL-34	1	126	5	105	.1	24	27	1188	5.43	43	5	ND	1	463	1	2	2	91	1.75	.102	3	19	.91	131	.05	2	7.15	.03	.16	2	37
A1-SL-35	1	163	8	83	.1	34	33	876	4.42	41	5	ND	1	178	1	2	2	83	1.91	.107	4	18	.69	67	.06	2	8.11	.02	.12	3	19
A1-SL-36	1	130	7	128	.1	39	29	868	4.77	49	5	ND	2	139	1	2	2	96	1.13	.120	5	28	.85	95	.09	2	5.53	.02	.11	1	91
STD C/AU-S	18	59	35	132	7.2	72	30	1022	3.83	41	22	7	39	48	19	14	21	61	.46	.094	39	53	.90	176	.07	36	1.95	.06	.13	13	47

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPB	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
A1-SL-37	1	288	17	80	.2	39	65	1563	5.34	75	5	ND	1	181	1	2	2	90	2.94	.097	2	15	.72	59	.06	2	5.93	.02	.19	2	53
A1-SL-38	1	250	8	89	.1	48	60	1357	6.99	14	5	ND	2	691	1	2	2	110	2.49	.065	3	31	1.70	112	.13	2	5.94	.05	.17	1	18
A1-SL-39	1	110	10	107	.1	33	28	1778	4.75	60	5	ND	1	195	1	6	2	101	1.15	.125	5	32	.94	133	.09	3	5.01	.02	.11	1	162
A1-SL-41	1	110	13	104	.1	32	22	802	4.97	38	5	ND	1	134	1	2	2	102	.74	.082	5	32	.89	104	.09	2	4.39	.02	.07	1	290
A1-SL-42	2	127	12	98	.2	30	30	736	4.62	43	5	ND	1	125	1	2	2	105	1.07	.062	4	34	.97	61	.08	2	4.32	.02	.07	1	73
A1-SL-43	3	97	21	78	.1	27	19	506	4.23	28	5	ND	1	110	1	2	2	92	.82	.072	4	29	.83	60	.07	2	3.95	.02	.06	9	33
A2-SL-1	1	69	12	63	.2	11	10	310	5.43	7	5	ND	1	90	1	2	3	192	.34	.093	6	20	.63	76	.09	2	2.23	.01	.05	1	6
A2-SL-2	2	102	20	79	.1	15	11	635	6.42	11	5	ND	1	55	1	3	2	159	.36	.350	9	28	.91	79	.07	2	2.79	.01	.07	3	7
A2-SL-3	1	90	16	90	.1	20	14	667	4.74	20	5	ND	1	92	1	2	2	122	.63	.126	7	30	.79	72	.07	2	3.32	.01	.06	1	28
A2-SL-4	1	94	12	90	.3	21	19	642	4.76	23	5	ND	1	102	1	2	2	136	.66	.092	6	25	1.00	70	.14	2	3.47	.02	.08	1	23
A2-SL-5	1	43	10	46	.2	8	5	196	1.82	5	5	ND	1	51	1	2	3	61	.24	.035	9	17	.48	63	.07	2	2.35	.01	.04	1	6
A2-SL-6	1	42	12	52	.1	9	6	314	4.18	2	5	ND	1	44	1	2	2	166	.19	.074	8	17	.46	55	.15	2	1.57	.01	.04	1	5
A2-SL-7	1	75	7	76	.3	16	9	279	5.67	4	5	ND	4	46	1	2	2	151	.26	.210	8	26	.78	70	.15	2	2.44	.01	.05	1	16
A2-SL-8	1	45	9	59	.1	10	8	333	5.67	2	5	ND	2	45	1	2	2	203	.26	.098	7	20	.52	50	.15	2	1.80	.01	.05	1	9
A2-SL-9	2	94	17	93	.2	16	10	334	6.44	3	5	ND	2	43	1	2	2	161	.33	.174	9	29	.94	78	.13	2	2.91	.01	.05	2	6
A2-SL-10	1	80	6	72	.2	13	8	274	5.94	2	5	ND	2	44	1	2	2	162	.29	.190	8	24	.78	67	.10	2	2.61	.01	.04	1	3
A2-SL-11	1	84	12	85	.1	18	16	740	5.53	23	5	ND	1	96	1	2	2	188	.76	.103	6	23	.66	66	.13	2	3.08	.02	.07	1	15
A2-SL-12	1	63	7	80	.1	6	9	442	6.09	2	5	ND	1	52	1	2	2	223	.26	.114	6	12	.63	57	.11	4	2.06	.01	.05	1	5
A2-SL-13	2	34	4	61	.2	20	8	335	5.90	2	5	ND	2	39	1	2	2	100	.84	.071	7	27	1.23	161	.20	3	3.79	.02	.08	1	9
A2-SL-14	1	49	8	31	.2	4	5	183	3.68	2	5	ND	1	24	1	2	2	166	.19	.100	7	7	.42	43	.13	2	2.47	.01	.04	1	3
A2-SL-15	1	41	12	56	.2	7	8	271	6.04	2	5	ND	2	42	1	2	2	227	.19	.090	7	15	.47	47	.15	2	1.83	.01	.04	1	7
A2-SL-16	1	40	8	36	.1	3	3	221	3.75	2	5	ND	1	57	1	2	2	174	.17	.100	6	9	.21	56	.11	3	2.04	.01	.03	1	3
A2-SL-17	1	28	11	52	.2	6	5	215	5.47	2	5	ND	1	39	1	2	2	200	.15	.146	7	13	.28	46	.12	2	1.37	.01	.03	1	72
A2-SL-18	2	72	11	76	.3	13	11	447	5.51	19	5	ND	2	78	1	2	2	173	.47	.129	6	21	.70	69	.17	3	2.51	.01	.07	1	24
A2-SL-19	1	83	8	88	.1	11	10	595	7.77	9	5	ND	1	56	1	2	2	237	.29	.172	6	21	.82	73	.13	2	2.55	.01	.05	1	6
A2-SL-20	2	85	7	56	.1	13	7	268	4.37	2	5	ND	1	77	1	2	2	132	.41	.124	5	20	.65	118	.09	2	4.23	.03	.03	1	6
A2-SL-21	2	99	11	78	.2	20	16	701	4.58	16	5	ND	1	248	1	2	2	105	1.15	.097	5	25	.64	109	.09	2	3.96	.02	.07	1	24
A2-SL-22	2	103	11	41	.1	11	6	295	6.64	2	5	ND	2	74	1	2	2	115	.39	.069	5	23	.41	68	.18	2	3.89	.02	.05	1	27
A2-SL-23	32	111	9	53	.2	9	7	310	6.55	7	5	ND	1	93	1	2	2	178	.95	.096	4	14	.47	128	.22	2	3.36	.03	.06	1	20
A2-SL-24	1	137	9	95	.1	16	12	344	7.96	4	5	ND	3	50	1	2	2	229	.38	.229	9	26	.85	82	.11	2	3.75	.01	.04	1	8
A2-SL-25	1	147	11	92	.1	15	11	302	6.84	7	5	ND	3	67	1	2	2	178	.43	.536	8	25	.88	98	.12	2	3.47	.01	.05	1	14
A2-SL-26	1	102	10	73	.1	11	10	352	6.25	2	5	ND	2	49	1	2	2	192	.36	.244	8	18	.75	66	.13	2	2.78	.01	.06	1	7
A2-SL-27	1	89	14	77	.1	11	10	590	6.60	11	5	ND	2	47	1	2	2	196	.37	.294	8	23	.72	82	.09	2	2.86	.01	.05	1	23
A2-SL-28	1	68	8	52	.2	9	8	438	5.67	3	5	ND	1	46	1	2	2	161	.31	.218	5	23	.49	81	.10	2	2.14	.01	.04	1	12
A3-SL-1	1	184	12	66	.1	9	12	575	6.95	4	5	ND	1	111	1	2	3	228	.42	.174	8	18	.85	116	.07	2	2.82	.01	.06	1	115
A3-SL-2	1	162	13	89	.1	11	15	966	6.62	2	5	ND	1	196	1	2	3	207	.51	.212	9	19	1.22	162	.13	2	3.03	.01	.07	1	15
STD C/AU-S	17	63	41	131	6.5	73	29	1018	3.75	38	20	7	36	47	18	14	23	58	.47	.090	36	54	.91	173	.07	32	1.90	.06	.14	12	52

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
A3-SL-5	1	197	10	96	.2	9	16	1690	7.39	11	5	ND	1	84	1	2	2	230	.37	.170	7	16	1.06	102	.04	2	3.24	.01	.08	1	10
A3-SL-6	1	121	13	75	.1	12	12	686	7.47	11	5	ND	1	83	1	3	2	258	.42	.148	10	22	.88	75	.07	2	3.00	.01	.05	1	4
A3-SL-5	1	163	15	74	.1	8	10	710	6.07	7	5	ND	1	83	1	2	4	179	.44	.185	10	13	.79	73	.09	2	2.79	.01	.06	1	11
A3-SL-6	1	245	11	65	.4	9	10	380	5.06	8	5	ND	1	67	1	3	2	140	.80	.325	15	13	.85	56	.07	2	3.25	.01	.06	1	6
A3-SL-7	3	120	9	54	.9	7	9	639	5.57	7	5	ND	1	54	1	2	4	101	.19	.115	5	16	.56	64	.06	2	2.20	.01	.05	1	4
A3-SL-8	2	82	11	41	.4	9	8	500	4.38	6	5	ND	1	45	1	2	2	156	.20	.064	7	24	.51	51	.06	2	2.13	.01	.05	1	4
A3-SL-9	6	249	8	57	.3	17	16	410	5.03	15	5	ND	2	70	1	2	2	158	1.01	.257	14	25	.84	74	.08	2	3.06	.01	.06	1	10
A3-SL-10	2	267	8	57	.2	20	18	572	4.38	12	5	ND	1	80	1	2	2	151	.79	.142	10	29	1.02	92	.08	2	3.48	.01	.06	1	9
A3-SL-11	1	229	14	58	.1	23	18	494	4.35	16	5	ND	2	128	1	3	3	102	1.11	.088	5	29	1.03	109	.07	2	4.84	.01	.09	1	29
A3-SL-12	1	178	11	72	.1	32	20	721	5.00	5	5	ND	1	84	1	2	2	128	1.10	.132	8	38	.99	82	.09	2	4.05	.01	.08	1	25
A3-SL-13	1	114	12	70	.2	15	12	415	6.74	14	5	ND	1	80	1	2	2	224	.38	.105	5	28	.81	86	.12	2	2.88	.01	.04	1	11
A3-SL-14	9	191	10	61	.1	11	13	341	7.34	14	5	ND	1	79	1	2	3	267	1.23	.390	14	27	.78	71	.08	2	2.34	.01	.05	2	3
A3-SL-15	2	63	8	37	.2	6	6	250	3.00	8	5	ND	1	115	1	2	2	103	.28	.069	3	14	.33	87	.05	2	2.08	.01	.03	1	15
A3-SL-16	7	214	6	57	.3	11	12	311	5.09	9	5	ND	1	99	1	3	2	169	1.20	.345	13	21	.78	81	.07	2	2.63	.01	.04	1	6
A3-SL-17	3	78	10	58	.1	13	8	310	5.10	10	5	ND	2	75	1	2	2	145	.38	.144	6	37	.61	60	.09	2	3.15	.01	.06	3	26
A3-SL-18	3	36	6	33	.2	5	4	154	4.04	5	5	ND	1	83	1	3	2	151	.21	.098	5	19	.24	56	.08	2	2.08	.01	.04	1	3
A3-SL-19	4	85	5	46	.3	8	9	372	4.63	10	5	ND	1	96	1	2	2	163	.31	.113	4	20	.43	82	.08	2	1.91	.01	.03	1	2
A3-SL-20	10	221	7	70	.1	11	12	336	5.20	6	5	ND	1	71	1	2	2	168	.71	.241	10	20	.88	77	.10	2	2.78	.01	.04	1	5
A3-SL-21	7	153	7	62	.2	13	12	335	5.49	14	5	ND	1	57	1	2	2	157	.36	.142	8	32	.74	67	.10	2	3.23	.01	.04	1	5
A3-SL-22	8	225	11	65	.1	18	13	374	5.23	12	5	ND	1	68	1	2	2	151	.55	.182	9	26	.98	72	.11	3	3.35	.01	.05	1	4
A3-SL-23	5	128	7	81	.3	31	14	428	6.46	7	5	ND	2	65	1	2	2	143	.36	.107	6	55	.98	105	.15	2	4.30	.02	.04	1	6
A3-SL-24	2	172	13	71	.1	32	16	328	5.40	9	5	ND	2	62	1	2	2	106	.40	.073	5	41	.86	82	.11	2	6.18	.01	.05	1	34
A3-SL-25	2	86	15	121	.3	28	16	595	7.24	14	5	ND	1	67	1	2	2	159	.25	.102	3	47	.84	85	.07	2	3.67	.01	.08	1	36
A3-SL-26	2	40	10	38	.2	10	7	264	4.30	9	5	ND	1	35	1	2	2	158	.17	.070	4	21	.22	50	.10	2	1.75	.01	.04	1	55
A3-SL-27	2	98	14	61	.1	16	12	435	5.87	15	5	ND	1	63	1	2	2	155	.40	.132	6	28	.63	54	.08	2	2.63	.01	.05	1	37
A3-SL-28	2	120	8	74	.2	26	13	342	5.07	6	5	ND	2	50	1	2	2	117	.34	.077	4	41	.93	75	.12	2	4.94	.01	.03	1	71
A3-SL-29	1	106	5	50	.1	19	11	301	5.40	13	5	ND	1	60	1	2	2	138	.36	.073	5	37	.82	80	.12	2	3.16	.01	.03	1	51
A3-SL-30	2	49	10	43	.2	11	7	218	5.27	3	5	ND	1	36	1	2	2	162	.22	.135	7	26	.45	51	.13	2	2.72	.01	.03	2	21
A3-SL-31	1	68	4	65	.1	15	11	400	5.18	4	5	ND	1	63	1	2	2	156	.39	.110	4	27	.67	75	.13	2	3.49	.01	.04	1	77
A3-SL-32	2	63	10	57	.1	12	8	222	6.49	10	5	ND	1	49	1	2	2	195	.31	.119	3	34	.62	62	.17	2	3.95	.01	.04	1	18
A3-SL-33	1	39	7	52	.2	11	7	198	5.43	3	5	ND	1	56	1	2	2	210	.35	.067	4	28	.58	69	.20	2	2.75	.01	.03	1	24
A3-SL-34	2	67	11	72	.1	13	9	228	5.83	10	5	ND	1	46	1	2	2	157	.36	.153	3	33	.63	67	.14	2	4.92	.02	.03	5	15
A3-SL-35	2	83	7	63	.1	15	10	309	5.88	13	5	ND	1	67	1	2	2	190	.43	.110	5	34	.68	68	.16	2	3.28	.01	.04	1	14
A3-SL-36	2	106	11	76	.1	22	15	265	4.81	17	5	ND	2	52	1	2	2	115	.42	.087	3	34	.70	65	.13	2	8.14	.01	.04	1	16
A3-SL-37	2	82	11	66	.1	14	11	367	5.71	15	5	ND	1	64	1	2	2	195	.48	.096	5	28	.63	65	.20	2	3.35	.02	.04	1	39
A3-SL-38	2	101	7	73	.1	17	13	488	4.95	19	5	ND	1	63	1	2	2	128	.47	.149	4	33	.62	71	.11	2	5.12	.01	.04	1	27
STD C/AU-S	18	61	42	132	6.9	71	31	1020	3.83	42	23	6	37	48	19	14	22	61	.48	.091	39	55	.89	174	.07	33	1.96	.06	.14	13	53

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-P2 ROCK P3-P5 SOIL P6 SILT AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 21 1989 DATE REPORT MAILED: Aug 24/89 SIGNED BY. C. Leong ..D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

IMPERIAL METALS CORPORATION PROJECT 7101 File # 89-3062 Page 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
AD-89-30	25	100	2	34	.1	14	13	390	17.02	10	5	ND	1	39	1	2	2	989	1.06	.157	3	1	.30	32	.04	3	.79	.03	.08	1	3
AD-89-31	1	214	2	79	.2	15	20	343	19.60	14	5	ND	2	61	1	3	2	500	.83	.120	4	2	1.05	392	.05	8	1.90	.02	.08	1	5
AD-89-32	1	71	2	21	.2	12	10	209	11.39	7	5	ND	2	47	1	2	2	235	.55	.116	3	3	.23	99	.08	2	.41	.02	.12	1	1
AD-89-33	123	1800	2	24	.6	17	16	180	15.87	8	5	ND	4	28	1	2	3	452	.56	.108	3	1	.40	54	.08	3	.64	.02	.09	1	5
AD-89-34	1	136	18	58	.9	2	5	866	3.42	3	5	ND	2	99	1	6	4	40	14.59	.073	8	1	.52	619	.01	7	.96	.01	.15	1	3
AD-89-35	3	144	2	56	.1	9	5	406	7.22	16	5	ND	1	55	1	2	2	1617	.42	.128	5	5	.30	59	.07	2	.40	.01	.06	1	1
AD-89-36	1	178	4	66	.3	34	19	733	38.61	15	5	ND	6	30	2	2	3	859	2.01	.128	5	3	.33	25	.03	14	.97	.02	.03	1	3
AD-89-37	3	60	2	31	.1	12	10	277	15.05	7	5	ND	2	58	1	2	4	323	.69	.113	4	1	.18	57	.06	2	.59	.02	.09	1	1
AD-89-38	277	72710	2	33	35.6	64	131	133	21.40	19	6	9	3	40	1	2	4	83	.37	.023	2	12	.97	8	.10	2	1.28	.02	.13	1	6070
AD-89-39	3	930	2	12	.4	19	36	92	4.95	9	5	ND	1	26	1	2	4	64	.37	.063	5	3	.35	29	.09	2	.71	.03	.20	14	42
AD-89-40	8	631	2	14	.6	7	6	140	4.60	6	5	ND	3	46	1	2	2	83	.56	.085	7	19	.73	23	.15	2	.56	.02	.16	3	24
AD-89-41	1	270	2	32	.2	8	13	302	4.67	6	5	ND	3	44	1	2	2	164	1.48	.217	11	16	.81	117	.18	2	1.16	.03	.14	1	3
AD-89-42	2	161	2	35	.4	7	8	197	3.61	4	5	ND	1	32	1	2	2	117	1.09	.195	9	13	.60	77	.17	10	.95	.04	.09	8	5
AD-89-43	4	153	2	65	.6	6	8	1685	3.36	15	5	ND	2	51	1	17	2	43	15.91	.098	9	5	.30	262	.01	4	.35	.01	.06	1	2
AD-89-44	1	42	7	43	.1	5	9	1805	2.34	12	5	ND	3	171	1	2	2	135	18.82	.621	18	4	.41	706	.01	6	.79	.01	.04	1	4
AD-89-45	42	20	24	10	.5	2	5	113	3.83	15	5	ND	3	39	1	2	2	102	.29	.047	8	5	.16	58	.09	7	.35	.01	.19	1	82
AD-89-46	1	4	4	24	.1	3	5	1944	3.12	4	5	ND	1	161	1	2	2	71	17.05	.051	5	2	.60	359	.02	8	.53	.01	.16	4	14
AD-89-47	1	169	3	45	.2	5	11	723	3.52	3	5	ND	2	47	1	2	2	153	4.20	.212	12	4	.29	313	.01	3	.70	.01	.08	1	1
AD-89-48	7	552	5	57	.6	39	49	1098	5.71	85	5	ND	2	84	1	2	2	75	9.26	.023	3	33	2.81	74	.01	8	.63	.01	.03	1	16
AD-89-49	11	274	2	67	.1	56	13	475	3.47	8	5	ND	1	54	1	2	2	64	2.76	.096	8	52	.75	14	.15	7	1.79	.06	.02	1	2
AD-89-50	21	887	2	29	.8	17	24	168	3.29	6	5	ND	1	73	1	2	2	73	1.25	.142	4	11	1.01	29	.18	7	1.41	.03	.09	1	34
AD-89-51	11	40312	3	315	16.3	66	21	284	6.91	6	5	ND	1	31	3	2	4	76	1.10	.057	5	37	.99	19	.10	9	1.78	.02	.06	1	540
AD-89-52	27	260	3	19	.1	6	8	375	2.76	2	5	ND	1	32	1	2	3	86	2.52	.092	10	4	.17	158	.01	2	.50	.03	.11	1	3
AD-89-53	2	747	2	22	.2	69	29	66	2.61	14	5	ND	1	174	1	2	2	32	3.21	.080	8	17	.12	21	.14	5	3.49	.20	.04	1	10
AD-89-54	1	28	5	32	.1	20	9	960	4.74	21	5	ND	2	174	1	2	2	70	15.10	.017	4	37	3.78	175	.01	2	.49	.01	.03	1	2
AD-89-55	1	38	2	9	.1	1	1	1989	.50	2	5	ND	2	275	1	3	2	6	31.04	.012	20	1	.14	6	.01	2	.30	.01	.07	1	20
AD-89-56	11	132	12	30	.5	13	16	417	9.67	428	5	ND	1	95	1	3	2	79	.93	.072	2	32	1.05	78	.12	2	1.69	.01	.12	2	109
AD-89-57	26	894	2	26	1.1	35	141	102	24.10	10	5	ND	2	22	1	2	2	245	.32	.040	2	30	.79	12	.13	7	1.20	.03	.16	1	68
AD-89-58	181	1919	2	20	4.0	12	17	113	9.74	36	5	ND	1	77	1	5	2	83	.88	.046	5	29	.44	16	.11	2	.79	.04	.11	1	96
AD-89-59	35	1276	2	16	3.3	17	108	41	18.96	141	5	ND	4	17	1	6	2	52	.35	.077	2	12	.11	9	.32	3	.71	.01	.17	16	63
AD-89-60	208	4114	2	30	2.4	24	53	164	29.11	10	5	ND	2	22	1	2	2	143	.40	.030	3	44	.53	18	.09	7	1.03	.04	.15	1	119
AD-89-61	2	101	3	21	.2	6	11	1649	3.33	7	5	ND	1	91	1	2	2	54	15.98	.018	6	5	2.21	547	.01	2	.31	.01	.04	1	8
AD-89-62	3	41	2	28	.1	19	12	915	2.99	6	5	ND	1	26	1	2	2	99	15.54	.027	5	32	.34	96	.01	10	.34	.01	.03	1	2
AD-89-63	1	317	2	36	.1	10	37	406	6.56	16	5	ND	1	53	1	3	4	90	1.10	.068	2	8	.97	29	.22	4	2.11	.13	.09	1	3
AD-89-64	1	131	2	17	.1	14	17	218	4.54	7	5	ND	1	211	1	2	2	135	2.34	.058	2	21	.79	60	.23	2	3.13	.24	.08	1	7
STD C/AU-R	18	60	42	132	6.8	68	31	1019	4.11	43	20	8	38	49	18	16	17	60	.50	.089	39	53	.90	177	.07	33	2.03	.06	.14	12	520

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
AS-89-47	1	196	7	28	.2	6	11	274	3.10	2	5	ND	1	87	1	2	6	63	1.32	.116	6	12	.52	59	.10	5	1.62	.11	.11	2	2
AS-89-48	1	405	5	33	.4	23	19	129	2.63	45	5	ND	1	29	1	2	4	69	1.24	.037	2	35	.58	28	.18	7	1.76	.05	.08	5	2
AS-89-49	2	252	2	16	.2	21	25	165	4.49	6	5	ND	1	23	1	2	6	86	.76	.057	2	25	.75	17	.20	4	1.32	.07	.07	1	1
AS-89-50	10	627	8	19	.3	6	11	217	4.41	14	5	ND	1	64	1	2	2	129	.70	.157	9	11	.35	106	.10	4	1.02	.06	.23	3	9
AS-89-51	563	132	4	15	.2	8	4	85	4.70	11	5	ND	1	46	1	2	3	63	.04	.057	7	12	.15	88	.04	5	.36	.02	.16	1	1
AS-89-52	93	283	2	19	.3	5	6	134	4.22	10	5	ND	1	75	1	2	2	127	.49	.207	9	8	.43	70	.15	6	1.07	.05	.27	1	39
AS-89-53	11	43841	2	210	38.3	5	8	260	10.49	18	5	ND	1	11	4	2	18	74	.14	.070	2	21	.83	40	.03	7	1.35	.03	.18	1	1170
AS-89-54	1	766	2	29	.8	4	6	350	2.82	8	5	ND	1	37	1	2	5	102	2.30	.211	9	9	.36	32	.09	8	.88	.03	.10	2	21
AS-89-55	8	1522	2	90	2.6	65	38	319	8.61	52	5	ND	1	181	1	2	11	130	4.96	2.121	25	22	1.09	12	.05	9	1.81	.02	.04	11	112
AS-89-56	4	566	2	16	.3	24	30	129	4.70	7	5	ND	1	51	1	2	2	64	1.30	.082	3	18	.62	19	.13	6	1.92	.09	.05	1	1
AS-89-57	1	443	2	29	.7	17	15	244	3.05	2	5	ND	1	104	1	2	2	75	1.94	.064	3	23	.80	28	.26	7	2.90	.23	.06	1	8
AS-89-58	17	220	2	34	.5	25	11	172	4.56	34	5	ND	1	148	1	2	2	89	1.10	.159	3	15	1.12	12	.15	5	1.79	.02	.08	1	19
AS-89-59	95	7376	2	44	2.4	47	23	110	15.66	2	5	ND	1	23	1	2	10	188	.48	.087	2	75	.42	33	.09	12	.79	.02	.15	1	450
AS-89-60	51	25392	2	89	11.2	56	35	107	13.86	8	5	3	1	17	2	2	10	133	.41	.093	2	95	.49	24	.20	9	.71	.02	.16	1	1270
AS-89-61	3	12105	2	57	3.8	62	79	96	17.09	13	5	ND	1	33	1	2	10	186	.54	.110	2	44	.30	12	.07	6	.67	.03	.12	1	530
AS-89-62	2	4035	2	29	1.6	20	15	189	3.54	2	5	ND	1	61	1	2	10	86	1.58	.108	2	60	.90	12	.13	5	1.55	.04	.06	1	160
AS-89-63	13	616	2	21	.9	11	24	130	3.44	12	5	ND	1	58	1	2	2	65	.73	.111	6	8	.59	47	.13	4	1.06	.03	.10	7	66
AS-89-64	1	11245	4	75	3.6	56	42	174	6.41	9	5	ND	2	41	1	2	13	103	.43	.146	10	11	1.12	77	.20	5	1.63	.01	.22	1	630
AS-89-65	8	35731	2	180	27.4	109	39	201	13.26	2	5	3	1	110	3	2	13	52	.44	.072	2	67	1.45	4	.12	4	1.62	.01	.02	4	1510
AS-89-66	21	48210	2	135	49.5	114	133	97	18.43	3	5	4	1	77	4	2	11	40	.48	.090	2	68	.50	5	.12	2	.68	.01	.02	12	3050
AS-89-67	4	1860	2	25	.8	94	48	203	6.03	2	5	ND	1	124	1	2	7	83	2.14	.063	2	78	.75	16	.13	7	1.60	.03	.08	2	56
AS-89-68	9	1002	2	38	.6	11	27	281	4.28	8	5	ND	1	47	1	2	3	112	1.66	.131	6	15	.62	50	.08	5	.89	.02	.14	1	22
AS-89-69	4546	12138	2	42	4.2	45	27	53	12.64	2	5	4	1	89	1	2	19	185	.61	.138	4	67	.18	6	.19	4	.55	.03	.03	1	910
AS-89-70	480	4946	2	29	1.5	27	28	82	6.45	7	5	ND	1	33	1	2	5	114	.66	.112	5	16	.29	50	.11	10	.57	.03	.09	1	260
AS-89-71	1608	13646	6	85	3.0	78	290	166	30.57	8	5	ND	1	13	1	2	10	224	.20	.033	2	43	.56	18	.05	12	.86	.01	.22	1	500
STD C/AU-R	19	59	36	132	7.0	67	31	1027	4.08	42	21	8	39	50	19	15	22	61	.51	.099	40	59	.87	181	.07	36	2.06	.06	.13	12	520

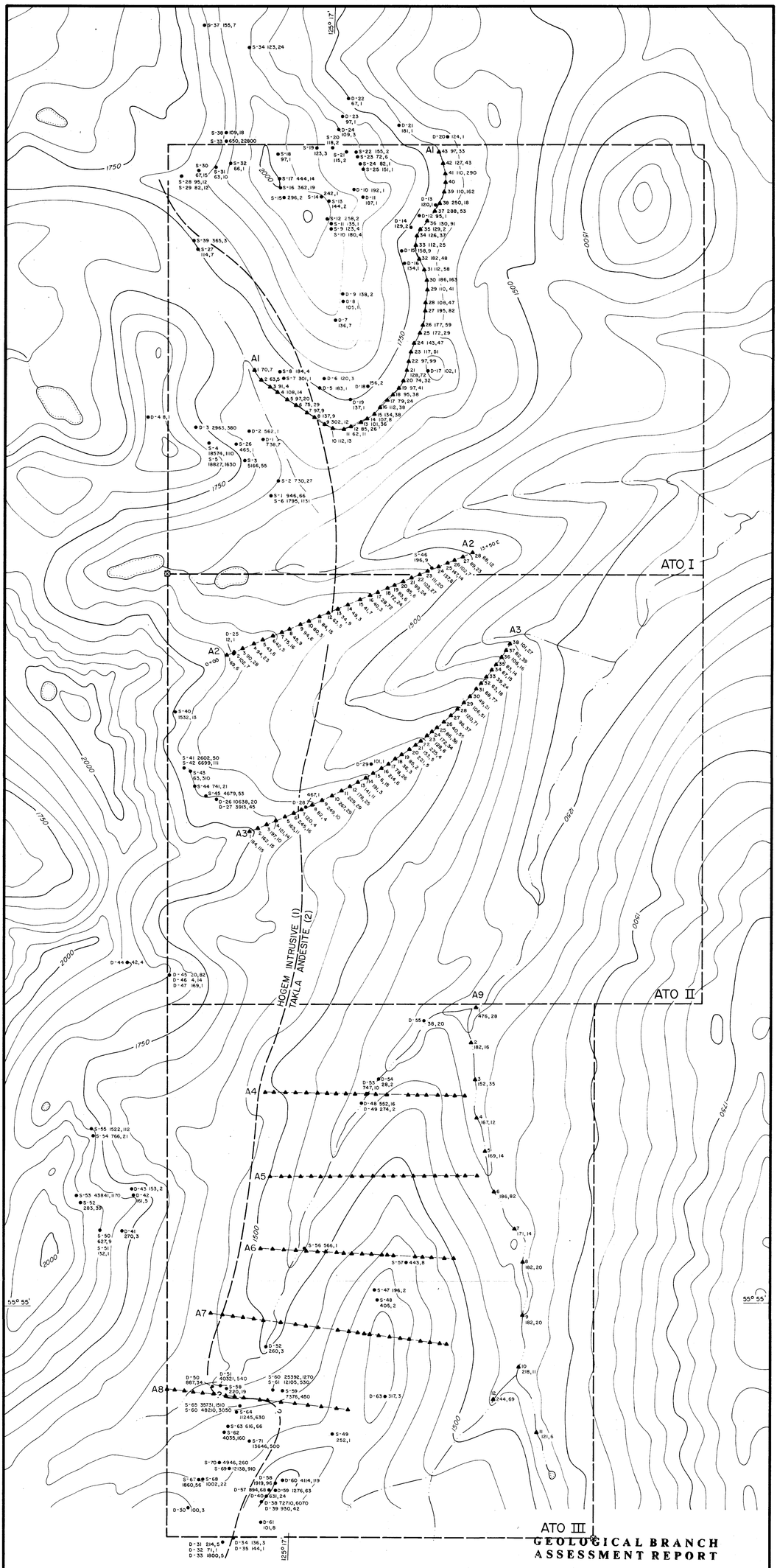
* ASSAY REQUIRED FOR CORRECT RESULT for Cu > 1%
Ag > 30 ppm

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
A4-SL-1	2	66	9	40	.1	3	10	339	6.45	6	5	ND	1	34	1	2	2	214	.21	.173	4	15	.36	45	.08	5	1.87	.01	.03	1	4
A4-SL-2	2	74	7	50	.1	8	13	243	6.96	4	5	ND	1	30	1	2	2	244	.32	.165	6	27	.53	52	.14	7	1.60	.01	.06	1	1
A4-SL-3	4	199	10	69	.1	9	15	511	7.06	13	5	ND	1	43	1	2	2	218	.79	.519	11	20	.71	60	.09	6	2.86	.01	.04	1	4
A4-SL-4	5	187	5	60	.1	6	12	259	6.48	7	5	ND	1	37	1	2	2	189	.39	.316	7	18	.49	53	.06	4	2.16	.01	.04	1	3
A4-SL-5	3	74	6	45	.1	4	9	390	5.38	5	5	ND	1	44	1	2	2	181	.32	.141	5	19	.27	68	.04	7	1.17	.01	.04	1	6
A4-SL-6	3	50	6	41	.1	5	8	248	4.83	5	5	ND	1	58	1	2	2	192	.29	.057	4	15	.21	104	.09	4	.93	.01	.04	1	3
A4-SL-7	4	63	6	42	.1	6	11	181	6.86	2	5	ND	1	41	1	2	2	238	.25	.082	4	24	.27	105	.09	8	1.26	.01	.03	1	3
A4-SL-8	6	95	7	54	.1	9	12	266	6.39	4	5	ND	1	81	1	2	2	216	.57	.083	7	27	.50	115	.11	6	2.04	.01	.04	1	3
A4-SL-9	6	74	10	68	.2	10	12	189	6.26	8	5	ND	1	60	1	2	2	189	.38	.155	3	26	.49	65	.10	6	1.85	.01	.04	1	5
A4-SL-10	3	60	10	43	.6	6	9	126	5.88	5	5	ND	1	53	1	2	2	215	.22	.084	4	30	.27	67	.08	8	2.11	.01	.03	1	4
A4-SL-11	5	304	6	66	.2	10	12	312	5.06	9	5	ND	1	110	1	2	2	210	1.07	.106	7	27	.65	112	.08	8	1.63	.01	.05	1	7
A4-SL-12	11	110	6	90	.3	14	16	512	6.25	266	5	ND	1	64	1	2	2	200	.50	.115	7	32	.87	58	.10	7	2.29	.01	.04	1	2
A4-SL-13	4	194	7	58	.1	5	14	878	6.02	14	5	ND	1	36	1	2	3	179	.43	.279	8	25	.39	43	.08	5	6.15	.01	.03	1	2
A4-SL-14	3	156	10	59	.1	13	13	347	6.39	15	5	ND	1	74	1	2	2	204	.63	.164	7	34	.66	66	.10	4	3.65	.01	.04	1	7
A4-SL-15	2	78	6	45	.1	11	9	496	4.76	30	5	ND	1	90	1	2	2	166	.52	.052	5	30	.37	85	.14	8	2.68	.01	.03	1	20
A4-SL-16	3	161	9	54	.1	22	13	315	5.97	13	5	ND	1	65	1	2	2	155	.47	.098	4	40	.88	74	.14	5	4.57	.01	.04	1	7
A4-SL-17	2	102	9	50	.3	13	12	256	5.96	28	5	ND	1	70	1	2	2	150	.54	.116	4	31	.71	72	.15	5	4.82	.01	.04	1	7
A4-SL-18	2	137	12	45	.9	12	11	456	4.87	23	5	ND	2	70	1	2	2	94	.62	.151	4	32	.53	79	.12	8	7.34	.01	.04	6	8
A4-SL-19	1	74	10	50	.1	9	12	254	7.73	22	5	ND	1	123	1	2	2	186	.59	.156	3	23	.60	90	.17	4	4.40	.02	.05	1	6
A4-SL-20	1	53	9	48	.5	14	11	253	5.37	10	5	ND	3	115	1	3	3	154	.54	.088	4	34	.69	98	.18	4	3.34	.02	.05	2	36
A4-SL-21	3	101	11	62	.1	16	16	854	4.60	25	5	ND	1	100	1	2	2	123	.71	.087	3	30	.72	95	.10	5	3.73	.02	.05	1	7
A5-SL-1	3	46	9	38	.1	6	8	226	6.07	6	5	ND	1	66	1	2	2	203	.29	.091	6	20	.32	70	.13	10	2.25	.01	.03	1	1
A5-SL-2	3	106	5	50	.1	6	9	182	5.29	8	5	ND	1	54	1	2	2	181	.55	.231	7	18	.40	57	.09	10	2.71	.01	.03	1	3
A5-SL-3	3	77	7	70	.1	11	15	329	8.05	7	5	ND	2	57	1	2	2	266	.36	.203	5	32	.70	68	.15	7	2.23	.01	.04	1	3
A5-SL-4	4	89	5	65	.1	11	16	350	8.20	6	5	ND	1	52	1	2	2	274	.45	.191	7	32	.75	121	.13	6	2.23	.01	.05	1	5
A5-SL-5	7	87	7	44	.7	4	9	321	4.29	6	5	ND	1	81	1	2	2	157	.93	.184	8	18	.45	86	.07	7	1.71	.01	.04	1	8
A5-SL-6	5	254	7	47	.4	12	16	300	5.45	14	5	ND	2	61	1	2	2	160	.76	.124	6	34	.70	58	.10	6	2.69	.02	.05	3	9
A5-SL-7	3	161	5	40	.1	10	12	240	5.93	7	5	ND	1	46	1	2	2	188	.47	.089	5	39	.57	64	.11	8	2.52	.01	.06	2	13
A5-SL-8	8	155	7	48	.3	11	15	849	5.69	53	5	ND	1	74	1	3	2	167	.46	.065	5	29	.68	125	.13	4	2.58	.01	.06	4	7
A5-SL-9	4	144	11	34	.2	12	11	199	5.30	11	5	ND	2	35	1	2	2	123	.39	.086	4	46	.56	69	.12	8	4.42	.01	.05	2	23
A5-SL-10	3	112	7	41	.2	10	11	308	3.96	9	5	ND	1	42	1	2	2	105	.43	.088	3	27	.54	77	.10	4	3.83	.01	.05	1	9
A5-SL-11	2	73	7	46	.1	12	11	311	4.77	19	5	ND	1	67	1	2	2	137	.55	.055	4	28	.52	76	.19	6	3.37	.02	.05	1	7
A5-SL-12	4	179	9	43	.3	13	14	1564	7.29	16	5	ND	1	114	1	2	2	114	1.09	.087	4	25	.58	86	.14	8	3.42	.02	.06	5	13
A5-SL-13	2	158	3	39	.1	13	9	196	3.78	13	5	ND	1	41	1	2	2	61	.62	.117	3	30	.51	52	.10	6	9.21	.01	.04	12	1
A5-SL-14	3	124	6	40	.4	9	13	649	6.48	15	5	ND	1	71	1	2	2	149	.48	.088	4	24	.47	87	.18	8	3.65	.01	.05	1	5
A5-SL-15	4	118	10	48	.3	11	10	249	6.40	11	5	ND	2	55	1	2	2	154	.52	.070	3	34	.61	54	.25	2	5.60	.02	.04	2	27
STD C/AU-S	18	61	42	132	6.8	67	31	1019	4.13	43	22	6	39	50	18	15	20	60	.49	.088	40	55	.88	180	.07	38	2.00	.06	.14	11	47

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
A5-SL-16	6	286	9	44	.1	5	16	214	27.36	42	5	ND	2	29	1	2	2	104	.33	.101	2	20	.27	31	.18	9	1.95	.01	.03	4	12
A5-SL-17	6	188	10	65	.1	26	15	370	7.13	19	5	ND	1	92	1	2	2	120	.57	.061	5	48	1.06	99	.19	4	4.32	.02	.07	2	5
A5-SL-18	2	64	8	54	.1	16	14	344	6.53	26	5	ND	1	84	1	2	2	148	.55	.097	3	30	.70	64	.16	6	4.55	.02	.04	3	8
A5-SL-19	2	75	10	41	.1	12	11	238	5.49	10	5	ND	1	79	1	2	2	164	.51	.055	4	33	.67	57	.19	6	3.43	.02	.04	2	11
A5-SL-20	1	72	9	50	.1	14	12	259	3.91	9	5	ND	1	72	1	2	2	110	.50	.052	3	31	.67	78	.12	6	3.32	.02	.03	1	6
A5-SL-21	1	56	11	43	.1	14	12	204	5.55	5	5	ND	1	54	1	2	2	159	.43	.083	3	42	.67	66	.19	6	4.75	.02	.04	2	3
A6-SL-1	3	169	8	43	.1	9	14	395	7.34	5	5	ND	1	63	1	2	2	260	.84	.259	11	29	.50	44	.05	14	2.15	.01	.03	1	11
A6-SL-2	22	290	7	83	.1	11	15	475	6.16	11	5	ND	1	89	1	2	4	253	1.01	.331	17	27	1.04	123	.09	4	2.72	.01	.09	1	3
A6-SL-3	8	419	4	72	.1	14	24	847	8.77	4	5	ND	1	99	1	2	2	322	1.35	.282	16	35	1.23	155	.12	7	2.69	.01	.14	1	8
A6-SL-4	9	333	7	53	.3	12	15	403	6.35	3	5	ND	1	64	1	2	2	247	.83	.223	10	25	.85	78	.11	8	2.51	.01	.06	2	7
A6-SL-5	7	209	3	41	.1	13	14	295	8.11	6	5	ND	1	57	1	2	2	284	.54	.142	7	41	.73	61	.14	3	2.61	.01	.03	1	8
A6-SL-6	14	121	7	33	.1	8	11	152	5.52	8	5	ND	1	25	1	2	2	142	.24	.089	3	31	.63	58	.05	3	2.31	.01	.05	5	6
A6-SL-7	6	306	9	21	.1	13	14	298	5.39	4	5	ND	1	32	1	2	2	118	.48	.112	4	57	.51	61	.07	2	3.06	.02	.04	4	16
A6-SL-8	4	44	7	18	.1	5	6	96	3.78	2	5	ND	1	31	1	2	2	124	.29	.030	3	26	.32	29	.08	2	2.73	.01	.03	1	4
A6-SL-9	13	89	9	27	.8	6	12	197	8.15	62	5	ND	1	53	1	2	2	232	.23	.071	5	27	.45	69	.14	8	3.30	.01	.03	4	10
A6-SL-10	9	74	8	24	.1	7	11	158	4.19	8	5	ND	1	64	1	2	2	134	.43	.062	4	15	.41	71	.14	6	1.81	.01	.05	8	7
A6-SL-11	23	240	10	49	.4	17	24	326	8.97	13	5	ND	3	87	1	2	2	147	.90	.041	8	26	.85	67	.14	3	3.17	.02	.05	4	4
A6-SL-12	7	178	9	28	.3	8	14	175	5.25	43	5	ND	1	120	1	2	3	121	.76	.106	3	14	.60	98	.10	5	4.98	.02	.05	4	9
A6-SL-13	1	79	9	19	.1	6	8	155	3.97	6	5	ND	1	135	1	2	2	96	.47	.082	2	12	.38	131	.11	2	4.18	.02	.04	3	5
A6-SL-14	1	154	11	24	.2	9	19	257	3.54	15	5	ND	1	119	1	2	2	89	1.96	.077	4	9	.59	46	.11	4	7.84	.02	.08	4	11
A6-SL-15	1	191	7	47	.1	17	15	231	3.89	7	5	ND	1	82	1	2	3	102	.95	.076	4	22	.79	91	.16	4	6.58	.02	.04	2	21
A6-SL-16	2	110	7	52	.1	14	12	189	5.19	11	5	ND	1	105	1	2	2	94	.46	.075	4	27	.60	105	.12	5	6.55	.01	.03	2	26
A6-SL-17	3	111	8	72	.1	13	14	286	5.18	32	5	ND	1	111	1	2	2	119	.71	.060	5	24	.68	80	.10	3	4.56	.02	.04	1	11
A6-SL-18	2	131	8	71	.1	19	13	339	5.24	28	5	ND	1	93	1	2	2	92	.73	.082	3	27	.70	53	.10	4	6.72	.01	.05	1	8
A6-SL-19	2	88	10	61	.2	11	10	274	5.42	70	5	ND	1	119	1	2	2	113	.58	.086	3	23	.76	63	.06	3	4.35	.01	.04	1	10
A6-SL-20	1	61	6	30	.3	6	9	369	4.18	16	5	ND	1	219	1	2	2	102	.63	.070	4	14	.51	135	.06	4	4.38	.01	.04	3	11
A7-SL-1	4	159	11	47	.4	19	16	399	6.00	15	5	ND	2	70	1	2	3	136	.72	.086	3	33	1.36	71	.13	6	7.05	.03	.05	3	8
A7-SL-2	1	220	10	115	.4	27	13	394	6.37	849	5	ND	1	142	1	2	2	77	1.75	.107	8	27	.79	67	.04	8	4.76	.03	.04	1	40
A7-SL-3	2	77	3	75	.1	29	13	334	4.09	43	5	ND	1	173	1	2	2	119	1.79	.076	4	41	1.03	74	.08	5	5.04	.02	.06	2	8
A7-SL-4	1	63	12	65	.2	15	11	391	4.81	10	5	ND	1	141	1	2	2	117	.43	.070	5	25	.71	116	.09	2	5.22	.01	.06	1	4
A7-SL-5	1	67	5	51	.1	12	10	295	4.75	8	5	ND	1	91	1	2	2	110	.45	.087	4	24	.66	98	.11	6	5.75	.02	.04	1	7
A7-SL-6	1	102	7	62	.3	14	15	471	4.95	8	5	ND	1	220	1	2	2	114	.87	.098	4	27	.88	144	.10	6	4.83	.03	.07	1	11
A7-SL-7	2	178	6	57	.1	22	29	505	6.28	8	5	ND	1	249	1	2	2	135	1.09	.095	4	34	.96	111	.13	5	5.95	.05	.05	1	7
A7-SL-8	1	142	10	59	.3	21	19	255	4.58	11	5	ND	3	125	1	2	2	82	.49	.071	9	34	.86	82	.08	7	4.71	.03	.05	1	3
A7-SL-9	2	89	6	51	.3	14	11	153	3.74	5	5	ND	1	191	1	2	2	79	.60	.090	6	25	.60	94	.08	4	4.90	.03	.04	2	10
A7-SL-10	2	75	7	67	.3	12	9	155	4.05	3	5	ND	1	178	1	3	2	86	.44	.088	4	24	.48	105	.07	2	4.36	.02	.06	2	9
STD C/AU-S	19	61	37	132	6.6	69	31	1027	4.14	40	21	6	37	50	19	14	21	61	.49	.089	40	55	.89	180	.07	37	2.01	.06	.14	13	53

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
A7-SL-11	6	245	4	50	.1	15	25	212	5.22	7	5	ND	1	176	1	2	2	95	.57	.067	3	22	.76	109	.08	2	5.31	.02	.06	2	1
A7-SL-12	7	483	10	47	.1	18	32	311	5.41	9	5	ND	1	171	1	2	2	119	1.38	.096	3	23	.81	45	.10	2	5.23	.02	.12	6	1
A7-SL-13	19	820	4	53	.1	16	31	307	6.45	7	5	ND	1	110	1	2	2	90	.58	.105	3	21	.80	65	.07	2	7.19	.02	.02	1	23
A7-SL-14	16	3102	4	49	.4	52	67	369	5.13	13	5	ND	1	160	1	3	2	103	2.57	.076	13	37	1.14	38	.08	5	4.33	.03	.27	1	1
A7-SL-15	15	384	8	49	.2	19	23	355	4.44	6	5	ND	1	62	1	2	2	117	.67	.073	5	20	.87	113	.06	4	3.27	.02	.07	2	2
A7-SL-16	5	93	3	76	.1	46	16	432	5.79	3	5	ND	2	86	1	2	4	209	.46	.155	6	61	1.30	94	.16	4	2.31	.01	.07	1	6
A7-SL-17	5	550	7	69	.4	17	18	456	9.15	9	5	ND	3	66	1	2	2	263	.67	.261	8	36	1.19	68	.17	2	4.18	.01	.05	1	1
A7-SL-18	5	333	4	71	.1	13	14	598	5.79	5	5	ND	1	92	1	2	2	217	.75	.233	9	25	.94	71	.10	7	2.55	.01	.04	1	1
A7-SL-19	3	297	5	51	.2	11	14	445	6.29	11	5	ND	1	58	3	4	3	215	.78	.229	10	26	.62	48	.09	3	3.64	.01	.04	2	1
A7-SL-20	3	197	6	54	.1	11	12	304	6.73	12	5	ND	1	79	1	2	2	222	.59	.194	8	27	.67	76	.11	3	3.36	.01	.03	1	3
A7-SL-21	5	213	4	64	.1	12	12	415	5.84	6	5	ND	1	75	1	2	2	193	.56	.151	6	27	.68	57	.07	6	2.06	.01	.04	3	2
A7-SL-22	2	114	9	67	.2	12	12	410	5.66	4	5	ND	2	46	1	2	2	204	.55	.185	10	23	.70	60	.09	6	2.63	.01	.06	1	2
A7-SL-23	3	101	4	77	.1	9	15	400	6.92	6	5	ND	1	43	1	2	2	215	.62	.427	9	21	.88	62	.11	6	2.39	.01	.05	1	1
A8-SL-1	7	190	3	123	.1	15	16	738	7.16	9	5	ND	1	124	1	2	2	242	1.03	.233	10	29	.97	91	.06	6	2.79	.01	.06	1	4
A8-SL-2	13	91	5	84	.1	7	18	604	6.17	4	5	ND	2	44	1	2	2	263	1.40	.375	14	10	1.06	49	.15	2	1.60	.01	.10	1	2
A8-SL-3	2	151	5	48	.2	9	8	257	4.63	4	5	ND	1	91	1	2	2	148	.65	.199	7	15	.43	121	.06	2	4.29	.01	.03	1	3
A8-SL-4	2	74	2	48	.2	7	11	291	7.61	9	5	ND	1	53	1	4	2	256	.24	.087	5	23	.47	43	.13	3	2.74	.01	.03	1	1
A8-SL-5	2	317	2	59	.4	13	14	283	6.24	7	5	ND	3	63	1	2	4	171	.54	.122	6	45	.93	56	.11	2	4.24	.01	.04	1	5
A8-SL-6	9	60	9	33	.2	7	8	190	4.55	5	5	ND	1	112	1	2	2	196	.34	.080	5	23	.57	83	.12	3	2.17	.01	.03	1	1
A8-SL-7	5	204	3	67	.1	11	13	579	8.19	7	5	ND	1	55	1	2	2	295	.39	.367	12	20	1.13	57	.13	3	2.39	.01	.13	1	1
A8-SL-8	10	1320	2	95	.4	67	35	626	7.59	9	5	ND	2	70	1	2	2	168	.33	.063	3	146	2.30	50	.14	2	4.39	.01	.11	3	11
A8-SL-9	13	1327	5	31	.9	21	14	255	6.31	7	5	ND	2	60	1	3	4	140	.39	.121	5	70	.77	51	.10	5	4.33	.01	.04	2	1
A8-SL-10	21	1973	6	35	.2	43	21	317	6.17	12	5	ND	2	68	1	2	2	130	.63	.113	6	97	1.02	59	.11	2	4.26	.01	.06	2	44
A8-SL-11	17	594	3	35	.4	22	16	269	6.05	14	5	ND	1	61	1	2	2	163	.38	.087	5	55	.38	52	.13	6	2.82	.01	.06	2	5
A8-SL-12	9	1324	4	36	.3	23	17	253	5.20	12	5	ND	2	71	1	3	2	165	.62	.174	8	42	.80	51	.10	2	5.37	.01	.04	2	14
A8-SL-13	6	490	5	62	.1	22	13	479	6.19	9	5	ND	1	114	1	2	2	178	.61	.117	7	43	.82	79	.11	2	3.27	.02	.04	1	4
A8-SL-14	10	506	9	66	.4	23	22	548	4.47	9	5	ND	1	141	1	2	2	112	1.45	.093	7	31	1.15	47	.09	3	3.42	.03	.06	2	5
A8-SL-15	7	480	9	142	.2	20	35	725	5.16	8	5	ND	1	158	1	2	2	133	1.63	.050	7	35	1.38	71	.07	2	3.64	.03	.08	1	6
A8-SL-16	3	216	9	47	.4	19	25	314	4.72	5	5	ND	1	97	1	2	3	118	.62	.092	5	28	.95	81	.09	4	6.64	.02	.05	2	1
A8-SL-17	4	183	3	32	.6	15	16	284	4.62	6	6	ND	3	94	1	4	2	105	.52	.168	6	27	.79	96	.06	2	5.17	.02	.04	2	2
STD C/AU-S	18	62	38	131	6.6	73	31	1021	4.07	40	22	6	36	50	18	18	18	60	.49	.088	39	55	.89	177	.07	32	2.00	.06	.13	12	51

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
A9-SI-1	5	476	4	39	.3	18	28	373	7.35	9	5	ND	1	73	1	2	2	245	1.01	.124	6	43	.72	67	.08	2	1.44	.01	.07	8	28
A9-SI-2	2	182	4	33	.1	18	24	447	4.13	8	5	ND	1	111	1	2	2	111	1.27	.056	3	38	1.03	53	.10	4	2.21	.03	.08	5	16
A9-SI-3	1	152	4	32	.1	16	23	400	4.22	9	5	ND	1	95	1	2	2	112	1.17	.056	3	37	.94	49	.09	2	1.95	.03	.08	5	35
A9-SI-4	2	167	2	35	.1	20	26	455	4.22	8	5	ND	1	114	1	2	2	107	1.29	.056	3	36	1.08	56	.11	4	2.28	.03	.09	3	12
A9-SI-5	2	169	7	36	.1	18	26	460	4.18	10	5	ND	1	118	1	2	2	107	1.33	.058	3	36	1.08	68	.10	2	2.31	.03	.08	4	14
A9-SI-6	2	186	5	37	.2	18	28	477	4.17	12	5	ND	1	107	1	2	2	104	1.31	.064	3	36	1.09	58	.08	2	2.24	.03	.08	2	82
A9-SI-7	2	171	2	37	.3	19	26	439	4.26	15	5	ND	1	107	1	2	2	113	1.27	.056	3	38	1.02	51	.10	2	2.14	.03	.08	3	14
A9-SI-8	2	182	2	39	.1	19	29	478	4.75	11	5	ND	1	116	1	2	2	123	1.35	.062	3	40	1.10	61	.11	2	2.36	.03	.09	4	12
A9-SI-9	2	182	4	36	.1	21	29	439	4.22	8	5	ND	1	122	1	2	2	102	1.31	.055	3	35	1.06	60	.11	2	2.30	.03	.09	2	20
A9-SI-10	2	218	6	37	.1	22	33	517	4.53	11	5	ND	1	135	1	2	2	104	1.42	.062	3	35	1.13	70	.11	6	2.53	.03	.10	2	11
A9-SI-11	1	121	8	48	.1	20	17	277	3.32	6	5	ND	1	100	1	2	2	101	1.03	.064	4	40	1.11	67	.11	2	2.77	.02	.07	2	6
A9-SI-12	1	244	4	42	.1	19	29	531	5.16	9	5	ND	1	165	1	2	2	130	1.37	.072	4	37	1.05	75	.10	3	2.59	.03	.09	2	69
STD C/AU-S	18	59	39	133	7.0	69	31	1016	4.16	43	18	8	39	50	19	15	22	60	.51	.090	40	55	.90	179	.07	36	2.05	.06	.13	12	49



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,449

LEGEND

1 HOGEM INTRUSIVE (UPPER TRIASSIC → MID JURASSIC)
MASSIVE COARSE TO FINE GRAINED GRANODIORITE THROUGH DIORITE AND QUARTZ MONZONITE. LOCAL QUARTZ FELDSPAR PORPHYRY DYKES CUT THE ADJACENT VOLCANICS

2 TAKLA GROUP (TRIASSIC)
MAINLY DARK GREEN ANDESITIC VOLCANIC ROCKS WITH LOCAL TUFF, WACKE AND MASSIVE FLOWS COMMONLY CUT BY AUGITE PORPHYRY DYKES SOME WITH HORNBLENDE

● ROCK SAMPLE LOCATION
616, 66 Cu ppm, Au ppb
NOTE: ALL ROCK SAMPLE NUMBERS ARE PREFIXED "A"; i.e.:
AD-89-- --
AS-89- --

▲ SOIL/SILT SAMPLE LOCATION
218, 11 Cu ppm, Au ppb

NOTE: COPPER, GOLD GEOCHEMISTRY FOR SOIL LINES A4-A8 ARE PRESENTED IN FIGURE 5

CATHEDRAL GOLD CORPORATION

ATO PROPERTY

FIGURE 3

N.T.S. 93 N/14
M. D. OMINECA

1989
SAMPLE LOCATION MAP
COPPER, GOLD GEOCHEMISTRY

metres 0 200 400 600 800 metres

SCALE: 1:10000	GEOLOGIST: S. BISHOP
DATE: NOVEMBER, 1989	DRAWN BY: J. CORKUM