

85-185-13575
4126

ASSESSMENT REPORT
GEOCHEMICAL SAMPLING
EAST & WEST IMPERIAL GROUP
(EAST IMPERIAL 1138(4); WEST IMPERIAL 1139(4))

NANAIMO MINING DIVISION

92F/2E, 92F/1W

49°06'N 124°30'W

FOR
IMPERIAL METALS CORPORATION
BY

A.M.S. CLARK, Ph.D. FGAC
SENIOR GEOLOGIST

MARCH 1985

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

13,575

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SUMMARY

Stream silt samples collected as a follow-up on previous regional sampling and an airborne INPUT survey indicate the area is anomalous in base metals (copper, zinc and barium) but not in precious metals (gold, silver and arsenic).

Further work in the form of soil sampling and geological investigation is required.

INTRODUCTION

Objectives

A previous regional stream-silt sampling program had indicated silt samples with anomalous values of gold, copper, arsenic, barium and zinc from streams draining the area of the claims. The program was designed to determine in more detail, the source of the regional anomalous samples.

Location

The East and West Imperial claims are situated approximately 40 kms west southwest of Nanaimo on the watershed between the Nitinat and the Nanaimo Rivers (Figure 1).

Property

The property consists of 2 adjoining claims at the head of the Nanaimo River.

<u>Name</u>	<u>Units</u>	<u>Record No.</u>
East Imperial	20	1138(4)
West Imperial	10	1139(4)

See Figures 2 and 3

Access

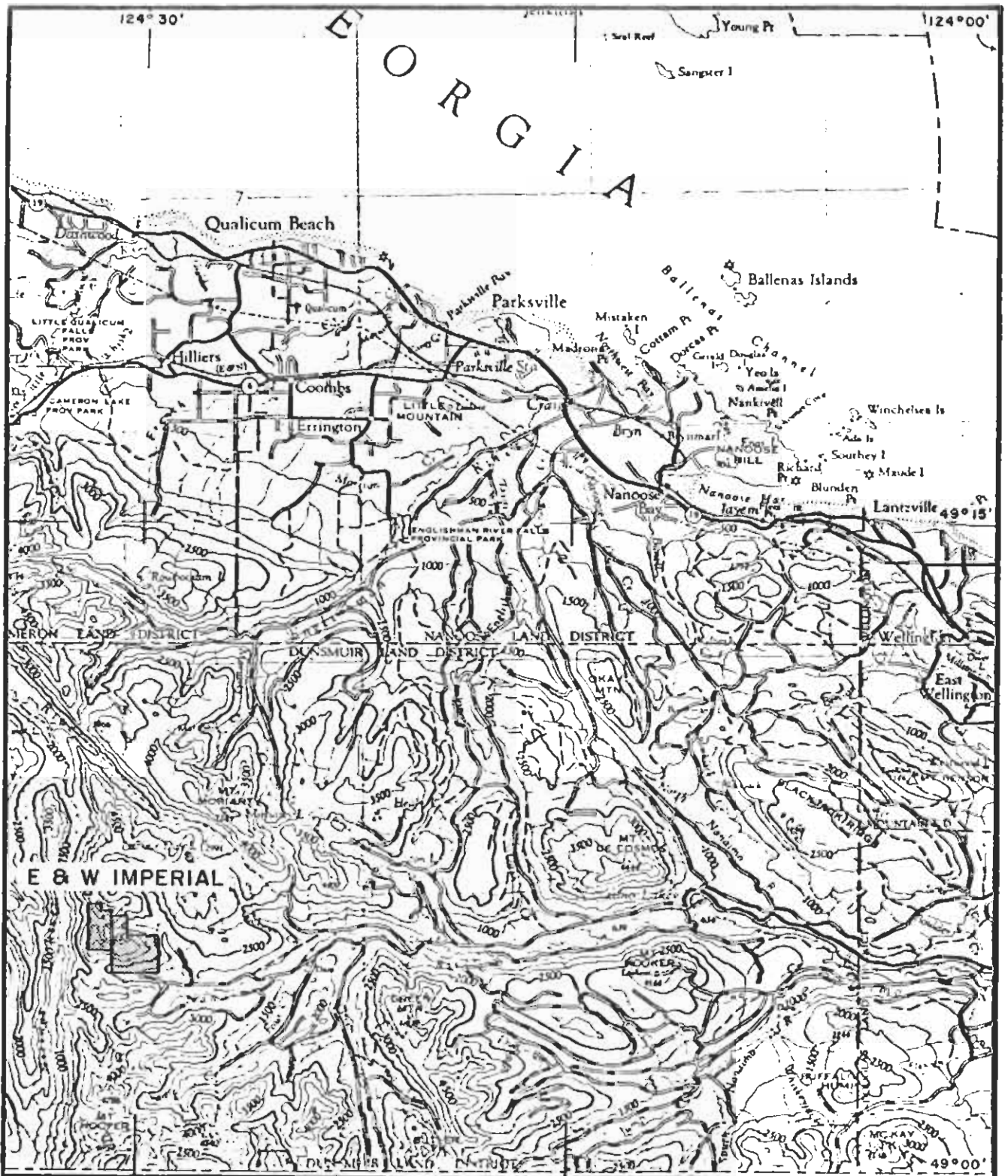
Access is by logging road (Crown Forest Industries) from South Wellington, south of Nanaimo along the Nitinat road past Fourth Lake.

Operations

The program was undertaken from Nanaimo, on a daily basis from July 26th to 29th and on October 6th 1984.

Physiography

Topography is steep and heavily wooded, except where logging has been completed. The claims overly the crest of a ridge and down both sides of the ridge, from about 1,330m down to about 560m above sea level.



IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 1

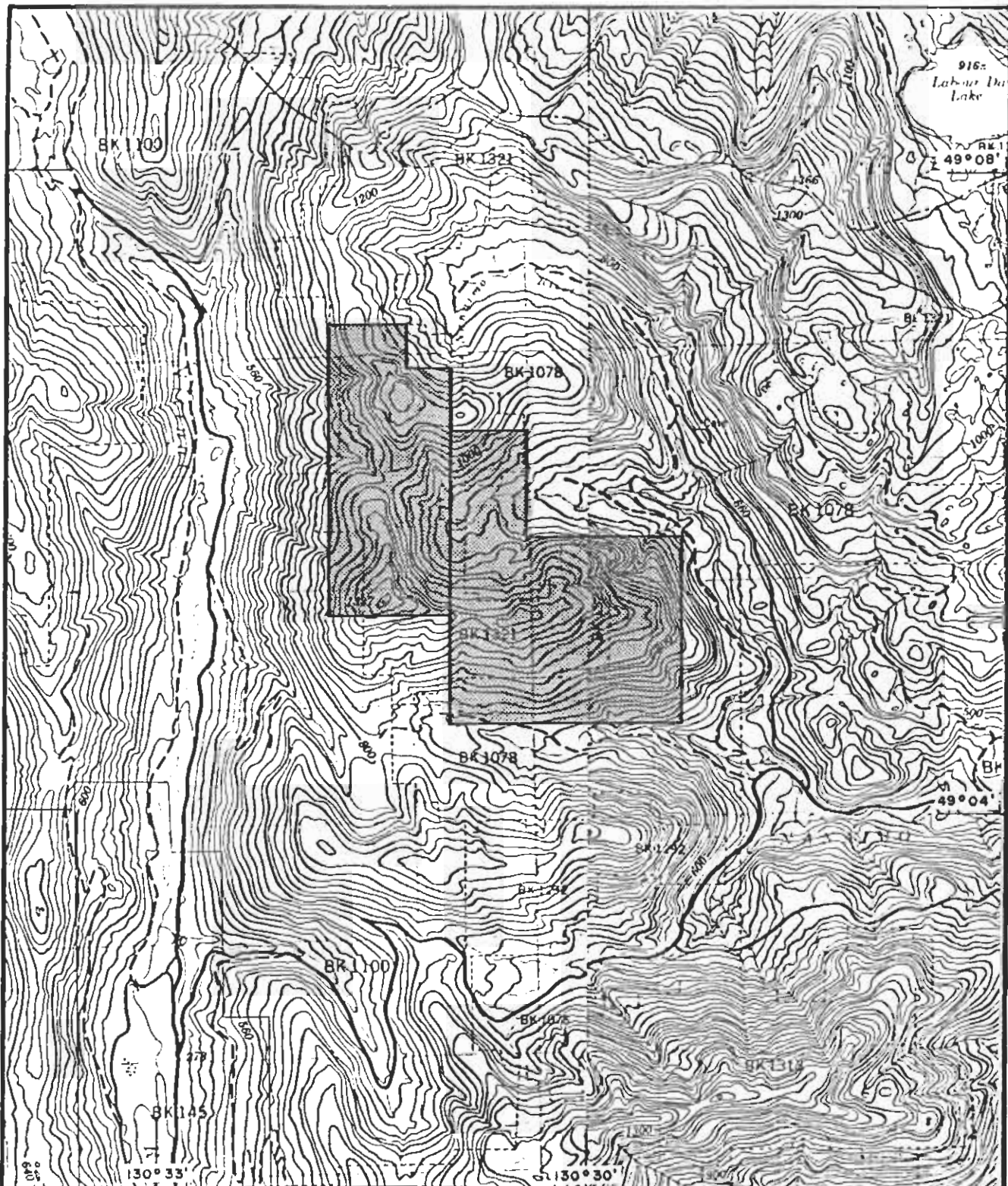
N.T.S. 92F

LOCATION MAP



SCALE: 1:250 000
DATE: MARCH 1985

GEOLOGIST: A. CLARK
DRAWN BY: S. HAWORTH



IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 2

N.T.S. 92F/1W & 2E

TOPOGRAPHIC MAP

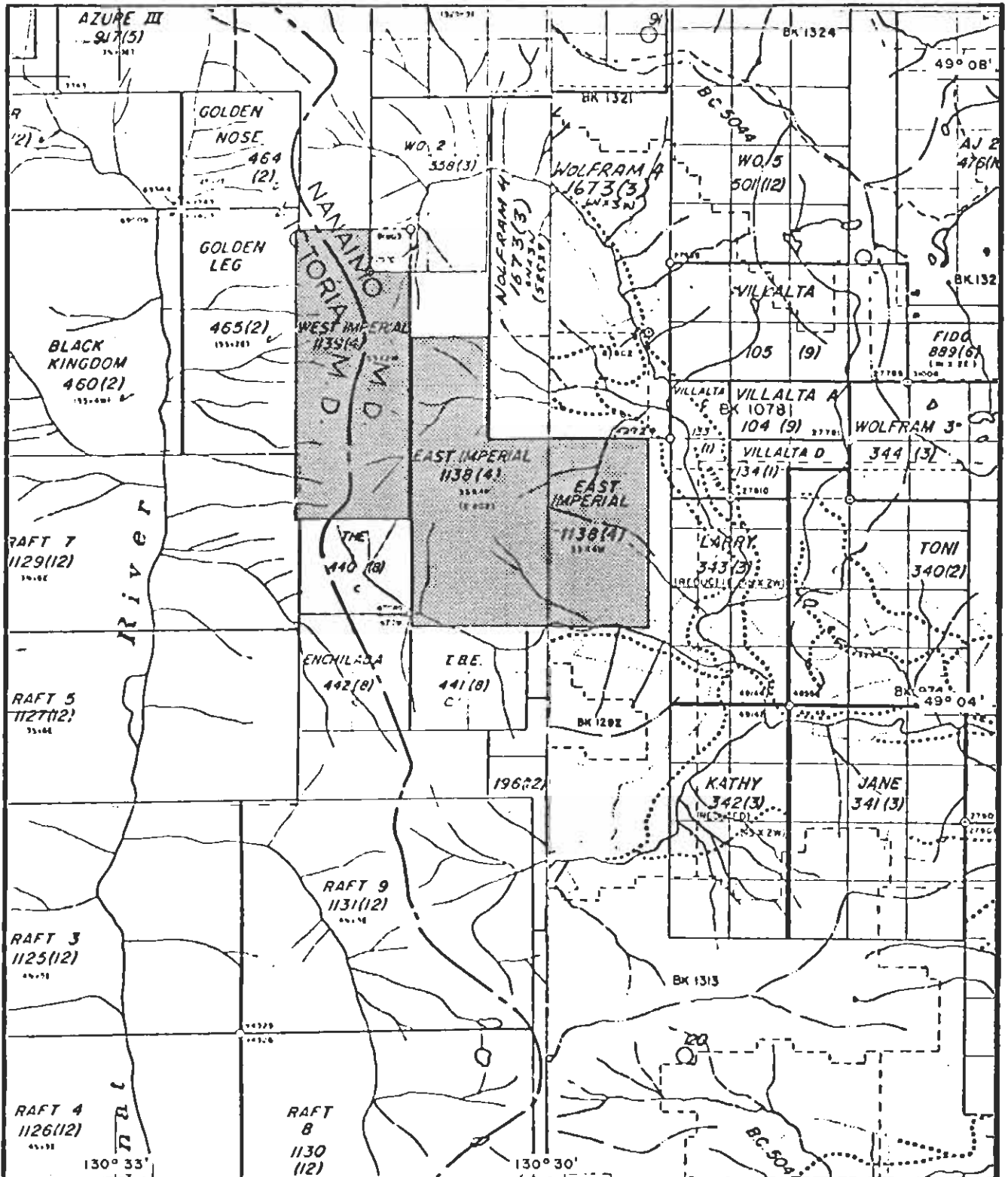


SCALE: 1:50 000

GEOLOGIST: A. CLARK

DATE: MARCH 1985

DRAWN BY: S. HAWORTH



IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 3

N.T.S. 92F/IW 8 2E

CLAIM MAP



SCALE: 1:50 000
DATE: MARCH 1985

GEOLOGIST: A. CLARK
DRAWN BY: S. HAWORTH

ITEMIZED COST STATEMENT

Stream Sampling

1 man @ \$110/day for 4 days	\$ 440
1 man @ \$ 75/day for 3 days	225

Chemical Analyses

88 samples for ICP and Au by AA @ \$12.10/sample	1,065
--	-------

Supervision

1 man @ \$250/day for 1 day	250
-----------------------------	-----

Truck Rental

5 days @ \$24/day	120
Mileage, gas and insurance costs	50

Board & Lodging

8 man-days @ \$60/man-day	480
---------------------------	-----

Mobilization/Demobilization

300

SUB-TOTAL \$ 2,930

Report Writing, drafting and overhead costs @ 15% 440

TOTAL \$ 3,370

PREVIOUS WORK

Published

In 1968 Muller and Carson published a report on the geology and mineral deposits of Alberni Map area, which includes the area of the East and West Imperial claims.

Assessment

No previous assessment work is known for the area of these claims.

GEOLOGY

According to Muller and Carson (1981) the property is underlain by the volcanic and volcanoclastic greenstone members of the Lower Sicker Group (Pennsylvanian and older). The property has not been geologically mapped to date (Figure 4).



Legend

- Approx. Geological Boundary
- ∕ ∕ Bedding (Inclined, Vertical)
- ~ Fault
- 23 Glacial & Alluvial Deposits
- 21 Diorite, Monzonite, Dacite, Breccia
- 13 Extension-Protection Fm.
- 12 Haslam Fm.
- 11 Comox Fm.
- 9 Island Intrusions
- 5 Karmutsen Fm.
- 3 Sicker: Buttle Lake Fm.
- 2 Sicker: Argellite, Greywacke, Conglomerate
- 1 Sicker: Volc. Breccia, Tuff, Argellite

From MULLER, G.S.C. Paper 68-50, Map 17-1968

IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 4

N.T.S. 92F

GEOLOGY MAP



SCALE: 1 : 250 000
DATE: MARCH 1985

GEOLOGIST: A. CLARK
DRAWN BY: S. HAWORTH

GEOCHEMISTRY

Sample Collection and Analysis

Stream silt samples were collected where possible from areas of silt build-up in the stream beds. However, many of the stream sediments are cobbles and pebbles, in which case the silts were collected from pore-spaces between the clasts.

Analyses were by the Induction Coupled Plasma method for 30 elements, and by atomic absorption for gold. The method employed by the laboratory, and the elements and results are given in the Appendix. The elements considered of significance in this program, with their assumed anomalous thresholds, are:

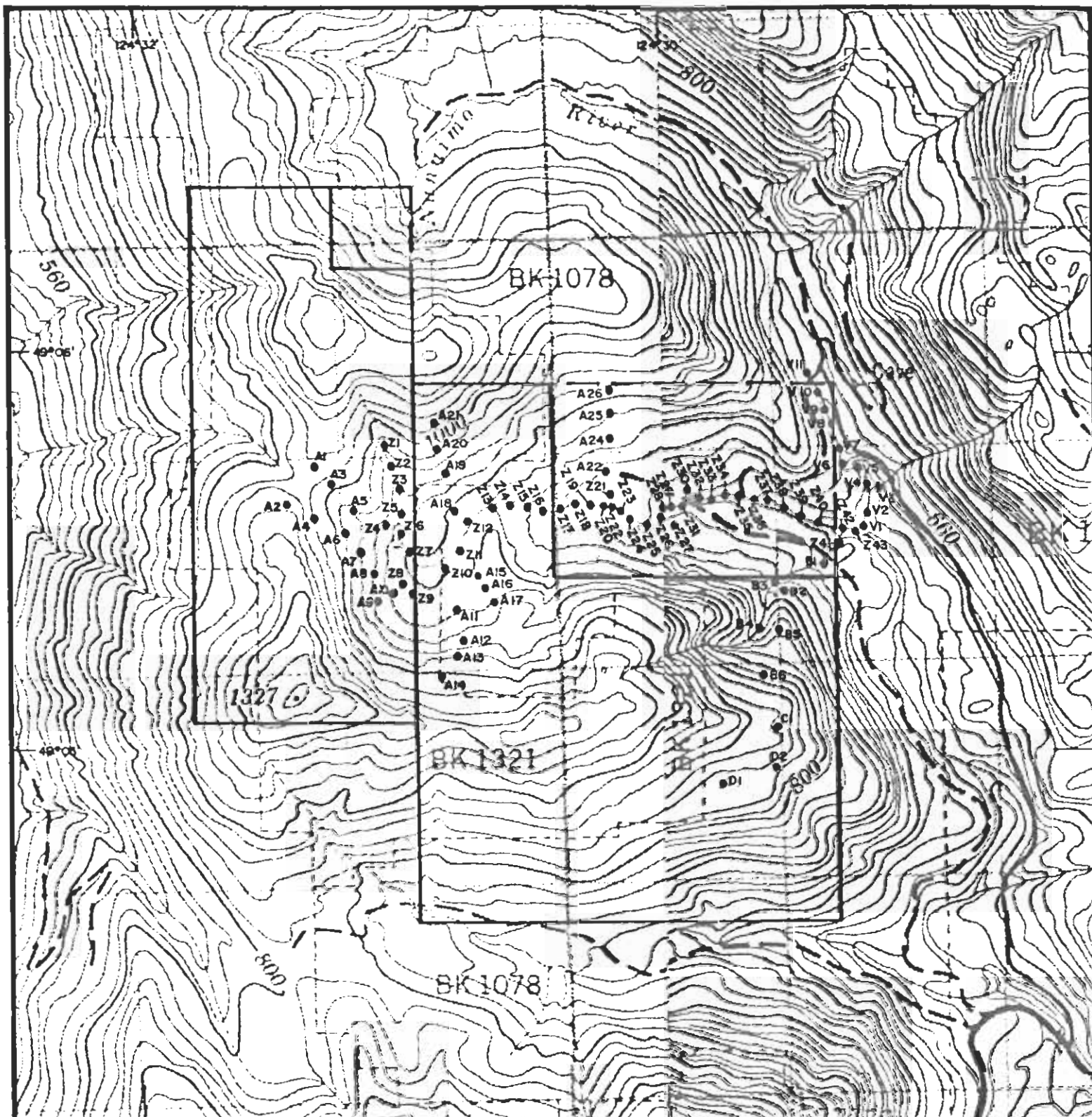
<u>Element</u>	<u>Threshold</u>
Copper	50 ppm
Zinc	100 ppm
Silver	1 ppm
Arsenic	25 ppm
Barium	200 ppm
Gold (AA)	25 ppb

Note that in order to improve extraction and enhance the anomalies, the samples were sieved to -80 mesh as usual, and then pulverised.

Discussion of Results

Sample locations are plotted on Figure 5 and results on Figures 6, 7, and 8. There are no anomalous gold, silver or arsenic results. Copper, zinc and barium are anomalous, though not strongly so, but are only partly coincident.

Further work is required in the form of soil sampling and geological mapping to determine the source of the anomalies.



Legend

● Z28 STREAM SEDIMENT SAMPLE NUMBER

IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 5

N.T.S. 92F/1,2

**STREAM SEDIMENT GEOCHEMISTRY
SAMPLE LOCATION**

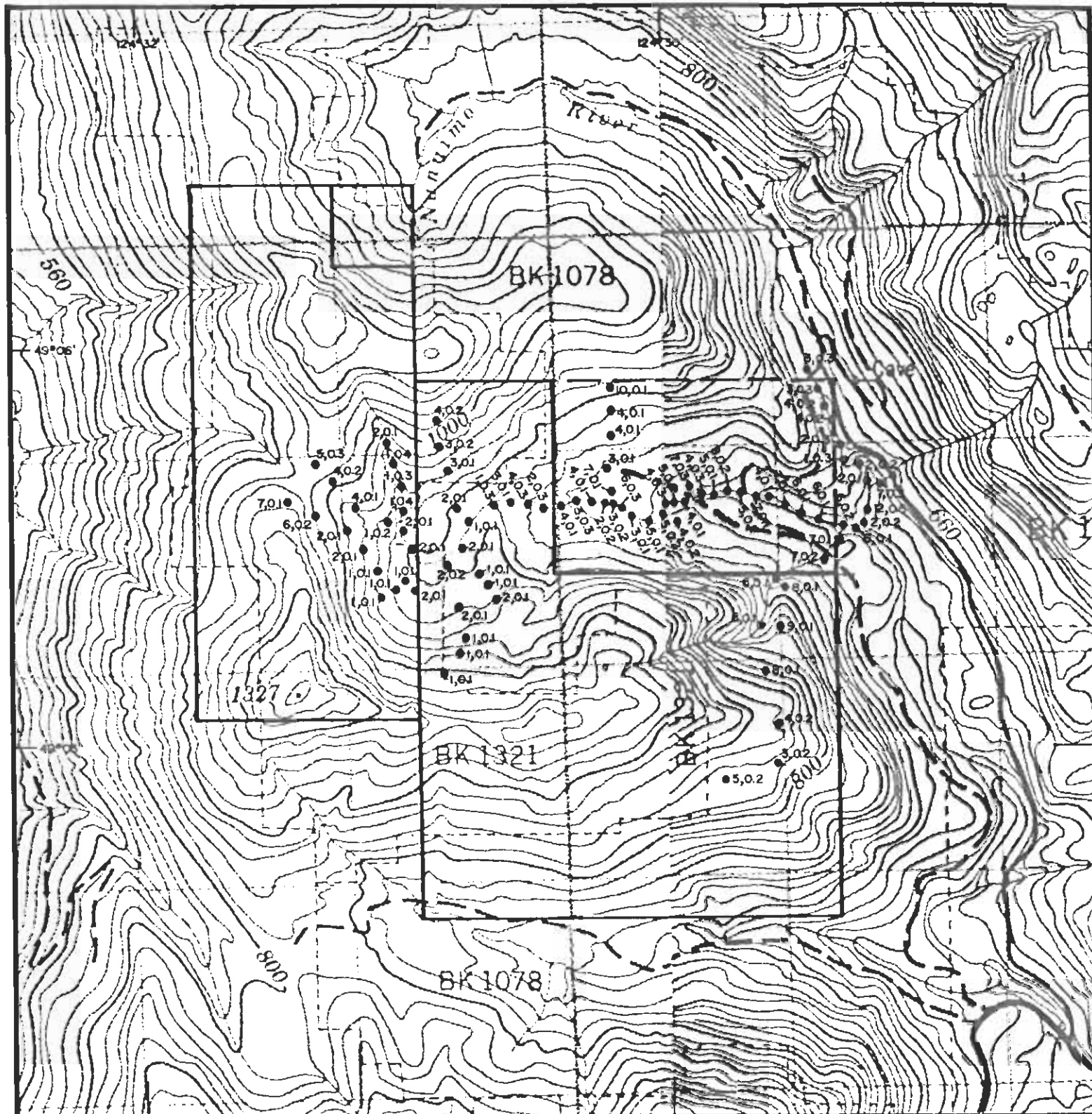
Metres 500 0 500 1000 Metres

SCALE 1:25000

GEOLOGIST: A. CLARK

DATE: DECEMBER, 1984

DRAWN BY: M.C.



Legend

● Au (ppb), Ag (ppm) – Geochemistry

IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 6

NTS 92F/1,2

STREAM SEDIMENT GEOCHEMISTRY

Au, Ag

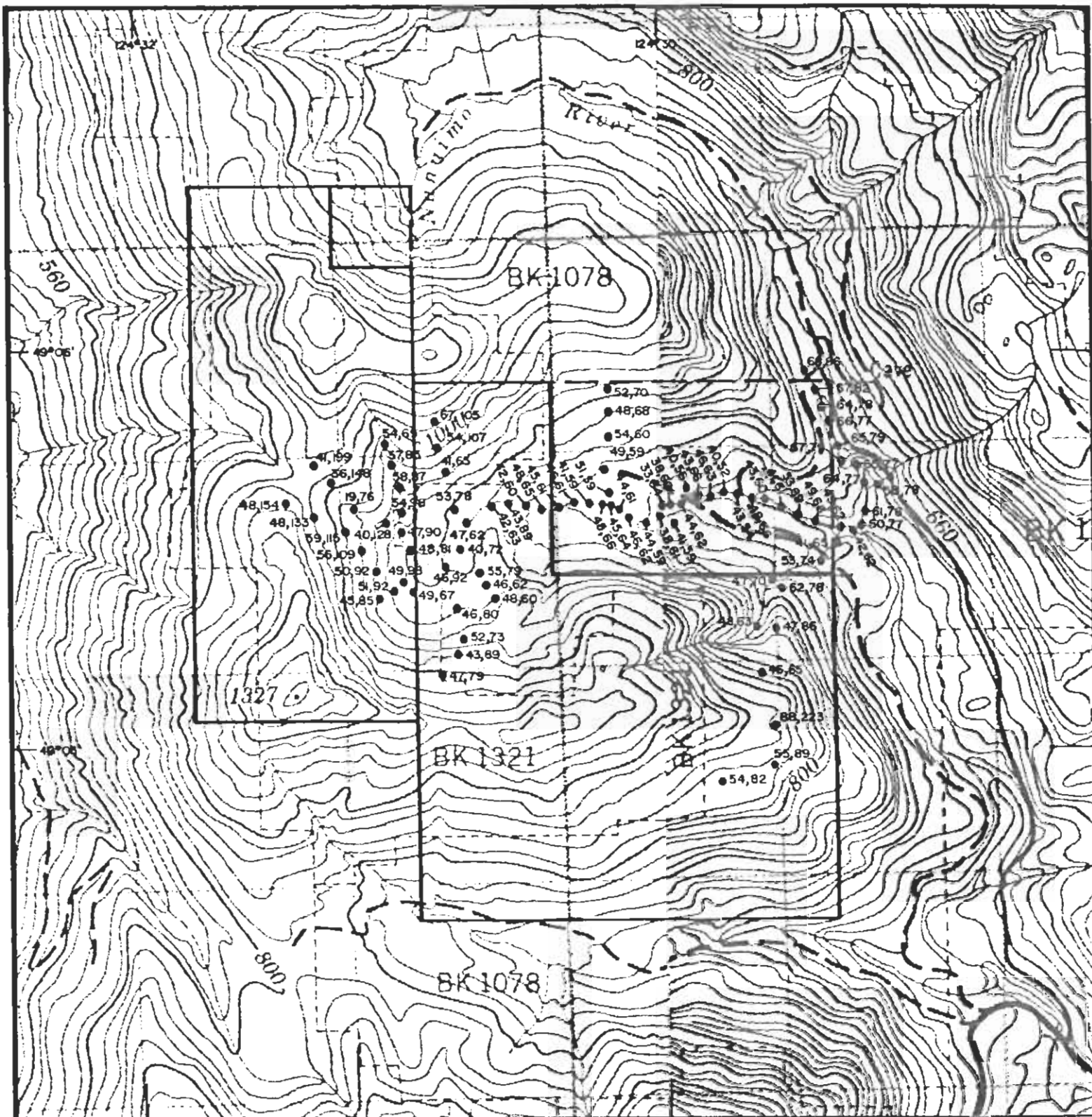
Metres 500 0 500 1000 Metres

SCALE: 1:25000

GEOLOGIST: A. CLARK

DATE: DECEMBER, 1984

DRAWN BY: M.C.



Legend

● Cu (ppm), Zn (ppm) - Geochemistry

IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 7

NTS 92F/1,2

STREAM SEDIMENT GEOCHEMISTRY

Cu,Zn

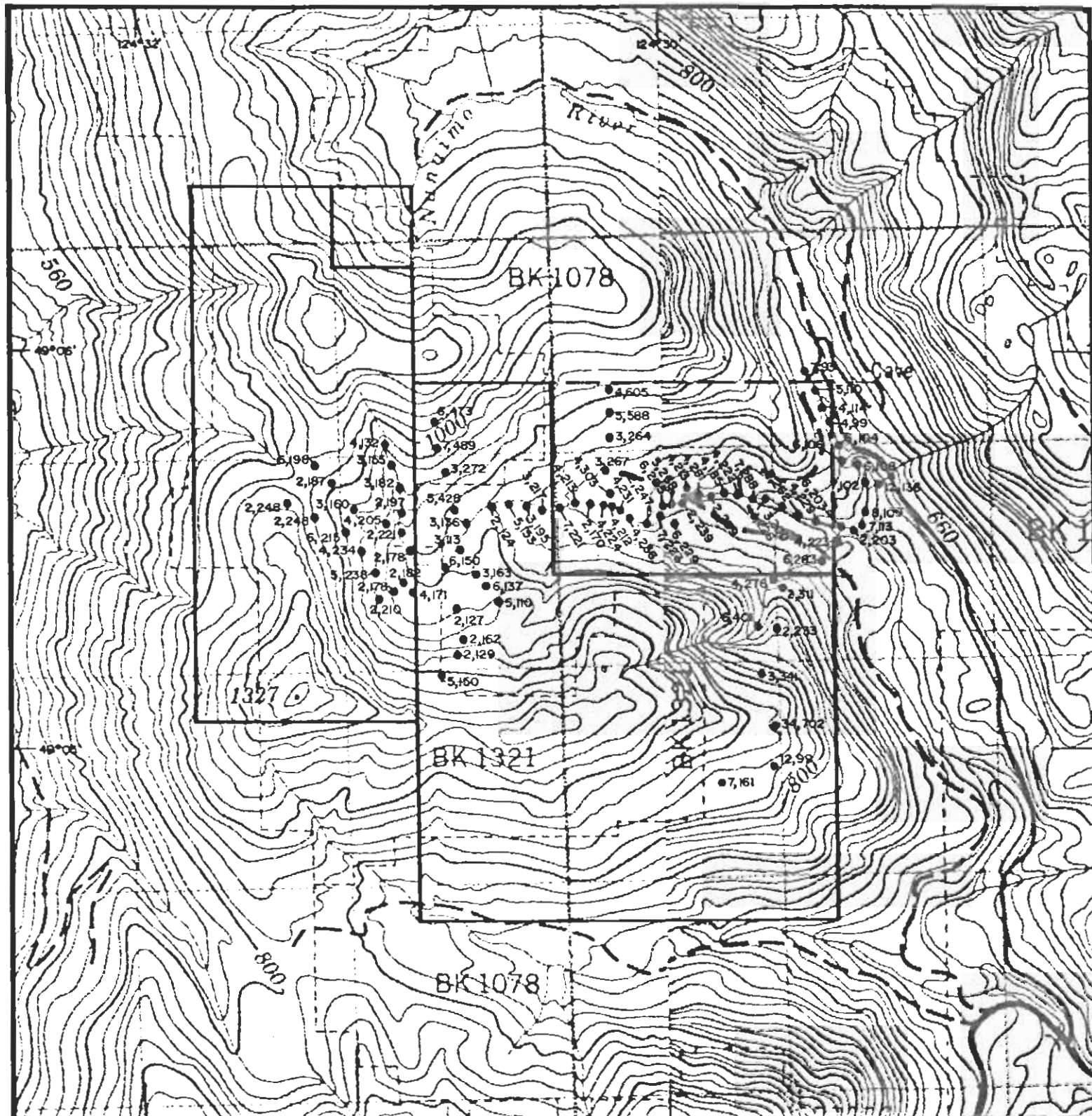
Metres 500 0 500 1000 Metres

SCALE 1:25000

GEOLOGIST: A CLARK

DATE: DECEMBER, 1984

DRAWN BY: N C



Legend

● As(ppm), Ba(ppm) – Geochemistry

IMPERIAL METALS CORPORATION

E & W IMPERIAL

FIGURE 8

N.T.S. 92F/1,2

STREAM SEDIMENT GEOCHEMISTRY
As, Ba

Metres 500 0 500 1000 Metres

SCALE: 1: 25000

GEOLOGIST: A. CLARK

DATE: DECEMBER, 1984

DRAWN BY: M.C.

REFERENCES

Muller, J.E. and Carson, D.J.T., 1968. Geology and Mineral Deposits of Alberni Map-Area, British Columbia (92F). Geol. Surv. Canada Paper, 68-50.

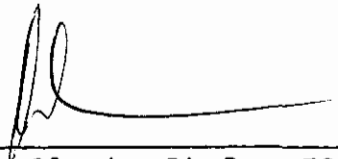
CERTIFICATE

I, Anthony Miles Stapleton Clark, geologist, residing at 2988 Fleet Street, in the Municipality of Coquitlam, Province of British Columbia, hereby certify that:

1. I received a Bachelor of Science degree in geology from the University of Cape Town, Cape Town, South Africa, in 1963, and a Doctor of Philosophy degree in geology from the Memorial University of Newfoundland, St. John's, Newfoundland in 1974.
2. I have been practising my profession as an exploration geologist since 1963.
3. I am a registered Professional Geologist of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
4. I am a Fellow of the Geological Association of Canada and a Member of the Society of Economic Geologists.
5. I am employed by Imperial Metals Corporation of 1300 - 409 Granville Street, in the City of Vancouver, Province of British Columbia.
6. The work described in this report was undertaken under my direct supervision.

15 day of MARCH, 1985

Vancouver, British Columbia



A.M.S. Clark, Ph.D., FGAC, MSEG
Senior Geologist

APPENDIX
Analytical Results

Ed U

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GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 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.CA.P.CR.HG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: SILT -80 MESH+PULVERIZED AUSS ANALYSIS BY FA+AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JULY 31 1984 DATE REPORT MAILED: Aug 4/84 ASSAYER: D. J. DEAN TOYE. CERTIFIED B.C. ASSAYER

IMPERIAL METALS PROJECT # 4307 FILE # 84-1873

PAGE 1

Table with columns: SAMPLED, NO, CU, PB, ZN, AG, NI, CO, MN, FE, AS, U, AU, TH, SR, CD, SB, BI, V, CA, P, LA, CR, HG, BA, TI, B, AL, NA, K, W, AUSS. Rows include samples A 1 through V 2 and STD S-1 FA-AU.

IMPERIAL METALS PROJECT # 4307 FILE # 84-1873

SAMPLED	MO PPH	CU PPH	PB PPH	ZN PPH	AG PPH	NI PPH	CO PPH	MN PPH	FE %	AS PPH	U PPH	AU PPH	TH PPH	SR PPH	CD PPH	SB PPH	BI PPH	V PPH	CA %	P %	LA PPH	CR PPH	MG %	BA PPH	TI %	B PPH	AL %	NA %	K %	M PPH	AU#1 PPH
V 4	3	64	7	77	.1	39	14	764	4.43	7	2	ND	2	17	1	2	6	95	.57	.05	2	53	1.73	102	.19	6	2.49	.03	.05	2	2
V 5	2	65	1	77	.2	39	13	753	4.60	6	2	ND	2	18	1	2	6	99	.59	.05	2	53	1.76	108	.20	4	2.52	.03	.05	2	2
V 6	2	67	8	79	.3	39	13	843	4.35	6	2	ND	2	15	1	2	3	89	.49	.05	2	50	1.59	104	.15	4	2.57	.02	.05	2	1
V 7	2	65	8	79	.3	38	13	806	4.37	6	2	ND	2	17	1	2	3	91	.52	.05	2	50	1.63	104	.16	2	2.55	.02	.05	2	2
V 8	1	66	7	77	.2	39	11	752	4.41	4	2	ND	2	16	1	2	2	94	.54	.05	2	52	1.70	99	.18	4	2.54	.02	.05	2	4
V 9	1	64	8	78	.2	40	12	805	4.41	4	2	ND	2	16	1	2	2	93	.54	.05	2	52	1.69	114	.18	2	2.57	.02	.05	2	4
V 10	2	67	5	82	.3	42	13	799	4.49	5	2	ND	2	18	1	2	2	92	.53	.05	2	51	1.66	110	.16	3	2.62	.03	.05	2	3
V 11	2	68	3	86	.3	46	14	720	4.77	7	2	ND	2	19	1	2	3	94	.60	.05	2	52	1.74	93	.17	7	2.66	.03	.07	2	3
Z 1	1	54	1	69	.1	19	17	1458	5.46	4	2	ND	2	26	1	2	9	132	1.10	.13	6	20	2.23	132	.27	13	3.16	.02	.06	2	2
Z 2	1	57	8	85	.4	25	17	1264	5.43	3	2	ND	2	25	1	2	8	116	.95	.14	12	19	2.41	155	.22	13	3.15	.02	.09	2	1
Z 3	2	58	7	87	.3	23	17	1436	4.85	3	2	ND	2	27	1	2	4	98	.90	.13	13	23	2.23	182	.17	3	3.22	.02	.09	2	1
Z 4	2	40	8	128	.2	21	13	1249	4.04	4	2	ND	2	29	1	2	7	80	.78	.08	11	32	1.72	205	.12	2	2.83	.02	.07	2	1
Z 5	2	54	6	98	.4	24	18	1248	4.99	2	2	ND	3	28	1	2	6	94	.84	.15	16	22	2.47	197	.16	6	3.26	.03	.12	2	1
Z 6	2	47	4	90	.1	22	15	1264	4.72	2	2	ND	2	29	1	2	5	93	.81	.11	16	25	2.21	221	.14	8	3.27	.02	.10	2	2
Z 7	2	48	1	81	.1	21	15	1174	4.45	2	2	ND	2	25	1	2	8	88	.75	.10	13	25	1.99	178	.15	10	3.00	.02	.06	2	2
Z 8	2	49	7	98	.1	22	14	1325	4.35	2	2	ND	2	29	1	2	5	84	.82	.11	13	33	1.87	182	.13	7	3.27	.02	.07	2	1
Z 9	2	49	4	67	.1	21	13	1147	4.55	4	2	ND	2	19	1	2	6	90	.69	.11	10	31	1.95	171	.18	3	2.60	.02	.07	2	2
Z 10	1	46	5	92	.2	18	14	1011	4.30	6	2	ND	2	26	1	2	3	82	.67	.13	13	32	2.32	150	.14	11	2.76	.03	.08	2	2
Z 11	1	40	4	72	.1	20	12	832	4.21	3	2	ND	2	20	1	2	2	83	.66	.10	10	29	2.08	113	.16	10	2.60	.02	.07	2	2
Z 12	1	47	2	62	.1	20	12	924	4.10	3	2	ND	2	21	1	2	4	90	.83	.10	7	24	1.88	136	.19	6	2.60	.03	.07	2	1
Z 13	1	42	7	63	.3	21	11	937	4.01	2	2	ND	2	17	1	3	2	83	.69	.10	6	24	1.84	124	.17	6	2.48	.02	.05	2	1
Z 14	1	43	7	89	.1	21	13	1195	4.06	5	2	ND	2	20	1	2	2	83	.64	.09	6	26	1.85	153	.17	7	2.58	.03	.06	2	3
Z 15	1	42	6	60	.3	19	9	666	3.40	3	2	ND	2	14	1	2	2	63	.39	.05	2	21	1.23	195	.13	7	1.94	.03	.06	2	4
Z 16	1	48	1	65	.3	22	11	784	3.69	3	2	ND	2	16	1	4	2	70	.41	.05	3	22	1.25	217	.12	4	2.17	.02	.06	2	2
Z 17	1	45	1	61	.1	20	11	732	3.63	7	2	ND	2	15	1	2	2	68	.38	.04	3	23	1.22	221	.11	7	2.11	.02	.05	2	4
Z 18	1	46	3	61	.3	21	10	779	3.62	4	2	ND	2	15	1	2	2	68	.40	.05	4	20	1.23	213	.11	8	2.09	.02	.04	2	3
Z 19	1	41	3	59	.1	21	10	677	3.49	2	2	ND	2	12	1	3	2	64	.37	.05	4	20	1.26	170	.11	7	1.96	.02	.04	2	4
Z 20	1	45	3	66	.2	21	10	840	3.67	4	2	ND	2	16	1	2	2	69	.45	.06	5	21	1.25	224	.11	7	2.17	.02	.06	2	2
Z 21	1	51	5	59	.1	18	10	897	3.53	4	2	ND	2	17	1	4	2	63	.50	.06	5	21	1.10	303	.08	9	2.17	.02	.06	2	7
Z 22	1	45	3	64	.2	20	10	731	3.64	4	2	ND	2	15	1	2	2	67	.44	.05	5	20	1.29	212	.12	2	2.10	.03	.07	2	3
Z 23	1	44	7	61	.3	21	9	716	3.58	4	2	ND	2	14	1	2	3	65	.41	.05	5	20	1.26	231	.11	6	2.09	.02	.06	2	6
Z 24	1	46	1	62	.1	18	11	769	3.67	4	2	ND	2	15	1	2	2	66	.43	.05	5	21	1.27	236	.11	8	2.12	.02	.06	2	3
Z 25	1	44	9	59	.1	21	11	697	3.92	2	2	ND	2	16	1	2	2	78	.48	.05	5	22	1.32	247	.14	9	2.07	.02	.04	2	5
Z 26	1	38	1	61	.2	19	9	669	3.63	7	2	ND	2	15	1	2	2	67	.42	.06	9	21	1.36	223	.12	5	2.02	.02	.06	2	2
Z 27	1	41	1	59	.2	20	10	701	3.52	6	2	ND	2	12	1	5	2	64	.40	.05	4	24	1.20	229	.10	6	2.06	.02	.05	2	4
Z 28	1	33	5	64	.3	21	9	673	3.37	5	2	ND	2	13	1	4	2	60	.34	.05	4	19	1.22	205	.10	5	1.89	.02	.07	2	4
Z 29	1	38	4	60	.2	21	9	690	3.77	5	2	ND	2	14	1	3	2	74	.43	.05	4	21	1.28	268	.13	12	2.07	.02	.04	2	5
510 5-1FA-AU	91	123	112	183	33.5	151	80	495	3.17	116	105	36	171	127	86	82	95	59	.56	.11	129	63	.58	122	.07	160	1.50	.21	.19	62	54

IMPERIAL METALS PROJECT # 4307 FILE # 84-1873

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	HG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AUI# PPB
2 30	1	40	6	56	.3	19	9	709	3.44	4	2	ND	2	13	1	2	2	59	.35	.08	5	19	1.11	213	.09	9	1.86	.02	.09	2	7
2 31	1	44	4	62	.1	24	9	737	3.58	2	2	ND	2	17	1	2	2	67	.47	.06	4	25	1.25	239	.13	9	2.20	.02	.08	2	4
2 32	1	43	7	66	.3	20	12	830	3.65	4	2	ND	2	15	1	2	2	66	.39	.06	4	25	1.14	261	.10	6	2.27	.02	.07	2	4
2 33	1	46	3	63	.1	24	10	685	3.87	2	2	ND	2	16	1	2	2	73	.40	.05	5	26	1.16	299	.11	12	2.50	.02	.07	2	5
2 34	1	40	4	52	.2	23	11	590	3.36	4	2	ND	2	14	1	2	2	60	.43	.06	3	27	1.26	185	.09	11	1.93	.02	.08	2	8
2 35	1	43	4	54	.2	25	10	745	3.50	4	2	ND	2	14	1	2	2	61	.41	.06	5	30	1.25	222	.08	14	2.07	.02	.07	2	5
2 36	2	48	8	66	.1	25	12	825	3.68	7	2	ND	2	16	7	2	2	65	.44	.07	6	31	1.30	228	.10	8	2.16	.02	.08	2	7
2 37	2	43	8	60	.1	27	12	637	3.75	4	2	ND	2	16	1	2	2	69	.47	.06	5	31	1.35	226	.11	7	2.14	.02	.08	2	4
2 38	2	41	5	61	.1	25	11	613	3.57	3	2	ND	2	15	1	2	2	66	.40	.06	5	30	1.27	200	.10	8	2.04	.03	.09	2	7
2 39	3	53	4	69	.1	29	13	964	4.09	5	2	ND	2	17	1	2	2	75	.47	.07	7	36	1.32	262	.10	9	2.58	.02	.08	2	6
2 40	3	49	12	66	.1	29	12	841	3.91	4	2	ND	2	17	1	2	3	72	.47	.07	7	35	1.35	229	.10	7	2.38	.02	.08	2	6
2 41	3	41	7	65	.1	22	11	796	3.69	4	2	ND	2	12	1	2	4	58	.35	.05	6	22	.99	223	.08	2	2.05	.02	.08	2	7
2 42	3	45	10	62	.2	26	11	741	3.73	6	2	ND	2	15	1	2	2	67	.43	.06	6	34	1.33	203	.10	6	2.19	.02	.08	2	6
2 43	3	42	11	62	.1	29	10	650	3.71	2	2	ND	2	16	1	2	2	67	.46	.06	5	31	1.32	203	.10	3	2.12	.02	.07	2	6
STD S-1/FA-AU	98	124	118	185	33.9	154	81	481	3.17	123	98	36	181	127	89	79	161	57	.56	.13	137	64	.58	123	.08	179	1.49	.24	.21	67	49