

85-646-14599

BULLDOZER TRENCHING PROGRAM  
(Ridge Mercury Zone)

07/86

SPECIFIC CLAIMS INVOLVED : BEEKEEPER 1, Record # 2055 (10)  
BEEKEEPER 2, Record # 3892 ( 7)  
BEEKEEPER 3, Record # 3893 ( 7)

MINING DIVISION : Cariboo

SPECIFIC NTS LOCATION : 93A/6W

LATITUDE AND LONGITUDE : 52°21' North  
121°21' West

FILMED

OWNER OF CLAIMS : Imperial Metals Corporation

OPERATOR : Imperial Metals Corporation

AUTHOR OF REPORT : J.W. Morton

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

DATE SUBMITTED : September, 1985

14,599

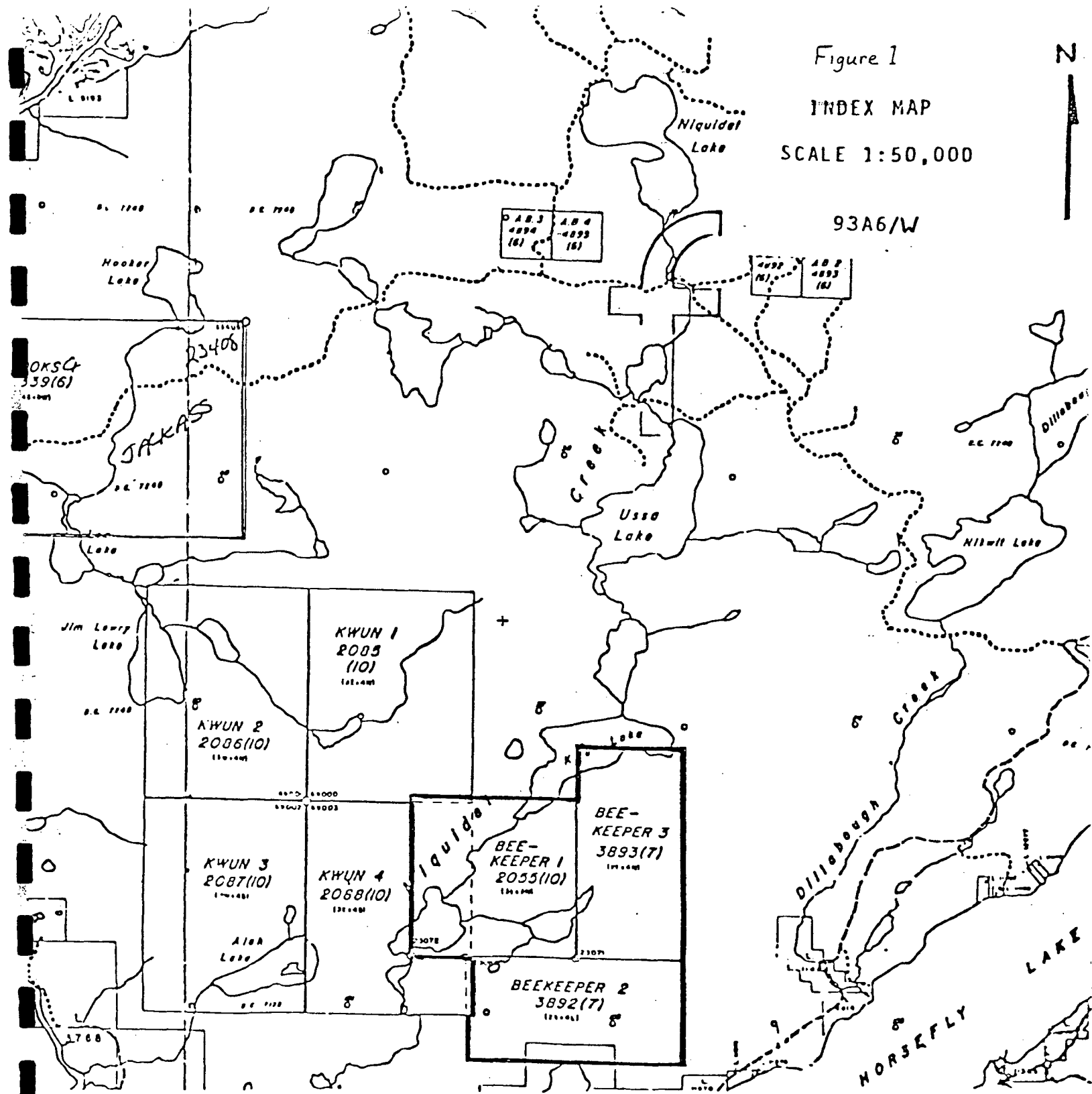
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Figure 1

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SCALE 1:50,000



## INTRODUCTION

### Location and Physiographic Position:

The Beekeeper claim group is located approximately five (5) kilometers northwest of Horsefly Lake in central British Columbia. The claim occurs in a moist vegetative zone dominated by combinations of coniferous fir-pine-(cedar) and deciduous poplar-birch-willow. Considerable adjacent land has been cleared and converted to improved pasture. Soils are predominantly luvisolic in type and derived from ablation tills, basal tills, and lacustrine deposits. Soils generally are neutral to slightly acidic in reaction and are usually heavy in soil texture (loams to clay loams predominating). (Geochemical expression of underlying mineralization can be expected to be poor). The terrain is moderately undulating with elevations ranging between 825 and 950 meters (2,750 to 3,050 feet).

The property is accessible by pickup truck along a bush road that connects with an all-weather road approximately ten (10) kilometers from the property.

### Regional Geological Summary

The most significant single geological structure in the Horsefly area is called the Quesnel Trough. The Quesnel Trough is a Mesozoic tectonic feature that occurs between the Paleozoic Omineca Crystalline Belt to the east and the oceanic deposited rocks of the Paleozoic Cache Creek group to the west. Deposition within the trough has been predominantly by Triassic - Jurassic volcanics and their minor intercalated volcanoclastic sediments. The volcanic pile, in large, is derived from phreatic eruption and submarine laharc activity. Phreatic centres are identified by the presence of comagmatic felsic intrusives (often with a subvolcanic habit). The Quesnel Trough is an extensive feature, thought to be formed by an Upper Triassic to Lower Jurassic active island arc system. It more or less extends from the United States border to the Yukon border where it becomes known as the Whitehorse Trough. Throughout its length, composition of rocks varies between calc-alkaline and distinctly alkaline. In the Horsefly area the trough has a higher alkaline habit. During the late nineteenth century, major placer gold occurrences were worked in several locations within the Horsefly River watershed.

At the Beekeeper claim a zoned syeno-dioritic stock intrudes coeval basic volcanic breccias. Adjacent to the intrusive these volcanic breccias are pyritic and have been hornfelsed. Propylitic alteration assemblages are present and sporadic mercury gold and copper values occur. Strong magnetometer anomalies occur both in association with the stock and in the centre of the hornfelsic zone. Soil geochemical work completed on the area between 1981 and 1982 had outlined a persistent soil mercury anomaly. This anomaly was partially tested in 1984 by way of a bulldozer trenching program. A zone of epithermal style carbonate-clay alteration and sulfide stockwork veining was identified. This epithermal zone was more completely tested in 1985 by a more extensive bulldozer trenching program.

#### Summary of Work Completed

- 90 meters of bulldozer trenching.
- 64 rock chip samples and 2 soil samples were collected.

#### Methods

Continuous rock chip samples were collected over the interval indicated in the sampling plan (Figure 5). The two soil samples were collected from the center portion of trench E where the bulldozer failed to expose bedrock. Samples were sent to Acme Analytical Labs in Vancouver for analyses by multi-element I.C.P. methods with gold and mercury by atomic absorption techniques. Lab procedures are included with the geochemical certificates in the Appendix of this report.

#### Detailed Technical Data and Interpretations

Epithermal mineralization and alteration has occurred within a volcanic pile that includes fine grained trachy-andesites and porphyritic latite. Alteration consists of calcite replacement and the development of clay minerals. Epithermal mineralization is evidenced by a stockwork development of micro quartz and pyrite veinlets and the wide-spread occurrence of disseminated cinnebar in the most easterly trench (trench E). While gold values are moderately anomalous in zones of epithermal alteration arsenic values are anomalous and mercury values are extremely anomalous.

COSTS

Manpower: J.W. Morton	May 29-June 2	5 days @ \$200/day	\$ 1,000
T. MacKenzie	May 28, May 30-June 2	5 days @ \$110/day	550
R. Boase	May 27, May 30-June 2	5 days @ \$ 75/day	375
D. Dunlop	May 27, May 30-June 2	5 days @ \$ 75/day	375
Room & Board	20 man days @ \$45/day		900
Vehicle Costs	5 days @ \$60/day		300
Geochemical Costs			1,050
Report Preparation & Drafting			500
Bulldozer Costs			<u>750</u>
 TOTAL			 <u><u>\$ 5,800</u></u>

AUTHOR'S QUALIFICATIONS

I, JAMES W. MORTON, CERTIFY THE FOLLOWING:

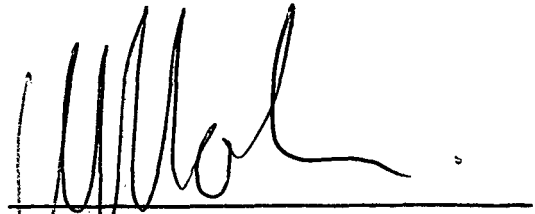
I graduated from Carleton University in 1971 with a Bachelor of Science in Geology.

I graduated from the University of British Columbia in 1976 with a Master of Science in Soil Science.

I have worked for various mining and exploration companies since 1968.

I am presently a permanent staff geologist with Imperial Metals Corporation of Vancouver, B.C.

I supervised all of the work described in this report.

  
\_\_\_\_\_  
J.W. Morton,  
Geologist

E-20: ALTERED (CALCITE, BIOTITE) LATITE PORPHYRY.

This sample is a porphyritic volcanic rock consisting of squat subhedral orthoclase phenocrysts (??) in a groundmass of plagioclase laths and fine K-spar. Quite intense pervasive alteration by calcite and biotite has occurred. The phenocrysts have been completely altered to an intimate intergrowth of very fine calcite and biotite; biotite is disseminated throughout the groundmass. Diffuse patches of kaolinitic clay and sericite remain within the altered phenocrysts which suggests the feldspathic origin. Minerals are:

phenocrysts	40%	(100% altered to biotite-calcite, minor clays)
plagioclase	35	
biotite	10	
K-spar	10	
hematite	4	(after magnetite)
calcite	1	(mainly vein)
apatite	minor	
sericite	minor	
Fe-Ti oxide	minor	
quartz	trace	

Phenocrysts form squat subhedral to euhedral grains 1 to 3mm in size which have been completely altered to biotite and calcite. The biotite forms extremely fine grains which are intimately and uniformly intergrown with fine calcite, and tend to form in a very fine network within and between the calcite grains. Fine diffuse patches of extremely fine kaolinitic clay and sericite occur in some of the phenocrysts. Calcite is dominant in all the altered phenocrysts and alteration is similar in all of them.

The groundmass consists of euhedral to subhedral plagioclase laths 0.2 to 1.0mm in size with small patches of very fine interstitial K-spar. Acicular apatite grains up to 0.3mm in length are included in the plagioclase and often pass across grain boundaries. Pervasive alteration by biotite has occurred in the groundmass. This forms flakes less than 0.05mm in size which are disseminated throughout but tend to be concentrated in small diffuse, partly interconnected patches between the laths. Some plagioclase laths have been mostly altered to sericite.

Sometimes there is very fine calcite intergrown with the biotite patches but apart from the altered phenocryst most of the calcite occurs in a vein about 0.5mm in width which cuts through the rock. At the edge of this there are a few small patches of quartz.

Hematite occurs in ragged subcubic to subrounded grains 0.1 to 0.4mm in size which are intergrown with the plagioclase in the groundmass; smaller ones sometimes occur included in the phenocrysts. Clusters of a few grains are common. The hematite is replacing original primary magnetite, remnants of which occur in many of the grains. The alteration occurred during the addition of calcite and biotite. Extremely fine Fe-Ti oxides are disseminated throughout and these also formed at this time.



C-4: ALTERED (CALCITE) ANDESITE.

This is a very fine grained volcanic rock originally consisting mainly of a mass of fine shapeless to subhedral plagioclase grains. Intense pervasive alteration by calcite has resulted in replacement of much of the plagioclase. The carbonate has been introduced in a system of veinlets which also contain quartz and pyrite. Minerals are:

calcite	60%
plagioclase	20
sericite	11
quartz	5 (in veinlets)
pyrite	2
limonite	2
Fe-Ti oxide	minor

The original rock consisted of a mass of interlocking shapeless to subhedral plagioclase grains about 0.05mm in size. There were a few phenocrysts (fragments ??) about 0.5mm in size but these have been completely altered to fine sericite. Pervasive alteration has resulted in "flooding" of the mass of plagioclase by calcite. This forms very fine grains occurring in small, closely spaced or touching, ragged patches averaging about 0.2mm in size which have been superimposed upon the mass of plagioclase; occasionally more massive patches occur. The remnant plagioclase has been partly altered to fine sericite. Extremely fine Fe-Ti oxide is disseminated within the sericitic parts.

Calcite also occurs in a criss-crossing system of veinlets 0.1 to 0.5mm in width. The veinlets are dominantly quartz which forms highly irregularly shaped, sometimes elongated, interlocking grains 0.05 to 0.3mm in size. Small patches of calcite are intergrown with it. Clusters rounded to subcubic pyrite grains up to 0.3mm in size are also intergrown with the quartz and there are also a few massive pyrite vein-fillings. The pyrite also occurs disseminated within the rock. The pyrite is altering to goethite and this has allowed limonitic stain to develop, particularly in the calcite.

GEOCHEMICAL ICP ANALYSIS

.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, CA, P, CR, MG, 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: ROCKS/SOILS AU ANALYSIS BY AA FROM 10 GRAM SAMPLE. Hg ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: JUNE 5 1985 DATE REPORT MAILED: June 12/85 ASSAYER: T. Saundry DEAN TOYE OR TOM SAUNDRY. CERTIFIED E.C. ASSAYER

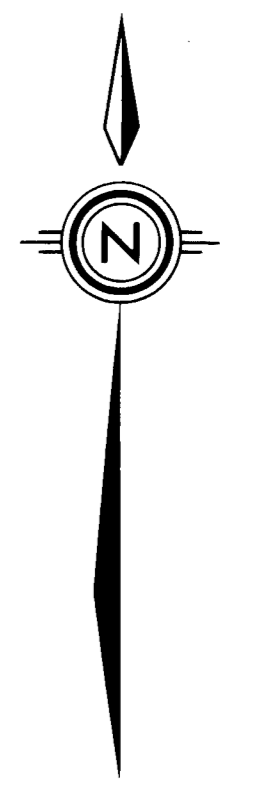
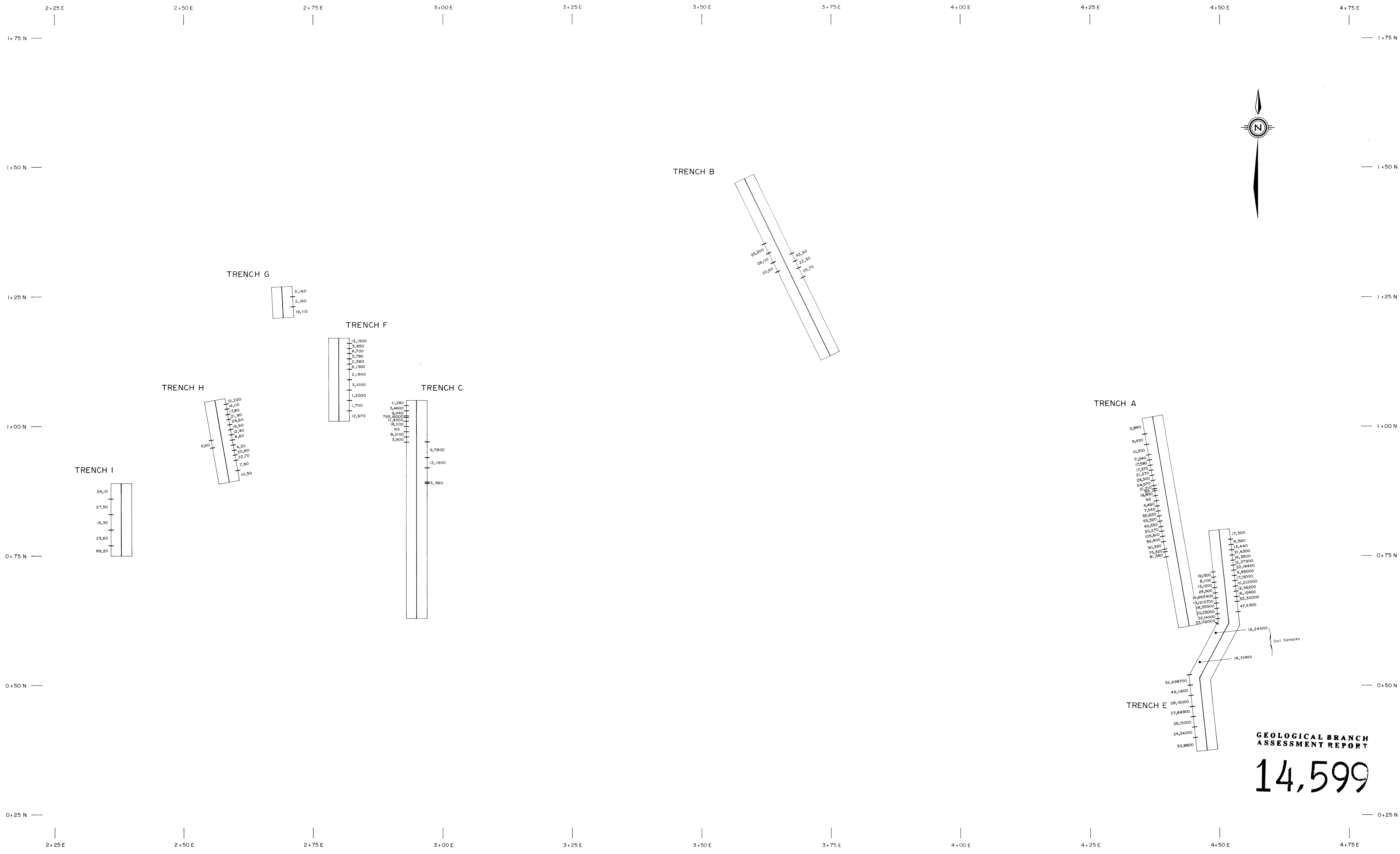
IMPERIAL METALS PROJECT - BEEKEEPER FILE # 85-0812

PAGE 1

Table with columns for SAMPLE#, Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Au, Hg and corresponding concentration values in ppm.

IMPERIAL METALS PROJECT - BEEKEEPER FILE # 85-0812

SAMPLE#	Mo	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	Au*	Hg
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	I	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	I	I	ppm	ppm	I	ppm	I	ppm	I	I	I	ppm	ppb	ppb
F-6	1	66	2	43	.3	23	20	727	5.62	6	5	ND	1	38	1	2	2	166	3.42	.18	11	66	2.36	79	.13	9	2.24	.02	.40	1	6	1300
F-7	1	109	6	32	.2	16	22	1074	4.48	9	5	ND	3	40	1	2	2	113	9.07	.14	9	39	1.38	182	.05	9	1.40	.01	.19	1	2	1900
F-8	1	107	6	45	.2	19	26	838	5.50	5	5	ND	1	39	1	2	2	154	3.93	.18	9	60	2.62	62	.11	7	2.17	.01	.26	1	3	1000
F-9	1	81	5	29	.1	17	25	949	4.44	14	5	ND	3	40	1	2	2	117	8.91	.16	10	30	.98	260	.04	11	1.05	.01	.25	1	1	2000
F-10	1	58	5	28	.1	21	17	1021	3.73	11	5	ND	4	55	1	2	2	100	11.28	.13	10	36	1.44	170	.06	8	1.13	.01	.31	1	1	700
F-11	1	64	2	38	.3	24	22	724	5.16	7	5	ND	1	43	1	2	2	165	3.50	.17	5	74	2.69	79	.17	5	2.26	.03	.52	1	12	670
G-1	1	93	7	31	.2	20	22	469	4.93	17	5	ND	1	56	1	2	2	170	1.34	.19	8	39	1.60	58	.26	9	1.81	.04	.30	1	5	160
G-2	1	79	2	39	.2	17	23	504	5.27	13	5	ND	1	39	1	2	2	187	2.59	.19	7	35	2.00	38	.27	7	2.88	.03	.26	1	2	160
G-3	1	82	3	36	.1	17	23	490	5.00	19	5	ND	1	45	1	2	2	176	1.43	.20	7	35	1.87	58	.28	8	2.13	.04	.36	1	19	110
H-1	4	161	8	13	.1	13	17	182	6.20	16	5	ND	1	69	1	2	2	88	.91	.22	5	23	.48	16	.17	5	1.37	.03	.07	1	12	220
H-2	3	185	2	15	.2	15	22	222	6.32	12	5	ND	1	50	1	2	2	91	.76	.21	5	20	.53	19	.19	7	1.18	.04	.06	1	14	110
H-3	3	204	2	16	.4	11	19	186	7.66	19	5	ND	1	95	1	3	2	95	.84	.21	9	27	.49	27	.20	5	1.28	.07	.07	1	17	80
H-4	2	189	2	16	.1	12	15	236	4.93	13	5	ND	1	76	1	2	2	90	.84	.22	7	29	.66	14	.17	6	1.34	.04	.05	1	21	80
H-5	3	371	5	15	.2	15	25	215	6.77	11	5	ND	1	70	1	2	2	73	.94	.24	5	15	.53	24	.15	9	1.65	.04	.07	1	24	60
H-6	4	264	5	19	.2	13	18	251	6.07	16	5	ND	1	59	1	2	2	119	.79	.20	5	11	.98	28	.23	6	1.82	.04	.07	1	19	90
H-7	2	140	2	10	.2	7	10	134	6.32	13	5	ND	1	96	1	2	2	124	.46	.24	9	30	.37	32	.27	9	.86	.08	.06	1	12	40
H-8	5	119	5	16	.1	7	9	200	6.23	11	5	ND	1	114	1	2	3	149	.82	.22	9	22	.64	40	.28	6	1.10	.06	.09	1	8	60
H-9	2	114	7	22	.2	7	13	299	5.08	11	5	ND	1	54	1	2	2	155	.94	.20	8	1	1.23	28	.27	8	1.67	.05	.08	1	4	30
H-10	2	95	2	17	.1	5	10	232	5.02	8	5	ND	1	62	1	2	3	142	.80	.19	6	12	.77	36	.26	5	1.20	.05	.09	1	20	80
H-11	3	147	2	12	.2	9	13	184	6.97	10	5	ND	1	92	1	2	2	132	.57	.19	9	43	.54	38	.29	7	.92	.05	.08	1	22	70
H-12	2	97	4	11	.3	7	8	101	5.76	7	6	ND	1	157	1	2	2	124	.41	.20	8	55	.64	109	.27	7	.89	.08	.15	1	7	80
H-13	3	125	6	15	.1	9	9	158	6.29	11	5	ND	1	201	1	2	5	157	.45	.21	6	62	1.05	214	.26	5	1.35	.07	.14	1	10	50
H-14	14	105	3	13	.1	11	12	121	6.58	20	5	ND	1	73	1	2	2	180	.14	.18	7	39	1.12	45	.10	9	1.38	.05	.16	1	9	60
I-1	4	157	3	27	.2	19	25	470	5.12	10	5	ND	1	63	1	2	2	170	1.18	.18	8	12	1.20	68	.25	2	2.06	.04	.15	1	24	10
I-2	5	303	6	28	.1	22	48	586	6.14	18	5	ND	1	70	1	2	2	169	1.36	.16	10	16	1.41	36	.23	10	1.89	.04	.15	1	27	50
I-3	2	195	2	30	.1	22	36	558	5.43	17	5	ND	1	65	1	2	2	194	1.52	.17	8	14	1.57	44	.26	12	2.26	.05	.18	1	16	30
I-4	6	269	5	30	.3	24	34	503	5.99	21	5	ND	1	57	1	2	2	166	1.03	.17	9	13	1.32	33	.25	11	2.13	.04	.09	1	23	60
I-5	6	194	4	23	.2	15	16	341	5.72	16	5	ND	1	73	1	2	2	155	.83	.15	7	16	1.19	38	.28	5	2.16	.04	.08	1	89	20
LEMON-1	1	24	7	24	.1	7	9	266	3.51	10	5	ND	1	303	1	2	2	97	1.85	.26	10	5	1.35	8	.11	7	1.96	.03	.02	1	6	30
E-1 SOIL	2	105	10	68	.1	40	27	622	5.41	19	5	ND	2	47	1	2	2	150	.55	.08	8	66	1.54	111	.20	5	2.33	.01	.26	1	19	24000
E-2 SOIL	2	77	8	69	.2	32	20	789	4.64	10	5	ND	1	55	1	2	2	132	.69	.10	8	59	1.30	116	.18	5	2.12	.01	.19	1	18	31900
STD C/AU-0.5	20	58	38	132	7.1	70	30	1128	3.92	39	17	7	35	51	17	15	19	62	.48	.15	38	59	.88	187	.08	41	1.71	.06	.11	12	505	1300



**LEGEND**

⊕ Au(ppb), Hg(ppb) Geochemistry

○ 0+00/2+50E  
L. C. P. BEEKEEPER I.  
760 m at 199°

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

# 14,599

<b>IMPERIAL METALS CORPORATION</b>	
<b>BEEKEEPER</b>	
FIGURE 2	N.T.S. 93A/6W
RIDGE ZONE - TRENCHING & SAMPLING PLAN	
ROCK CHIP GEOCHEMISTRY: Au, Hg	
SCALE: 1:250	GEOLOGIST: W. MORTON
DATE: JULY 1985	DRAWN BY: S. HAWORTH

2+50 E    2+75 E    3+00 E    3+25 E    3+50 E    3+75 E    4+00 E    4+25 E    4+50 E    4+75 E

1+75 N

1+50 N

1+25 N

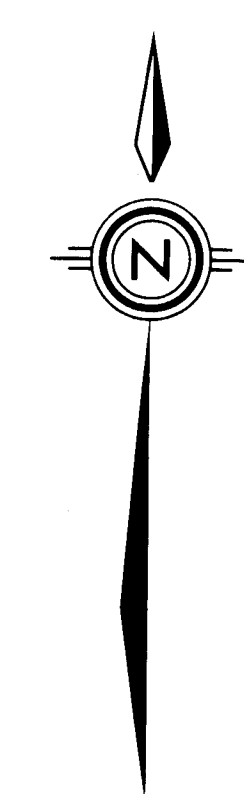
1+00 N

0+75 N

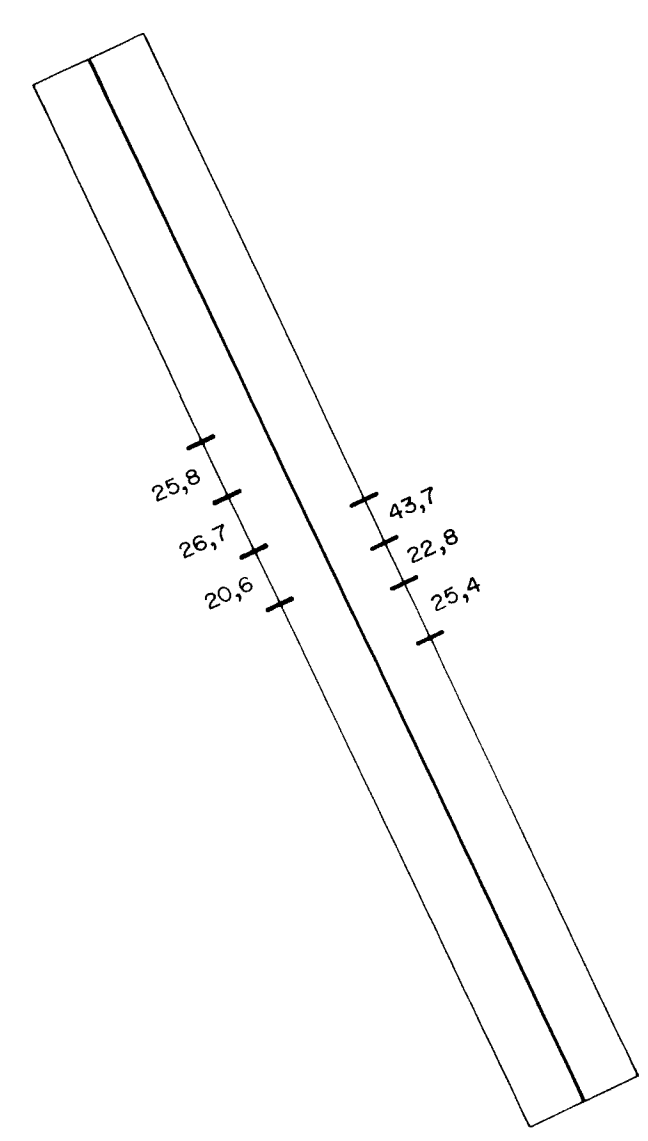
0+50 N

0+25 N

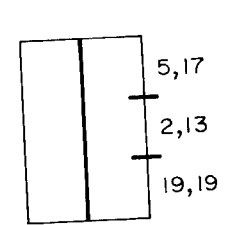
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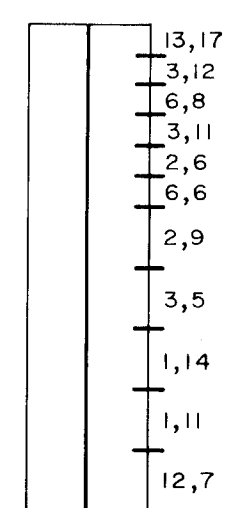
TRENCH B



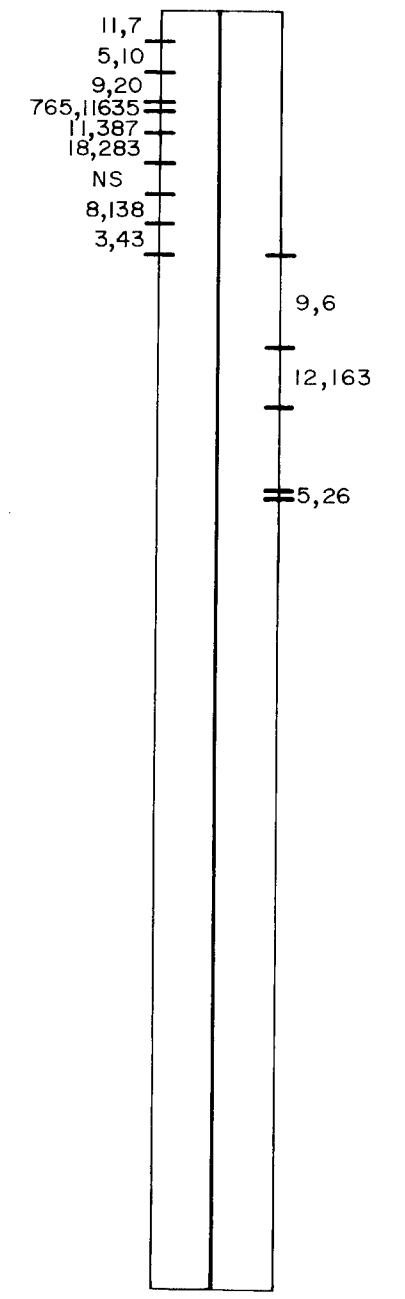
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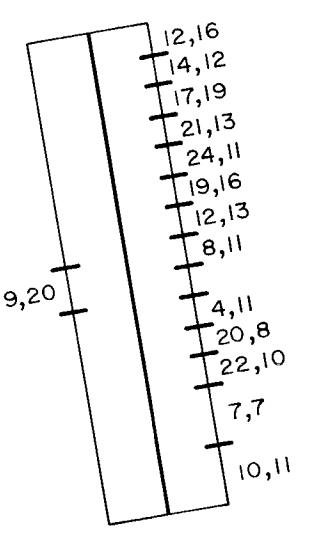
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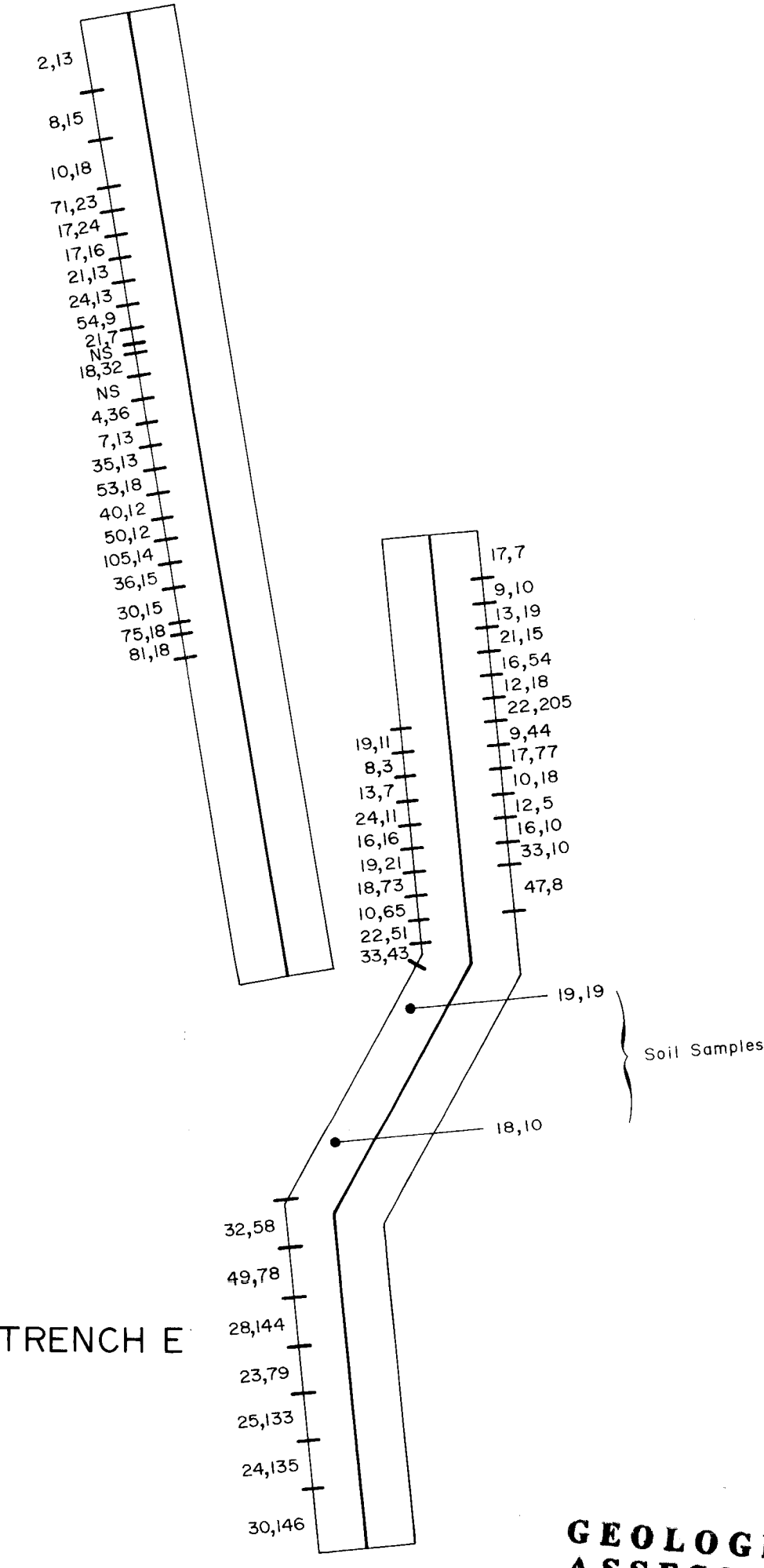
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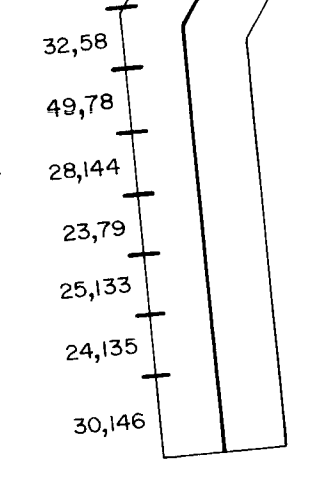
TRENCH H



TRENCH A



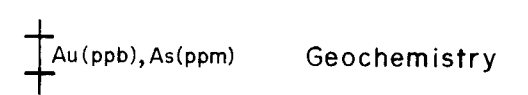
TRENCH E



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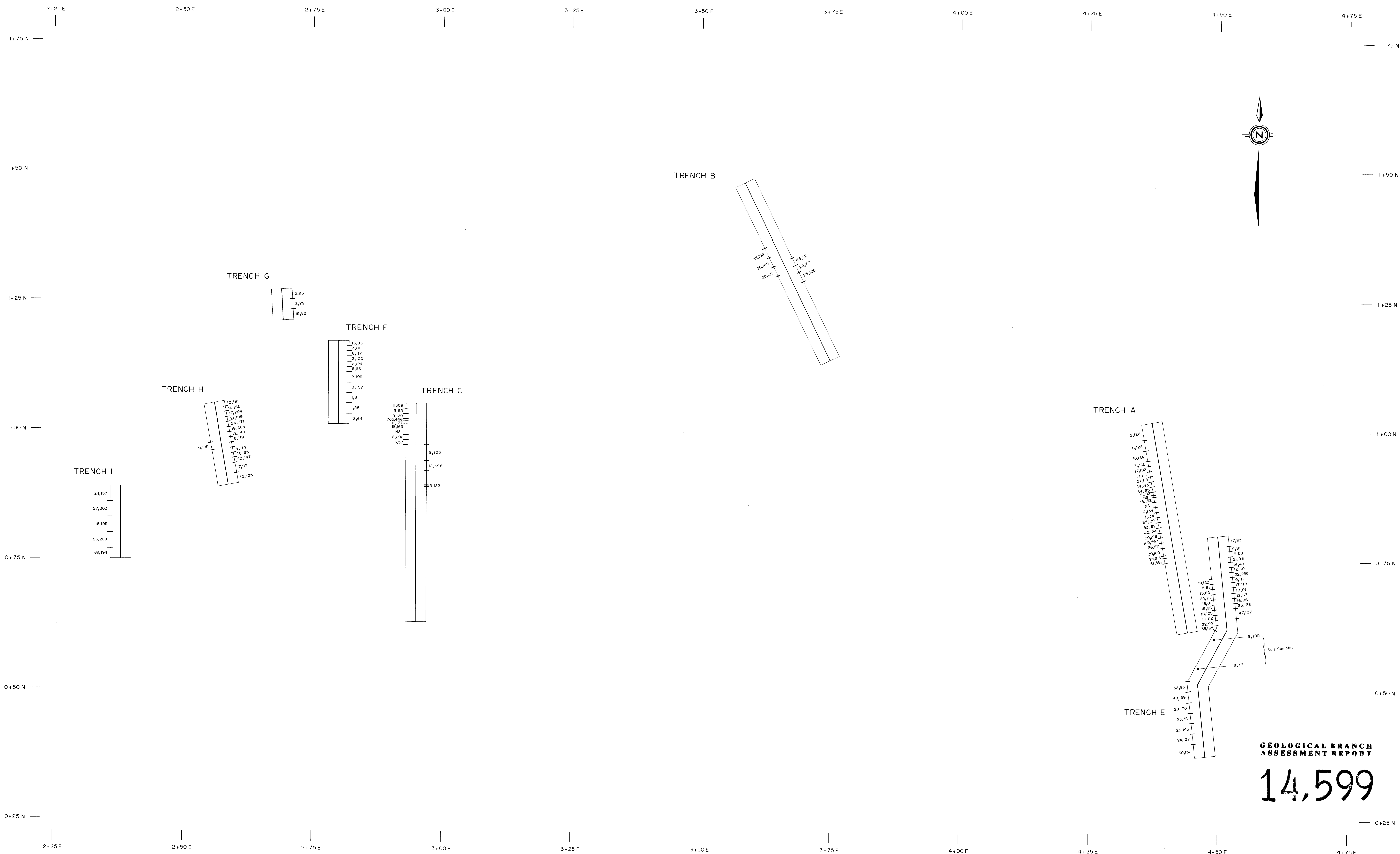
14,599

LEGEND



0+00/2+50E  
L.C.P. BEEKEEPER  
760 m at 199°

IMPERIAL METALS CORPORATION	
BEEKEEPER	
FIGURE 3	N.T.S. 93A/6W
RIDGE ZONE - TRENCHING & SAMPLING PLAN	
ROCK CHIP GEOCHEMISTRY: Au, As	
SCALE: 1:250	GEOLOGIST: W. MORTON
DATE: JULY 1985	DRAWN BY: S. HAWORTH



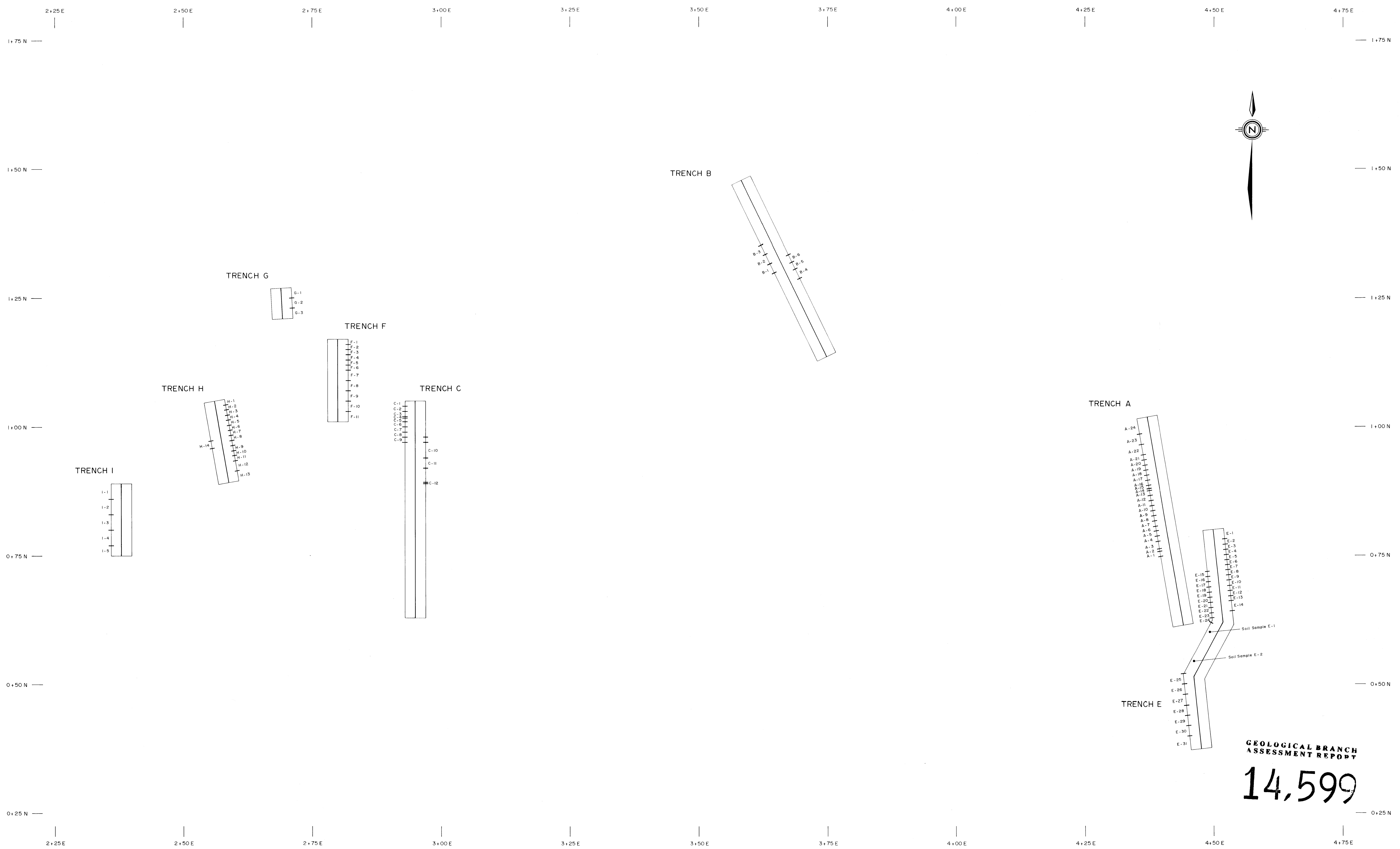
**LEGEND**  
 + Au(ppb), Cu(ppm) Geochemistry

0+00/2.50E  
 L.C.D. BEEKEEPER  
 760 m at 199°

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<b>IMPERIAL METALS CORPORATION</b>	
<b>BEEKEEPER</b>	
FIGURE 4	N.T.S. 93A/6W
RIDGE ZONE - TRENCHING & SAMPLING PLAN	
ROCK CHIP GEOCHEMISTRY: Au, Cu	
SCALE: 1: 250	GEOLOGIST: W. MORTON
DATE: JULY 1985	DRAWN BY: S. HAWORTH



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ASSESSMENT REPORT

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**LEGEND**

⊥ E-24 Location & Number of Sample

○ 0+00/2+50E  
L.C.P. BEEKEEPER  
760 m at 199°

IMPERIAL METALS CORPORATION	
BEEKEEPER	
FIGURE 5	N.T.S. 93A/6W
RIDGE ZONE - TRENCHING & SAMPLING PLAN	
ROCK CHIP SAMPLE LOCATIONS	
Metres 0 5 10 15 20	
SCALE: 1:250	GEOLOGIST: W. MORTON
DATE: JULY 1985	DRAWN BY: S. HAWORTH