1996 Program of Diamond Drilling Geophysics, Geochemistry and Physical Work

Giant Copper Property

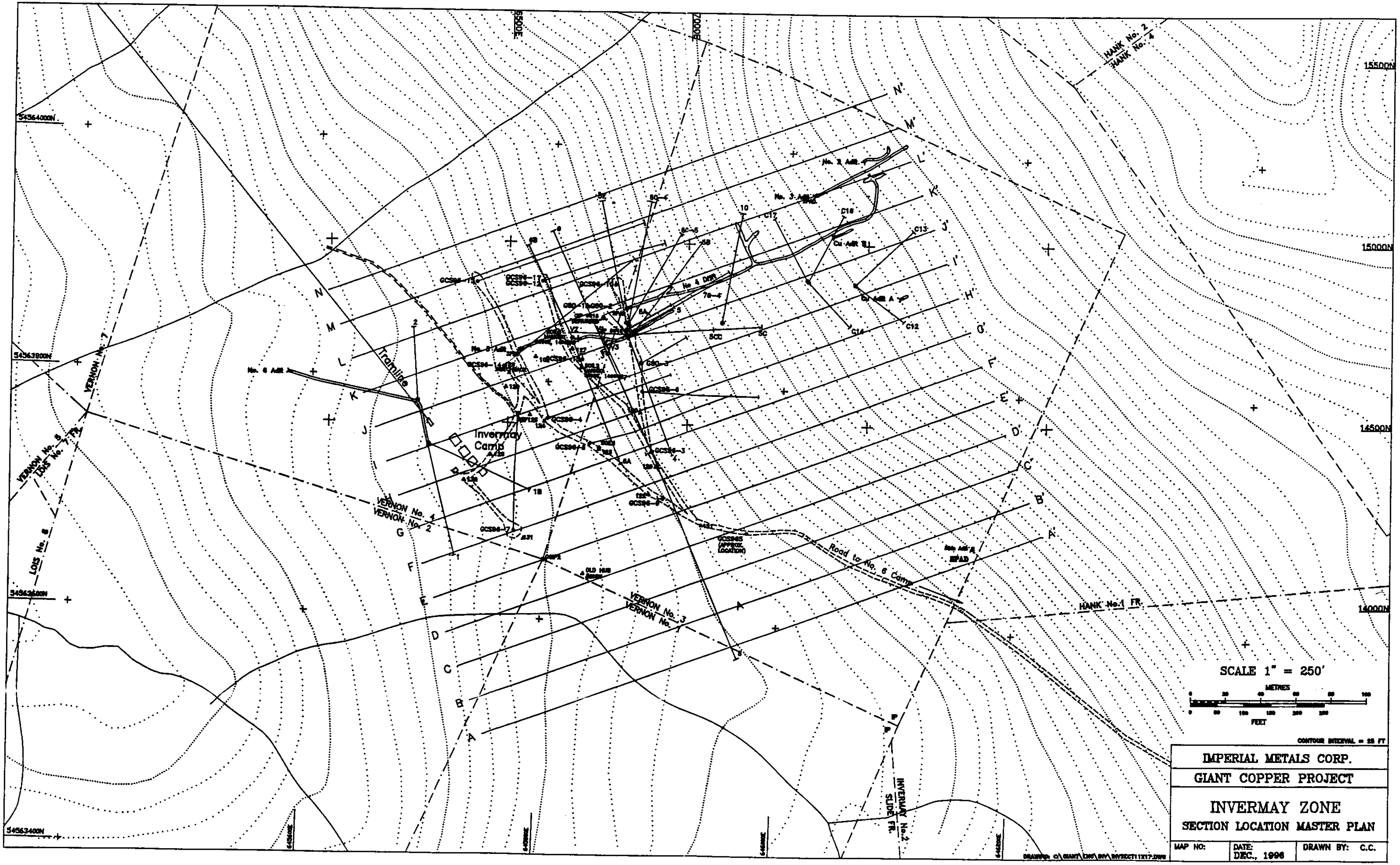
New Westminster Mining Division
49° 10' N., 121° 01' W., NTS 93H/3E

Volume 2 of 2

Imperial Metals Corporation
Suite 420 - 355 Burrard Street
Vancouver, British Columbia
V6C 2G8

Stephen Robertson, P.Geo.

May 05th, 1997.


IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
SECTION LOCATION MASTER PLAN
MAP NO:
DATE: DEC., 1996
DRAWN BY: C.C.
SCALE 1" = 250'
METRES
FEET
CONTOUR INTERVAL = 25 FT
Invermay Camp
Tramline
Road to No. 6 Camp
No. 6 Adit
No. 2 Adit
No. 3 Adit
Cu Adit B
Cu Adit A
VERNON No. 7
VERNON No. 4
VERNON No. 2
VERNON No. 3
VERNON No. 1
LOIS No. 6
HANK No. 1 FR.
HANK No. 2
HANK No. 4
INVERMAY No. 2 SLIDE FR.
15500N
15000N
14500N
14000N
5456400N
5456380N
5456360N
5456340N
A
B
C
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L'
M'
N'

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1.0 Introduction

Imperial Metal's 100% owned Giant Copper property is located in southwestern British Columbia, approximately 200 kilometers east of Vancouver (See Figure 1). Access is most easily gained by traveling 43 kilometers east of Hope on the #3 Provincial Highway, and then along 11 kilometers of roads and trails on the property.

Three main zones of mineralization are known to exist on the Giant Copper property, with several smaller mineral showings. The property has a long history of activity, with small scale production dating back to 1916, and sporadic production activity through to 1947. Underground exploration development took place from the 1930's through to the 70's. Imperial and predecessor Bethlehem Resources, explored the property from 1988 through 1990, and then again in 1995 and 1996.

The main area of interest to date has been the AM Zone, with open pittable reserves of 29.5 million tons grading 0.653% Copper, 0.011 oz/ton Gold, 0.360 oz/ton Silver and 0.007% Molybdenum, and a stripping ratio of 4.25 to 1. A higher grade resource of underground mineable mineralization is calculated at 3.69 million tons grading 1.17% Copper, 0.016 oz/ton Gold, and 0.386 oz/ton Silver, in the "North Nose Zone," located within the AM Zone. Approximately 65% of the North Nose Zone is included in the open pittable resource, with the remainder extending vertically below the pit design. The size of the AM Zone is well defined by surface and underground diamond drilling, but remains open to depth.

Discovered in 1988, the No. 1 Zone has been explored by four trenches, 15 reverse circulation drill holes, and five diamond drill holes (including three in 1996). Short intervals of mineralization were encountered in drilling and trenching, but the area remains inadequately tested.

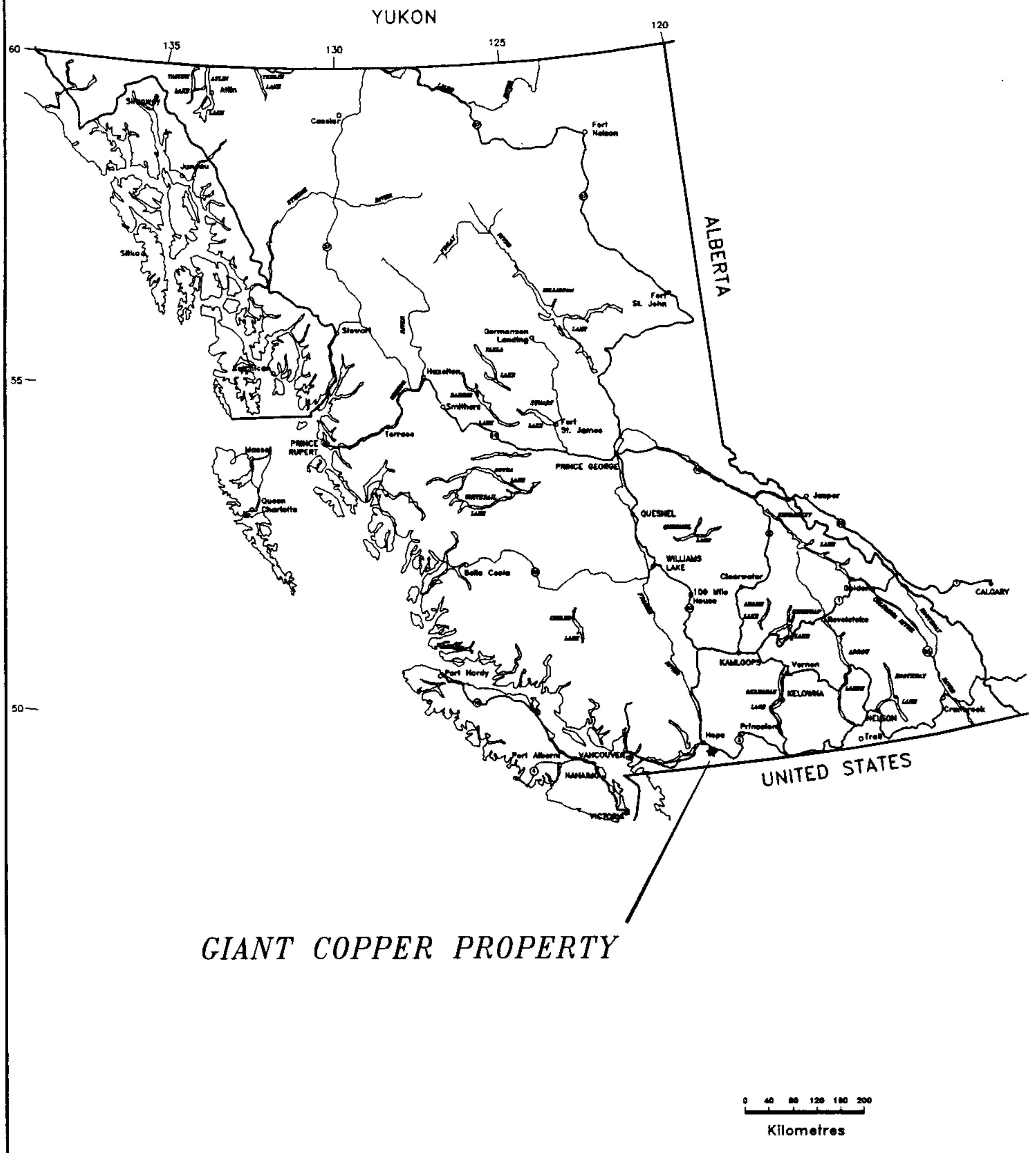
At the Invermay Zone, high grade lead, silver veins were mined in the 1930's and 40's. The potential for bulk mineable, disseminated mineralization in the surrounding diorite breccia was recognized several decades later, but was never adequately tested. Resolution of the land use policy for the area in late 1995 by the British Columbia government, provided the incentive to further explore the area.

The 1996 exploration program utilized an aggressive approach to exploration of the relatively unworked regions of the property. An airborne geophysical survey totaling 658.8 line kilometers was flown, and extensive moss mat sampling and reconnaissance geological work was completed on all major drainage's on the property.

In 1996, a cut grid totaling 6.97 line miles (36,800') was installed over the Invermay Zone. The grid was soil sampled, and magnetometer, VLF-EM and Induced Polarization surveys were carried out. Following this, 13 diamond drill holes, totaling 8,062 feet were completed on the zone. Drilling encountered intense hydrothermal alteration and associated Cu, Ag, Au mineralization which remains open to the west, north , east, and to depth.

Future work at Giant Copper should be focused on continued delineation of the Invermay Zone, in an attempt to establish a second open pittable resource on the property. Further drilling will be necessary in the AM Zone for engineering purposes, although this will not likely add significantly to the reserve tonnage. The Number 1 Zone is inadequately tested and remains to be a good exploration target. Follow-up of anomalous gold and base metal values discovered in the 26 mile Creek drainage will require additional work, including drilling next season.

Suggested expenditures for the next exploration program totals $950,000, as detail in this report.



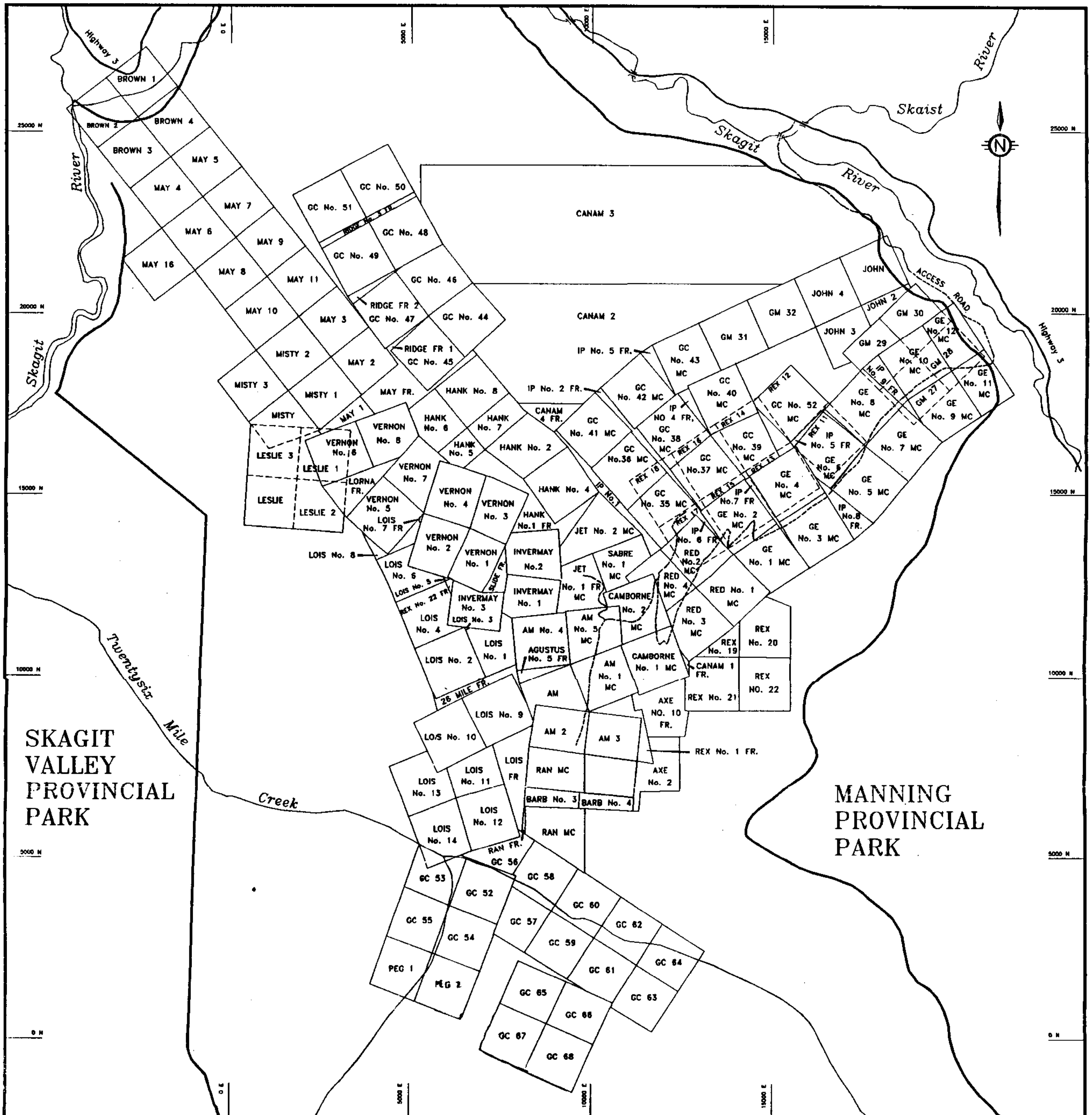
IMPERIAL METALS CORPORATION DRAWING: GIANTLCN.DWG	GIANT COPPER PROJECT PROPERTY LOCATION MAP FIG NO: 1 · DATE: Nov, 1995 · Modified by C.Craig from drawing by Tindall Geoservices

2.0 Property Description

The Giant Copper Property is comprised of 163 mineral claims and eight Crown Granted claims, totaling 195 units (See figure 2). The property covers an area of approximately 2,880 hectares (7,120 acres). All claims are located in the New Westminster Mining Division (See table 1).

Class "A" Provincial Parks surround the property, with E.C. Manning Park to the east and north, and Skagit Valley Park to the west and south. A "Buffer Zone" of crown land, on which Imperial is exclusively entitled to stake claims, lies between the Parks and the Property.

The Giant Copper Property is 100% owned and operated by Imperial Metals Corporation.



MILES 0 1/4 1/2 3/4 1

SCALE: 1" = 3000'

DRAWING: CLAIMMAP.DWG

BETHLEHEM RESOURCES CORP.

GIANT COPPER PROJECT

CLAIM MAP

MAP NO:	DATE:	
FIGURE 2	NOVEMBER, 1995	TINDALL GEOSERVICES INC.

Giant Copper Property - List of Claims

Table 1

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
MAY 8	236521	1	UN	2006/02/09
MAY 9	236522	1	UN	2006/02/09
MAY 10	236523	1	UN	2006/02/09
MAY 11	236524	1	UN	2006/02/09
MAY 16	236532	1	UN	2005/09/15
26 MILE FR	236728	1	UN	2006/11/07
MISTY	236510	1	UN	2005/04/15
MISTY 1	236511	1	UN	2005/04/15
MISTY 2	236512	1	UN	2005/04/15
MISTY 3	236513	1	UN	2005/04/15
PEG 1	236709	1	UN	2006/10/08
PEG 2	236710	1	UN	2006/10/08
RAN	235414	1	UN	2006/09/21
RAN FR	235415	1	UN	2006/09/21
RED 1	236533	1	UN	2006/12/19
RED 2	236534	1	UN	2006/12/19
RED 3	236535	1	UN	2006/12/19
RED 4	236536	1	UN	2006/12/19
REX 11	236776	1	UN	2005/06/12
REX 12	236777	1	UN	2005/06/12
REX 13	236778	1	UN	2005/06/12
REX 14	236779	1	UN	2005/06/12
REX 15	236780	1	UN	2005/06/12
REX 16	236781	1	UN	2005/06/12
REX 17	236782	1	UN	2005/06/12
REX 18	236783	1	UN	2005/06/12

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
HANK 1 FR	236748	1	UN	2006/12/08
HANK 2	236749	1	UN	2006/12/08
HANK 4	236750	1	UN	2006/12/08
HANK 6	236751	1	UN	2006/12/08
HANK 5	236504	1	UN	2005/06/21
HANK 7	236505	1	UN	2005/06/21
HANK 8	236752	1	UN	2006/12/08
INVERMAY NO. 1	236755	1	UN	2006/12/08
INVERMAY NO. 2	236756	1	UN	2006/12/08
INVERMAY NO. 3	236525	1	UN	2006/02/24
IP 1 FR	236733	1	UN	2006/12/08
IP 2 FR	236734	1	UN	2006/12/08
IP 4 FR	235428	1	UN	2006/09/24
IP 5 FR	236735	1	UN	2006/12/08
IP 6 FR	236736	1	UN	2006/12/08
IP 7 FR	236737	1	UN	2006/12/08
IP 8 FR	236738	1	UN	2006/12/08
IP 9 FR	236739	1	UN	2006/12/08
JUT NO. 1 FR	236537	1	UN	2006/12/19
JET 2 FR	236754	1	UN	2006/12/08
JOHN 1	235417	1	UN	2006/12/12
JOHN 2	235418	1	UN	2006/12/12
JOHN 3	235419	1	UN	2006/12/12
JOHN 4	235420	1	UN	2006/12/12
LESLIE	236639	1	UN	2005/06/13
LESLIE 1	236640	1	UN	2005/06/13

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
A.M. 1	L-1579	19	HA	1997/07/31
A.M. 2	L-1587	11	HA	1997/07/31
A.M. 3	L-1577	16	HA	1997/07/31
A.M. 4	L-1584	21	HA	1997/07/31
A.M. 5	L-1581	18	HA	1997/07/31
AUGUSTUS 5	L-1585	3	HA	1997/07/31
REX 1 FR	L-1595	7	HA	1997/07/31
AXE 2	236816	1	UN	2006/10/13
AXE 10 FR	236817	1	UN	2006/10/13
BARB 3	236732	1	UN	2006/12/17
BARB 4	236731	1	UN	2006/12/17
BROWN 1	236528	1	UN	2005/09/01
BROWN 2	236529	1	UN	2005/09/01
BROWN 3	236530	1	UN	2005/09/01
BROWN 4	236531	1	UN	2005/09/01
CAMBORNE 1	236526	1	UN	2006/02/24
CAMBORNE 2	236527	1	UN	2006/02/24
A.M.	L-1586	19	HA	1997/07/31
CANAM 1 FR	235769	1	UN	2006/09/29
CANAM 2	235773	16	UN	2006/10/01
CANAM 3	235772	16	UN	2006/10/01
CANAM 4 FR	235771	1	UN	2006/10/01
GC 35	236695	1	UN	2005/08/01

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
REX 19	236784	1	UN	2005/06/12
REX 20	236785	1	UN	2005/06/12
REX 21	236786	1	UN	2005/06/12
REX 22	236787	1	UN	2005/06/12
REX 22 FR	236815	1	UN	2006/09/13
RIDGE 1 FR	236740	1	UN	2006/12/08
RIDGE 2 FR	236741	1	UN	2006/12/08
RIDGE 3 FR	236742	1	UN	2006/12/08
SABRE 1	236538	1	UN	2006/12/19
SLIDE FR	235426	1	UN	2005/09/02
VERNON 1	236496	1	UN	2005/06/21
VERNON 2	236497	1	UN	2005/06/21
VERNON 3	236498	1	UN	2005/06/21
VERNON 4	236499	1	UN	2005/06/21
VERNON 5	236500	1	UN	2005/06/21
VERNON 6	236501	1	UN	2005/06/21
VERNON 7	236502	1	UN	2005/06/21
VERNON 8	236503	1	UN	2005/06/21

g:\wp\kelly\misc\1997\claim.inq

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
LESLIE 2	236641	1	UN	2005/06/13
LESLIE 3	236642	1	UN	2005/06/13
LOIS FR	236625	1	UN	2005/06/02
LOIS 1	236626	1	UN	2005/06/02
LOIS 2	236627	1	UN	2005/06/02
LOIS 3	236628	1	UN	2005/06/02
LOIS 4	236629	1	UN	2005/06/02
LOIS 5	236630	1	UN	2005/06/02
LOIS 6	236631	1	UN	2005/06/02
LOIS 7 FR	236730	1	UN	2006/11/07
LOIS 8	236632	1	UN	2005/06/02
LOIS 9	236633	1	UN	2005/06/02
LOIS 10	236634	1	UN	2005/06/02
LOIS 11	236635	1	UN	2005/06/02
LOIS 12	233636	1	UN	2005/06/02
LOIS 13	236637	1	UN	2005/06/02
LOIS 14	236638	1	UN	2005/06/02
LORNA FR	236729	1	UN	2006/11/07
MAY FR	236753	1	UN	2006/12/08
MAY 1	236514	1	UN	2006/02/09
MAY 2	236515	1	UN	2006/02/09
MAY 3	236516	1	UN	2006/02/09
MAY 4	236517	1	UN	2006/02/09
MAY 5	236518	1	UN	2006/02/09
MAY 6	236519	1	UN	2006/02/09
MAY 7	236520	1	UN	2006/02/09

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
GC 36	236743	1	UN	2006/12/08
GC 37	236696	1	UN	2005/05/27
GC 38	236697	1	UN	2005/08/01
GC 40	236699	1	UN	2005/05/27
GC 39	236698	1	UN	2005/08/01
GC 41	236744	1	UN	2006/12/08
GC 42	236700	1	UN	2005/05/27
GC 43	236701	1	UN	2005/05/27
GC 44	236745	1	UN	2006/12/08
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GC 50	236705	1	UN	2005/05/27
GC 51	236706	1	UN	2005/05/27
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GC 53	236712	1	UN	2006/10/08
GC 54	236713	1	UN	2006/10/08
GC 56	236715	1	UN	2006/10/08
GC 55	236714	1	UN	2006/10/08
GC 57	236716	1	UN	2006/10/08
GC 58	236717	1	UN	2006/10/08
GC 59	236718	1	UN	2006/10/08
GC 60	236719	1	UN	2006/10/08
GC 61	236720	1	UN	2006/10/08

CLAIM NAME	RECORD #	CLAIM	SI	EXPIRY DATE
GC 62	236721	1	UN	2006/10/08
GC 63	236722	1	UN	2006/10/08
GC 64	236723	1	UN	2006/10/08
GC 65	236724	1	UN	2006/10/08
GC 66	236725	1	UN	2006/10/08
GC 67	236726	1	UN	2006/10/08
GC 68	236727	1	UN	2006/10/08
GE 1	236590	1	UN	2006/10/09
GE 2	236591	1	UN	2006/10/09
GE 3	236592	1	UN	2006/10/09
GE 3 FR	236655	1	UN	2005/05/10
GE 4	236593	1	UN	2006/10/09
GE 5	236594	1	UN	2006/10/09
GE 6	236595	1	UN	2006/10/09
GE 7	236596	1	UN	2006/10/09
GE 8	236597	1	UN	2006/10/09
GE 9	236651	1	UN	2005/05/10
GE 10	236652	1	UN	2005/05/10
GE 11	236653	1	UN	2005/05/10
GE 12	236654	1	UN	2005/05/10
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GM NO. 28	236646	1	UN	2005/05/10
GM NO. 29	236647	1	UN	2005/05/10
GM NO. 30	236648	1	UN	2005/05/10
GM NO. 31	236649	1	UN	2005/05/10
GM NO. 32	236650	1	UN	2005/05/10

3.0 Location and Access

The Giant Copper property is located approximately 200 km east of Vancouver, and is most easily reached by traveling 43 km east of Hope on the #3 Provincial Highway. The turn-off at Cayuse Flats leads to a bridge across the Skagit River, and a locked gate just beyond the bridge prohibits unauthorized vehicle access, as this is the only road access onto the property.

The first 6.5 Km from the highway is a good two-wheel drive road which leads to the core shack, near the 15 Level Portal. A four-wheel drive road continues past this point to the AM Zone, or alternatively, to the Invermay Zone.

The southern portion of the property, in the area of 26 Mile Creek, is most easily accessed by helicopter out of Hope. A hiking/horse trail does switch-back down into the valley bottom from the trails which extend south of the AM Zone. The trail are quite steep and access with horses should only be attempted with experienced bush animals.

The property lies between 1,130 metres and 1,980 metres elevation above sea level. Hatchethead Mountain, Silverdaisy Mountain and portions of Mount Brice are covered by the claims.

Photo #1
Pack Horses for Hauling Camp and Equipment
into 26 Mile Creek Camp

4.0 History

The long history of work on the Giant Copper property has been well documented by a variety of sources. The information presented here is largely derived from Zerb, 1990 and Tindall, 1995.

Work on the Giant Copper property dates back to at least 1916 when small scale mining started at the Silver Daisy showings, near the mouth of Silver Daisy Creek. Sporadic work continued until the mid 1930's when the small lead, silver, gold bearing veins where effectively exhausted.

In 1933 the Invermay showings were discovered by Invermay Annex Mining Company, over 3,000 vertical feet up-slope from the Silver Daisy workings, on the southwest slope of Silverdaisy Mountain. An aerial tramway was constructed in 1935 to transport men, materials and ore from the mine down to the Skagit River. Production continued from 1936 though 1947.

The AM Zone was first discovered in 1930 by the Consolidated Mining and Smelting Company (now Cominco). The Invermay and AM properties were held by independent companies and worked separately until 1956 when the properties were both acquired, and then joined, by Canam Mining Corporation. During the period of 1955 - 1963, several different operators optioned the property and completed a range of exploration programs.

In 1966, all of Canam's assets, including the Giant Copper property, were acquired by Giant Mascot Mines Ltd. for slightly less than 1.1 million shares. Giant Mascot was very active with exploration and development during the period of 1966 to 1970, followed by a nine year hiatus of inactivity. A program conducted during 1979 - 1980 included surface drilling at the AM and Invermay Zones, and rehabilitation of the 10 Level workings.

When Bethlehem Resources Corporation acquired the property from Campbell Resources Inc. (formerly Giant Mascot Mines), 19,741 feet of underground drifts and raises and 46,188 feet of drilling had been completed on the property. Bethlehem conducted a very aggressive exploration program in 1988 through 1990, completing soil geochemistry, geophysics, drilling and underground rehabilitation. Several engineering reports relating to prefeasibility studies were also carried out.

The property was inactive from 1990 through 1995, until a land use decision by the provincial government was announced which preserved the right to mine in the area and removed the portion of the property which had been previously covered by the Skagit Valley Recreation Area. Work completed in 1995 included 4,559 feet of diamond drilling in eight holes, and 41 channel samples, all within the AM Zone.

In late 1995, Bethlehem Resources was acquired by Imperial Metals Corporation. Imperial is now 100% owner and operator of the property. Details of the 1996 field program conducted by Imperial are given in this report.

5.0 Regional Geology

The Giant Copper property is located on the eastern side, of the northern reaches of the Cascade Mountains. This area was described in detail in the mid 1960's by Coates of the Geological Survey of Canada, with the work being published in 1973. A short synopsis is given here, but reference to the original is recommended for a full description of stratigraphy, structure, tectonics and geologic setting.

The area of the Giant Copper property is characterized by five major divisions of rocks as described by Coates, 1973. The north-northwest trending Hozameen Fault separates the Jurassic Ladner Group, from the older Hozameen Group, which has been thrust upward along the fault. In the area of Manning Park (east of the property), the Chuwanten strike-slip fault separates rocks of the Ladner, Dewdney Creek, and Jackass Mountain Groups, from younger Pasayten Group stratigraphy. In this region the rocks become progressively younger to the east.

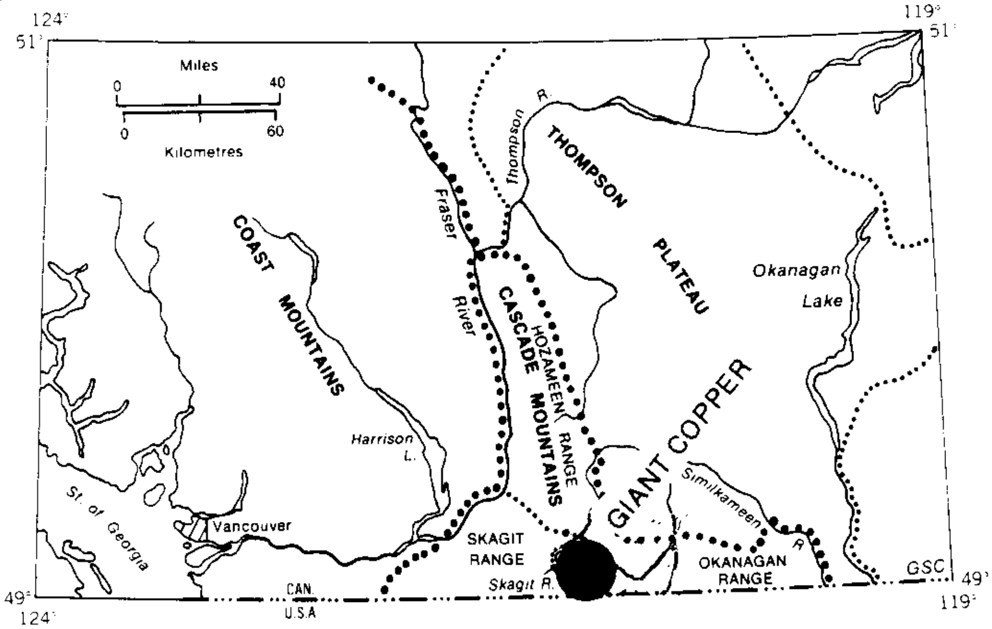


Figure 3. Index map.

The Hozameen Group, represents the oldest part of the stratigraphic succession in the area being Permian to Middle Triassic age, and is comprised of low grade metamorphosed greenstone, chert, argillite and limestone. This package of rocks has been openly to isoclinally folded by compressive forces which thrust it into fault contact with the younger Ladner Creek Group, along the Hozameen Fault.

The Early to Middle Jurassic Ladner Creek Group rocks are volcanic sandstone, tuff and argillite, with lessor lava and flow breccia. This gently folded sequence is usually well bedded and contains fossils, mostly shallow marine in origin.

A series of fine-grained, well sorted volcanic sandstones and sandy argillites of Upper Jurassic age, form the Dewdney Creek Group which overlies the Ladner Creek Group. This strongly faulted unit is thought not to exceed 1,000 feet thick, and is quite fossiliferous, containing many marine fossils.

The Jackass Mountain Group consists of coarse grained clastic sediments of both shallow marine and nonmarine origin. These rocks are generally very immature, with many good examples of conglomerate in the region.

The youngest rocks in the region are the coarse, clastic, strictly nonmarine sediments of the Pasayten Group. These Lower Cretaceous rocks are only slightly younger than the underlying Jackass Mountain Group sedimentary rocks.

Ultramafic dykes and sills are not uncommon in the region, and are often seen as late stage features within the sedimentary rocks. Cretaceous and Eocene intermediate plutonic rocks occur as stocks, plugs, dykes and sills cross-cutting all younger units.

Coates states a strong possibility that the fault bounded trough, where the thick sequences of sediments were deposited, is a southward extension of the Tyaughton Trough.

Regional deformation at the end of the Cretaceous and has resulted in regional greenschist facies metamorphism in many units. This timing is probably only slightly later than the emplacement of the oldest suite of intrusives present in the area.

TABLE 1 — Table of Formations

ERA	PERIOD	EPOCH	GROUP OR FORMATION	MAP-UNIT	LITHOLOGY
CENOZOIC	QUATERNARY	PLEISTOCENE AND RECENT			Stream deposits, glaciofluvial deposits and till
		UNCONFORMITY			
	TERTIARY	EOCENE	CASTLE PEAK STOCK	18	Granodiorite and tonalite
		UNCONFORMITY			
MESOZOIC	CRETACEOUS	UPPER CRETACEOUS	Stocks on SNASS CREEK and SILVERDAISY MOUNTAIN	17	Tonalite
		UNCONFORMITY?			
		UPPER CRETACEOUS	EAGLE TONALITE, (in part)	14	Tonalite and granodiorite
		UNCONFORMITY?			
		ALBIAN OR YOUNGER	PASAYTEN GROUP	13	Non-marine lithic sandstone and conglomerate
				12	Non-marine redbeds; conglomerate, arkose and siltstone
		MIDDLE TO UPPER ALBIAN		11	Non-marine conglomerate, arkose, sandstone and siltstone
		LOWER TO UPPER ALBIAN	JACKASS MOUNTAIN GROUP	10	Marine sandstone, shale, siltstone and conglomerate
		LOWER ALBIAN		9	Polymict conglomerate, sandstone and argillite
		BARREMIAN - LOWER ALBIAN		8	Sandstone, argillite and minor conglomerate
		HAUTERIVIAN TO LOWER BARREMIAN		7	Marine sandstone
		NEOCOMIAN (LOWER CRETACEOUS)	COPPER CREEK *ASSEMBLAGE*	6	Volcanic sandstone, conglomerate *and red argillite*
				5	Hornblende andesite, breccia, tuff and flows
			PITYOPHYLLUM BEDS	4	Non-marine volcanic and polymict sandstone, conglomerate and argillite
		UNCONFORMITY			
	UPPER JURASSIC TO CRETACEOUS?		EAGLE GRANODIORITE (in part)	14	Tonalite and granodiorite, gneissic to foliated
	JURASSIC	UPPER JURASSIC	DEWDNEY CREEK *GROUP*	3	Volcanic sandstone, *conglomerate and argillite*
		UNCONFORMITY			
		TOARCIAN TO BAJOCIAN	LADNER GROUP	2	Volcanic sandstone, argillite, conglomerate, tuff, breccia, flows
		UNCONFORMITY			
MES. &/OR PAL.	MIDDLE TRIASSIC AND/OR PERMIAN (?)		HOZAMEEN GROUP	1	Greenstone, chert, argillite and limestone

GSC

From Coates, 1974

6.0 Property Geology

The Giant Copper property is mostly underlain by finely laminated waterlain tuffs and lessor volcanic siltstone/sandstone sequences of the Ladner Creek Group (See map 1 in pocket). The Hozameen Fault transects the property and all stratigraphy west of the fault belongs to the Hozameen Group. Flanking the Ladner Group, along the eastern side of the property is the fine grained sediments of the Dewdney Creek Group, or perhaps younger marine sediments.

The Ladner stratigraphy has been intruded by at least four different intrusive suites on the Giant Copper property. The oldest intrusives on the property are the middle to upper Cretaceous Invermay stock. Smaller plugs, related to the Invermay Stock are found in the extreme northwest corner of the property, on the southern flank of Hatchethead Mountain near the western edge of the property, and near the middle of the southern boundary of the property. Hornfelsing of the surrounding sediments resulting in gossanous stain, can extend up to several hundred feet from the edge of the plutons. Elongation or intensity of the gossan is suspected to give an indication of the subsurface geometry of the intrusive bodies.

Nonporphyritic aplite dykes are found in all three of the main mineralized zones on the property, and appears to be strongly related to mineralization in some areas. At the AM Zone however, emplacement of the aplite appears to be unrelated to the bulk of the breccia mineralization. Conversely, at the Invermay Zone disseminated mineralization is not only spatially related to aplite dykes, but also strongly associated with the resultant potassic alteration. The dykes are believed to be high level apophisies of a large multiphase, felsic body emplaced at depth.

6.1 Mineralization

Several styles of mineralization are present on the Giant Copper property, all of which appear to be interrelated, with the exception of the high grade veins at the Invermay and Silver Daisy showings. These veins result from a later event and may represent remobilization and further concentration of the earlier mineralization.

6.1.1 Veins

Prospectors were originally drawn to the area of the Giant Copper property by the discovery of high grade Lead, Zinc, Silver, Gold veins located on the western flanks of Silverdaisy Mountain. The veins vary from quartz/calcite to massive sulfide, and from a few centimeters to 6 metres wide. Evidence of successive pulses of mineralizing fluids are commonly observed and can account for the highly erratic values encountered in the veins.

Mineralization of this type is usually hosted in structures striking at azimuth 070° and can occur as veins up to 200 metres long, or as small pods.

6.1.2 Zones of Disseminated Mineralization in Breccia

The styles of disseminated mineralization observed at the two banner zones (AM and Invermay) are distinctly different from one another, yet are almost certainly genetically linked. The zones are likely part of the same system, but Invermay appears to be closer to the core, exhibiting alteration characteristic of high temperature hydrothermal fluids, close to the fluid source. The AM is probably slightly more peripheral, although mineralogy suggests it is certainly not distal from the heat source.

6.1.2 a) AM Zone

Mineralization at the AM Zone is hosted in a breccia of sub-rounded to angular fragments of sedimentary rocks, with an intrusive igneous matrix composed mainly of calcite, quartz, tourmaline, and feldspar (Tindall, 1995). The majority of the breccia observed contains angular fragments of similar rock type, with no sign of rotation. Examples of breccia have been found with mixed fragment lithologies showing obvious signs of rotation, but this is probably representative of a boarder phase.

Mineralization at AM is found only in the breccia, with sulfides occurring as patches of pyrite, pyrrhotite, chalcopyrite, arsenopyrite, with lessor sphalerite and galena. Minor molybdenite, scheelite and magnetite are also present in some areas (Tindall, 1995).

Genesis of the AM is believed to be related to the venting of fluids from a felsic intrusive emplaced below the Invermay Zone. A dilational area along the Giant Fault (See Map 1), acted as a conduit for the rapid and violent venting of the mineralizing fluids. Several smaller zones with similar characteristics can be found throughout the property, which likely represent smaller leakage's of fluids related to the same process. Many of these zones have very weak, or are barren of, sulfide mineralization. Examples of these occurrences would be the Camp Zone, Pass Zone, New Zone, and many smaller unnamed zones on the south flank of Hatchethead Mountain (See Photo #3).

With much (or most) of the AM breccia unmineralized, it is clear that brecciation was not synchronous with mineralization, but predated it. The very permeable matrix of the breccia served as a conduit for the saturated, mineralizing fluids coming from a buried intrusive source. Variation in grades, and sulfide ratios throughout the zone are testament to the theory that there were several pulses of mineralizing fluids.

Within the AM Zone is a high grade shell along the northwestern perimeter of the breccia, known as the North Nose Zone. This body is horseshoe shaped in plan, and extends down vertically along the edge of the breccia. The North Nose Zone is open to depth, and although relatively consistent in geometry along its defined extent, it appears to open up to the west between 10 and 15 levels. The mechanics for formation of this zone remain unknown, although it may be related to an area of higher permeability which allowed the flow of a greater volume of fluid though that particular part of the breccia.

Photo #2
Unmineralized Tourmaline Breccia from Hatchethead Mountain

It has been suggested by Tindall (1995) that the AM Zone is a series of subvertical breccia bodies which are bounded by steeply dipping faults. The North Nose would represent one zones, or bodies, with the other two being named the Central Zone and South Nose Zone. Both of the later are lower in grade than the North Nose, and the Central Zone grades are very erratic.

High grade breccia zones similar to the AM are well documented as features located peripheral to large porphyry systems. It is the authors opinion that the AM Zone is a high level, breccia hosted zone of mineralization, related to a multiphase intrusive, emplaced below the Invermay area. The breccia formed as a result of venting fluids from one of the earlier intrusive events, violently escaping along a zone of weakness. The breccia zone then acted as a permissive path for metal laden fluids from subsequent, and more evolved intrusive phases.

6.1.2 b) Invermay Zone

Initial investigation of the Invermay Zone was centered on the high grade veins, described earlier in this report. Although it was these veins which were mined in the 1930's and 40's, the bulk of the mineralization is found in the zone of disseminated sulfides surrounding the veins.

Very little work has been done on the Invermay Zone since mining ceased some 50 years ago, and as a result, there is little documentation of the alteration and mineralization in the areas peripheral to the veins.

The host of the disseminated mineralization at the Invermay Zone, is a hydrothermal breccia located within the Invermay Stock, subsequently invaded by hydrothermal fluids producing hydrothermal alteration and mineralization. The breccia is comprised of rounded to angular fragments of diorite (Invermay Stock) with a very fine grained intrusive groundmass, moderately to very strongly altered. The breccia has been invaded by aplite dykes which appear to be related to the hydrothermal activity.

The alteration is dominated by k-spar and quartz flooding, especially in areas of close proximity to the Aplite dykes. The potassic alteration (quartz-k-feldspar-biotite-rare tourmaline-magnetite) is overprinted by the later and more widespread phyllic (quartz-sericite-carbonate-rutile) and propylitic (chlorite-sericite-carbonate-epidote) alteration. The intensity of potassic alteration and strength of sulfide mineralization both appear to be dependent on the spatial relationship with the aplite dykes.

Thin section work (See Appendix D) shows that the plagioclase still largely intact, is altered at the rims to k-feldspar. Other plagioclase is seen to be altered to the core by sericite and carbonate. Most of the magmatic hornblende is altered to biotite, chlorite, sericite, and carbonate, with minor tourmaline and epidote.

Sulfide mineralization can be very impressive with large clots of chalcopyrite or small sulfide veinlets of chalcopyrite, sphalerite, or galena. Mineralization is best described as disseminated throughout the matrix of the breccia, with vein or fracture related sulfide less common. There appears to be very little direct correlation between any of the metals in the zone, suggesting many pluses of mineralizing fluids have passed through the rock. This is supported by the observation of overgrowth of one species of sulfide over another, with great variation in these relationships.

7.0 1996 Exploration Program

7.1 Stream Sampling

The portion of the property previously covered by the Skagit Valley Recreation Area is relatively unexplored by today's standards. As a result, a grass roots approach was employed on much of the property with total of 140 moss mat and silt samples being collected during 1996 for analysis. Moss mat samples were taken at all sample locations and silts were taken at a few selected stations for comparative purposes.

Most sample sites were reached by day hikes, but due to the inaccessibility of the 26 Mile Creek valley, a horse camp was utilized to support a three man crew which spent 10 days collecting moss mat samples (in addition to rock and soil samples).

Sample were collected into sample bags and shipped to Acme Labs in Vancouver where they were analyzed for 31 elements by digestion in an aqua regia solution, followed by Inductively Coupled Plasma (ICP) determination using a mass spectrometer. Wet geochemical assays with an AA finish were used for more accurate gold determination on all samples.

Results of the stream sampling are plotted on Map 2; assay sheets can be found in Appendix A. The sampling met with limited success, with samples below the Invermay and AM Zones showing only weakly elevated metal values, thereby implying little hope of identifying more subtle mineralized zones. Two target areas were however identified with this exploration method. Elevated base metal values in the area of Hatchethead Adit, have resulted in the location of a zone of cross-cutting tourmaline/quartz/sulfide veins, one of which assayed up to 0.40 oz/ton Au.

One small creek draining the very steep north slope of Mount Brice produced a sample with 1,129 ppb gold. Follow-up of this sample was not done due to the dangerous conditions presented by the constant fall of debris down the north slope of the mountain. Investigation of this area may be easier in a drier year.

7.2 Line Cutting and Surface Geophysics

A cut grid was installed over the Invermay Zone, with a total of 36,800 feet of line cutting over 10 lines, and a baseline. All lines were spaced at 400 foot intervals on the baseline. The east-west baseline was picketed and tight chained, while the north-south cross-lines were picketed and hip chained. Jacques Marreau and Richard Ney were contracted to complete the task.

Upon conclusion of the linecutting, a pole-dipole IP survey was completed on the grid. The survey specifics include a 3Kw transmitter, with a spacing of 150 ft. The resulting pseudosections can be found in Appendix C.

A very strong chargeability anomaly was located in the area of the 1996 drilling and appears to correlate fairly well with elevated sulfide content. A large portion of this chargeability high is untested deserves further consideration. Some of the weaker IP anomalies on the southern potion of the grid are untested and make good future exploration targets.

7.3 Soil Sampling

Soil samples were gathered along three contour soil lines (See map 3), and on the picketed grid installed over the Invermay Zone (See maps 4 - 16). A total of 252 samples were collected at the Invermay and 83 along the contour soil lines.

Sample spacing on the grid was every 100 feet, on 400 foot spaced lines. Some samples were not taken in areas lacking a good "B Horizon" from the soil profile. This occurred due to swampy ground near the valley bottom where only "A Horizon" was found, and on some areas of blocky talus further up slope, where no soil was found.

Analytical analysis methods are the same as those described for stream samples in section 7.1.

Plots of 13 individual elements, with contours on the maps for Cu, Au, Ag, Zn, Pb, As, Sb, Cd, and Fe are found on maps 4 - 16 in this report. Assay sheets are located in Appendix A.

7.4 Diamond Drilling

A total of 16 diamond drill holes were completed on the Giant Copper Property during the 1996 season. Three holes were drilled at the Number 1 Zone, and 13 at the Invermay Zone. A total of 9,301 feet of core was recovered.

The drilling program was designed to test two previously discovered, but inadequately explored zones. Delineation of a second open pittable resource on the property was the motivation for the drilling, and the Invermay and No 1 Zones are both considered to have considerable potential for meeting this goal.

After bids were tendered, Beaupre Diamond Drilling of Princeton British Columbia, was chosen to complete a minimum 5,000 foot drilling program. Field personnel and equipment for drilling were mobilized to the property on August 8th, and continued though to the end of Phase I drilling, with demobilization on September 24th. Both HQ and NQ equipment were available on site and nine of the 10 holes drilled by Beaupre, were started with HQ equipment and reduced when necessary. Sumps of adequate size to treat the cuttings laden discharge were built, and later reclaimed at every drill site.

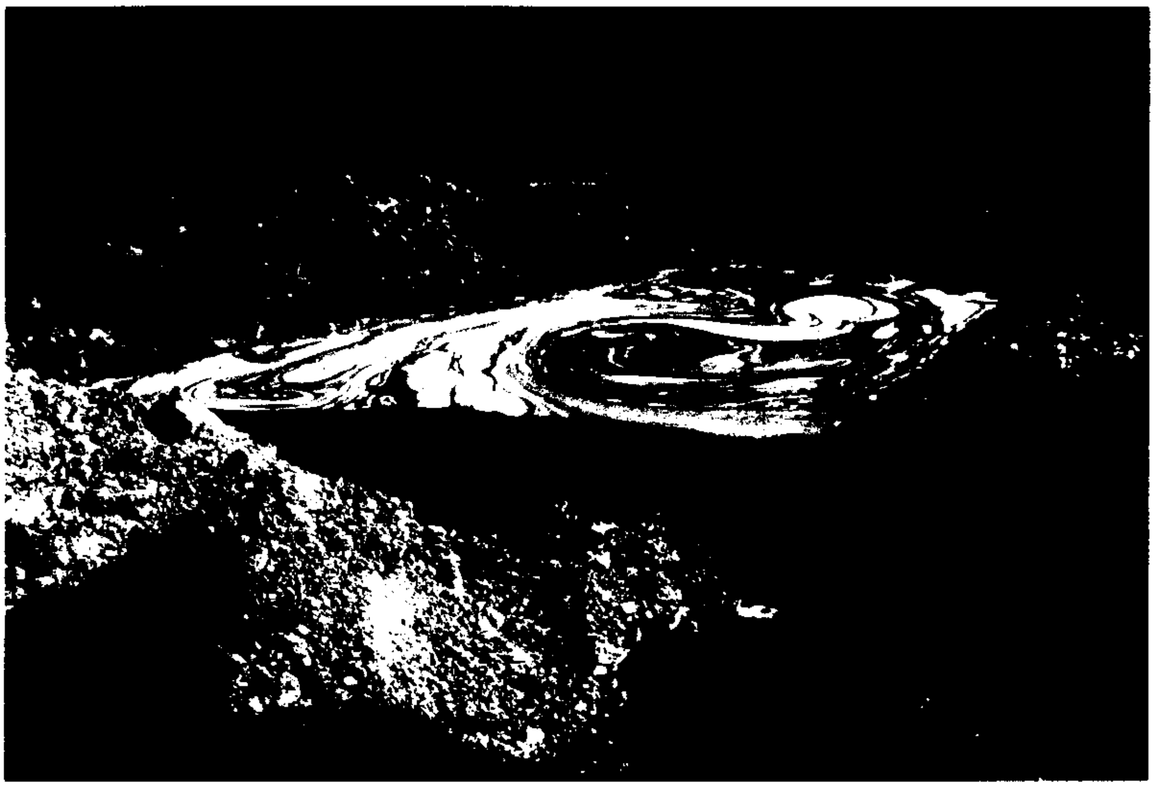


Photo #3
Sump at the drill site for GCS-96-1

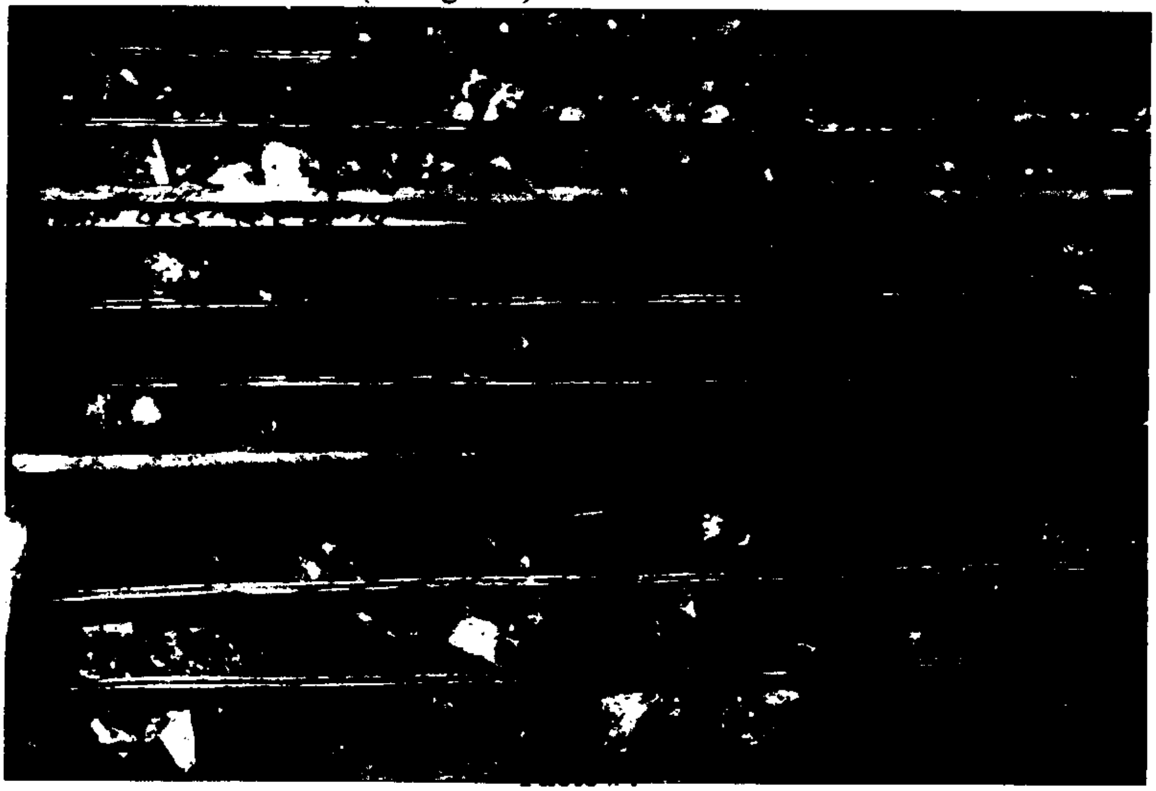
Core was logged at an existing facility, and core was stored on the property. Down hole surveys were done at periodic intervals in each hole, although many problems were encountered with the equipment and acid tests were completed when the tool, supplies or personnel failed to perform as desired. All drill collar locations were surveyed by Valley Surveys out of Hope.

Drilling successes resulted in allocation of additional funds for a second phase of drilling. Boisvenu Drilling was contracted for a minimum 2,000 foot program. The drill and crew were mobilized to the property on October 7th and continued through to November 10th. NQII (thin walled NQ equipment) was used for all of this phase of drilling which totaled 4,044 feet, over 6 holes.

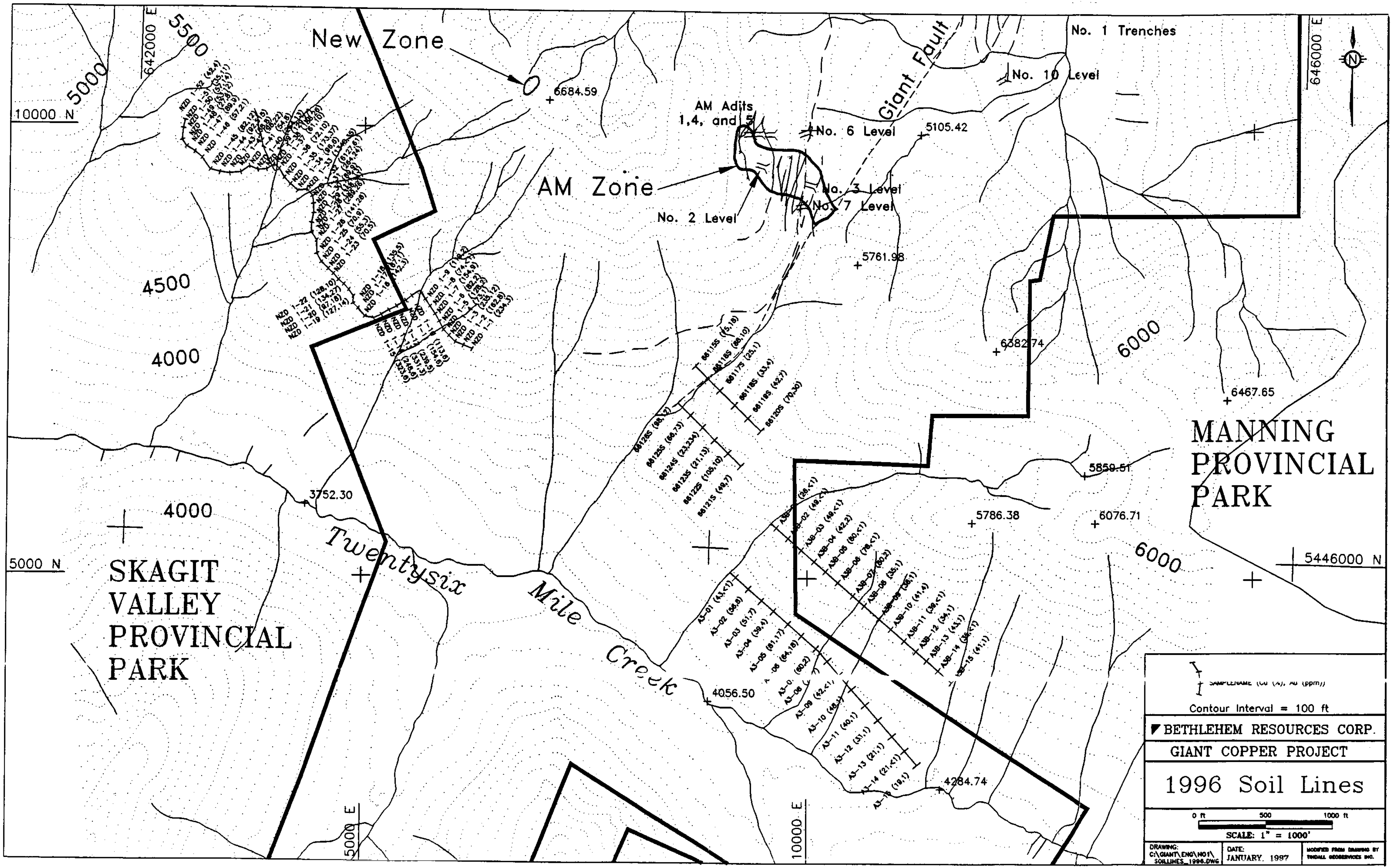
7.4 a) Number 1 Zone

The Number 1 Zone was discovered in 1989 by Bethlehem Resources by trenching and drilling on coincident geochemical/geophysical anomalies produced the previous year. Small zones of mineralization were intersected in the 1989 program but controls on the mineralization were poorly understood due to the limited information derived from reverse circulation drilling.

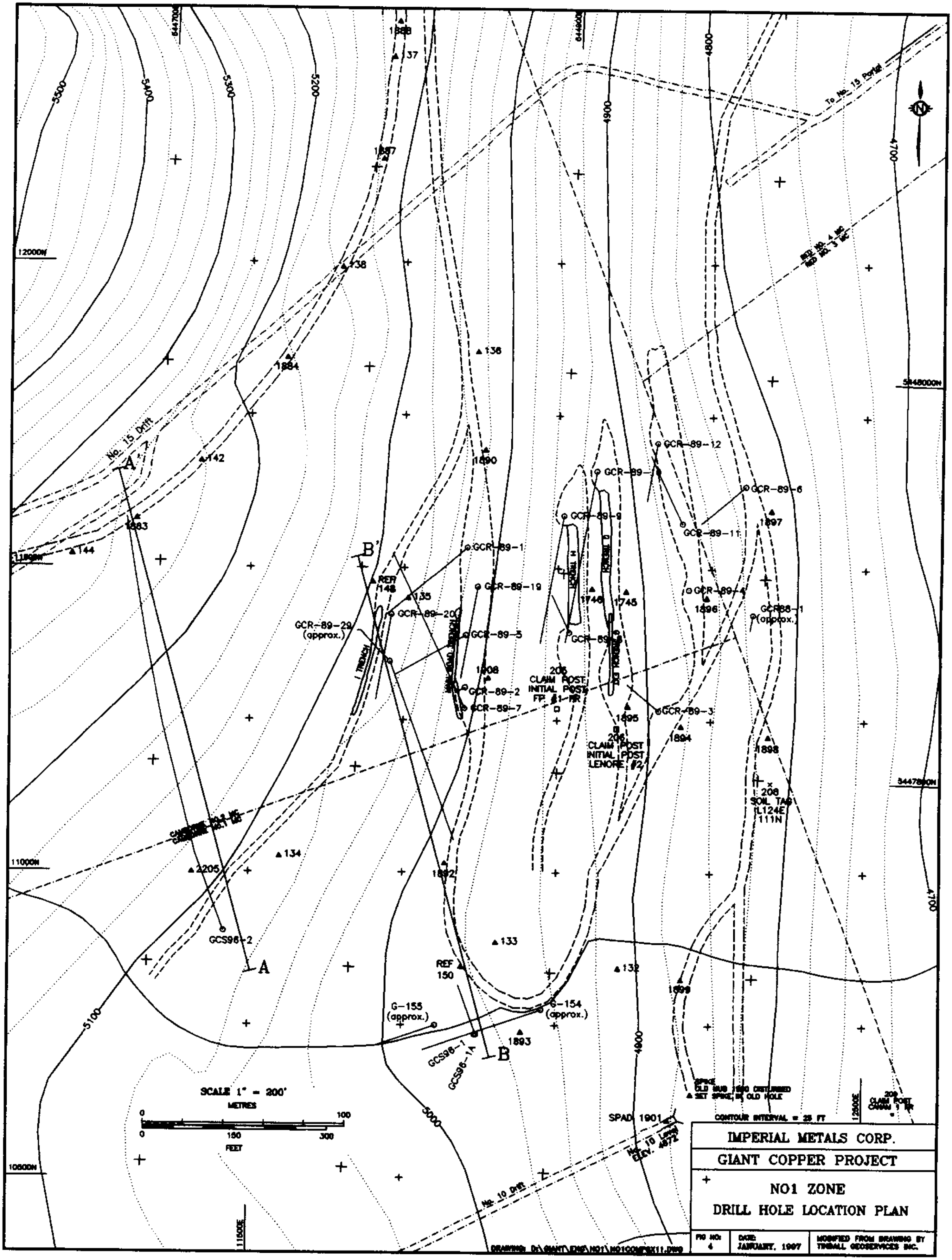
In 1996, two holes were designed to extend the zone of mineralization intersected in holes GCR-89-5 and GCR-89-20 (See figure 4).



Poor ground conditions were encountered at No. 1 Zone



New Zone
AM Zone
AM Adits
1,4, and 5
No. 6 Level
No. 3 Level
No. 7 Level
No. 2 Level
Giant Fault
No. 1 Trenches
No. 10 Level
6684.59
5105.42
5761.98
6382.74
6467.65
5859.51
5786.38
6076.71
3752.30
4056.50
4284.74
5000
5500
4500
4000
6000
10000 N
5000 N
5446000 N
642000 E
646000 E
5000 E
10000 E
Twentysix Mile Creek
MANNING PROVINCIAL PARK
SKAGIT VALLEY PROVINCIAL PARK
Contour Interval = 100 ft
BETHLEHEM RESOURCES CORP.
GIANT COPPER PROJECT
1996 Soil Lines
0 ft 500 1000 ft
SCALE: 1" = 1000'
DATE: JANUARY, 1997



IMPERIAL METALS CORP.
GIANT COPPER PROJECT
NO1 ZONE
DRILL HOLE LOCATION PLAN

FIG NO:	DATE:	MODIFIED FROM DRAWING BY
4	JANUARY, 1997	TINDALL GEOSERVICES INC.

Drill hole GCS96-1 was ended at 120 feet, well short of the intended target depth, due to squeezing in the hole. Drill hole GCS-96-1A was collared approximately three feet northeast of hole GCS-96-1, drilling along the same azimuth and dip, but was also lost well short of the target, ending at 118 feet. Both holes 1 and 1A were drilled into the large NNE trending structure known as the Giant Fault. This target could be more easily reached by setting up closer to the target area and drilling steeper holes.

Drill hole GCS-96-2 was collared approximately 450 feet west of holes 1 and 1A, where the drillers were able to advance into much more stable ground. This set-up was however, too far west and encountered barren intrusive of the Invermay Stock at the target depth.

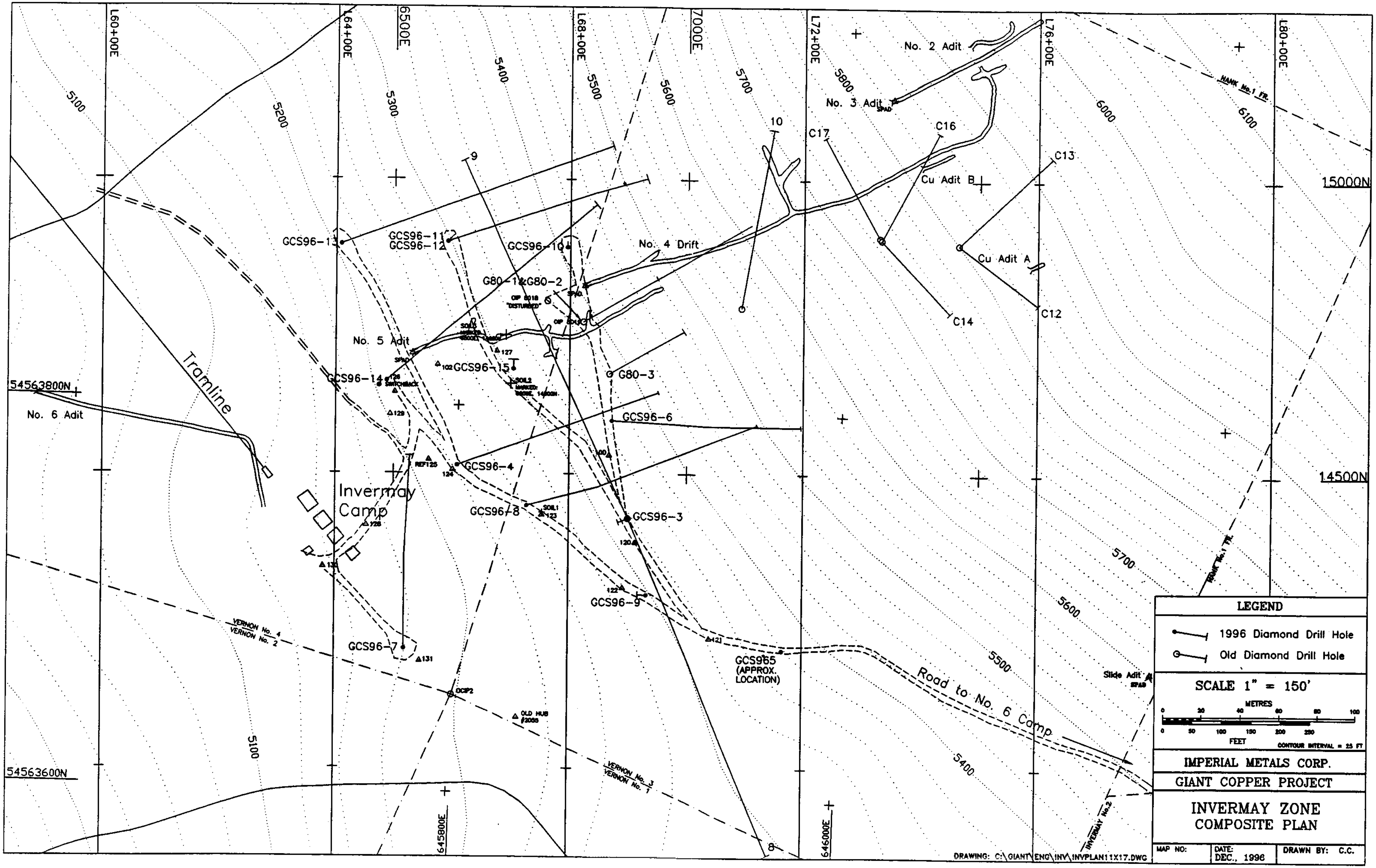
7.4 b) Invermay Zone

The 1996 drilling at the Invermay Zone was designed to test the validity of historic drilling, done largely with X-Ray sized core, and to gain a better understanding of the genesis of the mineralization in the wall rock of the well explored veins. Strong hydrothermal alteration and mineralization encountered in the first two drill holes was very encouraging, and provided many clues to the mineral genesis at Giant Copper.

Location of the first hole was intended to intersect mineralization previously encountered in underground hole #3. This target area was also coincident with the edge of a strong chargeability anomaly which was detected in the 1996 IP Survey. This hole (GCS-96-3) showed much stronger hydrothermal alteration than was indicated by previous drill logs at the Invermay Zone, and also some impressive mineralization. The best mineralization was near the top of the hole (See chart below).

GIANT COPPER
1996 DIAMOND DRILLING

Significant Intercepts	Interval (ft)	Length (ft)	Au g/t	Ag g/t	Cu %	Zn %
GCS 96 - 3	51.0 - 236.0	185.0	0.322	41.7	0.309	0.217
	81.0 - 96.0	15.0	0.418	36.0	0.673	0.67
	186.0 - 236.0	50.0	0.59	101.5	0.343	0.63
GCS 96 - 4	283.5 - 672.0	388.5	0.465	7.3	0.188	0.025
GCS 96 - 5	275.5 - 277.0	1.5	0.879	67.0	0.26	4.468
GCS 96 - 6	55.0 - 107.0	52.0	0.041	2.6	0.088	0.011
	361.0 - 391.0	30.0	0.06	7.0	0.166	0.021
GCS 96 - 7	229.5 - 230.8	1.3	3.68	5.4	0.001	0.002
GCS 96 -8	37.0 - 84.0	47.0	0.099	6.2	0.166	0.021
	228.0 - 713.0	485.0	0.256	9.2	0.288	0.032
	363.0 - 413.0	50.0	0.256	12.2	0.447	0.034
	480.0 - 559.5	79.5	0.375	13.5	0.412	0.028
	563 - 613.0	50.0	0.969	18.5	0.604	0.038
GCS 96 - 9	52.0 - 253.0	201.0	0.14	3.4	0.054	0.062
	77.0 - 87.0	10.0	0.509	23.0	0.387	0.055
	107.0 - 117.0	10.0	1.63	2.0	0.08	0.012
GCS 96 - 10	30.0 - 1017.0	987.0	0.192	9.9	0.127	0.073
	30.0 - 27.0	57.0	0.113	5.2	0.178	0.114
	127.0 - 217.0	90.0	0.612	18.9	0.25	0.115
	484.0 - 611.0	127	0.463	12.8	0.188	0.061
	857.0 - 959.0	102	0.085	20.8	0.161	0.063
GCS 96 - 11	341.0 - 367.5	26.5	1.186	10.4	0.034	0.895
	380.5 - 430.0	49.5	1.803	32.7	0.164	0.921
GCS 96 - 12	40.0 - 50.0	10	0.312	8.6	0.087	0.181
	100.0 - 128.0	28	0.034	14.6	0.093	0.321
	420.0 - 428.0	8	0.04	15	0.174	0.055
GCS 96 - 13	90.0 - 126.0	36	0.172	17.3	0.151	0.135
	295.5 - 350.0	54.5	0.489	68.2	0.759	0.479
	492.0 - 499.5	7.5	0.337	17.5	0.115	0.166
	601.0 - 631.0	30	0.401	7.4	0.06	0.627
	711.0 - 721.0	10	0.702	3	0.037	0.074
GCS 96 - 14	326.0 - 418.0	92	0.236	7	0.143	0.069
	326.0 - 342.3	16.3	0.493	15.9	0.295	0.055
	435.5 - 510.0	74.5	0.17	9.3	0.129	0.076
	526.0 - 610.0	84	0.147	4.6	0.139	0.033
GCS 96 - 15	265.0 - 511.0	246	0.176	6.1	0.105	0.031
	445.0 - 511.0	66	0.157	11	0.133	0.057



L60+00E
L64+00E
6500E
L68+00E
7000E
L72+00E
L76+00E
L80+00E
15000N
14500N
54563800N
54563600N
645800E
646000E
5100
5200
5300
5400
5500
5600
5700
5800
6000
6100
5700
5600
5500
5400
5100
No. 2 Adit
No. 3 Adit
No. 4 Drift
No. 5 Adit
No. 6 Adit
Cu Adit A
Cu Adit B
Slide Adit
Tramline
Invermay Camp
Road to No. 6 Camp
HANK No.1 FR.
VERNON No. 4
VERNON No. 2
VERNON No. 3
VERNON No. 1
INVERMAY No.2
GCS96-3
GCS96-4
GCS96-6
GCS96-7
GCS96-8
GCS96-9
GCS96-10
GCS96-11
GCS96-12
GCS96-13
GCS96-14
GCS96-15
GCS965 (APPROX. LOCATION)
G80-1&G80-2
G80-3
C12
C13
C14
C16
C17
9
10
8
OLD HUB #2005
LEGEND
1996 Diamond Drill Hole
Old Diamond Drill Hole
SCALE 1" = 150'
METRES
FEET
CONTOUR INTERVAL = 25 FT
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE COMPOSITE PLAN
MAP NO:
DATE: DEC., 1996
DRAWN BY: C.C.
DRAWING: C:\GIANT\ENG\INV\INVPLAN11X17.DWG

Of the 13 holes drilled at Invermay, 11 encountered significant hydrothermal alteration, with variable amounts of associated sulfide mineralization. Continued drilling to fully delineate the extent of hydrothermally altered intrusive breccia is recommended for the Invermay Zone. This area is still open up-slope to the east, to the west, and especially to the north. The zone also appears to get deeper to the north. The IP chargeability anomalies in the area, and geochemical anomalies up slope also provide incentive to continue exploratory drilling in the area.

7.5 Petrographics

Mr. Craig Leitch of Vancouver Petrographics was contracted to complete a full petrographic description of 29 core samples. His report, with accompanying photomicrographs is included in Appendix D.

7.6 Physical Work

Under order of the Ministry of Forests, the access road from the highway to the core shack (total 5.3 km), was upgraded in accordance with the Forest Practices Code. SNC Lavelin was contracted to assess the road and produce a plan for upgrade work, and a seasonal deactivation plan. Ditching was increased to a minimum 1.0 metre depth, and culverts were installed or upgraded as necessary for proper water management. Gormac Developments Ltd. of Hope, B.C. was contracted to do the work.

Equipment used included a John Deer 790 Hoe, a John Deer 450 tractor with blade and back hoe, and a dump truck. Rates for upgrading of the road were $7.50 per metre, plus $210 per culvert installation (X 14 culverts), plus the cost of culverts and transportation of them. The total for this work was $42,975.00

Other physical work on the property snow clearing and road grading of necessary trails, construction of approximately 800 feet of diamond drill access trails, and upgrade of the parking lot at Cayuse Flats. The work on the parking lot was necessary to avert the effects of seasonal flooding which caused the only access road to the property to be under water eight to ten months of the year.

A 1200 mm culvert was installed on the main access road, above the 10 level portal. The old wooden culvert was partially plugged and the construction material was too rotten to allow upgrading.

The total cost of all road work, including seasonal road deactivation, was $66,651.20 (road work) + $9,293.16 (culverts) = $75,944.36

8.0 Conclusions and Recommendations

Current reserves at the AM Zone show strong copper, gold and silver grades, with minor molybdenum. The delineation of a second open pittable resource on the property, increasing the total contained metal value, would have a very positive effect on the economics of mining plans at Giant Copper. Drilling in 1996 was successful in intersecting significant disseminated mineralized zone at Invermay, approximately 1 km to the northwest of the AM Zone. Although grade was lower than the AM Zone, the geologic environment is strongly conducive to a much larger mineralized system.

Drilling completed in 1996 suggests the possibility for expansion of the zone of mineralization defined at Invermay, to the north and to depth from the area of work. Areas to the west and east also need to be tested. Two holes (GCS-96-5 and GCS-96-7) appear to have closed off the south end of the mineralized zone, although independent geochemical and IP anomalies exist farther south, and exist as lower priority targets.

A proposed exploration program for the Invermay Zone includes 2,500 feet of road building, construction of 8 helicopter supported drill pads, and 10,000 feet of diamond drilling. This program has been designed to effectively test the viability of the Invermay Zone as an open pittable resource.

Lower priority targets on the property include the Number 1 Zone, further delineation of the AM Zone, geophysical anomalies between AM and Number 1, the Hatchethead Adit area, and 26 Mile Creek area. The Hatchethead Adit, 26 Mile Creek area and Geophysical anomalies near AM are very early stage targets which deserve detailed investigation. The high gold values encountered near Hatchethead adit make it a particularly attractive target. Grid work and detailed mapping and surface sampling are necessary before drilling is required on this zone.

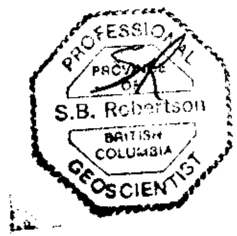
The AM Zone has been well tested and requires minor drilling to assist in engineering and mine planning. This drilling could have a small positive effect on both grade and tonnage. The two highest priority sites are at mine grid co-ordinates 9,800 N 9,925E and 9,700 N 10,100 E. Both holes would have an azimuth of 270° and a dip of -45°. The holes should be designed to be 600 feet and 500 feet deep respectively. Significant tonnage potential exists at the AM Zone to depth, but exploration of this area is not recommended at this time.

At the Number 1 Zone, the target area, which holes GCS-96-1 and GCS-96-1A were designed to test, is still in need of further exploration. Positioning of a drill site closer to the target, and steeper drilling to avoid the Giant Fault would probably be a suitable solution to this problem.

Further assessment of the moss mat sample taken from below the north face of Mount Brice is required. It is located at the bottom of a talus slope which lies at the foot of a very steep precipitous slope. Full exploration of this area may not be possible, as the area above the sample location is often covered in snow up to eleven months out of the year, causing a constant shedding of detritus into the valley below. An avalanche was witnessed in this area, during the month of July in 1996.

Total predicted expenditures for the proposed program would total $950,000 but staging the work may make it considerably less than that.

Stephen Robertson, P.Geo.



Staff			
	Geological	2 geologists - 100 days @ $350/day	$70,000.00
		Consultants	$10,000.00
	Field support		
		2 geological assistants	
		100 days @ $150	$30,000.00
		2 Core Splitters/ laborers	
		100 days @ $130	$26,000.00
	Administration and Management		$40,000.00
Trucks		2 @ 100 days @ $75/day	$15,000.00
Helicopter		30 hours @ $800/hr	$24,000.00
Food		700 mandays @$20/manday	$14,000.00
Geophysical Surveys			
	Reconaisance Geophysics		$25,000.00
Drilling	All in cost including assays, shipping, mob/demob, camp, and consumables		
		10,000 ft @ 45/ft	$450,000.00
Petrographics			$2,000.00
Surveying			$5,000.00
Specialized Analysis and Regional Geochem			$10,000.00
Environmental		All inclusive	$25,000.00
Equipment and Supplies			$17,090.00
Motels			$10,000.00
Communications			$8,000.00
Heavy Equipment Operation and Maintenance			$20,000.00
Reclamation			$10,000.00
Report Writing and Drafting			$15,000.00
Subtotal			$826,090.00
Filing Fees			$41,301.00
Contingency			$82,609.00
TOTAL			**$950,000.00**

Statement of Expenditures

Salaries		
S. Robertson	123 days @ $310/day	$38,200.00
C. Craig	86 days @ $225/day	$19,373.00
D. Cole	72 days @ $175/day	$12,608.00
R. Ney (Tindall Geoservices)	118.5 days @ $200/day	$23,700.00
Ground Geophysics		
S.J. Geophysics		$16,811.99
Consulting (Orequest)		$750.00
Road Building and Maintenance		
Gormac Developements Ltd.		$64,691.00
Consulting - Report (SNC Lavelin)		$4,609.39
Culverts		$8,856.72
Line Cutting		
J. Marreau (@ $300 / day)		$6,600.00
Diamond Drilling		
Beaupre Diamond Drilling		$97,317.67
Boisvenu Diamond Drilling		$104,503.66
Mob/Demob		$3,200.00
Assaying		
Acme		$23,416.62
Eco-tech		$471.10
Bondar-Clegg		$517.16
Petrographics		
Vancouver Petrographics		$5,265.00
Environmental Studies		
Hallam Knight Peishold		$28,365.27
Water Analysis - A.S.L.		$29,555.00
Consultants		
Modeling KPA		$6,894.28
Geological (Tindall Geoservices)		$10,080.51

Surveying			
Surface	Valley Surveys Ltd.		$3,020.00
Down Hole	Sperry Sun		$5,132.95
Satellite Imagery	RGI		$374.50
Transportation			
Truck Rental	Rentway		$14,408.43
Fuel			$6,011.41
Shipping	Keemax and Greyhound		$897.82
Helicopter	Valley Helicopters		$2,160.20
Horses	Trailhead Stables		$3,100.00
Courier			$171.49
Accommodation			
Maple Leaf Motel			$10,167.25
Meals			$9,772.02
Tools and Supplies			$11,389.23
Chainsaw Rental		178 days @ $5/day	$890.00
Core-Splitter Rental		3 months @ $100/month	$300.00
Communication			
Auto-Tel			$2,550.63
Long Distance			$2,400.64
Legal			$1,906.13
Report Writing			$10,000.00
Drafting			$5,204.72
Subtotal			**$595,669.79**
5% Filing Fees			$29,783.19
Total			**$625,452.98**

List of Personnel

Imperial Metals Corporation

Steve Robertson	Project Geologist	123
Clay Craig	Geological Engineer	86
Dave Cole	Geologist	72

Tindall Geoservices Limited

Richard Ney	Core Splitter	118.5

Beaupre Diamond Drilling

Stan Beaupre	Driller	32
Roger Beaupre	Driller	13
R Westran	Helper	12
Kevin Marren	Driller	11
Dave Haigh	Helper	11
R Mullin	Helper	29
M French	Driller	18
M Paquette	Helper	5
R Krenn	Helper	15
Greg Olsen	Helper	1
D Jorde	Helper	1

F. Boisvenu Diamond Drilling Ltd.

F Falardeau	Driller	31
G Olsen	Helper	31
J Cleveland	Operator	2
D Small	Driller	8
R Schindel	Helper	8

Gormac Industries

Rocky McCartney	Operator	22
Joe	Operator	10
Stan	Operator	4

Stephen B. Robertson, P.Geo.

Statement of Qualifications

I, Stephen Robertson, of 1969 Lower Road, Roberts Creek, British Columbia, hereby certify that:

- I am a geologist, employed by Imperial Metals Corporation.
- I am a 1989 graduate of the University of Alberta in Edmonton, with a Bachelor of Science degree in geology.
- I have been employed in mining since 1988 and have continuously practiced my profession since 1989.
- I am a Professional Geoscientist, registered with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- This report is based on the information gained during the 1996 field season and a review of private and public reports.
- This report may be used for development of the property or raising of funds, provided that no portion of it is used out of context, or in such a manner as to convey a meaning different from that set out in the whole.

Signed at Vancouver, British Columbia, this 09 day of May, 1996.

Stephen Robertson, P.Geo.

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APPENDIX A

Assays

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT CU File # 96-2483 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8

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
41827 R	2	36	9	78	<.3	107	29	306	3.96	<2	<5	<2	<2	255	1.1	<2	<2	142	3.08	.056	4	322	1.22	110	.17	7	4.43	.41	.42	<2	8
41828 R	1	22	7	19	<.3	5	4	127	2.06	<2	<5	<2	<2	43	<.2	<2	<2	47	.34	.013	1	9	.77	79	.05	6	2.02	.14	.22	<2	2
41829 R	2	68	<3	16	<.3	44	28	197	3.24	<2	<5	<2	<2	91	<.2	<2	<2	52	2.78	.057	4	64	.64	58	.10	6	4.21	.52	.12	<2	7
41830 R	3	4	<3	25	<.3	4	4	235	2.54	<2	<5	<2	<2	127	.4	<2	<2	30	1.85	.027	1	7	1.08	41	.14	5	4.86	.53	.06	<2	3
66001 R	2	6	10	48	<.3	59	20	558	1.82	74	<5	<2	<2	191	.6	<2	<2	62	3.33	.054	3	134	1.11	52	.14	17	4.45	.57	.07	<2	25
66002 R	<1	35	10	53	<.3	45	12	506	2.26	<2	<5	<2	<2	112	.4	<2	5	67	3.17	.038	2	95	.86	35	.14	28	4.90	.59	.06	<2	2
66003 R	<1	25	116	423	.3	182	13	1479	3.71	46	<5	<2	<2	55	4.4	2	<2	76	1.85	.030	1	524	2.94	82	.16	10	3.30	.13	.13	4	4
66004 R	7	66	7	100	<.3	14	12	808	4.08	2	<5	<2	<2	103	.9	<2	2	136	2.01	.103	3	23	1.10	35	.28	6	4.01	.50	.07	<2	<1
66005 R	20	726	259	942	6.3	11	3	3444	4.02	315	<5	<2	4	5	6.8	<2	5	26	.08	.016	7	17	.43	96	.01	21	1.03	.01	.22	10	26
66006 R	169	19356	20	617	62.7	13	20	2129	8.00	21	<5	<2	3	9	5.1	<2	<2	93	.75	<.001	4	7	1.87	63	.04	<3	2.51	.02	.29	8	1775
66007 R	4	138	9	27	.4	15	7	171	3.79	27	<5	<2	<2	67	<.2	<2	3	26	1.86	.006	2	7	.22	25	.06	3	3.44	.14	.09	<2	93
66008 R	2	112	13	47	.3	22	16	280	4.33	30	<5	<2	<2	6	<.2	4	2	7	.03	<.001	2	9	.45	36	.06	<3	2.58	.05	.07	<2	18
66009 R	2	26	<3	35	<.3	14	3	273	2.79	80	<5	<2	<2	37	<.2	<2	3	12	.54	.006	2	8	.34	67	.04	3	3.15	.17	.05	<2	7
66010 R	3	147	5	58	<.3	27	24	238	5.09	19	<5	<2	<2	20	<.2	<2	2	7	.29	.023	1	10	.72	31	<.01	4	1.85	.10	.06	2	80
66011 R	21	78	15	47	<.3	46	15	408	2.60	3	<5	<2	5	8	.2	<2	<2	68	.28	.081	7	37	1.03	39	.04	3	1.18	.05	.47	<2	4
RE 66011 R	21	76	12	48	<.3	45	14	409	2.59	<2	<5	<2	5	8	.4	<2	2	67	.28	.081	7	37	1.03	39	.04	5	1.18	.05	.47	<2	4
108201 R	3	48	18	168	<.3	17	12	675	3.57	9	<5	<2	<2	10	1.1	<2	5	183	.34	.019	2	36	1.17	33	.22	<3	1.78	.06	.06	<2	3
108202 R	6	172	4	65	<.3	72	25	331	5.27	16	<5	<2	<2	5	.3	6	7	60	.36	.062	4	37	.90	25	.08	5	.97	.04	.03	<2	4
108203 R	1	193	3	28	<.3	86	48	396	5.63	169	<5	<2	<2	23	.3	6	<2	169	1.07	.110	2	105	1.44	54	.22	7	2.07	.20	.43	<2	6
108204 R	8	78	<3	47	<.3	77	22	631	3.67	11	<5	<2	<2	49	<.2	2	3	76	.97	.026	6	119	.90	69	.08	8	1.93	.16	.30	<2	29
108205 R	3	42	54	561	.5	24	16	1160	4.25	34	<5	<2	<2	21	2.3	<2	6	102	.45	.027	2	27	.98	23	.16	6	2.32	.13	.04	6	3
108205 R A	4	38	11	48	<.3	14	2	462	1.98	34	<5	<2	2	4	<.2	<2	<2	17	.02	.007	7	22	.50	35	.01	4	.81	.01	.21	2	8
108206 R	1	76	11	24	<.3	5	13	153	3.27	2	<5	<2	<2	72	<.2	<2	<2	60	1.18	.054	4	12	.44	21	.18	<3	1.93	.27	.03	2	7
108207 R	2	21	3	48	<.3	17	13	420	3.48	45	<5	<2	<2	59	<.2	<2	<2	103	.88	.010	1	24	.89	183	.12	<3	3.50	.24	.57	<2	4
108208 R	4	18	15	187	<.3	14	14	306	3.90	2	<5	<2	2	243	1.7	<2	<2	85	6.96	.089	2	22	.36	34	.11	3	9.56	1.09	.02	<2	5
108209 R	2	52	5	53	.3	56	44	343	4.24	5	<5	<2	<2	399	.8	<2	<2	70	3.61	.013	1	37	.93	54	.12	4	4.83	.51	.10	<2	18
108210 R	<1	21	<3	39	<.3	59	20	392	5.99	138	<5	<2	<2	50	.2	10	4	215	.96	.205	9	62	1.25	210	.36	10	3.59	.16	2.32	<2	12
108211 R	<1	64	<3	112	<.3	89	36	1610	7.20	29	<5	<2	<2	43	.8	3	<2	318	3.97	.038	1	217	4.22	29	.32	<3	4.35	.11	.17	<2	3
STANDARD C2/AU-R	20	60	38	145	6.4	77	37	1204	4.02	44	17	8	36	54	20.6	17	21	73	.53	.090	43	63	1.01	207	.09	26	2.06	.06	.15	12	455

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 ROCK P2 TO P3 MOSS MAT AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: JUN 26 1996 **DATE REPORT MAILED:** July 5/96 **SIGNED BY**.......... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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
66012 T	19	548	81	1209	2.3	169	43	8721	4.89	1570	<5	<2	<2	69	13.5	7	10	69	1.68	.073	13	32	.61	231	.03	24	2.39	.03	.13	4	31
66013 T	13	584	66	441	3.3	44	21	2535	2.59	710	<5	<2	<2	60	8.8	6	10	41	2.59	.126	10	35	.37	85	.03	40	1.78	.02	.16	9	269
66014 T	4	75	44	151	.7	125	34	1986	1.19	148	<5	<2	<2	95	9.1	4	<2	23	2.87	.139	18	34	.26	63	.02	45	2.01	.03	.10	2	4
66015 T	5	73	32	198	.7	45	10	1651	1.74	186	<5	<2	<2	94	9.8	7	<2	37	3.22	.133	10	25	.32	40	.03	38	2.04	.02	.17	2	5
66016 T	3	66	18	338	.6	17	6	912	1.28	81	<5	<2	<2	59	21.6	6	<2	29	2.17	.208	16	13	.30	64	.01	33	.85	.01	.61	3	3
66017 T	2	34	23	195	.3	8	7	1568	2.06	25	<5	<2	<2	62	11.5	4	<2	47	2.88	.171	8	21	.36	49	.03	39	1.46	.03	.18	2	1
66018 T	2	27	24	138	<.3	8	6	1177	2.00	48	<5	<2	<2	55	7.8	4	<2	56	2.70	.123	6	24	.26	24	.04	34	1.44	.01	.17	<2	5
66019 T	3	37	20	133	<.3	8	5	1362	1.64	80	<5	<2	<2	67	3.8	3	<2	49	3.56	.131	5	23	.24	30	.03	30	1.33	.02	.19	<2	1
66020 T	3	46	38	281	.5	24	25	1590	3.84	72	<5	<2	<2	33	4.0	6	<2	85	.65	.065	7	29	.55	74	.08	31	1.76	.03	.12	2	28
66021 T	4	71	41	177	.5	56	21	870	4.62	65	<5	<2	<2	34	1.1	<2	<2	123	1.06	.058	6	65	1.44	76	.17	37	2.29	.04	.13	2	540
66022 T	2	118	24	948	1.3	103	23	2753	4.46	63	<5	<2	<2	54	8.3	2	<2	91	1.64	.175	29	51	1.71	184	.11	19	2.87	.05	.42	<2	558
66023 T	6	28	31	459	.8	9	15	2021	2.02	204	<5	<2	<2	35	10.9	2	<2	43	.80	.071	5	12	.28	43	.04	11	1.36	.02	.08	4	65
66024 T	6	300	173	3887	6.8	9	9	1167	3.19	772	<5	<2	<2	24	32.4	18	3	65	.50	.045	6	13	.47	51	.05	14	2.06	.02	.12	26	267
66025 T	3	34	92	579	2.9	9	7	1490	2.64	116	<5	<2	<2	41	5.2	7	<2	68	1.27	.102	6	14	.51	60	.05	13	1.64	.02	.15	5	7
66026 T	3	29	79	333	2.0	9	9	1911	2.96	57	<5	<2	<2	37	4.9	4	<2	78	.83	.069	7	16	.51	76	.06	8	2.17	.01	.10	2	4
66027 T	6	22	39	206	.8	8	9	2560	2.28	86	<5	<2	<2	25	5.0	2	<2	59	.46	.053	5	12	.36	67	.05	14	1.28	.01	.07	<2	2
66028 T	2	28	22	193	.4	26	8	1883	2.61	22	<5	<2	<2	20	4.0	<2	<2	66	.40	.057	6	15	.37	88	.08	9	1.38	.02	.11	<2	3
66029 T	6	29	81	277	1.5	13	11	2313	2.90	57	<5	<2	<2	34	4.7	3	2	72	.48	.074	9	19	.56	101	.05	13	2.29	.02	.08	2	4
RE 66029 T	6	30	84	272	1.4	13	9	2274	2.83	58	<5	<2	<2	33	4.2	5	2	70	.47	.075	9	17	.55	98	.05	20	2.27	.02	.08	2	31
66030 T	6	31	23	148	1.7	49	21	3482	2.79	22	<5	9	<2	31	3.3	2	5	55	.64	.087	9	28	.74	106	.06	10	1.82	.02	.15	<2	10
66031 T	2	24	50	175	1.1	12	8	1105	2.78	47	<5	<2	<2	45	2.1	6	<2	76	.93	.075	6	18	.49	59	.05	21	1.67	.02	.14	<2	14
66032 T	3	36	49	151	1.6	13	8	1970	2.68	36	<5	<2	<2	47	2.4	2	<2	58	1.18	.083	7	20	.45	82	.04	12	2.13	.02	.11	<2	4
66033 T	9	47	62	207	2.1	14	13	4369	2.80	46	<5	<2	<2	70	3.1	2	<2	61	1.51	.114	8	19	.47	111	.03	16	2.39	.02	.10	2	5
66034 T	3	38	32	108	.7	15	10	1515	2.22	31	<5	<2	<2	67	2.6	<2	<2	47	1.39	.089	7	19	.43	70	.03	19	1.70	.01	.15	<2	3
66035 T	3	43	34	122	.7	28	10	847	3.37	36	<5	<2	<2	38	1.3	2	<2	75	.71	.063	6	36	.51	56	.05	14	2.03	.02	.11	<2	40
66036 T	3	65	54	228	.8	46	14	866	3.48	43	<5	<2	<2	46	3.7	5	4	69	.88	.061	5	40	.40	67	.04	14	1.67	.02	.08	2	10
66037 T	5	328	59	249	1.1	26	82	1559	2.55	48	<5	<2	<2	25	4.2	<2	<2	43	.33	.086	11	20	.31	33	.03	11	5.05	.02	.11	2	5
66038 T	4	136	53	81	.7	13	10	344	3.95	44	<5	<2	<2	17	<.2	2	5	72	.13	.074	8	27	.47	45	.06	16	3.24	.02	.22	<2	8
66039 T	13	838	107	298	6.4	26	21	1514	4.82	791	5	<2	<2	32	3.2	2	16	92	.69	.086	23	43	.83	92	.03	14	2.21	.02	.09	20	62
66040 T	2	56	30	131	.4	18	10	868	1.87	149	<5	<2	<2	49	2.2	<2	<2	78	3.24	.126	4	44	.52	31	.05	35	1.82	.02	.21	2	5
66041 T	<1	33	8	82	.3	18	9	1240	2.48	3	<5	<2	<2	91	.3	<2	<2	58	1.22	.066	11	25	.72	130	.09	11	2.69	.02	.12	<2	1
66042 T	<1	38	11	93	<.3	21	13	810	3.03	10	<5	<2	<2	65	<.2	<2	5	75	1.02	.057	7	28	.98	77	.14	17	2.59	.01	.09	<2	1
66043 T	2	57	12	126	<.3	21	15	655	3.39	64	8	<2	<2	98	1.3	<2	<2	97	1.42	.103	4	32	1.07	110	.11	18	2.78	.12	.31	<2	2
66044 T	<1	65	29	157	<.3	29	29	1001	3.13	33	<5	<2	<2	71	.8	<2	<2	66	.96	.077	7	34	.83	110	.10	16	3.59	.02	.08	2	6
66045 T	2	59	42	228	<.3	30	21	1035	4.12	31	<5	<2	<2	57	2.2	3	3	111	.85	.068	6	36	1.06	88	.13	13	2.90	.03	.15	<2	212
STANDARD C2/AU-S	20	58	39	137	6.3	71	36	1212	3.93	42	19	7	40	52	19.7	18	20	71	.53	.089	41	66	1.01	214	.07	34	2.01	.06	.15	10	52

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT CU FILE # 96-2483

ACME ANALYTICAL

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
66046 T	4	80	21	206	.3	35	14	820	3.81	349	<5	<2	<2	54	2.4	4	3	70	1.62	.138	6	39	.66	57	.05	20	2.10	.03	.25	3	20
66047 T	3	41	16	218	<.3	27	13	961	4.23	50	<5	<2	<2	35	3.2	2	8	83	.78	.067	7	42	.84	125	.05	12	1.94	.03	.09	2	4
66048 T	4	44	25	450	<.3	38	15	906	4.22	22	<5	<2	<2	41	6.1	4	9	79	1.15	.086	8	46	.81	117	.02	17	1.95	.02	.10	5	3
66049 T	3	64	17	174	<.3	35	20	1039	4.91	59	<5	<2	<2	33	1.6	5	5	85	.71	.064	6	51	.91	89	.06	11	2.08	.03	.09	2	6
66050 T	3	43	7	268	<.3	23	14	1036	4.21	33	<5	<2	<2	36	4.9	2	8	80	.78	.065	7	35	.81	155	.04	11	1.97	.03	.08	3	5
66051 T	3	36	33	258	.6	16	10	1138	2.78	127	<5	<2	<2	66	3.7	3	<2	81	1.66	.111	6	26	.60	57	.07	21	2.35	.02	.22	3	1
66052 T	2	30	34	131	<.3	12	7	753	1.68	108	<5	<2	<2	49	1.9	3	3	79	3.42	.127	3	41	.51	33	.04	38	1.71	.03	.26	<2	<1
66053 T	6	27	46	198	.6	14	10	2622	2.44	102	<5	<2	<2	40	5.8	<2	4	80	.83	.163	5	20	.38	68	.04	13	2.28	.02	.09	<2	2
66101 T	3	37	22	353	.3	21	21	1323	3.81	36	<5	<2	<2	31	4.2	5	<2	71	.90	.069	7	21	.63	78	.06	14	2.01	.02	.13	4	3
66102 T	5	191	48	321	.7	72	13	823	2.56	203	<5	<2	<2	110	5.9	13	4	41	2.66	.133	28	40	.49	131	.04	23	3.48	.02	.39	3	12
RE 66104 T	6	93	39	186	.3	32	12	391	9.57	57	<5	<2	<2	52	1.6	12	5	97	.47	.069	3	40	.81	52	.10	4	3.73	.03	.11	2	45
66103 T	3	63	8	159	.3	42	12	474	3.22	159	<5	<2	<2	83	3.2	5	<2	49	2.09	.119	6	34	.42	65	.05	21	2.74	.04	.33	2	218
66104 T	5	98	40	184	<.3	35	12	398	9.74	53	<5	<2	<2	52	1.4	12	3	100	.47	.072	3	39	.82	56	.11	<3	3.81	.04	.11	2	4
66105 T	3	34	12	164	<.3	38	20	860	3.43	62	<5	<2	<2	29	1.4	<2	4	105	.88	.050	4	49	.66	49	.16	11	2.06	.05	.07	<2	6
66106 T	2	42	14	80	<.3	25	13	1449	2.35	49	<5	<2	<2	52	.6	4	4	113	3.13	.131	5	79	.57	30	.09	46	1.66	.03	.20	<2	4
66107 T	3	40	16	196	<.3	47	26	1039	3.40	61	<5	<2	<2	37	1.7	4	2	106	1.04	.050	4	55	.70	61	.17	12	2.49	.05	.07	<2	28
66108 T	12	22	24	228	.3	26	20	3927	3.51	169	<5	<2	<2	31	8.7	<2	<2	80	.84	.083	6	25	.39	117	.07	10	1.83	.03	.18	4	1
66109 T	4	84	36	205	.6	13	12	804	3.93	171	<5	<2	<2	47	4.0	3	6	87	.82	.082	6	28	.63	54	.08	10	1.93	.03	.22	6	433
66110 T	5	139	27	189	<.3	30	18	548	3.97	726	<5	<2	<2	61	1.8	3	5	68	1.19	.098	4	57	.59	46	.04	14	2.35	.04	.24	5	13
66111 T	3	52	15	210	<.3	48	10	542	2.83	283	5	<2	<2	53	3.0	3	<2	50	1.86	.219	11	41	.46	33	.02	17	1.95	.05	.46	2	4
66112 T	5	45	28	402	1.5	36	14	784	4.82	31	<5	<2	<2	27	4.2	7	3	94	.67	.063	7	47	.80	90	.04	13	1.72	.02	.09	4	5
STANDARD C2/AU-S	19	55	37	142	6.0	74	34	1124	3.75	41	19	8	39	50	18.9	18	23	68	.54	.088	39	63	.94	195	.06	33	1.93	.06	.14	13	45

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT CU File # 96-2483A

420 - 355 Burrard St., Vancouver BC V6C 2G8

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
66113 T	23	668	47	285	2.2	51	35	1427	4.45	681	<5	<2	<2	37	1.8	9	2	79	1.12	.099	16	67	.58	91	.08	7	2.69	.02	.17	6	24
66114 T	14	830	91	277	5.8	32	27	987	4.39	1292	<5	3	<2	36	1.5	7	14	94	.70	.060	14	44	.70	78	.07	<3	3.00	.02	.08	21	75

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.
- SAMPLE TYPE: MOSS MAT AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.

DATE RECEIVED: JUN 26 1996 **DATE REPORT MAILED:** July 10/96 **SIGNED BY** .... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-3367 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb
66057R	1	116	20	174	.3	41	42	334	4.44	285	<5	<2	<2	13	.9	6	2	135	1.00	.044	1	43	.76	6	.56	6	1.07	.12	.02	<2	<5	<1	5
66061R	1	51	93	461	.4	10	10	535	4.60	443	<5	<2	<2	5	2.0	15	<2	11	.04	.006	2	12	.26	14	.01	39	1.15	.01	.12	<2	<5	<1	33
66062R	3	39	47	306	.9	7	4	202	5.26	828	<5	<2	<2	24	<.2	6	5	15	.13	.037	3	17	.08	15	.05	45	.21	.04	.03	4	<5	<1	40
66063R	<1	311	94	588	1.3	7	2	1140	10.81	633	<5	<2	<2	6	2.6	<2	24	185	.02	.023	5	22	1.02	107	.01	<3	2.48	.01	.17	<2	<5	1	25
66320R	1	33	8	76	<.3	6	3	836	1.43	6	<5	<2	<2	30	.8	2	<2	23	1.55	.046	3	7	.35	93	.01	25	1.19	.12	.10	<2	<5	<1	1
66326R	1	24	20	29	<.3	9	1	220	1.76	16	<5	<2	<2	1	<.2	6	<2	11	.02	.007	7	24	.17	21	<.01	5	.47	.01	.16	5	<5	<1	4
66327R	1	7	6	42	<.3	24	2	255	1.52	4	<5	<2	2	5	<.2	<2	<2	37	.07	.019	5	36	.69	133	.12	6	.96	.04	.52	5	<5	<1	1
66328R	11	108	15	25	.3	5	1	167	1.93	31	<5	<2	7	15	<.2	2	<2	105	.07	.045	14	47	1.01	51	.05	8	1.04	.04	.36	3	<5	<1	3
66329R	2	34	49	39	.4	13	4	426	1.59	16	<5	<2	3	1	.5	<2	2	26	.02	.005	7	29	.48	52	.04	9	.70	.01	.25	5	<5	<1	1
66330R	2	25	11	92	.3	4	2	478	3.45	7	<5	<2	2	29	<.2	<2	<2	95	.72	.049	3	15	1.20	92	.20	5	1.80	.14	.52	2	<5	1	3
66331R	<1	41	3	66	<.3	6	<1	748	4.07	<2	<5	<2	3	19	<.2	<2	<2	63	.49	.035	5	11	1.37	14	.12	5	2.14	.09	.05	3	<5	1	1
66332R	1	77	53	62	2.7	26	5	354	1.38	7	<5	<2	2	3	.3	<2	2	20	.06	.005	3	23	.37	21	.03	4	.57	.03	.09	3	<5	<1	7
66333R	1	4	<3	69	<.3	7	5	398	3.62	<2	<5	<2	<2	86	.2	<2	<2	111	1.27	.053	2	16	1.26	130	.18	<3	2.89	.31	.58	3	<5	<1	7
66334R	<1	49	9	51	<.3	6	2	347	3.18	2	<5	<2	3	31	<.2	<2	<2	89	.51	.048	4	14	.89	130	.24	<3	1.57	.19	.68	3	<5	1	3
66335R	<1	48	<3	19	<.3	16	4	206	1.52	6	<5	<2	<2	24	<.2	3	<2	46	.90	.039	1	29	.53	8	.13	4	.83	.20	.04	<2	<5	<1	2
66336R	<1	52	<3	75	<.3	42	21	917	4.61	16	<5	<2	<2	37	<.2	4	<2	207	1.59	.036	1	66	2.58	32	.51	6	3.29	.21	.06	<2	5	<1	1
66337R	<1	65	<3	75	<.3	55	23	684	4.47	22	<5	<2	<2	24	<.2	6	<2	163	1.59	.034	1	84	2.44	20	.53	8	2.93	.18	.10	<2	5	2	1
66338R	1	5	<3	103	<.3	150	12	744	3.42	41	<5	<2	<2	97	.2	3	<2	152	3.43	.041	2	415	4.46	12	.12	<3	4.80	.27	.02	<2	<5	<1	<1
RE 66338R	1	5	4	103	<.3	151	10	742	3.41	39	<5	<2	<2	96	.2	3	<2	152	3.42	.040	2	417	4.46	16	.12	<3	4.76	.27	.02	<2	<5	2	<1
66339R	1	61	4	50	<.3	14	18	465	4.59	<2	<5	<2	<2	92	<.2	<2	<2	141	1.31	.051	3	19	1.71	36	.22	<3	2.99	.30	.07	<2	<5	<1	2
66340R	<1	40	10	82	<.3	8	11	892	6.50	2	<5	<2	<2	60	<.2	<2	<2	91	1.03	.027	2	16	1.16	31	.10	5	4.26	.30	.11	<2	<5	2	2
66341R	2	51	5	37	<.3	16	2	124	1.14	20	<5	<2	<2	3	<.2	2	<2	12	.02	.006	5	16	.02	65	<.01	6	.16	.01	.09	6	<5	<1	1
66342R	8	41	9	73	<.3	14	6	415	2.53	6	<5	<2	3	32	.2	<2	2	93	.47	.032	5	33	1.15	174	.17	3	1.75	.15	.57	3	<5	1	<1
66343R	1	41	5	35	<.3	11	2	602	.54	26	<5	<2	<2	2	.3	3	<2	5	.10	.006	2	15	.03	6	<.01	4	.08	<.01	.03	5	<5	<1	1
108221R	<1	39	16	121	<.3	33	12	947	4.18	11	<5	<2	<2	76	.3	<2	<2	67	1.05	.062	8	36	1.83	44	.29	7	3.15	.14	.13	<2	<5	1	1
108229R	1	54	8	36	<.3	93	23	368	4.05	<2	<5	<2	<2	154	<.2	<2	<2	82	1.85	.081	6	115	1.52	24	.16	<3	3.01	.30	.06	<2	6	<1	2
108230R	1	26	5	19	<.3	17	6	103	1.96	46	<5	<2	<2	36	<.2	4	2	61	.66	.002	1	25	.60	35	.04	6	1.43	.17	.11	2	<5	1	1
108231R	<1	673	5	29	<.3	475	80	193	4.16	406	<5	<2	<2	34	<.2	8	<2	52	1.45	.024	1	421	3.22	35	.07	<3	1.85	.11	.05	<2	<5	<1	5
108232R	1	48	<3	33	<.3	12	11	354	4.51	<2	<5	<2	<2	110	<.2	<2	<2	122	1.92	.057	1	19	1.78	21	.16	<3	3.50	.33	.03	2	<5	1	<1
108233R	1	43	<3	31	<.3	119	26	483	2.63	71	<5	<2	<2	67	<.2	70	4	89	2.08	.050	2	168	1.94	20	.39	11	3.76	.38	.03	<2	<5	<1	1
108234R	<1	57	<3	65	<.3	33	21	855	4.50	2	<5	<2	<2	87	<.2	<2	<2	143	2.71	.049	2	84	2.74	23	.16	<3	3.01	.08	.03	<2	<5	<1	<1
108235R	1	30	7	59	<.3	10	2	334	4.19	<2	<5	<2	<2	28	<.2	<2	2	46	.32	.030	3	10	.83	49	.11	<3	2.15	.09	.11	<2	<5	1	<1
108236R	4	16	5	100	<.3	7	7	2148	1.95	14	<5	<2	<2	52	.3	<2	<2	22	6.25	.042	4	9	.27	51	.19	3	.92	.06	.08	<2	5	<1	<1
108237R	1	67	<3	38	<.3	59	22	389	2.72	<2	<5	<2	<2	56	<.2	<2	4	92	2.31	.042	1	64	.98	10	.35	5	3.02	.41	.04	<2	<5	2	<1
STANDARD C2/AU-R	20	62	38	139	6.5	73	35	1176	3.99	43	20	7	38	54	20.1	15	16	75	.54	.099	43	68	1.01	198	.08	28	2.12	.07	.15	11	<5	2	464

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 TO P2 ROCK P3 TO P10 SOIL P11 TO P12 MOSS MAT AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 2 1996 **DATE REPORT MAILED:** Aug 13/96 **SIGNED BY** C. Leong .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-3367

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	Tl ppm	Hg ppm	Au* ppb
108238R	1	65	4	26	<.3	62	20	376	2.58	11	<5	<2	<2	50	<.2	<2	2	85	3.71	.030	1	72	1.14	<1	.27	6	4.25	.56	.03	2	<5	<1	3
108239R	<1	65	<3	54	<.3	60	22	435	5.84	<2	<5	<2	<2	68	<.2	<2	<2	209	2.22	.047	2	143	1.54	<1	.43	<3	3.40	.47	.05	<2	<5	<1	4
108240R	2	49	<3	58	<.3	30	11	604	4.16	5	<5	<2	<2	15	<.2	3	2	140	.59	.043	2	67	2.05	2	.31	3	2.21	.15	.04	2	<5	1	2
108241R	2	35	4	20	<.3	28	4	294	1.59	19	<5	<2	<2	3	<.2	3	2	16	.06	.007	5	22	.40	58	.03	7	.68	.01	.22	7	<5	<1	2
108242R	1	66	3	31	<.3	68	27	549	3.30	12	<5	<2	<2	136	<.2	4	<2	140	4.26	.032	2	119	1.47	44	.24	7	4.99	.62	.23	3	<5	1	2
108243R	1	31	3	22	.4	12	2	240	1.36	76	<5	<2	5	8	<.2	2	3	42	.10	.008	12	38	.82	50	.03	5	1.04	.04	.25	3	<5	<1	1
108244R	1	24	<3	39	.3	10	5	341	2.96	<2	<5	<2	2	90	<.2	<2	<2	120	1.50	.054	3	24	1.00	89	.20	5	2.87	.36	.41	<2	<5	<1	1
108245R	1	92	764	592	8.2	31	<1	2562	12.61	60	<5	<2	3	2	3.0	2	<2	121	.08	.033	9	215	3.25	<1	.02	3	4.86	.01	.05	2	<5	2	52
108246R	<1	53	3	36	.3	482	56	422	3.62	8	<5	<2	<2	30	.2	<2	4	42	1.00	.025	3	244	8.04	25	.05	15	1.90	.08	.03	<2	<5	<1	<1
RE 108246R	<1	52	<3	36	.5	488	57	428	3.69	8	<5	<2	<2	30	<.2	2	<2	43	1.01	.025	3	251	8.20	27	.05	15	1.93	.08	.03	<2	<5	<1	1
108247R	1	84	7	94	.3	5	16	540	4.41	2	<5	<2	<2	71	.3	<2	<2	126	2.11	.073	3	6	1.46	169	.19	10	2.66	.06	.10	<2	<5	<1	<1
108248R	1	93	11	81	<.3	4	15	388	4.16	<2	<5	<2	<2	133	<.2	2	3	117	3.02	.066	3	6	1.24	56	.15	7	3.79	.38	.10	<2	<5	<1	<1
108249R	4	39	24	38	.3	14	3	158	1.39	54	<5	<2	<2	28	.3	8	3	8	.05	.013	6	17	.03	22	<.01	7	.18	.01	.10	7	<5	<1	12
108250R	1	111	<3	97	<.3	108	32	1774	5.70	2	<5	<2	<2	97	<.2	3	<2	202	2.21	.044	4	134	2.86	28	.53	12	3.64	.06	.03	<2	<5	<1	<1
108651R	1	92	<3	227	.3	208	27	1182	7.93	7	<5	<2	3	232	.4	<2	<2	261	2.37	.162	17	628	6.71	185	1.07	5	7.80	.39	4.78	3	9	1	6
STANDARD C2/AU-R	20	59	38	138	6.5	74	35	1169	4.00	43	21	7	36	54	19.0	19	21	74	.54	.094	41	65	1.01	196	.09	27	2.10	.07	.15	11	<5	2	450

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
L56+00E 156+00N	3	34	126	379	1.9	13	13	1262	4.51	79	<5	<2	<2	26	1.4	7	2	118	.41	.051	7	20	.73	99	.10	5	3.72	.02	.12	<2	<5	1	5
L56+00E 155+00N	3	31	90	274	.6	13	7	1183	4.09	90	<5	<2	<2	26	1.4	5	<2	106	.36	.059	7	19	.38	89	.08	4	2.48	.02	.06	<2	<5	<1	4
L56+00E 154+00N	2	13	14	85	.6	2	1	101	2.17	10	<5	<2	<2	7	.3	3	<2	83	.07	.007	3	9	.05	24	.09	<3	.44	.01	.02	<2	<5	1	6
L56+00E 153+00N	4	36	90	363	3.2	10	4	490	2.96	65	<5	<2	<2	28	1.9	6	<2	81	.71	.061	9	18	.58	49	.09	7	1.98	.02	.08	<2	<5	<1	<1
L56+00E 152+00N	5	24	95	259	3.1	6	4	230	1.87	36	<5	<2	<2	29	3.6	4	<2	73	.73	.033	7	14	.45	47	.08	6	1.74	.02	.05	<2	<5	1	1
L56+00E 151+00N	5	36	157	434	2.9	11	8	466	2.73	33	<5	<2	<2	24	2.1	4	3	95	.47	.042	7	18	.79	61	.12	5	2.66	.02	.10	<2	<5	1	2
L56+00E 150+00N	5	40	109	377	3.6	14	9	1290	4.41	107	<5	<2	<2	25	1.5	8	<2	104	.36	.046	7	24	.51	99	.12	3	3.05	.02	.07	<2	<5	<1	3
L56+00E 149+00N	18	98	131	761	6.1	10	15	842	3.62	197	<5	<2	<2	26	19.1	11	2	108	.47	.078	9	19	.51	84	.08	4	2.92	.02	.06	<2	<5	<1	4
L56+00E 148+00N	9	70	42	240	.8	10	3	312	5.67	59	<5	<2	3	26	<.2	<2	<2	117	.17	.050	6	16	.72	122	.19	<3	3.73	.02	.18	<2	<5	<1	4
L56+00E 147+00N	5	27	22	115	1.3	10	4	240	3.96	30	<5	<2	<2	11	.3	<2	2	96	.13	.028	6	20	.27	39	.16	<3	2.78	.02	.05	<2	<5	2	2
L56+00E 146+00N	5	16	22	90	.5	8	8	358	3.87	18	<5	<2	<2	12	<.2	<2	<2	103	.13	.030	5	19	.20	49	.16	<3	1.99	.02	.03	<2	<5	<1	2
L56+00E 145+00N	6	22	23	118	.7	12	7	255	4.35	35	<5	<2	<2	9	.5	<2	3	105	.11	.039	5	29	.26	43	.12	6	4.00	.02	.03	<2	<5	1	1
L56+00E 144+00N	3	63	42	255	.6	38	15	610	4.95	69	<5	<2	3	23	.7	<2	<2	115	.29	.053	8	46	.97	147	.15	5	6.22	.02	.07	<2	<5	2	2
RE L56+00E 144+00N	3	56	37	231	.6	35	12	555	4.45	60	<5	<2	3	21	.8	<2	2	103	.26	.050	7	43	.88	134	.14	4	5.68	.02	.07	2	<5	<1	3
L56+00E 143+00N	2	23	19	118	.6	12	4	286	4.43	15	<5	<2	<2	12	.3	<2	2	110	.14	.044	4	28	.26	49	.15	6	3.65	.02	.04	<2	<5	<1	2
L56+00E 142+00N	4	30	22	130	1.0	13	11	898	4.27	21	<5	<2	<2	15	.4	<2	<2	110	.16	.033	9	23	.33	69	.16	<3	2.84	.02	.05	<2	<5	<1	1
L56+00E 141+00N	5	42	33	119	2.4	12	5	224	1.93	19	5	<2	<2	18	.8	<2	2	66	.24	.060	14	22	.47	56	.10	3	3.13	.02	.06	<2	<5	<1	3
L56+00E 140+00N	5	17	26	50	.8	4	1	85	.84	12	<5	<2	<2	12	.7	2	2	38	.21	.035	5	9	.14	42	.09	<3	1.06	.02	.03	<2	<5	<1	1
L56+00E 139+00N	10	18	13	237	<.3	13	22	1768	3.24	220	<5	<2	<2	25	4.0	<2	3	71	.60	.046	5	10	.53	57	.09	<3	1.66	.04	.10	<2	<5	<1	2
L56+00E 138+00N	10	27	15	112	.8	12	2	219	4.12	46	<5	<2	2	16	.3	<2	<2	92	.21	.032	5	22	.52	59	.15	<3	4.79	.01	.04	2	<5	<1	3
L56+00E 137+00N	41	19	21	127	<.3	18	5	372	3.44	61	5	<2	<2	22	.4	<2	5	135	.32	.034	8	36	.98	80	.16	<3	2.56	.02	.08	<2	<5	<1	1
L56+00E 136+00N	23	39	28	127	.9	14	6	282	1.66	30	6	<2	<2	23	1.3	<2	2	67	.49	.034	10	25	.63	81	.13	3	2.90	.02	.06	<2	<5	<1	5
L56+00E 135+00N	17	26	13	90	1.0	9	7	386	2.12	70	11	<2	<2	34	1.4	<2	2	60	1.01	.093	10	16	.44	64	.06	4	1.94	.03	.06	<2	<5	<1	2
L56+00E 134+00N	9	7	9	33	<.3	3	1	92	2.38	42	<5	<2	<2	11	.3	<2	2	81	.34	.007	4	9	.08	34	.17	<3	.53	.02	.03	<2	<5	<1	1
L56+00E 133+00N	5	30	9	56	.5	9	1	185	4.06	14	<5	<2	2	14	.2	<2	<2	100	.16	.040	4	29	.36	50	.15	<3	2.82	.02	.04	2	<5	<1	1
L56+00E 132+00N	6	30	8	49	.3	5	1	163	3.99	34	<5	<2	2	12	<.2	<2	<2	95	.09	.038	8	16	.23	57	.19	<3	3.81	.02	.04	2	<5	<1	18
L56+00E 131+00N	6	35	16	83	.5	7	7	2555	3.93	40	<5	<2	<2	23	.9	<2	2	92	.33	.075	9	16	.27	61	.15	<3	2.89	.02	.05	<2	5	<1	7
L60+00E 156+00N	2	25	28	114	.5	12	5	357	3.03	22	<5	<2	<2	16	.6	<2	4	77	.25	.043	5	22	.41	63	.12	<3	2.31	.02	.04	<2	<5	<1	1
L60+00E 155+00N	2	24	38	167	1.1	13	6	419	3.69	20	<5	<2	2	14	.8	<2	<2	96	.22	.036	5	23	.39	76	.16	<3	2.91	.02	.04	<2	<5	<1	1
L60+00E 154+00N	5	36	152	569	4.5	13	11	2205	4.17	152	<5	<2	<2	34	5.4	6	<2	112	.83	.069	10	20	.65	85	.08	5	2.72	.02	.09	<2	<5	<1	2
L60+00E 153+00N	4	31	151	578	4.2	10	10	1649	4.07	154	<5	<2	<2	30	3.5	7	<2	110	.77	.066	8	17	.60	76	.06	4	2.27	.01	.09	<2	<5	1	1
L60+00E 152+00N	5	34	171	521	3.0	14	13	1842	4.62	121	<5	<2	<2	25	2.6	4	2	116	.43	.071	8	20	.70	94	.09	3	3.16	.02	.10	<2	<5	1	1
L60+00E 151+00N	5	37	179	474	6.9	18	11	1675	4.61	95	<5	<2	<2	17	1.9	6	3	115	.23	.053	7	29	.55	89	.10	4	3.08	.02	.09	<2	<5	<1	1
L60+00E 150+00N	5	40	141	400	2.8	15	11	2117	4.27	84	<5	<2	<2	22	2.4	5	<2	102	.29	.057	8	22	.61	87	.09	<3	2.98	.02	.09	<2	<5	<1	42
L60+00E 149+00N	13	180	146	729	6.3	10	9	1258	3.16	194	<5	<2	<2	23	9.7	8	3	82	.51	.048	10	19	.39	54	.09	<3	2.78	.02	.06	2	<5	<1	32
STANDARD C2/AU-S	21	60	35	140	6.5	77	35	1202	4.16	38	17	8	38	54	20.0	16	17	79	.59	.097	43	69	1.06	206	.09	26	2.04	.07	.17	11	<5	2	46

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
L60+00E 148+00N	31	116	97	537	7.4	14	11	1977	3.64	150	<5	<2	<2	21	4.1	4	3	91	.26	.044	9	22	.47	71	.13	3	3.66	.02	.06	<2	<5	<1	9
L60+00E 147+00N	10	66	49	246	2.5	21	17	605	4.07	70	<5	<2	<2	23	1.6	2	3	90	.25	.045	9	31	.61	122	.12	4	4.13	.02	.08	<2	<5	1	7
L60+00E 146+00N	7	43	38	237	.7	24	11	562	4.21	54	<5	<2	2	15	1.1	<2	<2	95	.18	.052	6	35	.64	102	.12	<3	4.87	.01	.07	<2	<5	3	8
L60+00E 145+00N	4	25	21	160	.6	15	7	360	3.74	19	<5	<2	<2	14	.6	<2	4	96	.17	.030	6	24	.42	82	.14	3	3.05	.02	.05	<2	<5	1	3
L60+00E 144+00N	4	31	23	171	.9	16	8	418	3.84	18	<5	<2	2	17	.3	<2	<2	87	.21	.055	6	27	.54	74	.17	3	4.03	.02	.06	<2	<5	1	4
L60+00E 143+00N	3	16	22	84	.8	7	2	223	2.55	10	<5	<2	<2	12	.5	<2	<2	68	.14	.029	6	16	.19	44	.13	<3	2.59	.02	.04	<2	<5	1	3
L60+00E 142+00N	6	57	72	333	1.4	10	5	574	3.04	82	<5	<2	<2	11	1.1	<2	3	65	.10	.024	3	19	.53	79	.08	<3	2.78	.02	.04	<2	<5	<1	7
L60+00E 141+00N	8	30	35	171	1.4	10	10	697	1.64	86	<5	<2	<2	20	3.5	3	3	48	.31	.053	7	14	.31	55	.07	<3	2.04	.02	.04	<2	<5	1	6
L60+00E 140+00N	3	23	28	151	.7	11	4	240	3.97	34	<5	<2	2	12	.5	2	<2	109	.16	.029	7	18	.48	61	.17	3	3.40	.02	.04	<2	<5	<1	9
L60+00E 139+00N	2	20	17	119	1.2	10	6	305	3.78	9	<5	<2	<2	12	.4	<2	4	109	.15	.027	6	20	.27	46	.18	<3	2.87	.02	.04	<2	<5	<1	5
L60+00E 138+00N	6	32	26	160	.8	16	10	764	3.61	33	<5	<2	<2	23	.6	<2	4	93	.36	.057	8	25	.62	75	.14	3	3.11	.03	.07	<2	<5	<1	7
L60+00E 137+00N	16	20	29	173	.5	11	2	246	2.66	327	<5	<2	<2	21	.3	<2	2	78	.42	.048	6	22	.42	53	.10	3	2.91	.02	.04	<2	<5	<1	19
L60+00E 136+00N	6	16	19	65	.3	5	<1	129	3.88	38	<5	<2	<2	8	<.2	<2	2	114	.10	.021	4	18	.18	36	.18	<3	2.40	.02	.03	<2	<5	<1	3
L60+00E 135+00N	6	18	13	76	.9	12	4	253	1.75	<2	<5	<2	<2	26	.7	<2	<2	57	.57	.043	6	22	.72	59	.12	3	1.93	.03	.07	<2	<5	1	2
L64+00E 156+00N	3	33	91	568	29.7	13	12	1963	4.24	76	6	<2	<2	29	4.9	7	<2	111	.53	.058	9	21	.64	100	.09	<3	3.28	.02	.09	<2	<5	<1	31
L64+00E 155+00N	2	33	85	498	4.5	15	10	848	4.30	79	<5	<2	<2	21	2.5	7	<2	105	.34	.045	7	23	.57	109	.11	5	3.60	.02	.08	<2	<5	1	5
L64+00E 154+00N	2	28	86	404	2.4	13	10	2297	3.81	44	<5	<2	<2	15	2.1	4	<2	93	.22	.059	5	21	.43	96	.13	6	3.01	.02	.07	<2	<5	<1	3
L64+00E 153+00N	5	30	149	638	4.1	13	10	1551	3.72	116	<5	<2	<2	23	3.3	10	4	101	.50	.053	7	19	.62	88	.10	5	2.65	.02	.09	<2	<5	1	10
L64+00E 152+00N	3	68	155	563	5.5	17	16	1843	3.86	211	<5	<2	<2	28	3.9	11	<2	98	.48	.055	8	27	.64	85	.10	5	3.26	.02	.08	<2	<5	1	11
L64+00E 151+00N	4	51	95	696	3.4	14	8	3020	3.72	115	<5	<2	<2	22	5.3	5	<2	95	.34	.043	8	23	.39	75	.14	<3	3.25	.03	.05	<2	<5	1	6
L64+00E 150+00N	8	127	104	1417	9.6	12	10	3823	3.88	426	<5	<2	<2	32	23.0	4	<2	94	.66	.070	11	18	.28	53	.13	<3	2.65	.02	.05	<2	<5	<1	61
L64+00E 149+00N	11	140	114	667	6.8	10	9	1602	4.39	191	<5	<2	<2	21	8.4	8	<2	108	.39	.052	9	19	.44	56	.10	3	2.82	.02	.06	<2	<5	1	11
L64+00E 148+00N	11	221	161	995	6.0	10	12	1554	3.64	497	<5	<2	<2	24	9.2	17	4	77	.52	.049	9	16	.42	69	.09	<3	2.45	.02	.08	2	<5	1	47
RE L64+00E 148+00N	11	213	155	985	5.7	9	12	1607	3.62	485	<5	<2	<2	25	9.7	16	4	75	.53	.051	9	16	.42	64	.08	<3	2.46	.02	.08	<2	<5	<1	42
L64+00E 147+00N	18	162	205	1174	8.0	9	10	2498	3.47	562	<5	<2	<2	22	11.4	13	4	74	.40	.046	9	14	.40	65	.08	<3	2.39	.03	.06	<2	<5	1	21
L64+00E 146+00N	14	157	143	501	1.8	13	9	811	2.55	59	<5	<2	<2	26	4.9	3	<2	72	.33	.031	8	20	.71	89	.10	3	2.91	.02	.08	<2	<5	1	10
L64+00E 145+00N	14	117	115	578	2.3	21	7	514	4.19	196	<5	<2	<2	23	1.3	8	<2	96	.26	.035	8	27	.74	101	.11	3	4.27	.02	.10	<2	<5	1	9
L64+00E 144+00N	51	88	112	432	2.8	10	13	4265	3.55	116	<5	<2	<2	22	5.4	8	3	87	.31	.043	7	19	.38	83	.12	4	2.75	.03	.05	<2	<5	1	4
L64+00E 142+00N	20	37	62	249	1.7	11	8	1570	2.65	230	<5	<2	<2	26	4.3	2	2	89	.33	.058	8	19	.40	85	.09	4	2.97	.02	.05	<2	<5	<1	34
L64+00E 141+00N	8	42	40	284	.3	41	14	269	3.40	111	<5	<2	2	15	1.1	<2	<2	86	.21	.015	5	31	.54	140	.12	<3	4.49	.02	.05	<2	<5	1	7
L64+00E 140+00N	3	18	11	131	.8	9	6	238	3.99	12	<5	<2	<2	13	.3	<2	<2	102	.15	.033	6	20	.23	43	.17	<3	2.03	.02	.04	<2	<5	1	1
L64+00E 139+00N	3	35	21	176	.5	20	9	577	3.90	31	<5	<2	<2	18	.8	<2	3	93	.23	.036	7	28	.71	97	.17	4	3.09	.02	.06	<2	<5	<1	3
L64+00E 138+00N	1	21	14	120	.4	11	4	258	3.09	9	<5	<2	2	12	.6	<2	<2	77	.17	.035	4	23	.34	55	.16	<3	3.42	.02	.04	<2	<5	1	5
L64+00E 137+00N	2	22	18	127	.4	14	4	252	3.65	16	<5	<2	2	14	<.2	<2	<2	93	.19	.039	5	25	.44	68	.17	3	3.26	.02	.05	<2	<5	<1	4
L64+00E 136+00N	3	19	26	136	.7	9	3	218	3.71	20	<5	<2	<2	13	.6	<2	<2	90	.16	.033	5	19	.33	54	.16	<3	3.20	.02	.04	<2	<5	1	6
STANDARD C2/AU-S	21	61	40	143	6.5	76	36	1187	4.08	39	17	7	37	55	20.0	15	19	78	.59	.098	43	70	1.04	204	.09	26	2.14	.07	.17	11	<5	2	46

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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ACME ANALYTICAL

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	Tl	Hg	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb
L64+00E 135+00N	5	28	26	107	1.1	9	15	657	4.04	33	<5	<2	<2	19	.6	<2	3	80	.25	.085	8	16	.27	61	.18	4	2.57	.02	.06	<2	<5	1	17
L64+00E 134+00N	6	26	30	79	1.5	6	2	162	2.72	31	<5	<2	<2	18	.7	<2	<2	63	.28	.044	8	13	.19	37	.11	4	2.24	.02	.03	<2	<5	1	4
L64+00E 131+00N	6	33	23	93	.6	13	3	215	3.84	190	<5	<2	<2	24	.8	<2	3	78	.53	.037	5	14	.20	39	.15	<3	1.72	.02	.04	<2	<5	<1	2
L68+00E 156+00N	1	28	101	854	5.0	15	13	1140	3.67	105	<5	<2	3	31	1.8	9	4	87	.29	.036	8	16	.75	100	.09	<3	3.67	.01	.11	<2	<5	<1	5
L68+00E 155+00N	9	92	190	593	6.3	12	12	784	4.22	157	<5	<2	2	13	1.7	12	2	86	.14	.038	9	16	.46	81	.09	3	3.34	.02	.07	<2	<5	2	90
L68+00E 154+00N	2	34	119	495	3.1	17	10	776	3.71	107	<5	<2	<2	16	1.8	11	4	85	.21	.037	6	23	.54	85	.13	3	3.27	.02	.06	<2	<5	1	8
L68+00E 152+00N	3	69	90	363	3.0	9	5	479	3.63	109	<5	<2	<2	10	.4	8	<2	79	.12	.038	5	16	.29	51	.11	4	2.52	.02	.04	<2	<5	<1	29
L68+00E 151+00N	8	135	152	575	2.6	7	9	1216	5.51	239	<5	<2	3	10	.4	12	5	122	.13	.047	5	13	.59	73	.13	3	2.63	.02	.07	3	<5	<1	7
L68+00E 150+00N	9	597	240	1264	22.0	13	12	1560	5.14	738	<5	<2	2	15	5.6	12	7	98	.21	.068	15	19	.66	61	.10	<3	3.47	.02	.10	<2	<5	1	28
L68+00E 149+00N	16	449	497	1702	31.0	15	16	2241	5.89	1248	<5	<2	2	17	10.7	29	2	122	.31	.083	11	22	.60	59	.10	4	3.64	.02	.10	3	<5	1	64
L68+00E 148+00N	15	1367	242	1630	22.3	17	15	2334	5.51	771	<5	<2	<2	30	12.0	15	4	111	.52	.085	12	20	.79	87	.11	<3	3.48	.02	.17	4	5	1	36
L68+00E 147+00N	10	382	154	783	8.0	14	11	835	4.71	280	<5	<2	2	16	3.5	9	4	99	.23	.064	7	19	.53	80	.13	4	3.39	.02	.09	<2	<5	<1	37
L68+00E 146+00N	7	119	83	358	3.9	19	12	629	3.59	127	<5	<2	2	21	2.2	7	2	71	.31	.069	7	23	.75	70	.12	4	4.03	.02	.07	<2	<5	<1	9
RE L68+00E 146+00N	7	121	91	367	3.8	19	13	650	3.77	132	<5	<2	2	22	2.5	6	5	75	.33	.071	7	24	.80	74	.12	<3	4.16	.02	.07	<2	<5	<1	22
L68+00E 145+00N	27	343	233	681	9.9	12	10	950	4.25	531	<5	<2	2	22	2.3	17	6	80	.25	.043	8	17	.46	80	.09	<3	3.18	.02	.09	<2	<5	2	17
L68+00E 144+00N	7	46	59	164	1.5	10	4	318	4.19	108	<5	<2	2	14	.6	3	2	90	.16	.042	5	20	.32	56	.14	<3	2.80	.02	.04	<2	<5	1	8
L68+00E 143+00N	25	93	154	207	4.5	9	10	4383	3.97	219	<5	<2	<2	24	2.9	3	3	86	.29	.052	7	15	.30	68	.11	<3	2.20	.03	.04	<2	<5	<1	4
L68+00E 142+00N	10	46	82	210	1.9	7	4	558	3.06	98	<5	<2	<2	19	.6	4	<2	66	.20	.037	6	15	.46	74	.09	<3	2.33	.02	.06	<2	<5	1	5
L68+00E 141+00N	14	12	38	104	1.5	5	7	487	1.61	217	8	<2	<2	21	2.0	5	<2	40	.31	.059	5	10	.15	35	.06	3	1.46	.03	.03	<2	<5	<1	2
L68+00E 140+00N	4	25	22	86	.4	9	2	87	1.90	22	<5	<2	<2	14	.6	<2	<2	47	.15	.031	7	13	.15	44	.12	5	2.16	.02	.03	<2	<5	<1	1
L68+00E 139+00N	2	27	15	87	.6	10	<1	254	6.87	11	<5	<2	2	15	<.2	<2	<2	124	.18	.065	6	29	.44	70	.29	<3	3.42	.01	.04	<2	<5	1	2
L68+00E 138+00N	2	20	20	117	.3	13	4	400	4.06	9	<5	<2	2	12	.2	<2	2	79	.18	.072	6	29	.41	59	.19	<3	5.50	.02	.04	<2	<5	1	<1
L68+00E 136+00N	2	23	12	80	.5	11	2	371	4.64	7	<5	<2	<2	16	<.2	<2	4	83	.20	.062	6	23	.45	62	.18	<3	2.63	.02	.05	<2	<5	1	<1
L68+00E 135+00N	2	15	8	79	.5	6	<1	240	3.63	5	<5	<2	2	10	<.2	<2	<2	60	.12	.085	5	21	.21	59	.18	<3	5.85	.02	.03	<2	<5	1	<1
L68+00E 134+00N	2	17	9	72	.4	7	<1	197	4.59	2	<5	<2	2	13	<.2	<2	2	88	.17	.077	4	21	.26	56	.18	<3	2.89	.02	.03	<2	<5	1	<1
L68+00E 133+00N	3	14	14	58	.7	7	6	686	1.56	4	<5	<2	<2	14	.6	<2	2	40	.17	.056	5	12	.18	41	.09	3	1.51	.02	.04	<2	<5	<1	1
L68+00E 132+00N	14	32	11	131	1.3	9	10	548	2.69	134	5	<2	<2	22	.8	<2	2	58	.49	.066	10	16	.32	46	.10	3	3.94	.02	.04	<2	<5	1	2
L68+00E 131+00N	14	25	35	149	.8	11	6	816	3.08	773	6	<2	<2	35	1.3	<2	2	72	1.06	.081	6	17	.35	39	.10	<3	2.48	.03	.06	<2	<5	<1	3
L72+00E 156+00N	3	57	279	735	6.4	28	13	1062	4.33	373	<5	<2	<2	29	3.6	11	10	91	.36	.042	6	40	.97	106	.11	4	4.01	.02	.12	<2	<5	<1	12
L72+00E 155+00N	2	40	69	388	2.2	16	11	1005	3.93	299	<5	<2	<2	16	1.6	3	6	80	.20	.048	6	25	.52	68	.14	4	3.33	.02	.06	<2	<5	<1	3
L72+00E 154+00N	2	36	248	1218	5.3	17	10	1901	3.88	352	<5	<2	<2	13	4.4	30	4	75	.17	.060	6	22	.48	70	.09	6	3.38	.01	.08	<2	<5	<1	4
L72+00E 153+00N	2	32	117	1160	3.4	22	8	889	4.25	148	<5	<2	<2	13	2.7	9	<2	85	.17	.052	5	26	.55	84	.13	3	3.25	.02	.09	<2	<5	<1	2
L72+00E 152+00N	3	90	125	562	3.1	18	11	580	3.87	133	<5	<2	2	17	2.2	13	<2	88	.17	.037	7	21	.62	102	.13	6	3.74	.02	.09	<2	<5	<1	9
L72+00E 151+00N	4	58	87	454	2.5	12	5	391	3.78	81	<5	<2	<2	11	1.2	7	<2	83	.10	.051	5	19	.36	51	.14	3	3.07	.02	.06	<2	<5	1	5
STANDARD C2/AU-S	21	61	41	142	6.5	79	37	1232	4.19	44	18	7	37	55	20.3	13	24	72	.59	.096	43	66	1.07	210	.10	26	2.21	.07	.17	10	<5	2	47

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
L72+00E 150+00N	8	147	200	902	2.7	20	11	1047	5.24	172	<5	<2	<2	12	2.6	8	3	131	.18	.059	7	35	.68	63	.17	<3	3.33	.02	.08	<2	<5	2	49
L72+00E 149+00N	12	740	164	600	8.2	13	23	1118	5.98	269	<5	<2	4	10	<.2	16	4	134	.11	.046	6	24	.76	61	.14	<3	3.99	.02	.11	12	<5	1	88
L72+00E 148+00N	11	432	209	724	8.4	12	15	1607	5.91	378	<5	<2	3	10	.2	18	10	126	.08	.063	6	21	.64	69	.14	<3	3.71	.02	.10	2	<5	1	29
L72+00E 147+00N	12	541	285	463	16.8	9	10	787	4.60	485	<5	<2	2	15	.2	17	10	76	.10	.074	9	15	.44	94	.08	<3	4.36	.01	.10	<2	<5	<1	23
L72+00E 146+00N	8	66	68	122	2.4	5	3	335	3.57	115	<5	<2	<2	6	<.2	2	8	84	.06	.027	4	13	.19	38	.10	<3	2.07	.02	.03	<2	<5	1	20
L72+00E 145+00N	5	77	93	256	2.4	7	5	450	3.64	129	<5	<2	2	7	<.2	5	5	77	.07	.051	4	12	.19	46	.14	<3	2.69	.02	.03	<2	<5	1	3
L72+00E 144+00N	2	30	52	162	1.0	5	2	297	3.13	54	<5	<2	<2	8	.2	2	<2	76	.07	.038	4	12	.18	41	.13	<3	2.10	.02	.03	<2	<5	<1	3
L72+00E 143+00N	2	37	33	142	.9	10	5	273	3.27	39	<5	<2	<2	12	<.2	<2	4	81	.18	.054	4	17	.36	61	.11	3	2.59	.02	.04	<2	<5	1	1
L72+00E 142+00N	3	22	23	200	.9	9	5	444	3.35	39	<5	<2	<2	16	.6	<2	3	84	.22	.063	4	18	.32	52	.13	<3	2.58	.02	.04	<2	<5	<1	4
RE L72+00E 142+00N	3	22	23	201	.9	12	5	452	3.35	41	<5	<2	<2	17	.8	<2	<2	83	.22	.066	5	18	.32	53	.14	<3	2.66	.02	.04	<2	<5	<1	1
L72+00E 141+00N	5	13	37	70	1.4	4	<1	106	3.42	147	<5	<2	<2	22	.6	2	<2	59	.35	.041	6	8	.06	43	.20	<3	1.30	.02	.03	<2	<5	2	<1
L72+00E 140+00N	8	9	32	119	1.2	6	<1	152	2.94	105	<5	<2	<2	23	.3	2	4	80	.27	.022	4	14	.34	31	.14	<3	1.81	.02	.03	<2	<5	2	2
L72+00E 139+00N	9	18	35	153	2.0	7	4	232	3.20	67	<5	<2	<2	17	1.4	5	<2	73	.22	.028	5	13	.21	49	.12	3	1.60	.02	.03	<2	<5	2	1
L72+00E 138+00N	9	15	33	212	1.2	5	1	154	1.16	50	5	<2	<2	20	5.2	6	<2	41	.42	.037	4	11	.24	28	.05	3	1.32	.02	.03	<2	<5	<1	4
L72+00E 137+00N	15	18	37	159	.5	11	2	287	4.32	165	<5	<2	<2	13	<.2	<2	3	89	.12	.029	6	19	.38	44	.10	<3	2.61	.01	.03	<2	<5	1	2
L72+00E 136+00N	7	20	38	139	.6	14	8	659	2.44	27	<5	<2	<2	17	.3	<2	<2	78	.21	.014	5	19	.41	69	.09	<3	2.55	.02	.05	<2	<5	1	9
L72+00E 135+00N	8	31	32	149	1.5	12	12	816	3.69	38	<5	<2	<2	23	.6	<2	<2	80	.28	.047	9	20	.38	74	.10	<3	3.19	.02	.05	<2	<5	1	<1
L72+00E 134+00N	2	25	16	91	.4	10	<1	259	5.98	13	<5	<2	2	12	<.2	<2	<2	106	.18	.051	6	29	.39	60	.20	<3	5.15	.01	.03	<2	<5	1	<1
L72+00E 133+00N	3	21	23	65	.9	6	<1	284	3.58	19	<5	<2	<2	9	<.2	<2	<2	73	.08	.042	7	14	.14	42	.17	<3	2.77	.02	.03	<2	<5	1	<1
L72+00E 132+00N	4	25	20	105	.6	10	2	419	4.40	33	<5	<2	<2	13	<.2	<2	<2	81	.13	.045	7	18	.36	49	.18	<3	2.89	.02	.04	<2	<5	2	<1
L72+00E 131+00N	6	21	28	101	.7	11	1	307	4.06	49	<5	<2	<2	11	<.2	<2	<2	98	.15	.037	5	17	.27	48	.19	<3	2.17	.02	.04	<2	<5	1	19
L72+00E 130+00N	9	17	23	49	.8	6	<1	83	4.27	109	<5	<2	<2	8	<.2	<2	<2	97	.08	.027	5	12	.09	31	.19	<3	1.96	.01	.03	<2	<5	1	1
L72+00E 129+00N	20	19	29	67	1.1	6	<1	112	4.65	114	<5	<2	<2	12	<.2	<2	2	130	.12	.025	5	17	.27	46	.22	<3	2.28	.02	.04	<2	<5	2	2
L72+00E 128+00N	9	38	33	83	1.0	11	1	126	3.95	45	<5	<2	2	11	<.2	<2	<2	121	.10	.032	4	23	.34	55	.18	<3	4.04	.02	.06	<2	<5	2	2
L72+00E 127+00N	4	28	72	178	3.5	7	6	623	2.46	38	<5	<2	<2	30	1.6	<2	3	54	.11	.045	6	12	.35	49	.06	3	1.98	.03	.05	<2	<5	1	5
L72+00E 126+00N	4	66	122	578	1.2	22	25	2528	5.83	126	<5	<2	2	63	.9	<2	<2	124	.26	.078	10	18	1.14	155	.09	<3	3.26	.04	.21	<2	<5	1	35
L76+00E 156+00N	2	29	83	405	1.1	17	11	1976	4.01	70	<5	<2	<2	22	1.4	3	<2	96	.28	.076	6	22	.64	111	.12	6	3.75	.01	.09	<2	<5	<1	<1
L76+00E 155+00N	1	35	154	597	2.2	23	12	1352	3.96	84	<5	<2	<2	18	1.6	4	2	92	.23	.057	6	35	.71	88	.15	5	3.69	.02	.08	<2	<5	1	1
L76+00E 154+00N	1	37	104	949	3.2	30	11	1432	3.91	90	<5	<2	<2	16	2.9	3	<2	94	.22	.073	5	38	.75	80	.14	<3	3.90	.01	.10	<2	<5	<1	5
L76+00E 153+00N	2	21	88	527	1.9	14	6	793	3.43	52	<5	<2	<2	12	1.5	4	<2	82	.15	.046	4	21	.40	68	.13	3	2.81	.02	.05	<2	<5	2	4
L76+00E 152+00N	2	39	1679	1398	17.6	9	7	1846	3.90	186	<5	<2	2	8	3.9	51	4	79	.15	.060	6	17	.30	51	.05	<3	2.82	.01	.07	<2	<5	2	11
L76+00E 151+00N	3	51	105	607	3.2	11	5	677	3.61	163	<5	<2	<2	11	.8	4	3	86	.12	.042	5	18	.38	60	.14	<3	2.63	.02	.05	<2	<5	1	4
L76+00E 150+00N	7	150	226	420	4.6	14	9	817	4.42	252	<5	<2	<2	9	.7	20	<2	89	.10	.059	6	24	.34	53	.13	<3	2.67	.02	.06	<2	<5	2	16
L76+00E 149+00N	11	211	284	237	2.5	7	4	241	4.69	254	<5	<2	3	8	<.2	16	<2	78	.07	.043	10	14	.21	47	.04	<3	2.63	.01	.06	<2	<5	<1	19
L76+00E 148+00N	10	51	52	191	1.0	8	3	306	3.51	39	<5	<2	<2	9	<.2	<2	3	87	.09	.034	5	17	.27	52	.14	<3	2.06	.02	.04	<2	<5	1	10
STANDARD C2/AU-S	21	60	39	147	6.5	75	35	1190	4.06	38	17	7	37	53	20.3	14	19	75	.57	.096	41	68	1.05	205	.08	27	2.17	.07	.15	11	<5	2	48

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
L76+00E 147+00N	4	30	48	159	.9	5	1	241	3.06	35	<5	<2	<2	8	.2	2	3	80	.09	.025	4	14	.20	35	.15	3	1.90	.02	.04	<2	<5	<1	3
L76+00E 146+00N	3	76	59	406	1.0	10	7	535	3.30	49	<5	<2	2	16	.8	7	2	76	.10	.037	5	18	.47	70	.13	<3	3.42	.02	.06	<2	<5	<1	7
L76+00E 145+00N	1	15	19	163	1.7	6	4	240	2.86	19	<5	<2	2	12	.9	<2	<2	71	.12	.028	3	12	.24	33	.15	<3	2.56	.03	.04	<2	<5	1	1
L76+00E 144+00N	1	19	36	161	.6	9	3	263	3.34	20	<5	<2	2	15	.5	<2	<2	80	.13	.047	5	15	.42	40	.15	3	2.71	.02	.05	<2	<5	<1	4
L76+00E 143+00N	1	13	45	153	.3	8	6	584	2.97	6	<5	<2	2	12	.4	<2	3	72	.12	.038	3	12	.27	60	.13	<3	2.54	.03	.04	<2	<5	<1	1
L76+00E 141+00N	1	65	80	2290	46.7	14	5	1662	2.94	166	<5	<2	3	16	26.3	5	<2	65	.17	.065	12	18	.29	95	.12	4	3.66	.03	.05	2	<5	1	6
L76+00E 140+00N	1	11	25	247	1.5	5	1	216	3.71	14	<5	<2	3	7	.8	<2	<2	89	.09	.054	3	14	.12	37	.26	<3	2.83	.02	.03	<2	<5	<1	1
L76+00E 139+00N	3	14	38	435	.6	5	1	216	2.92	50	<5	<2	<2	14	2.4	3	<2	78	.28	.028	4	12	.18	28	.11	4	1.43	.02	.04	<2	<5	<1	3
L76+00E 138+00N	2	9	32	170	.7	4	<1	104	3.82	569	6	<2	<2	15	1.5	2	<2	80	.17	.025	4	13	.11	25	.12	3	1.47	.02	.03	<2	<5	<1	2
L76+00E 137+00N	5	10	35	79	.7	6	1	136	3.31	64	<5	<2	<2	9	.4	<2	<2	72	.10	.021	4	12	.12	36	.20	<3	1.75	.03	.04	<2	<5	<1	1
L76+00E 136+00N	7	10	26	61	.6	4	<1	106	4.18	100	<5	<2	<2	10	<.2	2	<2	114	.09	.023	4	19	.12	36	.27	<3	1.45	.02	.03	<2	<5	<1	17
L76+00E 135+00N	10	14	32	136	1.9	9	1	149	3.55	203	<5	<2	<2	27	.3	3	2	66	.46	.038	6	20	.22	36	.12	7	2.77	.02	.03	<2	<5	<1	2
L76+00E 134+00N	9	12	15	82	.6	5	<1	93	3.83	160	<5	<2	2	9	<.2	<2	2	92	.10	.021	4	29	.18	26	.19	<3	2.13	.02	.03	2	<5	1	2
L76+00E 133+00N	4	18	18	59	.5	8	<1	122	4.27	93	<5	<2	3	9	.2	<2	2	105	.11	.034	4	39	.29	44	.19	<3	4.43	.02	.04	3	<5	2	2
L76+00E 132+00N	2	14	17	46	.5	5	4	216	3.29	17	<5	<2	<2	10	.5	<2	<2	86	.09	.031	5	12	.09	22	.14	<3	1.39	.02	.03	2	<5	1	5
L76+00E 131+00N	1	6	19	26	.4	1	<1	72	3.07	15	<5	<2	2	5	<.2	<2	2	95	.04	.021	4	10	.08	20	.26	<3	1.75	.02	.03	<2	<5	1	5
L76+00E 130+00N	2	19	23	46	.5	4	<1	107	3.14	33	<5	<2	2	7	.3	2	<2	72	.06	.037	4	14	.12	34	.16	3	3.54	.02	.03	2	<5	1	9
L76+00E 129+00N	8	48	53	298	.8	18	39	2332	2.96	606	<5	<2	<2	23	4.5	<2	4	60	.46	.075	6	17	.33	41	.05	11	2.35	.02	.05	<2	<5	<1	48
L76+00E 128+00N	16	19	34	89	1.2	6	9	779	2.70	209	<5	<2	<2	23	1.0	<2	<2	51	.49	.123	6	9	.18	43	.03	3	2.07	.03	.03	<2	<5	1	4
L76+00E 127+00N	6	13	17	23	1.2	2	1	116	1.61	22	<5	<2	<2	12	.8	<2	3	43	.23	.023	4	6	.05	10	.15	3	.98	.03	.02	<2	<5	<1	1
L76+00E 126+00N	7	49	22	207	2.0	8	9	421	3.03	355	<5	<2	<2	14	3.3	<2	<2	59	.23	.041	9	17	.16	22	.14	<3	3.00	.03	.03	<2	<5	<1	2
L80+00E 156+00N	2	32	110	244	1.1	11	4	715	4.34	31	<5	<2	<2	21	1.0	2	<2	92	.20	.080	5	19	.39	94	.10	<3	3.40	.02	.07	<2	<5	<1	3
RE L80+00E 156+00N	2	32	110	242	1.1	10	4	705	4.29	34	<5	<2	<2	21	.4	<2	4	91	.20	.080	5	18	.39	92	.09	<3	3.35	.02	.06	<2	<5	<1	3
L80+00E 155+00N	1	29	67	244	1.0	15	8	973	3.30	18	<5	<2	<2	24	1.4	<2	3	81	.29	.071	7	19	.54	84	.13	5	4.28	.02	.06	<2	<5	<1	3
L80+00E 154+00N	2	32	127	426	.8	18	14	1693	3.72	46	<5	<2	<2	22	2.5	<2	4	87	.25	.074	7	25	.63	86	.14	7	4.03	.02	.09	<2	<5	<1	2
L80+00E 153+00N	2	39	117	417	1.0	41	12	1320	3.72	99	<5	<2	<2	27	1.7	<2	<2	101	.27	.076	5	76	.77	97	.15	3	3.95	.02	.07	<2	<5	1	2
L80+00E 152+00N	1	33	59	252	.8	23	11	1079	3.26	42	<5	<2	<2	19	.9	<2	<2	85	.22	.074	6	34	.65	103	.13	3	3.76	.02	.06	<2	<5	<1	1
L80+00E 151+00N	2	30	59	581	26.7	12	7	1034	3.18	15	<5	<2	<2	13	3.9	3	<2	82	.16	.057	7	22	.49	57	.14	4	3.31	.02	.06	<2	<5	1	1
L80+00E 150+00N	2	22	39	259	3.7	10	5	1382	3.12	16	<5	<2	<2	15	.4	2	<2	80	.16	.058	5	16	.30	72	.13	4	2.73	.02	.06	<2	<5	<1	2
L80+00E 149+00N	2	21	35	410	15.7	11	5	519	3.12	10	<5	<2	<2	12	1.0	<2	2	81	.12	.043	5	16	.31	55	.14	<3	3.42	.02	.06	<2	<5	1	2
L80+00E 148+00N	5	29	65	417	4.0	18	6	796	3.85	36	<5	<2	2	10	1.1	5	<2	94	.08	.046	7	20	.29	82	.10	3	2.50	.02	.07	<2	<5	1	<1
L80+00E 147+00N	4	29	37	314	2.5	17	7	1610	3.31	24	<5	<2	2	11	.4	2	<2	93	.11	.047	6	25	.35	78	.15	<3	3.01	.02	.07	<2	<5	<1	3
L80+00E 146+00N	2	19	83	259	1.6	9	5	498	3.73	41	<5	<2	2	9	.2	<2	3	89	.08	.040	5	14	.38	60	.10	<3	3.42	.02	.05	<2	<5	1	6
L80+00E 145+00N	1	18	42	183	.6	12	4	559	3.36	35	<5	<2	<2	13	.5	2	<2	91	.10	.038	4	21	.33	72	.14	<3	2.77	.02	.06	<2	<5	<1	5
L80+00E 144+00N	2	17	45	137	.6	11	12	548	3.26	49	<5	<2	<2	13	<.2	<2	<2	80	.13	.031	6	22	.33	49	.15	<3	2.51	.02	.05	<2	<5	<1	3
STANDARD C2/AU-S	20	60	41	142	6.4	73	35	1190	4.03	38	17	7	39	53	19.6	15	20	76	.57	.094	45	69	1.04	209	.08	25	2.22	.07	.16	11	<5	2	47

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
L80+00E 143+00N	2	10	33	90	.3	7	2	282	3.37	22	<5	<2	2	8	<.2	2	<2	93	.09	.031	4	16	.22	43	.19	<3	1.96	.02	.04	<2	<5	<1	5
L80+00E 142+00N	2	15	69	207	.6	13	13	790	3.38	49	<5	<2	2	13	.5	<2	3	82	.12	.029	6	16	.36	52	.14	<3	2.96	.02	.06	<2	<5	<1	14
L80+00E 141+00N	2	22	56	410	3.7	8	6	930	3.60	41	<5	<2	<2	12	.7	14	<2	80	.13	.059	4	15	.37	52	.11	<3	2.87	.02	.06	<2	<5	<1	3
L80+00E 140+00N	1	15	70	413	1.3	12	8	1347	3.24	139	<5	<2	2	16	1.7	<2	<2	83	.24	.026	5	18	.39	42	.13	<3	2.61	.02	.05	<2	<5	<1	4
L80+00E 139+00N	1	11	35	115	.5	6	3	356	3.21	19	<5	<2	<2	10	.3	<2	<2	90	.13	.017	3	14	.18	39	.14	<3	1.24	.02	.04	<2	<5	1	4
L80+00E 138+00N	2	17	41	256	.7	11	6	859	3.78	99	<5	<2	2	16	.9	<2	2	93	.25	.031	5	25	.38	43	.16	<3	2.45	.03	.06	<2	<5	<1	2
L80+00E 137+00N	2	12	23	109	.3	8	3	355	3.25	16	<5	<2	<2	8	<.2	<2	3	90	.09	.030	3	19	.23	44	.18	<3	1.71	.02	.04	<2	<5	<1	6
L80+00E 136+00N	6	14	33	96	.3	9	1	259	3.87	21	<5	<2	<2	12	<.2	2	5	110	.16	.026	4	20	.20	49	.19	3	1.72	.02	.04	<2	<5	<1	1
L80+00E 135+00N	5	31	32	111	.3	16	3	250	4.19	43	<5	<2	2	13	<.2	<2	<2	102	.10	.040	4	27	.38	61	.15	3	4.05	.02	.05	<2	6	2	1
L80+00E 134+00N	12	25	33	117	.6	9	2	264	2.83	578	7	<2	<2	26	.6	3	2	101	.60	.045	4	23	.37	35	.09	3	2.31	.02	.04	<2	<5	<1	5
RE L80+00E 134+00N	12	26	39	117	.7	12	1	286	3.06	633	10	<2	<2	28	.8	4	2	107	.64	.048	4	24	.39	41	.09	<3	2.42	.02	.05	<2	<5	1	1
L80+00E 133+00N	25	22	83	254	2.5	12	10	2542	3.59	297	<5	<2	<2	39	3.9	6	3	91	.63	.074	8	30	.38	38	.12	<3	2.56	.03	.06	<2	<5	<1	1
L80+00E 132+00N	28	41	41	133	.6	19	4	1703	4.54	67	<5	<2	<2	34	1.6	6	2	112	.37	.060	6	34	.72	68	.13	5	3.14	.04	.07	<2	<5	<1	3
L80+00E 131+00N	15	14	13	69	.7	6	10	1623	2.97	43	<5	<2	<2	25	.6	<2	<2	78	.51	.079	5	16	.15	26	.12	3	2.13	.04	.03	<2	<5	<1	1
L80+00E 130+00N	2	14	15	28	.3	4	<1	81	2.25	14	<5	<2	<2	7	.3	<2	<2	49	.06	.033	4	9	.09	29	.16	3	1.58	.02	.03	<2	<5	<1	2
L80+00E 129+00N	2	17	10	36	.5	3	2	85	2.20	6	<5	<2	<2	5	.4	<2	<2	62	.04	.025	5	9	.04	14	.14	<3	1.56	.02	.02	<2	<5	<1	91
L80+00E 128+00N	3	23	30	61	.4	7	<1	163	4.30	68	<5	<2	2	9	.5	<2	<2	93	.09	.061	6	18	.16	49	.17	3	5.66	.02	.03	<2	9	1	3
L80+00E 127+00N	3	29	42	91	.6	8	<1	182	4.40	109	<5	<2	2	8	<.2	<2	<2	95	.09	.054	6	15	.28	67	.16	4	4.08	.02	.04	<2	<5	1	11
L80+00E 126+00N	4	37	35	88	.5	9	3	211	3.89	53	<5	<2	<2	11	.7	<2	2	75	.09	.058	9	16	.26	48	.12	<3	2.96	.02	.04	<2	<5	<1	3
L80+00E 125+00N	4	29	35	79	2.1	6	1	157	4.06	76	<5	2	<2	10	.2	<2	<2	84	.08	.051	7	18	.17	47	.14	<3	3.88	.02	.03	<2	<5	<1	4
L80+00E 124+00N	5	44	38	112	1.6	7	<1	136	3.76	383	<5	<2	<2	14	2.3	<2	3	61	.28	.068	6	17	.15	48	.11	5	4.09	.02	.05	<2	<5	1	6
L80+00E 123+00N	4	50	93	110	1.2	6	1	180	3.64	473	<5	<2	<2	7	<.2	<2	<2	75	.08	.060	5	18	.19	32	.08	<3	3.47	.02	.04	<2	<5	1	12
L80+00E 122+00N	6	46	57	73	1.0	8	<1	265	4.70	125	<5	<2	<2	8	.3	<2	<2	86	.07	.080	7	33	.18	38	.09	<3	4.38	.02	.04	<2	<5	<1	1
L84+00E 156+00N	3	32	182	313	2.0	13	12	1843	3.89	9	<5	<2	<2	29	1.2	<2	<2	95	.29	.116	7	16	.37	115	.13	8	4.15	.02	.07	<2	<5	<1	1
L84+00E 155+00N	3	44	255	405	2.5	19	19	1917	4.38	10	<5	<2	<2	28	2.3	<2	<2	110	.28	.100	7	20	.55	113	.15	5	4.45	.02	.08	<2	<5	1	2
L84+00E 154+00N	3	32	309	324	2.9	11	8	1657	3.85	30	<5	<2	<2	13	.8	3	<2	94	.13	.110	7	17	.38	70	.13	3	4.06	.02	.09	<2	<5	<1	2
L84+00E 153+00N	2	29	295	337	2.6	11	12	1946	3.19	8	<5	<2	<2	18	1.6	4	<2	82	.20	.103	7	17	.38	80	.13	4	3.85	.02	.06	<2	<5	<1	3
L84+00E 152+00N	2	31	62	222	1.2	18	8	832	3.52	4	<5	<2	<2	26	.6	<2	3	92	.30	.084	6	25	.64	95	.16	3	4.73	.01	.07	<2	<5	1	4
L84+00E 151+00N	2	28	269	545	7.9	20	12	1693	3.70	3	<5	<2	<2	20	1.8	<2	2	96	.27	.064	5	25	.61	82	.18	5	2.97	.02	.07	<2	<5	1	2
L84+00E 150+00N	2	27	35	103	1.1	10	4	420	3.18	15	<5	<2	<2	11	<.2	<2	<2	84	.11	.070	7	18	.37	55	.13	4	3.12	.01	.06	<2	<5	<1	3
L84+00E 149+00N	1	11	31	64	.5	6	1	114	3.60	364	<5	<2	<2	18	<.2	<2	2	81	.14	.041	4	12	.13	43	.14	<3	2.00	.02	.03	<2	<5	1	6
L84+00E 148+00N	2	16	15	86	.4	8	3	403	4.02	37	<5	<2	<2	13	<.2	<2	<2	111	.11	.047	4	15	.30	69	.19	<3	1.70	.02	.05	<2	<5	<1	6
L84+00E 147+00N	2	22	32	117	1.2	14	2	309	3.97	16	<5	<2	<2	20	<.2	<2	<2	116	.21	.062	5	27	.52	77	.17	3	3.24	.02	.08	<2	<5	<1	37
L84+00E 146+00N	4	26	31	143	1.9	13	4	648	3.54	13	<5	<2	<2	11	<.2	<2	3	101	.10	.055	5	25	.30	79	.17	<3	3.19	.02	.06	<2	<5	<1	6
L84+00E 145+00N	3	26	36	112	1.2	11	2	215	3.66	17	<5	<2	<2	17	<.2	2	<2	99	.14	.062	4	24	.35	79	.16	3	3.90	.02	.06	<2	<5	1	2
STANDARD C2/AU-S	21	61	41	135	6.3	74	35	1195	4.06	37	20	7	37	53	19.5	17	18	77	.56	.105	43	66	1.02	214	.09	26	2.17	.06	.16	11	<5	2	45

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-3367

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	Tl ppm	Hg ppm	Au* ppb
L84+00E 144+00N	2	15	14	54	.6	7	<1	178	3.28	6	<5	<2	2	9	.2	<2	<2	87	.08	.050	5	20	.15	47	.17	<3	3.23	.02	.04	<2	5	1	2
L84+00E 143+00N	1	13	28	70	1.5	7	3	277	2.57	12	<5	<2	<2	8	<.2	2	<2	67	.08	.040	4	14	.19	44	.12	<3	2.66	.02	.04	<2	<5	1	1
L84+00E 142+00N	1	7	28	62	.4	6	2	194	3.48	5	<5	<2	2	7	<.2	<2	<2	88	.06	.037	3	13	.10	39	.16	3	2.87	.02	.03	<2	<5	1	3
L84+00E 141+00N	1	15	93	305	1.2	13	13	1436	3.35	56	<5	<2	<2	11	1.5	4	<2	79	.10	.036	6	20	.28	58	.11	<3	2.78	.02	.05	<2	<5	<1	2
L84+00E 140+00N	2	10	31	112	1.2	7	5	478	3.25	55	<5	<2	<2	15	1.1	<2	6	78	.21	.026	5	12	.13	52	.16	3	1.62	.02	.04	<2	<5	<1	1
L84+00E 139+00N	2	15	38	155	.6	11	7	392	3.00	50	<5	<2	2	12	.8	2	<2	78	.15	.024	4	20	.29	60	.15	<3	2.13	.02	.06	<2	5	1	2
L84+00E 138+00N	2	17	39	170	1.0	16	8	797	3.35	53	<5	<2	<2	15	1.0	<2	2	89	.13	.027	6	22	.34	72	.18	<3	3.49	.03	.04	<2	5	<1	2
L84+00E 137+00N	2	20	48	179	.5	15	11	553	3.10	26	<5	<2	3	11	.6	4	<2	72	.11	.043	4	19	.34	55	.15	3	3.90	.02	.05	<2	<5	<1	3
RE L84+00E 137+00N	1	20	53	189	.6	19	11	586	3.22	24	<5	<2	3	12	.6	3	2	75	.12	.045	4	21	.35	55	.16	4	4.26	.02	.05	<2	<5	<1	1
L84+00E 136+00N	2	18	56	241	.7	16	9	1415	3.39	24	<5	<2	2	17	.4	<2	2	85	.16	.070	4	19	.33	81	.13	<3	3.02	.02	.05	<2	<5	<1	2
L84+00E 135+00N	2	17	53	221	.7	12	4	397	3.71	33	<5	<2	2	19	.4	3	<2	83	.12	.045	4	14	.29	89	.10	<3	2.33	.02	.05	<2	<5	1	3
L84+00E 134+00N	2	12	54	111	.6	7	1	214	3.45	26	<5	<2	2	9	<.2	<2	4	93	.07	.021	4	16	.16	44	.14	<3	1.92	.02	.03	<2	<5	1	1
L84+00E 133+00N	2	14	29	70	<.3	7	2	680	3.16	15	<5	<2	<2	7	<.2	<2	3	86	.06	.035	3	15	.15	35	.17	<3	1.86	.02	.03	<2	<5	<1	1
L84+00E 132+00N	4	15	25	49	<.3	6	<1	128	3.53	22	<5	<2	<2	8	<.2	<2	3	103	.08	.031	3	17	.16	48	.18	<3	1.81	.02	.03	<2	<5	<1	2
L84+00E 131+00N	5	21	18	88	<.3	13	2	196	4.52	25	<5	<2	<2	14	.2	<2	<2	114	.18	.042	4	23	.25	57	.18	<3	2.79	.02	.04	<2	<5	<1	1
L84+00E 130+00N	6	20	15	77	<.3	16	1	189	3.96	44	<5	<2	<2	9	<.2	<2	<2	98	.11	.047	4	41	.26	45	.17	<3	3.03	.02	.04	<2	<5	1	3
L84+00E 129+00N	3	22	14	70	2.4	6	<1	127	4.16	86	<5	<2	<2	11	.5	<2	5	83	.13	.043	6	20	.21	41	.17	<3	2.57	.02	.04	<2	<5	1	3
L84+00E 128+00N	3	20	29	80	.6	6	<1	204	3.89	81	<5	<2	2	8	.9	<2	3	93	.07	.048	5	23	.18	47	.16	<3	3.77	.02	.03	<2	<5	<1	1
L84+00E 127+00N	4	30	13	101	.5	7	<1	319	4.64	17	<5	<2	2	11	1.8	<2	3	91	.16	.058	7	16	.37	49	.16	<3	4.23	.02	.04	<2	<5	<1	6
L84+00E 126+00N	5	13	32	132	.7	7	<1	197	2.50	112	<5	<2	<2	20	.4	3	2	53	.38	.032	5	11	.19	45	.21	3	2.57	.03	.04	<2	<5	<1	4
L84+00E 125+00N	3	24	40	61	1.7	5	2	195	2.39	51	<5	<2	<2	8	.2	<2	<2	51	.08	.048	7	10	.11	31	.10	3	3.48	.02	.03	<2	<5	1	6
L84+00E 124+00N	4	31	46	103	.5	7	<1	200	4.53	131	<5	<2	<2	10	.6	<2	3	80	.08	.054	7	14	.31	62	.12	<3	3.72	.02	.05	<2	<5	<1	6
L84+00E 123+00N	3	20	29	54	<.3	7	<1	161	3.64	29	<5	<2	<2	6	<.2	<2	<2	75	.04	.038	4	11	.12	33	.22	<3	1.77	.02	.03	<2	<5	<1	7
L84+00E 122+00N	3	18	24	37	.6	2	<1	78	2.94	47	<5	<2	<2	5	<.2	<2	<2	89	.04	.021	4	9	.08	27	.17	<3	1.90	.02	.02	<2	<5	1	9
BL 130+00N 56+00E	10	26	18	81	.7	8	2	200	3.44	92	9	<2	<2	19	.7	<2	<2	75	.33	.058	7	15	.26	49	.12	<3	3.74	.02	.03	<2	<5	<1	3
BL 130+00N 57+00E	2	9	31	75	.5	7	4	527	2.31	4	<5	<2	<2	13	.4	<2	<2	70	.13	.040	4	11	.29	94	.16	<3	1.77	.02	.04	<2	<5	1	4
BL 130+00N 58+00E	8	27	22	314	1.3	9	8	2119	2.94	96	9	<2	<2	29	3.2	<2	<2	76	.62	.083	7	13	.39	57	.07	3	3.39	.03	.05	<2	<5	1	1
BL 130+00N 59+00E	15	21	1085	308	11.2	5	8	1349	2.90	139	5	<2	<2	28	1.4	<2	2	82	.59	.101	5	12	.17	59	.05	<3	2.17	.02	.05	<2	<5	<1	23
BL 130+00N 65+00E	5	13	33	53	1.0	4	1	76	1.61	50	<5	<2	<2	7	.3	<2	2	39	.05	.041	4	7	.07	25	.07	<3	1.20	.02	.03	<2	<5	1	9
BL 130+00N 66+00E	12	38	33	178	.8	12	7	524	3.28	562	26	<2	<2	22	.6	<2	<2	88	.21	.089	9	23	.38	57	.09	<3	3.46	.03	.06	<2	<5	<1	5
BL 130+00N 68+00E	19	39	36	74	<.3	4	1	139	2.00	70	<5	<2	<2	8	2.0	<2	2	68	.17	.020	6	7	.21	41	.10	<3	1.76	.02	.05	<2	<5	<1	1
BL 130+00N 73+00E	5	17	29	44	.5	5	3	126	2.31	64	<5	<2	<2	8	.6	<2	<2	62	.09	.021	6	9	.08	30	.15	<3	1.27	.02	.03	<2	<5	1	61
BL 130+00N 74+00E	3	14	15	56	.3	4	4	192	2.73	30	<5	<2	<2	8	.3	<2	<2	71	.14	.029	4	8	.07	24	.12	3	.92	.02	.02	<2	<5	1	4
BL 130+00N 75+00E	4	23	33	103	1.3	5	2	104	1.81	227	<5	<2	<2	21	1.6	<2	<2	35	.38	.037	5	11	.13	22	.09	<3	1.90	.02	.03	<2	<5	<1	29
BL 130+00N 77+00E	3	18	24	65	<.3	7	<1	162	3.88	33	<5	<2	<2	9	<.2	<2	2	101	.08	.047	7	16	.23	37	.20	<3	2.29	.01	.04	<2	<5	<1	12
STANDARD C2/AU-S	20	58	37	144	6.2	73	34	1145	3.91	36	17	7	36	51	19.3	17	18	73	.53	.102	41	65	.99	198	.09	26	2.08	.06	.15	10	<5	1	49

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
BL 130+00N 78+00E	11	17	22	76	.5	7	6	954	2.05	39	<5	<2	<2	19	.4	3	<2	50	.27	.060	6	12	.23	50	.10	3	1.82	.02	.04	<2	<5	1	1
BL 130+00N 79+00E	4	17	22	70	.3	8	2	203	3.10	53	<5	<2	<2	9	<.2	<2	3	72	.07	.036	6	19	.27	39	.17	4	1.50	.02	.04	<2	<5	1	4
BL 130+00N 81+00E	2	15	7	82	.6	7	5	213	4.57	<2	<5	<2	<2	10	<.2	<2	5	136	.12	.044	4	17	.10	17	.20	<3	1.88	.03	.02	<2	<5	<1	<1
BL 130+00N 82+00E	4	25	43	95	1.7	11	3	215	3.63	102	<5	<2	<2	14	<.2	<2	2	65	.21	.064	7	24	.22	34	.11	<3	3.19	.02	.04	2	<5	<1	2
BL 130+00N 83+00E	2	12	13	36	.5	9	<1	52	2.47	17	<5	<2	<2	5	<.2	<2	3	68	.05	.025	5	29	.11	30	.16	<3	2.19	.02	.02	<2	<5	1	1
A3-01	3	43	14	196	.4	29	10	573	4.35	41	<5	<2	<2	12	.4	<2	4	93	.13	.067	5	35	.57	94	.08	<3	2.73	.02	.05	<2	<5	1	<1
A3-02	2	56	19	216	<.3	36	17	1043	4.77	48	<5	<2	<2	18	.7	<2	<2	101	.22	.070	4	36	.52	89	.12	<3	3.06	.02	.06	<2	<5	<1	8
A3-03	3	51	19	306	<.3	66	24	1863	4.84	97	<5	<2	<2	16	.6	<2	3	109	.17	.129	6	53	.73	147	.05	<3	3.73	.03	.10	<2	<5	<1	7
A3-04	3	39	13	277	<.3	48	15	857	4.16	35	<5	<2	<2	13	.6	2	2	96	.12	.057	7	43	.53	131	.05	<3	2.93	.02	.07	<2	<5	<1	4
A3-05	6	81	79	314	.7	74	19	700	4.85	91	<5	<2	<2	17	.3	15	3	86	.16	.053	8	42	.86	158	.03	3	3.34	.02	.08	<2	<5	1	17
A3-06	4	64	21	270	.5	40	20	549	4.70	57	<5	<2	<2	18	1.0	<2	3	91	.16	.060	7	39	.66	118	.09	4	3.72	.02	.07	2	<5	1	18
A3-07	3	60	15	303	.3	78	25	807	5.56	21	<5	<2	2	21	2.0	<2	<2	93	.16	.081	8	44	.70	142	.07	<3	3.68	.03	.07	<2	<5	<1	2
A3-08	3	73	18	220	.4	33	17	764	4.83	44	<5	<2	<2	34	.8	<2	<2	93	.26	.052	6	41	.72	150	.05	<3	3.53	.02	.06	2	<5	<1	7
A3-09	2	42	40	343	1.5	55	56	2071	5.51	9	<5	<2	<2	26	2.7	10	2	85	.24	.199	5	36	.49	81	.06	<3	3.57	.02	.06	<2	<5	<1	<1
A3-10	5	48	14	322	.3	36	17	1282	5.26	19	<5	<2	<2	16	1.3	<2	3	107	.27	.069	10	37	.72	143	.04	<3	3.71	.02	.07	2	<5	<1	1
A3-11	4	41	9	228	<.3	33	10	458	5.66	26	<5	<2	2	13	<.2	<2	2	116	.12	.120	6	44	.76	107	.05	<3	3.94	.02	.07	2	<5	<1	2
RE A3-11	4	40	9	223	<.3	30	9	444	5.49	26	<5	<2	2	13	<.2	<2	<2	112	.12	.121	6	43	.73	105	.05	<3	3.90	.02	.07	2	<5	<1	1
A3-12	3	31	5	246	.3	25	12	531	4.77	<2	<5	<2	2	10	1.1	<2	<2	93	.10	.125	6	35	.49	122	.06	<3	4.31	.02	.06	<2	<5	<1	1
A3-13	3	21	5	144	<.3	17	6	532	3.76	6	<5	<2	<2	7	.3	<2	3	91	.07	.081	5	29	.30	71	.09	<3	2.73	.02	.04	<2	<5	<1	1
A3-14	3	21	7	222	<.3	18	7	311	4.40	3	<5	<2	2	7	.2	<2	2	92	.08	.169	4	33	.41	77	.09	<3	3.50	.02	.04	<2	<5	<1	<1
A3-15	3	19	7	181	.3	17	6	605	4.04	4	<5	<2	<2	8	.6	<2	<2	98	.08	.097	6	28	.30	69	.07	<3	2.92	.02	.04	<2	<5	<1	1
A3B-01	6	26	6	237	<.3	33	10	356	4.81	10	<5	<2	<2	13	.2	<2	2	117	.13	.054	6	43	.67	115	.05	<3	2.99	.02	.06	<2	<5	<1	<1
A3B-02	7	49	7	322	<.3	35	13	512	5.42	37	<5	<2	<2	12	.3	<2	<2	103	.11	.053	9	38	.77	115	.01	<3	2.78	.02	.06	<2	<5	<1	<1
A3B-03	5	49	14	325	<.3	46	17	790	5.36	16	<5	<2	<2	17	.7	2	<2	105	.16	.058	7	51	1.00	125	.03	<3	3.14	.02	.08	<2	<5	1	<1
A3B-04	3	42	21	206	<.3	32	13	817	5.16	23	<5	<2	<2	16	.7	3	<2	93	.16	.055	7	36	.77	99	.08	<3	3.50	.02	.06	2	<5	1	2
A3B-05	3	80	8	205	<.3	37	29	2370	7.04	16	<5	<2	<2	26	2.7	<2	4	106	.25	.063	6	29	.65	127	.08	<3	3.50	.03	.06	<2	<5	1	<1
A3B-06	3	78	4	161	<.3	37	21	778	7.14	14	<5	<2	<2	25	<.2	2	<2	100	.22	.076	5	25	.60	102	.08	<3	3.04	.02	.08	<2	<5	2	<1
A3B-07	4	80	119	429	.9	31	37	1899	8.41	6	<5	<2	2	25	.6	20	6	82	.18	.093	13	18	.52	88	.02	5	3.76	.02	.06	<2	<5	<1	2
A3B-08	4	35	12	333	<.3	28	14	719	4.50	8	<5	<2	2	12	.9	<2	3	99	.15	.055	7	28	.65	125	.07	3	3.33	.02	.08	<2	<5	<1	1
A3B-09	4	36	7	273	<.3	31	13	740	4.64	15	<5	<2	<2	13	.8	<2	<2	98	.16	.054	6	29	.71	115	.07	<3	2.90	.02	.07	<2	<5	1	1
A3B-10	5	41	10	267	<.3	33	16	1178	4.88	9	<5	<2	<2	18	.8	<2	2	105	.22	.051	7	44	.81	123	.04	<3	3.00	.02	.07	<2	<5	1	4
A3B-11	4	39	7	273	<.3	30	13	1017	4.70	8	5	<2	<2	14	.6	<2	<2	101	.16	.057	7	32	.78	134	.05	3	3.05	.02	.07	<2	<5	<1	<1
A3B-12	3	34	11	357	.3	32	14	694	4.90	11	<5	<2	<2	15	1.1	<2	2	104	.20	.089	6	33	.74	118	.05	3	3.06	.02	.07	2	<5	<1	1
A3B-13	5	43	8	303	<.3	32	16	801	5.27	11	<5	<2	<2	15	.7	2	<2	96	.17	.071	6	41	.88	97	.02	<3	2.78	.02	.07	<2	<5	<1	1
A3B-14	4	35	8	471	<.3	36	17	2036	4.82	9	<5	<2	<2	16	5.9	<2	<2	97	.18	.113	8	39	.79	180	.04	<3	2.73	.02	.08	<2	5	<1	<1
A3B-15	6	41	18	378	<.3	34	13	641	5.31	23	<5	<2	<2	15	1.5	<2	<2	107	.16	.043	8	39	.67	156	.02	<3	3.03	.02	.06	<2	<5	1	1
STANDARD C2/AU-S	20	60	35	143	6.3	77	35	1220	4.09	37	22	7	37	53	19.2	13	20	76	.57	.103	42	67	1.06	198	.09	24	1.99	.07	.16	10	<5	1	46

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
66058T	3	42	31	238	.8	43	31	1632	3.09	112	<5	<2	<2	46	2.6	<2	6	98	1.41	.066	6	55	.80	54	.18	11	2.87	.04	.06	<2	<5	1	43
66059T	3	37	19	183	.6	35	50	3194	1.90	43	9	<2	<2	53	4.5	<2	<2	60	1.87	.114	8	42	.47	45	.07	10	2.63	.02	.15	<2	<5	<1	3
66060T	2	36	17	169	.5	43	27	1192	3.34	94	<5	<2	<2	51	.8	<2	3	109	1.25	.052	4	53	1.02	49	.23	8	2.83	.04	.06	<2	<5	1	9
66321T	7	466	36	237	1.5	63	10	1635	1.84	235	<5	<2	<2	56	5.9	6	2	31	2.64	.135	7	32	.29	46	.02	14	1.21	.02	.14	2	<5	<1	3
66322T	2	45	29	405	.3	23	4	744	.58	31	<5	<2	<2	65	6.5	7	<2	16	2.97	.140	6	20	.22	29	.01	22	.62	.01	.21	<2	<5	<1	11
66323T	58	277	40	109	1.8	23	33	3508	3.04	322	<5	<2	<2	49	5.6	4	2	50	1.81	.142	13	49	.41	82	.03	6	1.62	.01	.13	2	<5	<1	15
66324T	23	223	40	170	1.1	22	11	1402	2.60	427	<5	<2	<2	35	4.3	2	4	58	1.29	.086	9	24	.35	67	.05	8	1.83	.02	.07	3	<5	1	17
66325T	17	116	42	358	.5	18	8	2348	3.60	382	<5	<2	<2	35	3.5	<2	<2	59	1.07	.088	6	15	.40	88	.05	7	1.92	.02	.14	<2	<5	<1	13
108151T	5	28	38	160	.8	13	21	2145	1.55	101	<5	<2	<2	43	3.4	2	<2	36	.84	.136	9	19	.22	46	.04	7	3.02	.01	.12	<2	<5	<1	4
108152T	5	28	30	227	.3	9	25	2120	2.11	362	<5	<2	<2	33	5.8	2	<2	35	.98	.087	4	11	.19	21	.03	4	1.21	.02	.08	<2	<5	1	7
108153T	8	26	27	173	.4	11	11	1813	2.13	359	<5	<2	<2	35	4.5	<2	<2	47	1.04	.085	5	13	.29	40	.05	4	1.81	.01	.12	<2	<5	<1	4
108154T	10	21	34	273	1.2	5	8	2013	1.80	379	21	<2	<2	43	8.2	<2	2	44	1.83	.115	5	14	.20	37	.03	6	1.32	.01	.13	<2	<5	<1	9
108155T	2	34	41	222	1.1	30	15	876	2.18	312	<5	<2	<2	72	5.2	<2	<2	49	1.61	.130	9	17	.39	50	.04	<3	2.51	.02	.14	<2	<5	<1	3
108156T	8	58	24	140	3.1	5	10	5653	.80	77	11	<2	<2	66	22.3	<2	<2	22	2.01	.212	31	11	.18	91	.02	9	2.94	.01	.27	<2	6	<1	13
108157T	5	90	22	184	2.5	8	26	1724	1.54	67	11	<2	<2	54	9.6	<2	<2	37	1.62	.146	28	11	.23	44	.05	7	2.91	.02	.16	<2	<5	1	2
108158T	6	19	13	92	.8	7	11	1246	2.74	43	8	<2	<2	29	3.2	<2	<2	78	.83	.067	6	12	.35	34	.10	5	1.78	.02	.14	<2	<5	<1	3
108159T	4	27	18	238	.8	14	12	2870	2.00	12	<5	<2	<2	38	7.5	<2	<2	46	.94	.080	9	18	.30	117	.05	<3	1.40	.01	.16	<2	<5	<1	1
108160T	2	46	25	335	1.3	40	7	1577	1.92	23	<5	<2	<2	29	5.6	<2	<2	52	.64	.092	11	11	.39	98	.06	4	1.80	.01	.21	<2	<5	<1	34
108161T	4	37	20	227	.7	36	9	3355	1.34	7	<5	<2	<2	47	5.6	<2	3	31	1.10	.124	12	7	.34	127	.04	5	1.60	.02	.31	<2	<5	<1	3
108162T	3	27	33	240	.7	15	9	1281	4.51	67	<5	<2	<2	27	3.4	<2	<2	136	.57	.062	5	26	.49	65	.08	4	1.55	.02	.08	<2	<5	<1	289
RE 108162T	4	28	34	227	.6	14	8	1204	4.61	59	<5	<2	<2	26	3.1	<2	5	140	.55	.060	5	27	.48	63	.08	<3	1.52	.02	.07	<2	<5	<1	11
108163T	1	101	71	361	.6	11	7	715	3.21	153	<5	<2	<2	16	1.3	<2	4	64	.26	.100	5	10	.73	90	.08	<3	1.97	.01	.21	<2	5	<1	16
108164T	4	41	12	735	<.3	34	10	1282	3.13	11	<5	<2	<2	57	17.2	<2	2	55	1.83	.128	10	26	.54	144	.02	9	1.70	.01	.18	<2	<5	<1	2
108165T	3	161	49	783	1.4	64	17	2188	3.52	114	5	<2	<2	44	10.2	3	<2	59	1.16	.075	17	36	.58	234	.07	7	1.63	.02	.22	<2	<5	2	19
108166T	3	458	77	613	2.5	56	30	1721	2.55	116	<5	<2	<2	55	10.4	<2	<2	43	1.66	.114	29	37	.47	96	.05	6	1.81	.02	.25	<2	<5	<1	27
108701T	3	74	28	168	.8	13	8	613	3.24	135	<5	<2	<2	46	4.3	<2	4	74	.99	.086	7	23	.56	45	.07	3	1.57	.02	.25	3	<5	<1	14
108702T	4	133	45	326	.8	19	20	925	4.02	120	<5	<2	<2	48	4.7	<2	<2	87	1.32	.111	12	13	.91	126	.13	7	1.76	.02	.45	<2	<5	1	48
108703T	3	39	29	106	.6	8	4	1153	.59	20	<5	<2	<2	86	11.1	<2	<2	14	2.19	.182	5	14	.22	23	.01	10	.43	.03	.55	<2	<5	1	183
108704T	3	305	53	655	2.1	54	18	1609	3.36	126	6	<2	<2	43	9.6	5	<2	64	1.09	.078	21	46	.60	139	.08	8	1.93	.01	.17	<2	<5	2	33
108705T	2	133	118	1158	1.3	25	16	1039	5.08	275	<5	<2	3	34	7.6	<2	<2	104	.62	.063	11	21	.85	144	.12	<3	1.89	.03	.29	<2	<5	<1	20
108706T	3	310	57	720	2.2	55	16	1561	3.14	109	<5	<2	<2	57	10.4	<2	2	66	1.49	.089	20	34	.64	166	.07	7	1.90	.02	.20	<2	<5	<1	16
108707T	2	131	44	515	.8	28	13	951	4.24	103	5	<2	2	30	3.7	<2	3	100	.64	.055	9	28	.79	127	.11	4	1.83	.03	.19	<2	<5	<1	30
108708T	4	43	27	425	.3	36	13	875	4.64	21	<5	<2	<2	31	4.5	7	6	89	.77	.073	8	46	.82	100	.04	6	1.79	.02	.09	<2	<5	<1	15
108709T	2	46	30	332	.9	28	13	1019	4.23	8	<5	<2	<2	56	3.4	15	<2	71	1.45	.084	6	45	.65	67	.03	6	2.30	.02	.17	<2	<5	1	9
108710T	3	58	15	478	.4	40	6	1169	1.58	14	<5	<2	<2	91	12.6	3	<2	32	3.16	.127	7	28	.33	88	.01	21	.82	.01	.28	<2	<5	<1	66
STANDARD C2/AU-S	20	57	35	144	6.3	73	35	1192	3.96	36	19	7	35	50	19.7	14	22	72	.55	.096	40	66	1.02	188	.08	27	2.06	.06	.15	11	<5	2	47

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl	Hg	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb
108711T	1	39	16	110	<.3	18	6	3770	1.28	7	<5	<2	<2	126	2.4	2	<2	25	3.49	.151	9	22	.29	162	.01	30	.64	.02	.25	<2	<5	<1	23
108712T	4	79	18	963	<.3	72	14	2941	2.34	12	<5	<2	<2	122	44.2	4	<2	28	3.82	.157	17	25	.39	206	.01	31	1.13	.02	.30	<2	<5	<1	14
108713T	6	59	20	317	<.3	42	9	1732	2.32	11	<5	<2	<2	70	8.7	3	<2	36	2.45	.132	7	25	.47	170	.02	20	1.14	.02	.50	<2	<5	1	16
108714T	3	68	11	392	<.3	36	8	1764	1.99	12	<5	<2	<2	80	20.9	6	2	30	2.80	.193	10	26	.34	103	.02	19	1.10	.02	.65	<2	<5	1	19
108715T	5	55	12	95	.3	58	31	4331	3.52	55	<5	<2	<2	31	4.9	<2	4	58	1.63	.109	9	30	.40	67	.05	6	1.71	.02	.17	2	<5	1	5
108716T	1	44	9	35	<.3	12	7	1093	1.14	16	<5	<2	<2	46	.6	3	<2	65	2.89	.208	3	64	.38	16	.04	36	.89	.02	.58	<2	<5	<1	20
108717T	7	53	20	128	.3	24	24	2856	1.68	24	6	<2	<2	44	7.1	<2	2	38	1.28	.086	8	21	.39	95	.04	8	1.57	.02	.22	<2	<5	1	27
108718T	6	55	21	320	1.6	54	14	1841	2.08	196	<5	<2	<2	54	5.7	<2	<2	49	1.73	.105	6	38	.46	64	.06	11	1.94	.03	.24	<2	<5	1	7
108719T	4	53	10	385	<.3	46	16	1326	3.76	19	<5	<2	<2	65	5.4	3	<2	72	1.91	.115	10	54	.75	184	.02	14	1.92	.02	.14	<2	<5	1	3
108720T	2	32	12	120	<.3	16	6	1149	1.37	8	<5	<2	<2	85	4.6	4	<2	26	3.10	.133	5	14	.31	202	.01	43	.78	.01	.14	<2	<5	1	38
108721T	4	44	13	423	<.3	27	10	1040	4.05	14	<5	<2	<2	52	5.8	<2	<2	80	1.58	.087	9	32	.56	192	.03	6	2.01	.02	.08	<2	<5	1	1
108722T	3	40	8	410	<.3	26	9	1074	3.92	24	<5	<2	<2	49	6.5	2	<2	77	1.55	.067	8	26	.57	162	.03	13	1.81	.01	.20	<2	<5	1	6
108723T	4	42	7	473	<.3	31	10	1118	4.08	16	<5	<2	<2	53	6.4	<2	<2	81	1.63	.086	9	28	.54	246	.03	12	1.92	.01	.08	<2	<5	<1	3
108724T	3	47	6	322	<.3	28	9	1266	2.70	20	<5	<2	<2	76	11.0	3	<2	45	2.89	.142	18	22	.44	209	.01	22	1.49	.01	.32	<2	<5	<1	8
108725T	4	39	14	692	.4	27	11	1431	4.27	15	<5	<2	<2	48	7.6	<2	<2	71	1.61	.090	8	21	.52	150	.03	7	1.73	.02	.12	<2	<5	1	3
108726T	3	38	6	213	<.3	20	8	902	3.95	20	<5	<2	<2	37	3.3	<2	<2	78	.92	.082	8	27	.77	132	.04	3	2.12	.02	.11	<2	<5	1	3
108727T	2	44	7	176	<.3	23	12	1181	3.37	24	<5	<2	<2	49	2.4	<2	<2	64	1.09	.085	6	31	.72	126	.04	5	1.69	.03	.15	<2	<5	<1	9
108728T	3	66	15	191	.8	18	10	1575	2.02	47	<5	<2	<2	52	13.1	<2	<2	47	1.31	.106	17	28	.46	86	.05	4	1.65	.03	.23	<2	<5	<1	38
108729T	2	99	21	138	.5	86	49	2924	2.99	22	<5	<2	<2	46	2.7	<2	<2	75	1.09	.087	19	44	.45	134	.12	4	2.71	.02	.11	<2	<5	<1	12
108730T	4	141	34	300	.4	190	104	1795	5.26	21	<5	<2	<2	34	2.4	<2	<2	87	.47	.066	13	73	1.26	131	.08	3	2.96	.04	.24	<2	<5	<1	12
RE 108730T	4	150	35	313	.4	204	111	1852	5.48	24	<5	<2	2	35	2.8	<2	<2	91	.48	.068	14	77	1.34	137	.09	9	3.13	.03	.26	<2	<5	<1	15
108731S	3	115	30	241	<.3	157	79	1386	5.27	21	<5	<2	2	27	1.3	<2	6	86	.30	.050	9	68	1.23	110	.08	<3	2.28	.03	.17	<2	<5	1	6
108732T	4	104	94	458	3.0	37	16	1269	2.44	290	<5	<2	<2	51	7.2	<2	<2	62	1.76	.102	9	39	.50	66	.06	7	1.74	.03	.23	2	<5	<1	1129
108733T	3	49	3	80	.3	31	17	1995	3.40	48	<5	<2	<2	40	.5	<2	<2	134	2.39	.108	7	91	.72	52	.15	18	2.72	.02	.12	<2	<5	1	7
108734T	1	65	22	75	<.3	39	28	2789	3.44	12	<5	<2	<2	46	<.2	<2	<2	111	2.98	.141	6	57	.97	40	.09	37	1.99	.01	.07	<2	<5	<1	5
108735T	1	58	9	46	<.3	21	10	1725	1.24	20	<5	<2	<2	63	.3	2	<2	43	4.21	.146	4	47	.41	46	.03	83	.94	.02	.13	<2	<5	<1	4
108736T	2	40	3	88	<.3	37	16	1435	3.83	47	<5	<2	<2	37	<.2	4	<2	125	1.57	.080	3	70	.80	49	.15	10	1.91	.03	.14	<2	<5	1	15
108737T	6	75	11	141	<.3	48	22	1682	4.60	53	<5	<2	<2	36	<.2	14	<2	115	1.15	.078	4	52	.65	72	.08	8	1.71	.02	.10	<2	<5	2	14
108738T	2	44	11	151	<.3	25	15	1867	4.29	72	<5	<2	<2	36	2.7	<2	<2	63	.81	.095	8	39	.59	110	.03	<3	1.89	.02	.20	<2	<5	<1	21
STANDARD C2/AU-S	20	61	38	135	6.7	79	34	1178	4.04	40	18	7	37	53	19.9	14	17	75	.55	.101	42	67	1.02	217	.09	26	2.14	.07	.15	12	<5	1	52

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-3740

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: S. Robertson

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	Tl ppm	Hg ppm	Au* ppb
B 102001	1	94	12	62	<.3	32	25	529	3.69	4	<5	<2	<2	186	.7	<2	2	132	2.97	.058	4	9	.91	29	.16	11	4.11	.40	.06	<2	<5	1	9
B 102002	3	111	26	223	<.3	93	24	438	3.34	10	<5	<2	2	93	.7	2	<2	103	1.59	.047	2	31	.91	38	.17	5	2.60	.29	.09	<2	<5	<1	2
B 102003	<1	92	49	77	.9	39	22	727	3.36	16	<5	<2	2	165	1.0	5	<2	104	3.15	.056	3	6	.78	24	.14	9	3.80	.37	.06	<2	<5	1	4
B 102004	2	147	10	54	<.3	64	29	450	4.36	5	<5	<2	<2	91	1.1	2	<2	108	2.36	.049	1	202	1.28	19	.19	5	2.71	.29	.04	<2	<5	<1	1
B 102005	5	68	425	1055	2.4	49	13	1449	3.13	238	<5	<2	3	50	15.1	8	2	132	2.44	.034	1	242	1.78	34	.15	7	2.24	.16	.19	<2	<5	<1	1
B 102006	1	31	6	60	<.3	134	12	438	3.13	19	<5	<2	<2	128	.7	4	<2	126	2.42	.047	1	486	2.47	136	.29	6	4.11	.44	.61	<2	<5	1	4
B 102007	3	282	16	53	.3	129	56	392	7.12	4	<5	<2	2	59	.9	4	<2	79	1.45	.080	2	59	1.26	23	.17	6	2.07	.21	.08	2	<5	<1	2
B 102008	1	44	11	89	<.3	159	15	750	3.51	23	<5	<2	2	148	.9	4	<2	116	3.03	.041	1	458	2.43	164	.28	6	4.55	.44	.61	<2	<5	2	1
B 102009	1	35	11	75	<.3	162	15	831	3.67	13	<5	<2	2	172	.5	<2	<2	144	2.90	.042	<1	582	2.98	293	.33	8	5.16	.50	1.24	<2	<5	3	8
B 102010	4	173	127	158	6.7	77	25	1031	3.88	18	<5	<2	2	28	1.3	19	<2	33	3.20	.093	5	19	.50	16	.02	9	.81	.03	.23	2	<5	<1	1
RE B 102010	4	174	135	160	6.9	78	25	1044	3.92	17	<5	<2	2	28	1.0	17	<2	33	3.28	.095	5	21	.50	16	.02	11	.82	.03	.24	2	<5	<1	1
RRE B 102010	3	170	134	157	6.2	76	25	1032	3.86	18	<5	<2	3	28	.9	17	<2	32	3.22	.093	5	20	.49	16	.02	10	.79	.02	.23	<2	<5	<1	10
B 102011	3	444	18257	39585	261.8	45	20	2883	5.05	397	<5	<2	<2	25	405.2	312	<2	32	2.51	.072	6	14	.44	12	.01	9	.90	.03	.23	5	<5	<1	29
B 102012	1	152	431	1108	4.1	18	23	3241	4.30	5	<5	<2	4	120	12.7	20	2	121	4.11	.054	5	9	.93	25	.15	7	3.18	.37	.11	<2	<5	1	2
B 102013	2	96	52	183	1.4	39	14	713	2.41	3	<5	<2	3	25	1.5	6	<2	63	1.94	.031	8	20	.72	22	.02	8	1.00	.07	.12	2	<5	<1	1
B 102014	1	90	6	83	.3	191	26	568	4.60	34	<5	<2	3	132	1.4	<2	<2	145	3.02	.042	1	550	3.08	217	.31	7	5.07	.42	.93	<2	<5	2	6
B 102015	1	14	11	67	<.3	199	23	420	2.68	53	<5	<2	<2	149	.6	<2	2	95	2.48	.065	2	401	2.58	124	.24	4	3.80	.43	.50	<2	<5	1	8
B 102016	1	54	5	95	<.3	228	19	453	3.48	43	<5	<2	<2	186	.5	<2	<2	123	2.97	.066	2	541	2.56	98	.28	8	5.04	.42	.46	<2	<5	2	4
B 102017	6	140	19	86	<.3	191	29	382	3.29	11	<5	<2	<2	53	.8	3	4	126	1.44	.115	6	32	.68	11	.12	4	1.46	.22	.05	3	<5	1	2
B 102018	6	367	38	100	.5	103	69	585	6.22	17	<5	<2	<2	32	1.2	2	<2	75	1.70	.042	2	25	.43	12	.03	7	1.00	.10	.09	4	<5	1	5
B 102019	3	177	52	150	.7	14	37	861	4.43	28	<5	<2	<2	154	1.5	2	2	137	3.74	.055	3	8	1.04	27	.18	8	3.49	.44	.06	<2	<5	<1	1
B 102020	1	113	11	64	<.3	5	25	453	3.63	5	<5	<2	2	252	.5	<2	<2	109	3.75	.051	4	8	.78	30	.15	13	4.92	.53	.04	<2	<5	2	3
RE B 102020	1	113	10	63	<.3	4	25	450	3.62	2	<5	<2	<2	250	.9	2	<2	109	3.70	.051	4	10	.78	29	.15	13	4.88	.53	.05	<2	<5	1	2
RRE B 102020	1	113	10	64	<.3	5	25	447	3.61	4	<5	<2	<2	249	.8	<2	<2	109	3.68	.051	4	9	.78	29	.15	13	4.87	.52	.05	<2	<5	1	6
B 102021	1	89	25	89	<.3	9	23	450	3.57	6	<5	<2	<2	195	1.1	<2	<2	107	3.27	.058	4	8	.69	27	.15	11	4.32	.40	.06	<2	<5	1	6
B 102022	1	146	446	1469	3.7	8	27	834	4.09	63	<5	<2	<2	163	21.8	10	2	112	2.99	.060	4	7	1.00	23	.17	11	3.37	.43	.05	<2	<5	1	10
B 102023	3	359	4630	7006	21.9	50	61	1184	6.96	3787	<5	<2	2	40	111.6	99	2	59	4.08	.113	4	18	.50	14	.02	11	1.08	.06	.20	<2	<5	<1	3
B 102024	4	530	3118	1685	22.2	78	94	1510	10.07	397	<5	<2	3	41	26.2	40	<2	94	3.39	.122	3	19	.79	13	.02	11	1.58	.10	.24	<2	<5	<1	2
B 102025	6	290	517	560	3.2	88	56	621	6.74	169	5	<2	<2	60	8.4	10	<2	114	2.88	.075	3	67	.91	26	.06	5	1.76	.19	.13	<2	<5	<1	2
B 102026	1	51	13	69	<.3	168	17	537	3.67	28	<5	<2	<2	177	.9	3	4	137	3.00	.043	1	524	2.62	201	.30	6	4.65	.45	.78	<2	<5	2	2
B 102027	3	164	21	99	.3	220	31	512	4.41	3	<5	<2	<2	41	.9	3	3	49	2.28	.060	4	27	.78	21	.06	9	1.34	.13	.15	2	<5	<1	8
B 102028	1	77	66	162	.4	102	15	1894	3.50	170	<5	<2	<2	145	1.5	8	<2	95	4.27	.035	3	350	1.89	36	.17	8	4.72	.45	.08	<2	<5	2	2
B 102029	4	656	33	102	.8	312	102	571	11.59	<2	5	<2	<2	71	2.8	2	<2	60	2.76	.127	4	39	.85	30	.02	8	2.71	.28	.10	<2	<5	<1	6
B 102030	2	45	382	2181	3.8	11	6	1191	1.68	125	<5	<2	5	25	18.0	11	<2	31	2.25	.034	8	15	.51	21	<.01	8	.88	.06	.16	<2	<5	<1	3
B 102031	10	55	14	91	.3	37	11	447	1.57	23	<5	<2	3	22	.8	6	<2	115	1.37	.031	6	20	.69	22	<.01	7	.96	.07	.09	<2	<5	<1	5
STANDARD C2/AU-R	20	57	42	146	6.2	73	36	1154	3.93	44	19	8	36	51	20.5	15	19	73	.53	.105	41	64	1.00	203	.08	29	2.00	.06	.13	15	<5	2	430

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 17 1996 DATE REPORT MAILED: Aug 28/96 SIGNED BY..........D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-3927 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8

GC-96-576-2

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102032	18	467	77	219	1.0	84	29	984	5.44	149	<5	<2	6	65	2.5	8	2	145	5.88	.050	2	14	1.08	48	.02	<3	3.01	.10	.10	<2	<5	1	16	11
B 102033	16	84	13	152	.3	22	9	415	1.54	92	<5	<2	<2	62	1.5	2	2	93	2.94	.062	3	20	.37	25	.02	11	1.68	.20	.12	<2	<5	<1	6	18
B 102034	17	115	11	119	.3	21	9	615	1.94	84	<5	<2	3	36	.9	5	<2	64	4.00	.051	2	8	.49	22	.04	6	1.85	.11	.10	<2	<5	<1	4	7
B 102035	12	148	13	105	<.3	26	13	427	2.74	59	<5	<2	<2	79	.7	2	<2	142	2.50	.041	1	18	.77	52	.12	5	2.36	.24	.07	<2	<5	<1	4	12
B 102036	14	120	5	104	<.3	24	12	468	2.46	55	<5	<2	<2	61	1.0	6	<2	168	3.20	.042	1	16	.93	69	.15	4	2.16	.11	.06	<2	<5	<1	5	6
B 102037	4	208	10	81	.3	66	29	389	4.13	47	<5	<2	<2	145	.3	6	<2	88	3.80	.058	1	53	.86	89	.13	<3	3.72	.35	.20	<2	<5	<1	5	10
B 102038	2	89	9	74	<.3	121	32	369	3.84	12	<5	<2	<2	230	<.2	2	<2	134	4.45	.045	1	164	1.40	133	.22	<3	5.69	.50	.64	<2	<5	<1	5	24
B 102039	2	25	<3	82	<.3	147	19	376	2.69	9	<5	<2	<2	227	<.2	<2	<2	112	4.57	.044	1	262	1.58	348	.24	3	6.06	.39	.78	<2	<5	<1	6	25
B 102040	4	47	5	91	<.3	162	22	423	3.24	11	<5	<2	<2	177	<.2	2	<2	109	4.26	.040	1	306	1.89	186	.26	<3	5.41	.33	.94	<2	<5	1	6	18
B 102041	3	49	6	80	<.3	139	31	300	3.38	19	<5	<2	<2	142	<.2	<2	<2	121	2.02	.063	3	210	1.84	162	.28	<3	4.01	.42	.86	<2	<5	<1	5	24
B 102042	2	30	3	83	<.3	151	20	406	2.89	9	<5	<2	2	144	.3	<2	<2	98	2.43	.065	4	278	1.96	373	.26	3	3.88	.32	.90	<2	<5	<1	7	15
RE B 102042	2	28	<3	83	<.3	152	21	407	2.90	11	<5	<2	<2	145	<.2	<2	<2	99	2.44	.066	4	278	1.96	390	.26	3	3.90	.32	.90	<2	<5	<1	3	-
RRE B 102042	2	28	<3	83	<.3	148	21	399	2.92	13	<5	<2	<2	146	<.2	<2	<2	100	2.37	.067	4	276	1.98	393	.27	<3	3.92	.33	.90	<2	<5	1	3	-
B 102043	3	37	21	191	<.3	8	8	621	1.29	102	<5	<2	5	25	1.6	<2	<2	34	1.76	.047	8	15	.55	39	.01	8	.99	.05	.17	<2	<5	<1	1	16
B 102044	5	35	16	220	.4	14	19	762	1.68	304	<5	<2	4	23	1.8	3	<2	44	1.87	.047	6	23	.70	42	.02	13	1.24	.06	.17	<2	<5	<1	5	16
B 102045	10	153	33	149	.5	108	17	702	3.27	79	<5	<2	2	208	1.1	5	<2	75	2.79	.090	2	125	1.13	129	.13	3	2.62	.15	.13	<2	<5	1	6	11
B 102046	15	128	27	134	.4	21	15	768	2.72	208	<5	<2	<2	94	.9	3	<2	92	2.86	.068	2	22	1.01	133	.09	8	1.95	.08	.15	<2	<5	<1	10	5
B 102047	4	79	11	87	.4	18	7	805	2.47	17	<5	<2	<2	421	.3	<2	2	74	2.79	.077	3	9	1.10	188	.08	4	2.71	.07	.15	<2	<5	<1	1	10
B 102048	5	161	5	62	.4	16	15	614	3.94	58	<5	<2	<2	97	<.2	<2	<2	104	2.98	.095	4	10	.69	93	.15	<3	3.60	.24	.16	<2	<5	<1	5	12
B 102049	4	99	37	177	.6	96	16	696	3.85	184	<5	<2	2	33	.8	3	2	145	1.44	.092	4	137	1.85	413	.30	<3	2.09	.09	.81	<2	<5	<1	8	12
B 102050	5	96	13	101	.4	30	8	941	3.05	32	<5	<2	3	24	.7	2	<2	105	2.29	.063	2	33	1.28	67	.08	5	1.90	.06	.13	2	<5	1	2	18
B 102051	22	153	16	159	.6	22	12	684	3.38	18	<5	<2	<2	25	1.4	5	<2	157	1.83	.081	4	19	1.09	65	.13	6	1.58	.08	.13	<2	<5	<1	6	15
B 102052	8	124	31	142	.9	22	16	1138	4.04	480	<5	<2	2	47	1.0	3	2	155	2.26	.069	4	18	1.14	82	.06	3	2.39	.06	.12	<2	<5	<1	14	18
RE B 102052	9	123	32	140	1.0	22	15	1138	4.04	448	<5	<2	2	47	.9	2	2	154	2.26	.070	3	16	1.14	83	.06	<3	2.42	.06	.12	<2	<5	<1	13	-
RRE B 102052	10	119	31	135	.9	21	15	1087	3.93	476	<5	<2	<2	41	.6	2	4	149	2.04	.070	3	18	1.10	69	.05	<3	2.29	.05	.11	<2	<5	<1	14	-
B 102053	5	48	<3	114	.3	10	8	848	3.51	196	<5	<2	2	31	.6	<2	3	88	2.06	.059	3	19	1.12	41	.04	6	2.30	.09	.20	<2	<5	<1	15	19
B 102054	1	57	24	107	.7	10	9	1027	3.66	209	<5	<2	2	33	.8	<2	8	99	2.32	.069	2	9	1.24	21	.05	5	2.48	.11	.14	<2	<5	<1	14	20
B 102055	8	10	16	84	<.3	3	2	385	.87	26	<5	<2	4	116	.2	<2	<2	35	3.86	.052	3	3	.44	83	.01	4	2.74	.10	.04	<2	<5	<1	4	20
B 102056	28	15	15	48	<.3	2	1	272	.50	5	<5	<2	4	61	.4	<2	2	22	3.64	.049	2	4	.31	42	.04	3	1.44	.08	.02	<2	<5	<1	1	19
B 102057	19	62	12	39	<.3	9	4	211	.62	6	<5	<2	<2	61	.4	<2	<2	43	1.81	.069	2	8	.34	34	.10	3	1.12	.08	.02	<2	<5	1	4	18
B 102058	1	12	11	54	<.3	4	3	309	.53	10	<5	<2	2	88	.5	<2	<2	34	4.77	.086	3	8	.27	32	.06	3	1.26	.09	.03	<2	<5	<1	7	19
B 102059	3	6	7	26	<.3	3	1	174	.40	<2	<5	<2	2	110	.3	<2	<2	16	1.63	.059	2	4	.19	46	.05	5	1.39	.14	.04	<2	<5	<1	3	28
B 102060	6	7	13	26	<.3	3	1	150	.38	<2	<5	<2	3	59	<.2	<2	<2	18	.99	.059	2	6	.17	29	.06	3	1.16	.13	.04	<2	<5	<1	2	27
B 102061	1	5	8	30	<.3	3	1	159	.45	2	<5	<2	3	62	<.2	<2	<2	18	.79	.060	2	5	.15	29	.05	<3	.99	.13	.02	<2	<5	<1	2	28
B 102062	<1	9	6	18	<.3	2	2	154	.44	3	<5	<2	2	55	<.2	<2	<2	14	2.04	.057	3	3	.18	33	.03	<3	1.65	.12	.04	<2	<5	1	1	27
B 102063	<1	14	10	39	<.3	3	2	215	.66	4	<5	<2	3	82	.3	<2	<2	21	1.14	.062	3	4	.22	47	.04	4	1.66	.13	.04	<2	<5	<1	2	25
STANDARD C2/AU-R	21	58	40	143	6.4	75	37	1150	4.03	43	19	8	38	52	20.5	17	16	75	.55	.108	42	66	.99	201	.08	24	2.03	.06	.14	14	<5	3	473	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 TO P2 CORE P3 ROCK P4 MOSS MAT AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: AUG 23 1996 **DATE REPORT MAILED:** Sept 4/96 **SIGNED BY**.......... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-3927

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102064	1	9	6	24	<.3	4	1	134	.39	2	<5	<2	2	45	<.2	<2	<2	13	.66	.057	2	7	.13	26	.05	3	.92	.15	.03	<2	<5	<1	5	27
B 102065	1	14	8	33	<.3	4	1	148	.50	3	<5	<2	2	56	<.2	<2	<2	14	.72	.061	2	10	.11	36	.07	3	.97	.19	.03	2	<5	<1	1	16
B 102066	2	11	8	30	<.3	4	1	139	.46	<2	<5	<2	4	58	<.2	<2	<2	11	.75	.068	2	8	.10	50	.05	3	1.05	.16	.03	<2	<5	<1	9	13
B 102067	2	10	7	30	<.3	3	1	134	.43	<2	<5	<2	3	64	<.2	<2	<2	10	.84	.054	1	8	.10	53	.05	<3	1.13	.15	.03	<2	<5	<1	2	17
B 102068	1	5	8	22	<.3	3	1	129	.35	<2	<5	<2	3	60	<.2	<2	<2	10	.88	.056	2	7	.10	50	.03	<3	1.12	.13	.04	<2	<5	<1	1	15
B 102069	4	8	9	36	<.3	4	1	130	.42	2	<5	<2	2	81	<.2	<2	<2	11	1.36	.055	2	6	.11	53	.04	<3	1.62	.17	.04	<2	<5	1	1	15
B 102070	4	14	11	58	<.3	3	1	138	.43	2	<5	<2	3	51	.2	<2	<2	10	.94	.057	2	6	.10	40	.03	<3	1.16	.13	.03	<2	<5	<1	<1	14
B 102071	2	7	10	44	<.3	5	1	221	.62	3	<5	<2	3	54	<.2	<2	<2	17	1.04	.052	2	9	.19	22	.05	3	1.00	.14	.03	2	<5	<1	<1	13
B 102072	4	15	13	41	<.3	4	1	182	.54	4	<5	<2	3	44	.3	<2	<2	16	.76	.060	3	7	.16	18	.05	3	.82	.14	.02	<2	<5	<1	7	14
B 102073	1	9	6	24	<.3	4	2	171	.65	14	<5	<2	3	52	<.2	<2	<2	18	1.43	.053	3	9	.15	22	.05	4	.98	.12	.03	<2	<5	<1	2	15
B 102074	1	9	9	27	<.3	4	1	131	.54	8	<5	<2	2	50	<.2	<2	<2	16	.84	.059	3	7	.16	21	.06	3	.91	.16	.02	<2	<5	<1	1	16
B 102075	1	10	7	23	<.3	5	1	128	.49	3	<5	<2	3	56	<.2	<2	<2	13	.72	.054	3	9	.14	37	.06	<3	.95	.15	.03	<2	<5	<1	1	15
RE B 102075	1	9	8	24	<.3	3	1	133	.51	3	<5	<2	3	58	.2	<2	<2	13	.75	.056	3	8	.14	39	.06	3	.98	.16	.03	2	<5	<1	1	-
RRE B 102075	1	9	10	25	<.3	4	1	135	.49	3	<5	<2	3	65	<.2	<2	<2	13	.79	.059	3	8	.14	40	.06	3	1.01	.16	.03	<2	<5	<1	1	-
B 102076	1	14	9	28	<.3	3	1	163	.57	4	<5	<2	3	56	<.2	<2	<2	15	1.06	.055	2	8	.16	43	.05	<3	1.09	.14	.02	<2	<5	<1	<1	16
B 102077	1	10	10	30	<.3	3	1	149	.46	2	<5	<2	3	44	<.2	<2	<2	12	1.12	.053	3	6	.14	37	.04	<3	.96	.11	.02	<2	<5	<1	1	14
B 102078	2	8	10	32	<.3	4	1	278	.53	5	<5	<2	4	66	.2	<2	<2	15	1.71	.053	2	8	.20	25	.04	3	1.30	.13	.02	<2	<5	<1	1	11
B 102079	1	4	6	17	<.3	3	2	685	1.00	7	<5	<2	5	114	<.2	<2	<2	31	3.89	.050	4	6	.36	54	.02	<3	2.01	.13	.08	<2	<5	<1	5	6
STANDARD C2/AU-R	20	55	36	135	6.1	73	35	1124	3.84	42	18	7	35	49	19.6	14	18	70	.50	.104	39	60	.92	196	.08	27	1.91	.06	.13	14	<5	1	475	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-3927 Page 3

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb
66064R	2	126	5	27	<.3	244	40	170	2.69	16	<5	<2	<2	167	<.2	2	<2	19	3.26	.031	2	83	.47	23	.05	5	4.31	.32	.03	<2	<5	<1	1
66344R	1	42	7	53	<.3	14	9	372	3.81	<2	<5	<2	<2	194	<.2	<2	<2	148	3.48	.021	<1	18	.94	40	.09	3	6.86	.87	.04	<2	<5	<1	3
66345R	4	91	<3	94	.4	43	14	668	7.57	32	<5	<2	<2	29	<.2	<2	<2	300	1.29	.406	19	31	2.00	185	.44	<3	3.73	.08	1.68	2	<5	<1	4
66346R	1	28	6	109	<.3	152	45	1030	6.43	9	<5	<2	<2	15	.4	<2	<2	178	1.03	.027	<1	566	2.80	124	.52	<3	4.15	.14	2.20	2	<5	<1	1
66347R	1	12	8	67	<.3	7	10	619	5.30	<2	5	<2	<2	41	<.2	<2	<2	115	.65	.060	1	15	1.44	243	.27	<3	2.67	.17	.93	3	<5	<1	<1
66348R	1	578	<3	60	1.1	6	4	578	4.55	3	<5	<2	3	19	<.2	<2	<2	100	.39	.047	3	14	1.26	121	.19	3	2.02	.10	.46	3	<5	<1	4
66349R	4	140	<3	79	.4	9	16	893	5.57	20	<5	<2	2	19	<.2	<2	<2	88	.38	.044	9	14	1.26	43	.11	<3	2.44	.08	.15	3	<5	<1	14
66350R	2	27	3	55	<.3	10	10	351	3.99	<2	<5	<2	2	65	<.2	<2	<2	72	1.35	.020	1	16	.78	53	.08	<3	3.81	.12	.10	2	<5	<1	2
66552R	17	11079	<3	257	28.4	165	421	184	27.53	<2	<5	2	<2	11	<.2	2	<2	462	.07	<.001	2	30	.01	7	.05	<3	.28	.01	.12	2	<5	<1	770
66553R	5	295	7	34	.9	8	4	319	2.85	4	<5	<2	4	5	<.2	<2	<2	66	.09	.036	3	41	.78	22	.02	3	1.14	.02	.06	2	<5	<1	13
RE 66553R	5	292	5	34	.8	8	3	321	2.85	3	<5	<2	3	6	<.2	3	<2	67	.10	.036	3	41	.78	22	.02	5	1.14	.02	.06	3	<5	<1	9
108652R	3	226	8	59	.4	35	23	355	7.79	<2	<5	<2	<2	91	.3	<2	<2	166	4.47	.041	2	45	1.43	87	.21	<3	7.89	.37	.42	<2	<5	1	50
108653R	7	56	55	526	.5	16	9	1124	3.75	49	<5	<2	<2	5	4.0	6	<2	125	.11	.039	6	25	.57	24	.01	3	1.29	.04	.09	<2	<5	<1	5
108654R	<1	17	11	129	<.3	18	18	1495	6.69	9	<5	<2	<2	67	.9	<2	<2	209	3.37	.173	<1	27	2.20	46	.31	11	4.42	.18	.13	<2	<5	<1	2
108655R	1	9	7	69	<.3	6	8	1145	4.97	14	<5	<2	<2	17	.4	3	<2	109	.70	.070	<1	13	1.39	15	.35	4	2.21	.11	.06	3	<5	<1	1
108656R	6	21	3	149	<.3	5	3	1350	3.56	<2	<5	<2	<2	16	1.3	3	<2	86	1.04	.078	3	11	.88	24	.21	<3	1.49	.07	.04	<2	<5	<1	1
108657R	4	251	4	23	.3	7	15	122	5.51	<2	<5	<2	2	22	<.2	<2	<2	9	.03	.049	5	8	.07	28	<.01	15	.74	.06	.11	2	<5	<1	4
108658R	5	21	16	92	<.3	37	3	564	6.09	4	<5	<2	<2	35	.3	<2	<2	158	1.27	.067	<1	150	1.78	26	.22	7	2.56	.11	.06	<2	<5	<1	11
108743R	1	8	9	81	<.3	6	4	366	2.80	7	<5	<2	3	29	.2	<2	<2	84	.59	.047	1	15	.67	59	.15	3	1.19	.14	.12	4	<5	<1	1
108744R	5	4	10	106	<.3	7	8	515	3.20	5	<5	<2	3	41	.2	<2	<2	99	.73	.052	2	17	.91	97	.19	<3	1.70	.21	.49	4	<5	<1	2
108745R	2	105	14	79	<.3	12	12	293	3.93	7	<5	<2	<2	15	.8	2	<2	58	.14	.043	2	30	.86	144	.06	<3	1.84	.06	.26	2	<5	<1	4
108746R	1	93	3	27	<.3	17	12	261	3.34	15	<5	<2	<2	6	<.2	2	<2	30	.04	.015	2	13	.59	125	.07	<3	1.56	.03	.31	<2	<5	<1	3
108747R	1	19	6	32	<.3	6	1	49	1.26	10	<5	<2	3	2	<.2	2	<2	8	<.01	.008	9	15	.04	49	<.01	6	.29	.01	.17	3	<5	<1	<1
108748R	2	66	22	109	.5	97	23	489	3.60	58	<5	<2	<2	37	.2	12	<2	104	.74	.069	4	211	2.35	378	.38	<3	2.97	.14	1.27	2	<5	<1	3
STANDARD C2/AU-R	20	56	41	141	6.2	74	36	1147	3.90	46	20	10	37	51	19.7	17	18	74	.53	.100	42	65	.95	198	.08	25	1.97	.06	.13	14	<5	1	488

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
66551T	3	137	71	1013	2.2	81	17	1837	3.42	176	<5	<2	<2	31	10.1	6	<2	59	.75	.056	13	43	.52	214	.07	6	1.57	.01	.18	<2	<5	<1	14
108167T	2	60	25	1924	10.6	16	3	1812	.39	41	<5	<2	<2	61	141.3	4	<2	10	4.42	.134	13	11	.12	16	<.01	70	.41	.02	.42	<2	<5	1	3
108168T	5	136	57	493	5.6	14	8	1122	1.56	215	<5	<2	<2	42	13.3	11	2	41	2.46	.172	16	13	.20	16	.01	37	1.03	.02	.53	<2	<5	<1	25
108169T	3	79	35	575	.6	41	18	1853	3.92	49	<5	<2	<2	40	5.9	2	<2	84	1.08	.076	10	36	.73	220	.09	7	1.98	.02	.17	<2	<5	<1	30
108739T	3	142	42	191	.7	22	23	1431	4.79	86	<5	<2	<2	56	3.2	3	<2	89	1.07	.099	8	29	.63	99	.09	5	2.58	.02	.15	<2	<5	<1	10
108740T	2	158	44	328	1.0	34	41	998	3.66	139	<5	<2	<2	57	5.8	<2	<2	57	1.76	.115	8	59	.54	51	.04	7	2.81	.02	.13	<2	<5	<1	9
RE 108740T	3	161	47	338	.9	35	41	1016	3.79	143	<5	<2	<2	58	5.9	<2	<2	58	1.79	.117	8	59	.56	52	.04	7	2.88	.02	.14	<2	<5	<1	27
108741T	4	246	34	173	.7	52	21	426	7.35	126	<5	<2	<2	18	.5	<2	3	48	.06	.187	4	21	.27	64	.03	<3	3.91	.01	.07	<2	<5	<1	17
108742T	3	504	48	546	3.9	13	29	933	2.79	230	19	<2	<2	76	14.2	2	<2	51	2.39	.106	52	10	.52	183	.07	12	1.91	.01	.18	<2	<5	1	32

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

<u>Imperial Metals Corporation</u> PROJECT GIANT COPPER File # 96-4051 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: S. Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102080	1	6	7	19	<.3	3	1	126	.33	5	<5	<2	2	39	<.2	<2	<2	9	1.35	.062	2	6	.10	29	.04	3	.93	.11	.02	2	<5	<1	1	18
B 102081	1	6	6	18	<.3	2	1	97	.30	3	<5	<2	2	47	<.2	<2	<2	8	1.57	.056	2	6	.08	42	.04	3	.99	.13	.03	2	<5	<1	1	17
B 102082	<1	7	4	20	<.3	2	1	105	.35	<2	<5	<2	<2	41	<.2	<2	<2	9	1.63	.058	2	5	.10	53	.04	3	1.27	.13	.03	<2	<5	<1	<1	17
B 102083	1	6	8	19	<.3	3	1	107	.38	<2	<5	<2	2	37	<.2	<2	<2	10	1.17	.058	2	9	.10	52	.06	3	1.03	.15	.02	3	<5	<1	<1	16
B 102084	1	8	7	23	.7	2	1	106	.35	4	<5	<2	<2	49	<.2	<2	<2	10	1.53	.060	4	5	.10	54	.04	3	1.16	.13	.03	2	<5	<1	1	17
B 102085	<1	6	7	27	<.3	2	1	143	.35	<2	<5	<2	2	51	<.2	<2	<2	11	2.30	.061	3	5	.11	46	.03	<3	1.26	.12	.03	3	<5	<1	2	16
B 102086	1	6	19	44	<.3	3	1	145	.44	3	<5	<2	<2	42	<.2	<2	<2	13	1.34	.062	2	6	.16	53	.04	3	1.09	.10	.02	2	<5	<1	1	16
B 102087	2	7	12	41	<.3	2	1	112	.35	5	<5	<2	2	44	<.2	<2	<2	9	.91	.065	3	6	.11	64	.04	3	1.16	.11	.02	2	<5	<1	1	18
B 102088	1	7	8	28	<.3	2	<1	100	.35	<2	<5	<2	<2	53	<.2	<2	<2	8	.89	.065	3	6	.09	66	.03	<3	1.25	.12	.03	2	<5	<1	1	18
B 102089	1	8	10	32	<.3	3	1	110	.39	<2	<5	<2	2	47	.2	<2	<2	9	1.16	.063	3	6	.09	59	.04	<3	1.15	.12	.02	3	<5	<1	1	18
B 102090	1	9	8	30	<.3	2	1	116	.42	<2	<5	<2	2	40	.2	<2	<2	11	1.02	.063	2	4	.16	29	.02	<3	.85	.08	.01	<2	<5	<1	<1	17
RE B 102090	1	10	13	32	<.3	2	1	118	.44	<2	<5	<2	2	41	.3	<2	<2	11	1.04	.063	3	4	.17	29	.02	3	.86	.08	.01	<2	<5	<1	<1	-
RRE B 102090	1	10	12	34	<.3	2	1	116	.42	<2	<5	<2	2	40	.2	<2	<2	11	1.02	.063	3	4	.16	29	.02	3	.85	.08	.01	<2	<5	<1	<1	-
B 102091	<1	6	4	31	<.3	2	1	130	.45	<2	<5	<2	2	67	.2	<2	<2	12	6.82	.052	4	5	.21	35	.01	<3	1.87	.10	.03	2	<5	<1	1	6
B 102092	4	4	6	39	<.3	3	1	196	.60	<2	<5	<2	2	46	<.2	<2	<2	20	1.54	.058	3	5	.22	17	.03	4	1.06	.11	.02	2	<5	<1	1	17
B 102093	4	4	9	71	<.3	2	1	220	.65	3	<5	<2	2	47	.3	<2	<2	21	1.32	.062	3	7	.29	33	.02	3	1.57	.11	.02	3	<5	<1	1	16
B 102094	1	12	14	45	<.3	2	1	142	.52	<2	<5	<2	<2	52	.2	<2	<2	13	1.02	.049	3	7	.21	39	.03	4	1.52	.13	.02	2	<5	<1	1	5
B 102095	1	7	8	22	<.3	4	1	122	.48	<2	<5	<2	<2	48	<.2	<2	<2	11	.76	.058	3	8	.13	63	.05	4	1.13	.14	.03	5	<5	<1	1	6
B 102096	27	14	17	26	.3	2	1	133	.44	3	<5	<2	<2	100	<.2	<2	<2	7	1.52	.010	3	6	.10	127	.04	3	1.53	.13	.04	2	<5	<1	1	17
B 102097	1	10	12	35	<.3	3	2	163	.59	<2	<5	<2	<2	69	<.2	<2	<2	14	1.42	.049	3	7	.18	77	.04	3	1.51	.13	.03	3	<5	<1	1	16
B 102098	3	20	17	82	<.3	3	2	234	.86	8	<5	<2	<2	40	.7	<2	<2	22	1.04	.056	40	8	.26	36	.05	4	1.07	.12	.03	2	<5	<1	1	16
B 102099	1	10	5	26	<.3	3	1	156	.52	4	<5	<2	<2	61	<.2	<2	<2	14	1.04	.063	4	7	.16	79	.05	3	1.26	.14	.03	3	<5	<1	2	17
B 102100	5	8	6	41	<.3	3	2	225	.89	3	<5	<2	2	66	<.2	<2	<2	29	1.33	.043	3	6	.29	26	.03	4	1.34	.10	.02	<2	<5	<1	2	17
RE B 102100	5	8	5	40	<.3	3	2	224	.88	2	<5	<2	<2	66	<.2	<2	<2	29	1.32	.042	3	6	.29	26	.03	5	1.33	.10	.02	<2	<5	<1	1	-
RRE B 102100	5	8	7	43	<.3	3	2	237	.93	<2	<5	<2	2	69	<.2	<2	<2	31	1.40	.046	3	6	.31	28	.03	5	1.41	.11	.01	<2	<5	<1	2	-
B 102101	1	11	14	49	<.3	3	3	237	.89	10	<5	<2	2	40	.2	<2	<2	31	1.35	.062	4	10	.31	37	.04	5	1.36	.12	.02	2	<5	<1	2	18
B 102102	1	13	9	66	<.3	3	2	171	.67	3	<5	<2	<2	56	.2	2	<2	19	1.35	.063	3	5	.22	72	.03	4	1.68	.13	.03	2	<5	<1	2	16
B 102103	<1	9	5	57	<.3	3	2	277	.93	9	<5	<2	<2	97	<.2	<2	<2	31	2.74	.053	4	7	.41	40	.03	4	3.40	.27	.07	2	<5	<1	2	15
B 102104	3	7	3	59	<.3	4	2	307	.84	3	<5	<2	2	34	.4	<2	<2	37	1.36	.075	4	8	.39	28	.05	3	1.13	.11	.02	3	<5	<1	3	17
B 102105	1	13	9	83	<.3	4	2	279	.82	4	<5	<2	<2	50	<.2	<2	<2	32	1.28	.057	4	7	.32	36	.04	3	1.32	.10	.03	3	<5	<1	1	17
B 102106	1	10	15	98	.4	3	2	385	.81	<2	<5	<2	2	30	.7	<2	<2	29	1.69	.049	5	7	.38	12	.05	5	.98	.09	.02	2	<5	<1	2	16
B 102107	1	14	12	119	.3	4	2	305	.90	6	<5	<2	2	27	.9	<2	<2	34	1.32	.051	4	9	.40	13	.06	4	1.02	.10	.02	4	<5	<1	2	16
B 102108	2	7	8	37	.4	5	5	473	1.22	10	<5	<2	3	33	<.2	<2	<2	56	2.24	.053	5	9	.63	15	.03	5	1.32	.08	.02	3	<5	1	2	16
B 102109	3	6	6	28	<.3	5	5	362	1.07	7	<5	<2	4	25	<.2	<2	<2	39	1.48	.048	4	13	.53	10	.03	5	1.23	.07	.02	4	<5	<1	3	17
B 102110	1	5	9	62	<.3	3	2	203	.59	<2	<5	<2	5	30	.4	<2	<2	21	1.32	.043	4	7	.25	18	.02	4	1.12	.08	.02	2	<5	<1	2	17
B 102111	<1	5	12	71	<.3	3	3	265	.62	<2	<5	<2	4	52	<.2	<2	<2	22	1.78	.043	4	7	.26	22	.02	3	1.71	.12	.02	2	<5	<1	1	16
STANDARD C2/AU-R	21	59	41	143	6.4	77	37	1141	3.95	45	23	8	35	51	20.8	19	18	74	.53	.106	41	67	.99	193	.08	25	2.00	.06	.14	16	<5	1	475	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 TO P2 CORE P3 ROCK/P4 MOSS MAT P5 TO P6 SOIL AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
<u>Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.</u>

DATE RECEIVED: AUG 29 1996 **DATE REPORT MAILED:** Sept 9/96 **SIGNED BY** ....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-4051

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102112	1	10	7	31	<.3	4	3	223	.93	6	<5	<2	6	37	.2	<2	<2	23	1.59	.049	5	6	.28	17	.02	4	1.51	.11	.04	<2	<5	<1	3	16
B 102113	1	14	6	41	<.3	3	3	212	.94	8	<5	<2	3	64	.2	<2	<2	30	1.35	.055	5	8	.40	25	.04	6	1.38	.11	.04	3	<5	1	1	16
B 102114	1	10	7	44	<.3	4	2	198	.75	6	<5	<2	4	59	.3	<2	<2	26	1.18	.054	3	7	.32	23	.03	4	1.45	.10	.03	2	<5	<1	4	16
B 102115	1	27	6	36	<.3	5	5	287	.85	637	<5	<2	3	63	<.2	<2	<2	32	1.37	.057	4	9	.43	20	.03	4	1.45	.10	.04	3	<5	1	30	15
B 102116	1	10	12	68	<.3	4	2	208	.63	<2	<5	<2	4	86	.5	<2	<2	21	1.70	.052	4	6	.29	42	.03	4	1.27	.09	.04	2	<5	<1	3	16
B 102117	1	8	21	58	<.3	4	2	240	.80	8	<5	<2	5	57	.3	<2	<2	26	1.34	.051	4	7	.32	33	.03	4	1.20	.09	.03	2	<5	<1	3	15
B 102118	1	7	25	60	<.3	4	2	288	.71	12	<5	<2	5	43	.2	<2	<2	28	1.29	.067	5	7	.39	25	.03	3	1.10	.08	.03	3	<5	<1	3	16
B 102119	1	10	16	61	<.3	5	3	286	.90	5	<5	<2	5	164	.3	<2	<2	34	1.91	.048	5	8	.39	39	.03	4	1.70	.11	.05	2	<5	1	2	16
B 102120	1	13	22	51	<.3	3	3	224	.75	8	<5	<2	5	70	.2	2	<2	23	1.03	.047	5	8	.33	14	.04	3	.97	.08	.03	2	<5	<1	3	16
B 102121	2	77	41	161	.5	5	8	427	2.60	180	<5	<2	6	30	1.3	2	<2	44	1.10	.039	7	11	.76	28	.01	5	1.39	.05	.09	2	<5	1	8	15
B 102122	1	45	13	82	<.3	5	7	428	2.54	44	<5	<2	6	32	.7	2	<2	56	.79	.039	5	11	.96	30	.04	4	1.86	.07	.07	2	<5	<1	3	16
RE B 102122	1	45	12	82	<.3	5	7	425	2.51	38	<5	<2	5	31	.6	2	<2	56	.78	.037	5	11	.96	30	.04	4	1.84	.07	.07	3	<5	<1	3	-
RRE B 102122	1	45	15	82	<.3	4	7	423	2.50	50	<5	<2	6	32	.5	2	<2	56	.78	.037	5	10	.95	30	.04	4	1.84	.07	.07	2	<5	<1	4	-
B 102123	1	35	35	94	<.3	4	6	459	2.26	60	<5	<2	5	39	.5	<2	<2	54	1.15	.039	5	12	.83	34	.05	4	1.50	.07	.10	4	<5	<1	5	16
B 102124	1	43	16	127	<.3	5	10	411	2.46	128	<5	<2	6	26	1.1	2	<2	50	1.07	.037	4	11	.84	20	.06	4	1.55	.06	.09	3	<5	1	4	18
B 102125	1	20	29	120	<.3	5	8	412	2.05	23	<5	<2	5	152	.6	<2	<2	52	1.54	.045	4	13	.79	40	.08	<3	1.68	.08	.08	3	<5	<1	5	17
B 102126	1	16	20	63	<.3	3	4	268	1.18	9	<5	<2	5	61	<.2	<2	<2	34	.79	.052	5	10	.41	33	.07	3	1.13	.08	.06	3	<5	1	2	16
B 102127	1	15	7	42	<.3	4	2	188	.92	4	<5	<2	6	70	<.2	<2	<2	29	1.03	.046	5	9	.35	49	.07	4	1.24	.08	.07	3	<5	<1	2	16
B 102128	1	15	6	29	<.3	3	3	168	.99	<2	<5	<2	6	39	<.2	<2	<2	34	.76	.045	5	8	.38	65	.09	<3	1.28	.07	.13	2	<5	<1	2	15
B 102129	1	10	28	30	<.3	3	2	171	.79	<2	<5	<2	5	45	.3	<2	<2	28	1.27	.044	4	10	.33	50	.05	<3	1.45	.09	.07	3	<5	1	3	15
B 102130	1	14	4	47	<.3	3	4	189	1.03	2	<5	<2	6	33	<.2	<2	<2	34	1.14	.043	5	8	.44	65	.05	3	1.75	.08	.11	2	<5	1	3	16
B 102131	1	10	5	78	.4	3	3	218	1.29	8	<5	<2	5	38	.7	<2	2	46	1.16	.045	5	11	.52	83	.10	3	1.65	.10	.18	3	<5	<1	5	17
B 102132	1	20	7	30	<.3	3	3	200	.99	10	<5	<2	5	20	<.2	<2	<2	35	.65	.048	5	8	.38	44	.08	4	.95	.06	.07	2	<5	<1	2	17
RE B 102132	1	20	9	30	<.3	3	3	196	.98	11	<5	<2	6	19	<.2	2	<2	35	.63	.047	4	8	.37	46	.08	3	.93	.06	.08	2	<5	<1	3	-
RRE B 102132	1	20	6	29	<.3	3	3	193	.96	16	<5	<2	6	19	<.2	<2	<2	34	.62	.045	4	8	.37	43	.08	4	.91	.06	.08	<2	<5	<1	2	-
B 102133	1	10	5	36	<.3	4	3	219	1.19	2	<5	<2	6	33	.2	<2	<2	42	1.03	.046	6	11	.44	69	.10	4	1.19	.09	.18	3	<5	<1	2	16
B 102134	1	21	9	53	<.3	4	4	257	1.50	<2	<5	<2	5	62	.4	<2	<2	51	.91	.045	8	9	.54	106	.14	4	1.39	.09	.25	2	<5	<1	2	16
B 102135	2	23	11	103	1.0	4	3	276	1.50	4	<5	<2	7	31	.6	2	2	51	.76	.064	8	12	.54	74	.12	3	1.15	.09	.19	3	<5	1	2	15
B 102136	3	19	6	38	<.3	5	4	211	1.55	5	<5	<2	6	48	.2	2	<2	54	.69	.047	6	10	.58	126	.14	3	1.15	.09	.26	2	<5	<1	2	16
B 102137	1	18	7	45	<.3	4	4	200	1.47	<2	<5	<2	6	37	.2	<2	<2	51	.59	.047	6	12	.58	122	.15	3	1.24	.10	.30	4	<5	1	2	16
STANDARD C2/AU-R	21	60	40	147	7.7	77	38	1235	4.07	46	17	9	38	55	22.7	17	20	75	.54	.110	42	67	1.00	206	.08	28	2.04	.06	.15	15	<5	1	410	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
66554R	1	8	<3	283	<.3	65	5	1151	3.63	26	<5	<2	2	5	2.5	19	2	53	.18	.071	1	22	1.44	94	.01	9	1.87	.01	.16	<2	<5	<1	1
108659R	<1	49	5	201	.3	40	25	425	7.26	11	<5	<2	<2	186	1.6	<2	<2	126	4.33	.086	1	35	2.10	21	.04	4	8.38	.87	.04	<2	<5	<1	9
108660R	2	88	11	104	<.3	144	20	403	6.28	11	<5	<2	2	202	.6	<2	<2	178	3.97	.057	4	210	2.39	56	.19	10	7.74	.33	.99	<2	<5	1	5
108661R	29	92	6	48	1.7	10	5	184	3.64	107	<5	<2	2	5	<.2	5	14	11	.04	.038	3	20	.05	13	.01	55	.34	.01	.03	30	<5	<1	10
108662R	221	5136	2765	1065	258.4	158	457	24	48.76	99999	<5	8	<2	6	15.9	548	747	3	<.01	<.001	3	39	<.01	7	<.01	8	.07	<.01	.04	10	<5	<1	13750
108663R	2	55	9	75	.9	12	3	589	2.04	713	<5	<2	4	2	.2	2	2	28	.04	.019	4	31	.52	27	.01	6	.93	.01	.09	6	<5	<1	76
RE 108663R	2	54	9	76	1.0	12	3	588	2.04	718	<5	<2	3	2	<.2	2	<2	28	.04	.019	3	30	.52	26	.01	7	.92	.01	.09	6	<5	1	46

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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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	Tl ppm	Hg ppm	Au* ppb
108170T	2	217	34	231	1.1	68	149	1102	2.75	94	<5	<2	<2	74	6.8	2	<2	33	1.55	.154	19	16	.30	67	.04	9	1.59	.02	.18	<2	<5	1	10
108749T	3	161	29	208	.6	41	37	755	4.17	100	<5	<2	<2	59	4.5	<2	3	52	1.91	.139	9	27	.45	59	.06	13	1.70	.03	.17	8	<5	<1	10
RE 108749T	3	164	28	208	.5	40	38	767	4.19	106	<5	<2	<2	61	4.3	<2	2	53	1.91	.139	10	25	.45	60	.06	7	1.72	.03	.17	<2	<5	1	9

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl	Hg	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb
NZD 1-1	2	234	26	1038	.7	15	30	876	6.68	420	<5	<2	<2	29	1.2	<2	2	126	.19	.060	5	17	1.29	189	.20	<3	4.80	.02	.37	<2	<5	<1	3
NZD 1-2	5	162	42	290	.3	22	28	657	5.77	165	<5	<2	2	19	1.3	<2	<2	122	.15	.053	5	29	.94	116	.19	<3	4.17	.02	.16	4	<5	<1	8
NZD 1-3	3	235	25	329	.6	17	22	573	7.04	408	<5	<2	2	24	.9	<2	<2	162	.17	.049	3	14	1.76	188	.33	<3	4.52	.02	.56	<2	5	<1	12
NZD 1-4	2	73	36	198	.5	12	14	347	4.62	109	<5	<2	<2	12	<.2	<2	<2	106	.12	.058	3	16	.49	64	.21	<3	2.94	.02	.06	<2	<5	<1	1
NZD 1-5	4	128	67	327	1.1	13	20	606	5.15	248	<5	<2	2	14	1.2	<2	<2	107	.12	.054	5	16	.56	97	.18	<3	3.02	.02	.07	<2	<5	<1	2
NZD 1-6	3	82	25	365	.3	12	18	428	4.89	163	<5	<2	<2	15	.8	<2	3	115	.15	.046	3	13	.62	89	.25	<3	2.97	.02	.08	<2	<5	<1	2
NZD 1-7	3	154	54	475	.7	16	26	506	5.62	944	<5	<2	<2	19	.9	<2	3	113	.21	.039	6	20	.73	92	.18	<3	3.39	.02	.12	2	<5	<1	9
NZD 1-8	2	74	12	300	.3	12	18	570	5.26	211	<5	<2	2	28	.7	<2	<2	117	.39	.034	2	14	1.08	91	.28	<3	3.34	.02	.24	<2	<5	<1	<1
NZD 1-9	2	119	22	222	.4	12	24	580	5.30	123	<5	<2	2	15	<.2	<2	3	119	.19	.055	5	14	.98	94	.22	<3	3.70	.02	.22	6	<5	1	2
NZD 1-10	8	113	15	150	.5	11	36	1025	8.22	121	<5	<2	6	16	1.0	<2	<2	176	.35	.085	11	12	1.15	101	.23	3	3.38	.02	.33	<2	<5	<1	6
NZD 1-11	3	154	51	629	.4	19	19	446	5.89	226	<5	<2	3	16	.9	<2	2	120	.17	.051	8	21	.90	101	.26	<3	4.95	.01	.20	2	<5	<1	6
NZD 1-12	3	239	45	406	1.4	19	21	1290	5.53	151	<5	<2	<2	17	.8	<2	9	118	.27	.077	5	19	.68	146	.19	<3	2.93	.02	.13	10	<5	<1	5
NZD 1-13	3	331	34	253	.8	20	26	629	5.58	166	<5	<2	<2	15	.6	2	3	110	.16	.049	6	21	.83	125	.18	<3	3.44	.02	.15	9	<5	<1	3
NZD 1-14	3	248	49	349	.7	21	24	1786	5.82	184	<5	<2	2	17	.9	2	5	122	.22	.068	7	19	.95	169	.21	<3	3.35	.02	.14	23	<5	<1	6
NZD 1-15	2	323	33	265	1.0	24	26	797	5.07	91	<5	<2	2	22	.6	<2	5	99	.31	.090	15	24	.67	117	.18	<3	3.96	.02	.09	18	<5	1	6
NZD 1-16	3	142	28	195	1.2	12	14	1064	5.20	118	<5	<2	<2	13	.6	<2	7	111	.18	.088	4	17	.51	102	.18	<3	3.08	.02	.09	26	<5	<1	3
RE NZD 1-16	3	143	27	195	1.2	11	14	1061	5.19	117	<5	<2	2	13	.2	<2	4	110	.18	.089	4	14	.51	102	.18	<3	3.07	.02	.09	33	<5	<1	10
NZD 1-17	2	67	15	153	<.3	13	18	1248	4.38	93	<5	<2	<2	24	<.2	<2	4	119	.32	.046	2	14	.77	113	.22	<3	2.90	.03	.11	<2	<5	<1	1
NZD 1-18	2	135	36	424	.7	17	20	698	4.25	117	<5	<2	<2	16	1.0	<2	4	100	.20	.047	3	16	.61	90	.17	<3	3.40	.02	.09	<2	<5	<1	5
NZD 1-19	5	127	86	474	2.3	22	21	1405	4.57	331	<5	<2	<2	41	2.3	<2	2	90	.86	.056	26	21	.63	125	.08	5	3.59	.03	.11	<2	<5	<1	14
NZD 1-20	4	97	177	584	1.2	29	20	2402	4.63	426	<5	<2	<2	17	2.0	5	<2	101	.28	.035	8	28	.46	133	.06	<3	2.49	.01	.11	<2	<5	<1	18
NZD 1-21	3	134	104	514	2.1	31	17	486	4.68	555	<5	<2	<2	11	.6	<2	2	93	.14	.048	8	21	.63	81	.12	<3	4.03	.02	.11	<2	<5	<1	27
NZD 1-22	3	128	49	268	1.1	27	17	762	4.57	420	<5	<2	2	15	1.0	<2	<2	98	.16	.076	8	28	.64	70	.14	<3	4.32	.02	.09	<2	<5	<1	10
NZD 1-23	3	70	28	266	.6	28	14	627	4.42	132	<5	<2	<2	14	.4	2	2	97	.16	.056	5	32	.55	76	.14	<3	3.22	.02	.07	<2	<5	<1	5
NZD 1-24	3	55	28	234	.5	19	12	646	3.87	112	<5	<2	<2	19	.7	2	<2	90	.23	.051	4	24	.40	84	.13	<3	2.41	.02	.06	<2	<5	<1	3
NZD 1-25	3	70	37	209	.5	21	14	414	4.02	125	<5	<2	<2	17	.8	3	<2	91	.16	.038	5	23	.43	64	.13	<3	2.61	.02	.07	<2	<5	<1	9
NZD 1-26	3	141	46	222	.9	31	22	376	4.70	250	<5	<2	<2	23	.2	2	4	98	.15	.037	6	44	.64	88	.11	<3	3.82	.02	.09	<2	<5	<1	28
NZD 1-27	5	289	43	205	.8	40	14	340	4.17	172	<5	<2	3	11	<.2	4	<2	93	.08	.024	8	36	.68	80	.10	<3	2.94	.01	.08	<2	<5	<1	26
NZD 1-28	6	356	79	475	5.1	37	16	429	4.68	271	<5	<2	4	10	.6	8	10	76	.05	.031	10	30	.44	81	.06	5	2.51	.01	.10	<2	<5	<1	34
NZD 1-29	5	121	34	302	.9	35	12	243	4.23	130	<5	<2	3	10	<.2	<2	<2	95	.08	.028	6	38	.43	83	.10	<3	2.50	.01	.07	<2	<5	<1	13
NZD 1-30	5	89	21	141	1.1	18	5	136	2.86	111	<5	<2	2	8	.2	2	2	84	.07	.021	5	20	.23	56	.07	<3	1.28	.01	.05	2	<5	<1	9
NZD 1-31	7	264	57	255	1.4	35	13	316	3.99	185	<5	<2	4	12	<.2	3	3	80	.05	.035	10	37	.49	95	.07	4	2.11	.01	.10	2	<5	<1	24
NZD 1-32	14	6127	160	2071	74.0	260	50	3277	7.03	1358	<5	<2	<2	47	34.5	10	12	90	.84	.115	71	75	.46	548	.05	<3	2.88	.01	.10	<2	<5	<1	61
NZD 1-33	6	1340	214	989	3.7	128	78	3198	6.22	290	<5	<2	<2	23	3.2	14	17	124	.30	.071	14	178	1.44	270	.17	<3	3.86	.01	.23	<2	<5	<1	35
NZD 1-34	3	96	50	449	.7	35	22	608	4.72	145	<5	<2	<2	12	1.0	2	4	97	.10	.033	5	42	.58	111	.12	<3	2.96	.01	.08	<2	<5	<1	6
STANDARD C2/AU-S	19	55	35	134	5.8	69	34	1060	3.66	43	19	7	33	48	18.9	18	17	69	.52	.099	40	60	.90	185	.08	24	1.87	.06	.13	16	<5	1	53

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
NZD 1-35	5	173	49	251	.7	37	20	417	4.90	175	<5	<2	2	19	<.2	3	4	95	.08	.025	7	48	.83	113	.11	<3	2.55	.01	.11	<2	<5	<1	37
NZD 1-36	4	72	44	440	1.0	36	18	416	4.76	133	<5	<2	<2	12	1.6	3	2	93	.09	.036	6	40	.47	105	.11	<3	2.84	.01	.06	<2	<5	<1	10
NZD 1-37	4	61	45	285	.4	26	11	320	4.76	126	<5	<2	2	13	.8	3	2	102	.11	.038	5	37	.39	77	.11	<3	2.16	.01	.06	<2	<5	<1	10
NZD 1-38	5	188	70	474	1.1	56	28	1442	5.49	162	<5	<2	2	17	2.8	3	<2	100	.14	.054	9	48	.61	159	.12	<3	3.12	.02	.10	<2	<5	<1	26
NZD 1-39	7	129	59	586	1.1	43	25	1096	6.43	173	<5	<2	4	12	.7	4	2	115	.06	.059	8	70	.62	112	.13	<3	2.80	.01	.11	<2	<5	<1	27
NZD 1-40	6	264	52	807	1.7	119	59	1741	6.64	139	<5	<2	4	18	3.3	3	<2	111	.09	.047	18	177	1.14	307	.19	4	3.01	.01	.19	<2	<5	<1	13
NZD 1-41	3	54	45	895	.5	52	18	322	3.86	183	<5	<2	2	13	3.3	<2	2	76	.09	.031	6	54	.49	125	.15	<3	2.53	.01	.08	<2	<5	<1	8
NZD 1-42	3	98	62	845	1.6	43	16	457	4.10	137	<5	<2	2	12	3.4	2	2	71	.07	.040	6	31	.26	108	.13	<3	2.61	.01	.06	<2	<5	<1	22
NZD 1-43	9	88	84	608	1.8	36	10	422	4.94	142	<5	<2	3	20	.4	<2	<2	85	.05	.065	9	36	.29	117	.12	<3	2.12	.01	.09	<2	<5	<1	8
NZD 1-44	5	92	59	496	1.2	54	10	338	4.38	219	<5	<2	3	13	.5	<2	<2	81	.10	.053	7	38	.38	117	.14	<3	2.92	.01	.08	<2	<5	<1	515
NZD 1-45	6	82	46	267	1.3	31	9	191	4.17	273	<5	<2	4	15	.5	2	<2	70	.04	.049	9	29	.25	122	.10	<3	2.67	.01	.09	<2	<5	1	12
NZD 1-46	4	57	27	137	.6	29	10	209	4.21	121	<5	<2	2	14	<.2	<2	<2	91	.10	.055	6	35	.33	99	.17	<3	3.08	.01	.07	<2	<5	<1	21
NZD 1-47	4	87	65	251	.8	58	17	246	4.37	173	<5	<2	<2	12	<.2	2	<2	88	.10	.047	7	44	.42	95	.14	<3	3.13	.01	.07	<2	<5	<1	11
RE NZD 1-47	4	91	62	263	.8	61	17	255	4.53	182	<5	<2	2	13	<.2	<2	3	92	.10	.050	6	44	.44	99	.14	<3	3.28	.01	.08	<2	<5	<1	8
NZD 1-48	2	27	20	157	<.3	26	11	461	3.68	39	<5	<2	<2	12	.2	<2	<2	86	.15	.039	4	33	.28	85	.16	<3	2.44	.01	.06	<2	<5	<1	8
NZD 1-49	3	53	23	115	<.3	32	14	299	3.93	56	<5	<2	<2	9	<.2	<2	<2	90	.09	.040	5	38	.34	69	.13	<3	2.47	.01	.06	<2	<5	<1	12
NZD 1-50	3	57	30	170	.3	39	15	421	4.17	77	<5	<2	<2	11	<.2	2	<2	89	.10	.057	6	42	.38	85	.12	<3	2.78	.01	.07	<2	<5	1	14
NZD 1-51	2	35	26	167	.4	31	13	425	3.56	55	<5	<2	<2	8	.2	<2	<2	77	.08	.051	5	34	.25	73	.12	<3	2.36	.01	.05	<2	<5	1	11
NZD 1-52	4	42	25	151	<.3	29	10	262	4.04	50	<5	<2	2	9	<.2	<2	<2	81	.07	.054	6	44	.37	75	.12	<3	3.20	.01	.05	<2	<5	<1	4
STANDARD C2/AU-S	20	56	39	140	6.1	74	35	1130	3.87	45	19	7	35	50	19.7	18	18	72	.52	.105	40	63	.95	195	.08	25	1.95	.06	.13	16	<5	1	53

Sample type: SOIL. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER   File # 96-4125   Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8   Submitted by: S. Robertson

GCS96

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102138	30	636	42	218	3.3	5	4	1578	4.00	30	<5	<2	4	11	1.4	7	<2	52	.57	.020	3	11	.86	70	.03	9	1.74	.03	.31	10	<5	<1	132	24
B 102139	24	1500	55	281	7.6	5	3	2178	4.26	115	<5	<2	4	9	2.5	15	<2	46	.55	.035	4	13	.74	74	.02	9	1.68	.02	.31	<2	<5	<1	117	26
B 102140	18	806	61	285	4.7	4	3	2535	4.38	175	<5	<2	3	7	2.4	13	<2	40	.41	.013	3	12	.70	65	.01	7	1.59	.02	.29	<2	<5	<1	62	24
B 102141	16	8430	236	600	48.2	6	4	3309	6.35	3344	<5	<2	3	6	5.4	28	23	48	.49	.010	4	11	.86	49	.01	6	1.61	.01	.29	<2	<5	<1	716	23
B 102142	17	5499	110	618	24.0	5	1	2962	5.45	261	9	<2	3	7	5.4	23	<2	43	.35	.008	16	10	.78	56	.01	7	1.55	.01	.29	<2	<5	<1	53	13
B 102143	16	6256	223	783	35.9	7	1	3556	5.55	312	<5	<2	2	7	6.4	31	24	38	.63	.120	5	12	.70	63	.01	10	1.57	.01	.29	38	<5	<1	484	13
B 102144	12	493	44	189	3.1	3	5	1887	4.60	132	<5	<2	4	10	1.3	8	<2	54	.64	.046	6	10	.96	72	.04	5	1.93	.02	.36	2	<5	<1	41	14
B 102145	124	5186	82	347	27.0	5	3	1781	5.19	23	<5	<2	3	9	3.2	21	5	54	.56	.021	13	11	.89	62	.03	7	1.73	.02	.27	2	<5	<1	136	14
B 102146	22	5323	119	439	30.3	6	1	3224	5.79	379	<5	2	3	9	4.3	22	4	55	.61	.006	6	12	.93	56	.02	7	1.86	.02	.31	<2	<5	<1	920	15
B 102147	67	7161	353	1218	47.4	6	<1	7722	6.13	998	<5	<2	4	7	10.5	38	7	41	.54	.008	12	9	.74	48	.01	8	1.40	.01	.29	302	<5	<1	64	15
B 102148	15	857	29	208	4.7	4	3	1208	3.71	26	<5	<2	5	17	1.8	5	<2	54	1.18	.006	5	11	.85	56	.04	6	1.66	.03	.29	2	<5	<1	40	11
B 102149	189	3672	289	1146	24.4	5	1	5832	5.29	687	<5	<2	4	6	10.3	26	<2	44	.39	.013	8	11	.68	65	.01	7	1.51	.01	.33	3	<5	1	722	14
B 102150	120	825	140	432	8.2	4	5	2983	4.10	599	<5	<2	2	6	4.0	12	<2	26	.63	.004	9	11	.53	59	<.01	11	1.14	.01	.29	11	<5	<1	48	12
RE B 102150	121	817	133	425	7.2	3	3	2974	4.07	585	<5	<2	2	6	3.5	12	<2	26	.63	.004	9	11	.52	61	<.01	12	1.13	.01	.30	13	<5	<1	37	-
RRE B 102150	127	805	144	423	7.2	4	4	2989	4.09	598	<5	<2	2	6	4.2	14	<2	26	.64	.005	9	12	.53	59	<.01	13	1.13	.01	.29	13	<5	<1	42	-
B 102151	31	1212	155	497	8.9	4	3	4168	4.82	334	<5	<2	3	7	4.2	12	<2	36	.64	.003	7	12	.71	59	<.01	11	1.26	.01	.33	8	<5	<1	35	23
B 102152	6	4373	417	1136	37.0	5	3	5743	4.56	746	<5	<2	2	8	10.7	31	<2	28	.81	.084	6	11	.64	62	.01	11	1.05	.01	.33	<2	<5	<1	81	25
B 102153	3	3133	429	2277	36.8	3	2	5164	4.68	1559	<5	<2	2	9	21.6	53	2	12	1.65	.150	6	8	.47	62	<.01	14	.63	.01	.36	<2	<5	2	87	12
B 102154	12	6038	352	1310	43.2	4	7	5521	8.28	3326	<5	<2	3	6	11.8	44	6	56	1.09	.057	4	9	1.23	40	<.01	9	1.61	.02	.32	226	<5	<1	535	28
B 102155	13	1240	150	531	12.1	4	3	3243	7.73	2238	<5	<2	7	10	5.0	21	<2	88	.86	.044	3	8	1.91	59	.06	4	2.39	.02	.66	4	<5	<1	183	26
B 102156	11	785	25	350	4.1	5	10	1938	7.40	57	5	<2	15	22	3.3	4	<2	132	2.03	.106	4	10	2.70	71	.10	4	3.00	.03	.88	<2	<5	<1	153	27
B 102157	9	2071	104	447	12.4	4	6	2931	6.13	1030	8	<2	11	9	3.6	9	<2	61	.91	.077	5	14	1.12	52	.01	7	2.04	.01	.29	39	<5	1	170	28
B 102158	6	3432	335	1023	21.8	3	2	5311	4.77	848	8	<2	5	8	9.5	16	<2	32	.63	.017	7	11	.71	52	.01	10	1.29	.02	.30	131	<5	<1	258	28
B 102159	4	6539	4146	10596	157.0	11	45	16000	8.11	16965	<5	<2	4	3	114.7	155	631	4	.20	<.001	3	8	.25	48	<.01	7	.33	.01	.37	93	<5	<1	1010	27
B 102160	16	4352	7065	14573	284.5	11	48	1325	8.33	32649	6	3	<2	2	151.1	231	559	2	.05	<.001	6	10	.08	28	<.01	9	.34	<.01	.40	18	<5	<1	1080	29
RE B 102160	15	4216	6855	14333	280.5	8	49	1275	8.24	32760	7	<2	2	2	147.4	234	553	2	.05	<.001	6	8	.08	30	<.01	6	.33	.01	.39	24	<5	<1	1640	-
RRE B 102160	14	4540	7519	16099	303.3	11	56	1422	8.85	36048	<5	<2	2	2	166.4	261	601	2	.05	.001	6	8	.09	25	<.01	7	.35	.01	.40	51	<5	<1	1500	-
B 102161	13	762	1415	4409	27.1	3	8	7054	5.71	5039	<5	<2	6	11	43.9	29	55	29	1.02	.166	6	10	.69	54	<.01	9	.96	.01	.36	54	<5	1	105	28
B 102162	2	294	41	188	2.6	3	5	1381	4.95	76	<5	<2	9	21	1.6	2	2	87	1.88	.200	12	11	1.56	39	.03	3	2.38	.03	.27	<2	<5	<1	71	28
B 102163	2	165	17	133	1.4	2	5	1323	4.46	26	<5	<2	6	18	1.2	<2	2	68	1.68	.111	9	14	1.40	32	.04	3	2.25	.03	.24	<2	<5	<1	7	25
B 102164	3	94	4	88	.5	3	3	906	4.11	13	<5	<2	6	22	.9	<2	<2	77	1.04	.035	3	13	1.50	35	.11	6	2.26	.06	.22	2	<5	1	5	18
B 102165	6	114	5	164	.8	2	3	748	3.59	8	<5	<2	8	20	1.2	<2	<2	81	.96	.046	2	10	1.70	39	.13	7	2.03	.07	.46	<2	<5	<1	5	18
B 102166	10	135	8	192	.9	3	4	843	3.68	9	<5	<2	13	19	1.6	2	<2	81	1.07	.095	3	11	1.64	32	.11	4	2.06	.07	.35	<2	<5	<1	28	19
B 102167	14	610	22	263	3.5	4	5	1122	4.74	60	<5	<2	6	15	2.1	<2	<2	81	1.19	.056	3	14	1.77	24	.09	10	2.46	.05	.18	32	<5	1	152	18
B 102168	2	87	3	141	.5	2	5	1196	4.91	18	<5	<2	7	18	1.0	<2	3	93	1.12	.044	2	12	2.00	37	.11	3	2.57	.05	.38	<2	<5	<1	14	17
B 102169	3	219	13	213	1.3	2	4	978	3.86	7	<5	<2	10	20	1.5	<2	<2	78	1.10	.064	2	8	1.75	37	.11	4	2.12	.06	.36	<2	<5	<1	10	12
STANDARD C2/	20	58	40	145	7.6	70	33	1110	3.90	41	21	8	36	53	20.4	16	19	71	.51	.108	43	65	.96	203	.08	28	1.98	.06	.15	10	<5	3	474	-

Standard is STANDARD C2/AU-R.

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE   AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 3 1996 **DATE REPORT MAILED:** Sept 9/96 **SIGNED BY**.......D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-4125 Page 2

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102170	3	508	1174	4023	5.0	8	12	8805	6.72	4874	<5	<2	6	7	40.0	3	3	85	.83	.086	315	12	1.24	36	.01	10	2.53	.01	.29	<2	9	<1	88	6
B 102171	7	1371	35	335	4.5	8	5	822	4.23	7	<5	<2	9	18	2.7	<2	<2	73	.87	.067	3	12	1.58	45	.10	3	2.07	.07	.42	<2	<5	1	91	15
B 102172	7	681	27	364	2.5	7	5	815	4.22	12	<5	<2	10	17	2.8	<2	<2	74	.91	.076	3	8	1.62	38	.11	3	2.03	.06	.39	2	<5	<1	33	15
B 102173	8	559	<3	137	.8	5	4	755	3.73	2	<5	<2	9	18	1.1	<2	<2	69	.73	.051	2	10	1.43	29	.11	3	1.80	.07	.15	<2	<5	<1	37	17
B 102174	6	763	7	336	1.9	6	3	1004	4.10	2	<5	<2	12	21	2.6	<2	<2	66	.93	.007	1	14	1.55	27	.10	5	2.03	.06	.11	5	<5	<1	22	16
B 102175	4	419	13	109	.9	7	5	1003	4.33	27	<5	<2	12	17	.5	<2	<2	68	.72	.022	1	12	1.59	31	.10	<3	2.02	.06	.15	3	<5	<1	29	14
B 102176	6	1173	12	111	3.3	7	6	1034	4.68	15	<5	<2	19	19	.7	<2	<2	73	1.12	.079	2	13	1.58	39	.07	<3	2.12	.04	.17	5	<5	2	80	16
B 102177	6	276	14	125	1.3	6	6	1250	5.25	<2	<5	<2	9	17	.8	<2	<2	86	1.14	.011	2	17	1.67	46	.06	3	2.53	.04	.32	2	<5	<1	34	10
B 102178	5	308	21	146	1.3	5	9	1190	5.46	2	<5	<2	5	29	1.0	<2	<2	81	1.36	.008	2	9	1.67	36	.04	<3	2.61	.04	.15	<2	<5	<1	33	17
B 102179	12	461	18	167	2.1	6	10	1255	5.93	4	<5	<2	5	26	1.5	<2	2	98	1.49	.024	2	9	2.03	38	.07	<3	3.03	.04	.31	<2	<5	<1	21	17
B 102180	40	452	330	2057	5.7	5	4	2535	7.47	6000	<5	<2	6	11	18.7	6	12	82	.76	.048	2	7	1.51	47	.02	<3	2.92	.01	.31	<2	<5	1	73	14
RE B 102180	39	453	347	2064	5.9	4	4	2538	7.43	5954	<5	<2	6	10	18.3	9	11	81	.76	.047	2	7	1.50	48	.02	4	2.87	.01	.31	2	<5	1	97	-
RRE B 102180	40	482	344	2126	5.9	5	5	2557	7.45	5929	<5	<2	6	11	20.0	6	9	82	.76	.046	2	6	1.52	48	.02	5	2.91	.02	.33	<2	<5	<1	80	-
B 102181	23	467	137	1523	4.4	7	3	2442	6.63	787	<5	<2	5	12	13.6	8	9	85	1.22	.027	12	7	1.4	58	.02	6	2.52	.01	.35	<2	<5	<1	52	14
B 102182	4	4286	1177	7884	63.8	10	261	4918	13.43	54528	<5	<2	8	67	77.9	122	240	46	13.80	.071	5	6	.79	52	<.01	<3	.87	.01	.21	2	<5	1	2160	8
B 102183	9	713	31	365	3.8	4	4	1124	4.95	612	<5	<2	7	16	3.1	2	3	83	.98	.049	2	6	1.67	31	.08	<3	2.27	.05	.22	<2	<5	<1	59	18
B 102184	5	531	16	231	1.9	5	4	692	3.55	111	<5	<2	5	20	1.9	<2	5	65	.89	.073	2	7	1.46	22	.10	4	1.91	.06	.11	<2	<5	1	59	18
B 102185	6	564	37	357	2.3	3	3	800	3.36	8	<5	<2	7	22	3.1	<2	<2	63	.74	.037	1	8	1.34	13	.11	3	1.88	.07	.07	<2	<5	1	69	18
B 102186	13	401	39	379	2.1	4	3	1173	4.38	76	<5	<2	11	20	3.1	<2	<2	94	1.18	.112	3	10	1.66	17	.09	<3	2.25	.06	.23	<2	<5	1	63	17
B 102187	20	429	31	124	1.3	7	5	1305	5.58	377	<5	<2	13	25	.8	11	3	76	.79	.039	4	13	1.53	38	.08	<3	2.04	.04	.32	<2	<5	<1	43	6
B 102188	<1	7249	1683	1105	83.5	38	152	3021	24.65	30357	12	<2	13	5	13.1	368	692	12	.60	.015	439	5	.20	19	<.01	<3	.18	.01	.12	213	<5	<1	920	5
B 102189	18	128	50	181	.7	4	3	1541	5.19	53	<5	<2	7	19	1.2	<2	2	74	.77	.024	3	10	1.56	29	.08	<3	2.03	.04	.24	<2	<5	1	8	6
B 102190	5	472	42	317	2.6	7	4	1856	6.02	358	<5	<2	6	17	2.4	<2	4	104	1.47	.066	4	10	2.20	31	.06	4	2.79	.03	.30	28	<5	1	38	12
RE B 102190	6	502	42	330	2.9	6	4	1939	6.19	356	<5	<2	8	18	2.6	<2	3	109	1.54	.070	4	9	2.30	31	.06	4	2.92	.03	.31	29	<5	<1	35	-
RRE B 102190	5	506	41	313	2.8	5	5	1914	6.09	298	<5	<2	7	18	2.3	<2	<2	107	1.54	.062	3	9	2.27	28	.06	4	2.86	.03	.32	26	<5	<1	23	-
B 102191	8	795	6	205	4.7	6	7	1598	5.86	28	<5	<2	5	16	1.7	<2	6	94	1.73	.051	3	8	1.98	18	.04	<3	3.03	.03	.16	<2	<5	<1	88	15
B 102192	8	335	4	211	2.0	3	2	1465	5.69	<2	<5	<2	4	16	1.6	<2	<2	98	1.38	.032	3	8	2.00	22	.05	<3	2.95	.03	.15	<2	<5	<1	18	15
B 102193	6	206	3	231	1.3	4	5	1028	4.43	9	<5	<2	12	19	1.5	<2	<2	85	1.36	.042	2	9	1.79	12	.07	3	2.36	.05	.13	<2	<5	<1	9	16
B 102194	15	229	68	225	1.3	4	3	1667	5.87	3	<5	<2	5	24	1.5	<2	<2	109	1.62	.042	3	8	2.10	26	.04	3	3.01	.03	.30	<2	<5	<1	20	13
B 102195	7	688	93	319	4.3	5	7	2596	6.80	5	<5	<2	4	23	2.5	<2	<2	107	2.06	.029	4	8	2.45	20	.02	3	3.44	.02	.17	<2	<5	1	11	14
B 102196	4	525	37	219	2.7	3	4	2733	6.20	<2	<5	<2	4	22	1.4	<2	<2	99	2.35	.036	3	6	2.15	17	.02	<3	3.27	.02	.22	<2	<5	<1	9	11
B 102197	2	349	8	171	1.8	5	4	1141	4.99	<2	<5	<2	10	20	1.1	<2	5	118	1.56	.183	9	6	2.24	15	.07	<3	2.55	.05	.17	<2	<5	<1	28	13
B 102198	1	284	14	149	1.6	3	2	798	3.23	<2	<5	<2	7	20	1.1	<2	<2	68	1.11	.086	4	10	1.34	17	.09	3	1.81	.07	.08	<2	<5	<1	19	16
B 102199	1	172	24	305	1.4	3	2	1023	4.41	2	<5	<2	10	17	2.2	<2	<2	96	1.07	.054	2	9	2.07	10	.13	3	2.37	.06	.07	<2	<5	<1	12	17
B 102200	3	72	<3	134	.5	3	2	843	3.27	<2	<5	<2	16	15	1.0	<2	<2	64	.71	.037	1	8	1.53	9	.11	6	1.77	.06	.05	<2	<5	<1	5	18
B 102201	4	34	10	226	.4	4	3	1041	3.98	3	<5	<2	9	17	1.7	<2	3	83	1.07	.039	2	7	1.79	16	.10	3	2.14	.05	.23	<2	<5	1	5	12
B 102202	1	480	527	2882	8.8	4	4	3079	7.93	4481	<5	<2	7	12	26.0	9	32	46	.75	.023	3	7	.99	37	.01	8	1.30	.01	.29	15	<5	1	102	11
STANDARD C2/AU-R	21	61	39	152	7.6	76	35	1189	4.08	40	19	8	37	56	22.3	17	19	75	.54	.110	43	66	1.01	211	.08	28	2.15	.07	.16	11	<5	2	430	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102203	4	58	25	148	.3	1	3	1072	3.89	728	<5	<2	5	23	.6	3	<2	70	1.27	.023	2	13	1.48	26	.07	6	2.00	.07	.18	3	<5	1	21	15
B 102204	1	170	25	194	1.0	2	3	615	2.94	6	<5	<2	9	27	1.4	<2	<2	60	.91	.028	1	10	1.27	13	.10	4	1.67	.06	.07	<2	<5	<1	7	16
B 102205	3	106	9	70	.4	3	1	548	2.64	<2	<5	<2	4	30	.7	<2	2	55	.96	.019	1	10	1.16	30	.13	7	1.62	.09	.10	2	<5	<1	5	17
B 102206	1	567	2024	6648	34.1	<1	4	1516	6.00	9710	<5	<2	3	13	69.8	14	90	87	1.09	.036	2	11	1.30	39	.04	6	2.42	.04	.26	3	<5	<1	550	13
B 102207	1	79	64	152	1.7	2	1	630	3.52	328	<5	<2	4	34	1.0	<2	4	103	1.16	.060	3	11	1.06	65	.12	5	1.65	.10	.22	<2	<5	1	21	18
B 102208	2	182	9	88	.8	3	2	573	3.32	13	<5	<2	3	34	.3	<2	3	85	1.22	.049	3	12	1.09	57	.12	4	1.65	.10	.18	2	<5	<1	21	19
B 102209	2	393	45	198	2.4	1	<1	616	3.90	123	<5	<2	3	27	1.1	<2	<2	84	.92	.050	2	10	1.03	74	.10	6	1.72	.07	.23	<2	<5	<1	17	17
B 102210	3	38	9	78	<.3	3	1	635	3.53	2	<5	<2	3	36	.4	<2	<2	82	1.11	.048	2	11	1.16	56	.11	4	1.76	.10	.20	<2	<5	<1	2	17
B 102211	1	131	9	68	.8	2	1	555	3.39	69	<5	<2	3	36	.2	<2	<2	79	.93	.045	2	11	1.04	53	.11	3	1.54	.09	.17	<2	<5	<1	2	17
B 102212	1	5	6	47	<.3	3	<1	328	3.19	2	<5	<2	3	48	<.2	<2	2	93	.86	.060	2	13	.88	80	.16	6	1.42	.13	.17	2	<5	1	1	17
RE B 102212	1	5	7	44	<.3	4	1	307	3.03	<2	<5	<2	3	45	<.2	<2	<2	89	.81	.057	2	13	.83	74	.15	6	1.33	.12	.16	2	<5	<1	1	-
RRE B 102212	1	5	7	45	<.3	4	<1	309	3.07	<2	<5	<2	3	50	<.2	<2	<2	90	.81	.059	2	11	.84	72	.15	5	1.33	.11	.16	2	<5	<1	1	-
B 102213	1	7	6	51	<.3	4	1	321	3.12	<2	<5	<2	4	43	<.2	<2	3	94	.77	.059	2	13	.86	71	.16	4	1.37	.12	.19	2	<5	<1	1	17
B 102214	1	121	7	59	.3	4	1	411	3.46	<2	<5	<2	4	34	<.2	<2	5	97	.80	.055	2	11	.99	80	.18	4	1.49	.10	.30	3	<5	1	2	16
B 102215	1	13	7	30	<.3	3	1	201	2.16	<2	<5	<2	2	20	<.2	<2	<2	59	.47	.033	1	7	.53	43	.10	3	.81	.07	.15	2	<5	<1	<1	17
B 102216	1	54	6	43	<.3	3	1	278	2.90	<2	<5	<2	4	31	<.2	<2	<2	85	.67	.053	2	11	.79	52	.15	5	1.20	.10	.18	2	<5	<1	1	17
B 102217	1	39	6	49	<.3	3	2	393	3.12	<2	<5	<2	4	37	.4	<2	<2	94	.96	.058	3	12	.85	68	.15	6	1.43	.12	.22	3	<5	<1	1	16
B 102218	1	31	4	67	<.3	2	1	653	3.59	<2	<5	<2	4	33	.2	<2	<2	96	1.25	.055	3	11	1.04	54	.13	5	1.71	.10	.33	<2	<5	<1	1	17
B 102219	1	67	3	46	<.3	4	2	326	3.22	<2	<5	<2	3	41	<.2	<2	<2	98	.96	.055	3	13	.81	65	.18	3	1.42	.15	.32	2	<5	<1	4	18
B 102220	1	202	10	66	.4	5	2	450	3.46	2	<5	<2	3	41	<.2	<2	<2	99	.94	.055	2	12	.82	65	.17	6	1.52	.15	.36	<2	<5	<1	15	18
B 102221	1	18	<3	48	<.3	4	1	334	3.41	<2	<5	<2	4	38	.5	<2	<2	104	.91	.058	3	13	.98	75	.19	7	1.58	.13	.36	3	<5	<1	7	17
B 102222	1	43	12	63	<.3	3	3	692	3.25	17	<5	<2	4	38	.2	<2	<2	85	1.80	.061	4	10	1.01	50	.10	11	1.16	.08	.26	5	<5	<1	11	17
RE B 102222	1	43	3	62	<.3	4	2	685	3.21	15	<5	<2	4	38	<.2	2	4	84	1.78	.061	4	9	.99	48	.10	11	1.14	.08	.25	5	<5	<1	6	-
RRE B 102222	1	39	6	61	<.3	4	3	719	3.14	21	<5	<2	3	39	.2	<2	<2	80	1.82	.059	4	11	.99	48	.09	12	1.15	.08	.25	3	<5	1	6	-
B 102223	1	236	7	65	.6	3	3	311	3.21	5	5	<2	4	33	.3	<2	<2	90	.71	.052	2	11	.92	61	.16	3	1.37	.11	.30	2	<5	<1	12	16
B 102224	1	45	4	42	<.3	4	1	275	2.98	<2	<5	<2	4	37	<.2	<2	<2	91	.79	.053	3	12	.82	57	.16	5	1.30	.13	.30	2	<5	<1	4	16
B 102225	1	61	7	36	<.3	6	2	508	3.13	21	<5	<2	4	35	<.2	2	<2	80	1.32	.054	4	11	.79	45	.11	9	1.02	.09	.23	<2	<5	<1	6	16
B 102226	1	12	7	37	<.3	4	2	457	3.06	17	<5	<2	4	37	<.2	2	<2	78	1.31	.056	5	12	.77	47	.11	11	1.01	.10	.21	2	<5	<1	3	16
B 102227	2	29	6	42	<.3	4	1	264	3.02	<2	<5	<2	4	34	.2	<2	2	90	.75	.059	4	13	.79	56	.15	5	1.21	.12	.20	2	<5	<1	2	16
B 102228	1	105	7	44	<.3	5	1	311	3.13	<2	<5	<2	4	34	<.2	<2	<2	93	.83	.058	3	17	.76	45	.15	5	1.24	.14	.17	2	<5	<1	5	16
B 102229	1	9	6	41	<.3	4	1	276	2.90	<2	<5	<2	4	33	.2	<2	<2	94	.67	.058	3	12	.64	34	.13	6	1.10	.13	.11	2	<5	<1	1	17
B 102230	1	5	6	42	<.3	5	1	329	3.06	<2	5	<2	4	34	<.2	2	2	94	.85	.061	3	14	.71	31	.13	6	1.23	.14	.11	3	<5	<1	1	10
B 102231	1	8	5	39	<.3	5	<1	267	2.73	<2	<5	<2	3	33	<.2	<2	<2	91	.63	.057	3	12	.58	31	.13	6	1.09	.13	.11	2	<5	<1	2	14
STANDARD C2/AU-R	21	62	37	150	7.5	77	35	1214	4.07	45	26	9	39	55	22.2	18	21	76	.54	.110	44	71	1.02	210	.08	29	2.14	.07	.15	12	<5	2	474	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-4371 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: S. Robertson

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
B 102232	3	118	23	129	.7	6	10	886	3.50	24	<5	<2	4	22	2.3	4	2
B 102233	9	1514	39	172	7.7	7	15	2384	10.31	19	<5	<2	14	18	.4	<2	12
B 102234	11	1555	32	151	8.7	5	14	3223	9.38	18	<5	<2	17	11	.2	3	10
B 102235	10	1560	13	164	6.9	6	18	1748	9.69	26	<5	<2	11	20	.6	<2	3
B 102236	4	370	9	339	1.4	4	10	1125	5.73	13	<5	<2	8	26	2.0	<2	4
B 102237	1	224	9	98	.9	6	12	1690	6.92	15	<5	<2	12	42	<.2	<2	<2
B 102238	3	112	14	230	.7	5	8	892	5.01	13	<5	<2	10	18	1.2	<2	<2
B 102239	2	98	12	342	.6	5	7	837	5.49	9	<5	<2	11	21	2.9	<2	<2
B 102240	4	136	16	102	.6	5	8	1062	5.68	12	<5	<2	15	23	.3	2	<2
B 102241	2	134	16	127	.6	4	9	769	5.48	11	<5	<2	17	18	.7	<2	<2
B 102242	4	190	11	119	.6	4	10	901	7.02	13	<5	<2	16	16	.2	<2	5
RE B 102242	3	189	10	121	1.2	5	10	902	7.00	12	<5	<2	17	16	.7	<2	<2
RRE B 102242	3	188	11	116	.8	4	10	846	6.48	8	<5	<2	16	15	.3	<2	<2
B 102243	2	329	10	161	1.6	6	11	1067	7.23	14	<5	<2	13	21	.4	<2	<2
B 102244	2	187	6	113	.7	4	9	910	6.05	12	<5	<2	16	18	.3	<2	<2
B 102245	1	302	14	181	1.5	6	12	1086	7.43	10	<5	<2	12	21	.7	<2	<2
B 102246	6	559	5	148	2.2	5	10	1102	7.04	13	<5	<2	11	20	.3	<2	7
B 102247	9	821	4	108	2.8	6	11	1077	7.38	11	<5	<2	13	24	<.2	<2	<2
B 102248	2	433	10	90	2.1	6	10	1014	7.23	12	<5	<2	11	18	<.2	<2	3
B 102249	8	285	<3	98	1.3	6	10	1177	7.72	10	<5	<2	16	22	.2	<2	5
B 102250	8	794	75	330	4.7	6	16	3057	9.68	1060	<5	<2	22	24	2.1	13	14
B 102251	16	3586	242	692	15.5	6	18	4447	11.76	1781	<5	<2	26	16	4.9	17	39
B 102252	7	6940	75	738	21.4	7	22	4125	13.92	1710	<5	<2	21	21	5.5	16	6
RE B 102252	7	7272	81	773	22.9	6	24	4205	14.32	1932	<5	<2	23	22	5.5	16	<2
RRE B 102252	7	7130	74	770	23.1	6	20	4126	14.07	1652	<5	<2	19	22	5.8	16	<2
B 102253	7	230	150	197	5.0	4	26	2236	8.08	3916	<5	<2	13	29	1.2	29	53
B 102254	4	927	182	211	10.6	6	10	1702	8.47	181	9	<2	15	17	1.0	36	225
B 102255	11	196	3	106	1.2	6	11	1302	6.86	11	<5	<2	12	37	<.2	2	2
B 102256	62	2944	100	327	15.0	4	26	2764	10.51	1608	<5	<2	18	13	2.1	6	97
B 102257	3	674	3	118	1.8	5	8	902	4.91	11	5	<2	13	25	.6	<2	2
B 102258	5	750	<3	88	1.5	3	7	731	4.25	9	5	<2	17	18	<.2	<2	<2
B 102259	10	1425	<3	106	3.8	5	8	771	4.70	10	<5	<2	15	22	<.2	<2	2
B 102260	8	604	12	161	1.9	4	10	1102	6.28	12	<5	<2	15	23	.3	<2	<2
B 102261	5	470	17	329	2.1	2	5	5636	8.08	103	<5	<2	24	33	2.7	6	<2
B 102262	7	572	<3	171	2.0	5	9	1099	5.73	114	<5	<2	12	24	.9	<2	<2
B 102263	10	493	9	140	1.4	5	9	695	4.75	6	<5	<2	16	18	.6	<2	<2
STANDARD C2/AU-R	20	55	43	134	7.2	74	37	1194	3.96	47	22	9	39	53	19.7	20	21

SAMPLE#	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102232	72	.81	.059	1	10	.99	46	.10	<3	1.66	.08	.19	<2	<5	<1	9	12
B 102233	203	1.69	.049	3	11	3.45	95	.14	<3	3.89	.02	.97	45	<5	<1	73	29
B 102234	203	1.11	.033	12	11	2.39	66	.06	<3	3.30	.01	.31	6	<5	<1	54	29
B 102235	301	1.60	.071	4	11	2.84	86	.13	<3	3.27	.01	.91	2	<5	1	80	30
B 102236	175	1.64	.112	2	10	1.67	47	.10	<3	1.95	.02	.46	<2	<5	<1	22	16
B 102237	177	2.91	.274	4	7	1.22	39	.05	<3	1.71	.02	.37	2	<5	<1	6	14
B 102238	182	1.76	.246	5	7	1.46	47	.11	<3	1.64	.04	.45	3	<5	<1	4	29
B 102239	235	1.65	.265	3	9	1.44	45	.11	<3	1.71	.06	.43	<2	<5	1	49	30
B 102240	224	1.36	.095	1	7	1.68	45	.12	<3	1.99	.06	.55	<2	<5	<1	3	30
B 102241	213	1.24	.112	1	7	1.70	47	.12	<3	1.84	.05	.48	3	<5	<1	5	32
B 102242	217	.97	.082	1	10	2.19	68	.19	<3	2.47	.05	1.11	10	<5	<1	4	30
RE B 102242	216	.97	.084	1	7	2.18	68	.19	<3	2.45	.05	1.11	10	<5	<1	6	-
RRE B 102242	205	.92	.078	1	7	2.05	64	.18	<3	2.31	.05	1.05	11	<5	1	4	-
B 102243	179	.94	.025	<1	9	2.42	80	.18	<3	2.72	.06	1.21	2	<5	<1	4	32
B 102244	189	1.06	.028	<1	10	2.07	57	.18	<3	2.23	.06	.87	<2	<5	<1	7	32
B 102245	185	1.10	.013	1	8	2.43	84	.17	<3	2.76	.04	1.24	<2	<5	<1	5	31
B 102246	138	1.28	.016	<1	8	2.66	88	.16	<3	2.83	.05	1.34	<2	<5	<1	16	30
B 102247	132	1.11	.021	<1	9	2.70	84	.18	<3	2.93	.04	1.35	<2	<5	<1	51	30
B 102248	120	1.05	.020	<1	10	2.49	75	.16	<3	2.87	.05	1.18	<2	<5	<1	40	16
B 102249	131	1.44	.034	<1	10	2.62	81	.16	<3	3.23	.04	1.28	<2	<5	<1	11	18
B 102250	123	2.68	.034	3	8	1.83	36	.03	<3	2.82	.01	.23	35	<5	<1	35	18
B 102251	143	1.35	.051	1	11	2.05	41	.02	4	3.20	.01	.24	85	<5	<1	132	13
B 102252	192	1.49	.035	1	10	2.69	19	.02	<3	4.30	<.01	.09	<2	<5	<1	95	11
RE B 102252	198	1.55	.035	1	12	2.77	18	.02	<3	4.41	<.01	.08	2	<5	<1	130	-
RRE B 102252	194	1.51	.034	1	13	2.73	18	.02	<3	4.34	<.01	.08	<2	<5	<1	100	-
B 102253	96	3.27	.034	2	7	1.56	42	.05	<3	2.30	.01	.52	10	<5	<1	137	14
B 102254	132	1.11	.028	<1	10	2.66	70	.12	<3	3.26	.03	1.00	3	<5	<1	38	15
B 102255	109	2.42	.040	1	9	1.84	57	.09	<3	2.67	.03	.74	<2	<5	<1	6	15
B 102256	126	.81	.027	12	11	2.30	50	.07	3	3.19	.01	.59	45	<5	<1	282	15
B 102257	96	1.19	.022	1	10	1.93	51	.14	<3	2.21	.07	.59	<2	<5	<1	44	31
B 102258	87	.95	.005	1	9	1.78	36	.14	4	1.94	.07	.33	<2	<5	<1	305	31
B 102259	85	.91	.004	<1	10	1.77	44	.15	<3	2.08	.08	.48	<2	<5	1	28	32
B 102260	115	1.46	.005	1	11	2.41	52	.16	<3	2.62	.06	.70	<2	<5	<1	24	31
B 102261	22	1.98	.005	3	7	1.15	31	<.01	6	.45	.01	.27	<2	<5	<1	20	8
B 102262	101	1.10	.005	<1	8	2.02	48	.12	<3	2.37	.05	.64	<2	<5	<1	38	30
B 102263	86	.75	.005	1	8	1.83	49	.16	<3	2.09	.08	.57	<2	<5	<1	27	31
STANDARD C2/AU-R	73	.56	.105	42	64	.99	205	.08	28	2.07	.06	.16	15	<5	2	548	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 9 1996 **DATE REPORT MAILED:** Sept 17/96 **SIGNED BY** ...... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102264	10	403	4	144	1.8	5	10	773	5.37	21	<5	<2	15	19	.5	<2	<2	94	.77	.004	<1	10	1.93	54	.17	<3	2.23	.08	.64	<2	<5	<1	73	27
B 102265	7	47672	234	2233	208.6	54	23	1332	24.44	326	<5	48	<2	13	21.5	6	241	43	.38	.019	1093	<1	.60	20	.01	<3	1.20	.01	.03	908	<5	<1	99999	10
B 102266	38	2257	5	205	7.6	6	15	1222	9.21	<2	8	<2	14	18	1.4	<2	8	137	.90	.003	9	11	3.16	103	.20	<3	3.51	.05	1.58	<2	<5	<1	371	33
B 102267	37	1071	<3	110	3.2	6	12	1199	8.03	<2	<5	<2	8	25	<.2	<2	<2	117	.90	.002	<1	12	2.61	84	.16	<3	3.23	.05	1.24	2	<5	<1	63	30
B 102268	28	733	<3	87	2.1	4	9	1461	6.18	21	<5	<2	11	61	.2	4	<2	62	9.08	.004	1	6	.90	42	.05	<3	1.57	.03	.34	2	<5	<1	70	15
B 102269	25	399	<3	120	1.5	4	9	2104	5.66	11	<5	<2	13	61	1.2	<2	3	67	19.42	.002	1	6	1.22	62	.08	<3	1.86	.02	.62	12	<5	<1	25	10
B 102270	54	645	6	256	2.1	6	11	1001	6.55	<2	<5	<2	11	26	1.6	<2	2	103	1.06	.010	<1	13	2.23	61	.15	<3	2.68	.06	.99	<2	<5	<1	82	31
B 102271	28	1158	<3	186	4.2	6	11	1299	7.58	6	5	<2	14	28	.7	5	<2	99	1.39	.003	<1	11	2.25	62	.13	<3	3.03	.04	.84	31	<5	<1	134	28
B 102272	23	1370	<3	156	4.9	5	13	1152	7.75	2	<5	<2	6	19	1.0	<2	<2	114	1.08	.002	<1	14	2.63	68	.16	<3	3.10	.05	1.12	<2	<5	<1	155	30
B 102273	23	444	9	127	1.7	6	11	1086	7.47	2	<5	<2	8	21	.9	<2	<2	117	1.03	.009	<1	19	2.62	81	.18	<3	3.03	.07	1.28	<2	<5	2	30	30
B 102274	8	366	15	142	1.4	7	9	839	5.96	3	<5	<2	10	23	.7	<2	<2	100	.92	.010	<1	17	2.01	70	.17	<3	2.48	.08	1.04	<2	<5	<1	35	20
RE B 102274	8	379	7	150	1.4	5	10	862	6.16	3	<5	<2	9	23	.9	<2	<2	103	.95	.010	<1	16	2.07	71	.18	<3	2.54	.09	1.06	<2	<5	1	25	-
RRE B 102274	8	354	9	146	1.3	5	10	861	6.18	2	<5	<2	9	24	.4	<2	<2	103	.96	.011	<1	13	2.07	72	.18	<3	2.56	.09	1.07	<2	<5	<1	49	-
B 102275	16	529	4	112	1.8	6	12	1220	8.60	<2	<5	<2	5	20	.4	2	2	137	1.02	.010	<1	20	2.52	65	.13	<3	3.36	.05	.82	<2	<5	1	178	26
B 102276	14	1244	<3	107	4.5	5	8	899	5.72	2	<5	<2	3	18	<.2	<2	3	80	1.24	.022	6	15	1.44	73	.08	<3	2.41	.04	.32	27	<5	<1	84	32
B 102277	6	4574	9	135	14.8	9	11	646	6.07	8	<5	2	<2	13	.5	<2	9	34	.74	<.001	1	17	.84	41	.04	3	1.71	.04	.20	<2	<5	<1	4890	10
B 102278	5	420	<3	108	1.7	5	8	1114	6.95	42	<5	<2	4	19	.5	<2	<2	100	1.05	.015	2	13	1.74	56	.09	<3	2.79	.05	.43	<2	<5	<1	122	30
B 102279	12	1948	5	162	7.7	6	9	1531	7.11	2	<5	<2	4	17	1.1	<2	<2	86	1.56	.007	8	9	1.58	57	.03	<3	2.81	.02	.23	12	<5	<1	227	27
B 102280	7	748	<3	117	3.1	6	10	1419	7.96	<2	<5	<2	6	18	<.2	<2	5	114	1.05	.012	4	18	2.18	47	.07	<3	3.08	.04	.47	<2	<5	1	103	20
B 102281	11	648	5	96	2.4	5	7	875	4.56	<2	<5	<2	6	18	.4	<2	<2	58	1.38	.004	4	18	1.05	53	.04	3	1.99	.04	.23	5	<5	<1	457	18
B 102282	11	778	9	159	2.6	4	6	1473	5.26	<2	5	<2	<2	20	.7	<2	<2	60	1.48	.007	2	15	1.09	47	.02	<3	2.17	.03	.22	10	<5	<1	85	10
B 102283	11	3947	532	3192	20.2	8	215	1957	7.80	17549	<5	<2	<2	11	25.0	61	153	10	1.03	<.001	8	<1	.34	68	<.01	6	.38	<.01	.30	804	<5	<1	979	21
B 102284	12	1620	16	253	5.7	5	8	1974	6.92	65	<5	<2	<2	16	1.9	2	3	78	1.14	.012	3	10	1.40	54	.02	4	2.47	.02	.25	82	<5	<1	277	17
RE B 102284	13	1584	17	249	5.7	5	8	1938	6.76	71	<5	<2	3	16	1.3	2	<2	76	1.12	.010	3	11	1.37	54	.02	3	2.43	.02	.26	76	<5	<1	443	-
RRE B 102284	13	1468	22	265	5.9	7	8	1830	6.50	125	<5	<2	<2	16	2.2	<2	<2	70	1.10	.013	3	15	1.28	54	.02	4	2.27	.02	.26	94	<5	<1	269	-
B 102285	12	4320	463	1449	21.7	4	11	2404	6.81	611	5	<2	4	8	12.6	39	133	39	.31	.011	8	6	.58	91	<.01	6	1.10	.01	.29	272	<5	<1	422	8
B 102286	15	2347	10	175	8.2	7	12	1153	6.98	<2	<5	<2	<2	19	1.0	<2	3	90	1.28	.003	3	17	1.67	49	.06	<3	2.72	.03	.21	46	<5	1	209	18
B 102287	22	1392	11	140	4.6	5	11	912	5.63	<2	<5	<2	2	21	.8	<2	<2	76	.90	.003	1	17	1.40	53	.11	<3	2.27	.06	.36	26	<5	<1	99	17
B 102288	17	2341	124	380	11.2	7	16	1185	7.17	238	<5	<2	4	17	2.8	21	42	87	.90	.001	1	17	1.56	54	.07	<3	2.43	.04	.32	<2	<5	1	179	15
B 102289	13	1608	4	162	5.4	6	14	1308	7.79	2	<5	<2	8	19	.9	<2	2	98	1.14	.002	1	17	1.85	52	.06	<3	2.93	.03	.32	<2	<5	<1	119	18
B 102290	11	5130	137	531	21.6	9	29	2607	7.99	1433	<5	<2	<2	16	4.1	10	63	81	1.13	.001	4	21	1.16	57	.02	<3	2.26	.02	.27	8	<5	<1	510	19
B 102291	21	2868	6	158	8.1	6	15	819	5.35	7	<5	<2	3	25	1.1	<2	<2	58	.82	.001	2	13	1.07	56	.05	<3	2.04	.04	.09	<2	<5	1	198	16
B 102292	12	1919	7	201	6.0	7	13	1083	6.41	4	<5	<2	4	42	1.4	<2	<2	78	1.32	.001	4	21	1.33	73	.05	<3	2.35	.03	.10	<2	<5	<1	161	16
B 102293	32	1177	54	156	3.6	6	15	956	4.72	238	5	<2	3	24	.9	3	3	58	1.11	.002	4	18	.95	65	.04	<3	1.82	.04	.18	2	<5	<1	173	15
B 102294	34	963	158	213	6.8	5	22	980	3.22	765	<5	<2	<2	29	1.5	8	32	34	1.76	.004	4	18	.63	72	.03	4	1.06	.03	.22	<2	<5	<1	248	18
B 102295	54	270	50	209	.8	4	5	1003	1.68	232	5	<2	<2	34	1.5	2	<2	10	2.10	.003	3	9	.24	75	<.01	6	.43	.02	.26	2	<5	<1	27	10
B 102296	64	1549	21	169	3.9	4	8	655	2.63	14	5	<2	<2	38	1.4	<2	<2	33	2.07	.047	6	13	.40	79	.04	4	.95	.04	.21	4	<5	1	428	16
STANDARD C2/	21	61	40	142	7.2	77	38	1207	4.05	45	20	8	36	56	21.1	16	17	78	.56	.106	43	69	1.01	200	.09	26	2.11	.06	.14	15	<5	3	457	-

Standard is STANDARD C2/AU-R. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102297	33	1532	44	216	4.3	5	4	998	1.53	7	<5	<2	<2	43	1.4	<2	<2	5	2.19	.004	4	12	.17	82	<.01	8	.30	.02	.26	<2	<5	<1	119	16
B 102298	10	3149	33	259	11.4	6	3	1701	1.89	3	<5	<2	<2	27	2.1	2	5	6	2.15	.036	3	13	.15	78	<.01	10	.39	.02	.29	4	<5	<1	50	6
B 102299	<1	35409	441	1598	141.4	15	11	4369	11.52	<2	<5	<2	3	36	14.0	40	35	55	6.51	1.573	26	<1	.49	82	<.01	9	1.19	.01	.27	1439	<5	<1	890	5
B 102300	66	694	19	141	2.3	5	3	1184	1.99	<2	<5	<2	<2	32	1.1	<2	<2	15	1.84	.006	2	14	.28	83	<.01	5	.61	.03	.24	5	<5	<1	28	15
B 102301	21	548	11	101	2.1	5	4	815	3.11	4	<5	<2	<2	34	.4	<2	<2	30	1.71	.006	4	15	.55	68	.01	5	1.13	.03	.19	14	<5	<1	21	16
B 102302	16	1351	17	136	4.4	7	4	837	2.05	2	<5	<2	<2	44	1.2	<2	3	15	2.21	.004	3	17	.27	88	<.01	4	.64	.03	.23	24	<5	<1	344	16
B 102303	39	558	18	111	2.4	4	3	642	1.34	<2	5	<2	<2	50	.9	2	4	9	2.32	.005	11	13	.14	83	<.01	5	.49	.03	.22	10	<5	<1	48	15
B 102304	7	1629	33	307	5.3	5	2	1802	1.30	74	<5	<2	<2	21	2.5	2	4	2	1.91	.002	22	9	.07	63	<.01	9	.32	.02	.29	131	<5	<1	31	16
B 102305	7	2984	192	767	16.9	5	26	1744	2.69	3024	<5	<2	3	17	6.7	40	162	7	1.09	.009	350	11	.08	74	<.01	8	.36	.02	.30	20	<5	<1	443	16
B 102306	8	832	15	124	2.4	5	2	937	1.00	<2	<5	<2	<2	50	1.2	<2	4	4	2.28	.005	5	12	.06	94	<.01	7	.32	.03	.27	3	<5	<1	580	15
B 102307	2	8776	28	341	29.8	6	5	1519	2.56	13	<5	<2	<2	25	2.8	5	6	1	1.56	.001	2	9	.06	80	<.01	6	.28	.02	.28	2	<5	<1	44	11
B 102308	4	1482	29	182	5.7	4	2	1538	1.51	97	<5	<2	<2	23	1.2	6	3	4	1.59	.002	1	13	.12	82	<.01	9	.39	.02	.30	4	<5	<1	63	13
B 102309	18	732	7	182	3.2	3	8	2788	9.62	<2	<5	<2	2	19	.5	<2	<2	82	1.43	.003	<1	12	2.01	81	.02	3	3.42	.01	.22	<2	<5	<1	50	13
B 102310	50	1891	60	153	9.6	4	3	2505	3.34	3	<5	<2	<2	7	1.1	11	15	12	.36	.006	2	9	.25	118	<.01	8	.55	.01	.31	2	<5	<1	70	15
RE B 102310	52	1890	64	156	10.4	3	3	2507	3.33	<2	5	<2	<2	7	.8	12	20	12	.36	.006	2	8	.25	114	<.01	8	.54	.01	.32	<2	<5	<1	57	-
RRE B 102310	38	2351	47	177	10.8	3	3	2581	3.65	3	<5	<2	<2	7	1.4	10	11	11	.37	.005	1	8	.25	104	<.01	7	.50	.01	.29	2	<5	<1	111	-
B 102311	79	1619	146	561	9.1	4	6	3644	3.36	2	<5	<2	<2	15	4.4	10	16	6	1.35	.005	<1	9	.18	88	<.01	10	.52	.01	.41	2	<5	<1	100	16
B 102312	39	392	28	192	1.8	5	8	1603	4.21	<2	<5	<2	3	38	1.5	2	<2	55	2.07	.005	3	14	.81	74	.02	4	1.46	.02	.25	<2	<5	<1	12	15
B 102313	11	503	24	126	2.0	3	3	2177	3.24	9	<5	<2	<2	37	1.1	<2	5	19	2.11	.005	6	10	.42	92	<.01	7	.83	.02	.33	2	<5	<1	10	17
B 102314	30	970	24	169	3.8	4	5	827	2.57	2	<5	<2	<2	36	1.4	4	13	29	2.44	.043	13	10	.45	84	.01	7	1.05	.03	.26	2	<5	<1	27	16
B 102315	10	341	13	129	1.3	5	7	734	3.56	<2	<5	<2	<2	25	.8	<2	2	51	1.21	.063	2	16	1.14	60	.12	5	1.83	.08	.12	2	<5	<1	7	16
B 102316	8	244	15	104	1.2	5	8	992	4.57	11	<5	<2	<2	25	.5	<2	<2	59	.83	.004	2	15	1.65	52	.13	4	2.34	.09	.07	3	<5	<1	8	14
B 102317	7	173	14	111	.7	6	6	1016	4.84	3	<5	<2	<2	24	<.2	<2	4	64	.65	.005	<1	16	1.51	42	.15	3	2.42	.10	.08	4	<5	<1	6	13
STANDARD C2/AU-R	20	56	36	138	7.1	74	37	1184	3.97	40	16	8	36	53	20.6	17	19	74	.54	.105	41	63	.98	204	.08	26	2.02	.06	.14	15	<5	2	510	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-4387 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: S. Robertson

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	Tl	Hg	Au*	SAMPLE
GCS '96 3	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb	lb
B 102318	1	60	9	63	<.3	2	4	293	3.12	2	5	<2	3	78	.5	<2	7	86	.72	.055	2	15	.84	98	.17	<3	1.33	.14	.37	3	<5	<1	2	28
B 102319	2	38	9	64	<.3	3	3	335	3.48	<2	<5	<2	2	35	.2	<2	<2	95	1.09	.056	3	13	.92	70	.16	<3	1.42	.11	.37	2	<5	<1	<1	26
B 102320	2	38	4	56	<.3	3	1	279	3.85	<2	6	<2	3	28	.3	<2	2	101	.74	.057	3	13	1.07	81	.17	<3	1.53	.10	.46	2	<5	<1	2	14
B 102321	1	34	5	37	<.3	3	3	375	1.49	3	<5	<2	3	10	.3	<2	3	17	.91	.057	3	13	.32	43	.02	33	.71	.02	.21	4	<5	<1	6	12
B 102322	1	123	8	73	<.3	5	6	419	3.61	3	5	<2	2	30	.6	<2	5	84	1.02	.053	3	13	1.28	73	.16	4	1.71	.09	.42	2	<5	1	5	28
B 102323	2	65	15	76	.3	5	5	435	3.21	7	<5	<2	3	38	1.0	<2	5	80	.94	.051	4	15	.93	91	.14	4	1.45	.11	.24	3	<5	<1	4	28
B 102324	2	24	127	257	.4	4	3	702	3.41	88	<5	<2	3	29	2.2	3	2	85	.91	.055	3	12	.87	82	.12	<3	1.31	.10	.24	2	<5	<1	1	29
B 102325	33	49	239	1230	5.7	4	1	1470	1.71	5460	<5	<2	<2	8	10.4	98	7	2	3.81	.020	43	13	.04	1	<.01	72	.09	.01	.03	14	<5	<1	162	28
B 102326	4	24	42	228	.6	3	2	894	3.18	391	<5	<2	3	31	1.5	8	2	78	1.54	.048	8	11	.88	45	.08	9	1.29	.08	.14	<2	<5	<1	13	27
B 102327	2	8	23	86	2.1	4	2	509	3.15	44	<5	<2	3	36	.3	<2	<2	89	1.07	.053	4	14	.90	71	.12	<3	1.41	.10	.17	3	<5	<1	3	27
B 102328	2	8	4	49	<.3	4	4	356	3.31	<2	5	<2	3	39	.3	<2	3	98	.90	.055	3	14	.92	70	.15	3	1.39	.13	.32	3	<5	<1	<1	28
B 102329	1	28	7	51	<.3	5	4	365	3.27	<2	<5	<2	4	39	<.2	<2	<2	95	.86	.055	3	15	.96	82	.16	3	1.50	.12	.33	5	<5	1	33	24
B 102330	1	356	135	695	3.2	4	10	2287	4.34	36	5	<2	2	20	6.0	5	3	69	1.71	.047	8	13	.89	45	.04	7	1.78	.03	.32	<2	<5	1	30	5
RE B 102330	1	376	138	709	3.4	5	9	2318	4.43	35	5	<2	3	21	6.2	5	<2	70	1.74	.046	8	13	.90	42	.04	6	1.80	.03	.32	<2	<5	<1	39	-
RRE B 102330	1	328	131	646	3.0	6	7	2302	4.34	33	8	<2	3	21	5.8	5	<2	69	1.71	.046	9	14	.88	48	.04	7	1.82	.03	.34	<2	<5	1	30	-
B 102331	1	43	8	54	<.3	5	5	406	3.41	2	<5	<2	3	34	.2	<2	<2	89	1.05	.054	2	15	.96	74	.14	3	1.38	.11	.25	2	<5	<1	3	27
B 102332	1	16	7	52	<.3	5	4	332	3.50	<2	<5	<2	3	40	.3	<2	<2	97	.93	.053	3	16	.94	103	.17	<3	1.46	.14	.41	3	<5	1	1	28
B 102333	1	31	6	51	<.3	2	5	308	3.42	<2	<5	<2	3	38	<.2	<2	2	95	.83	.053	3	12	.98	88	.17	<3	1.45	.12	.40	2	<5	1	2	28
B 102334	2	159	7	57	<.3	4	4	337	3.33	<2	<5	<2	2	32	.4	<2	<2	87	.76	.049	3	14	.99	86	.17	<3	1.42	.11	.42	3	<5	1	9	30
B 102335	3	42	9	65	<.3	4	2	327	3.32	<2	<5	<2	3	36	.2	<2	<2	92	.75	.055	2	15	.95	86	.17	<3	1.36	.12	.31	3	<5	<1	1	29
B 102336	3	6	8	64	<.3	3	4	362	4.41	<2	<5	<2	3	50	.4	<2	3	140	1.24	.069	2	10	1.27	63	.24	3	2.07	.17	.36	2	<5	<1	<1	29
B 102337	3	15	10	56	<.3	2	2	368	4.40	<2	<5	<2	3	43	.4	<2	<2	143	1.13	.073	2	7	1.36	78	.24	4	2.15	.15	.31	<2	<5	1	3	28
B 102338	2	5	9	63	<.3	4	4	337	2.93	<2	<5	<2	4	32	.3	<2	3	77	.79	.051	3	15	.83	78	.17	4	1.30	.12	.29	4	<5	1	<1	24
B 102339	1	7	6	56	<.3	3	3	337	3.25	<2	<5	<2	4	44	.4	<2	<2	89	.87	.053	3	13	.90	95	.18	<3	1.41	.12	.43	2	<5	<1	5	28
B 102340	2	10	5	53	<.3	4	5	306	3.23	3	<5	<2	5	40	<.2	<2	4	94	.81	.053	3	13	.87	86	.17	<3	1.44	.14	.47	2	<5	<1	1	28
RE B 102340	1	11	8	55	<.3	3	5	318	3.32	2	<5	<2	4	41	<.2	<2	<2	97	.83	.054	3	14	.90	83	.18	<3	1.49	.14	.48	3	<5	<1	2	-
RRE B 102340	1	9	7	56	<.3	3	5	315	3.34	<2	<5	<2	4	39	.3	<2	<2	98	.82	.056	3	11	.92	90	.18	3	1.46	.13	.49	2	<5	<1	1	-
B 102341	1	11	9	62	<.3	4	4	346	3.21	<2	<5	<2	3	35	.2	<2	<2	93	.84	.052	3	13	.97	107	.19	3	1.47	.11	.42	3	<5	<1	<1	26
B 102342	2	6	8	56	<.3	5	5	322	3.22	<2	<5	<2	5	36	.2	<2	<2	92	.72	.051	2	12	.99	101	.18	<3	1.48	.11	.46	3	<5	1	3	28
B 102343	1	12	8	50	<.3	4	5	365	3.44	3	<5	<2	4	46	.2	2	<2	97	1.03	.053	3	15	.95	108	.18	3	1.50	.14	.43	3	<5	1	<1	28
B 102344	2	139	77	168	1.2	3	5	662	3.77	20	<5	<2	4	37	.9	13	<2	66	1.72	.053	8	8	.38	45	.04	5	1.33	.06	.24	<2	<5	1	3	29
B 102345	5	36	90	204	.9	2	3	2713	4.43	11	6	<2	4	34	1.1	75	5	60	4.39	.051	18	8	.46	11	<.01	5	.57	.01	.14	2	<5	<1	1	15
B 102346	2	1760	530	3620	18.7	4	3	2051	4.84	2666	6	<2	3	13	24.7	693	5	8	1.10	.049	3	10	.17	22	<.01	7	.36	<.01	.31	4	<5	1	77	6
B 102347	2	3021	7080	65211	91.1	3	3	1724	7.12	10299	<5	<2	<2	6	652.4	16831	20	1	1.26	.001	1	19	.23	<1	<.01	<3	.09	<.01	.05	<2	<5	<1	1280	6
B 102348	8	621	640	1915	9.6	5	6	4540	4.52	797	<5	<2	3	17	16.7	282	3	14	1.42	.039	4	10	.50	28	<.01	11	.47	.01	.29	<2	<5	<1	19	5
B 102349	2	54	29	189	.4	5	4	373	3.65	18	<5	<2	4	33	1.0	55	<2	92	.97	.053	3	14	.99	71	.16	5	1.46	.11	.28	3	<5	<1	6	7
STANDARD C2/	19	56	37	138	7.5	66	31	1149	3.84	37	25	8	34	50	20.1	17	23	69	.52	.101	39	59	.97	192	.08	28	1.97	.06	.15	12	<5	2	511	-

Standard is STANDARD C2/AU-R.

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 11 1996 **DATE REPORT MAILED:** Sept 19/96 **SIGNED BY** .... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102350	3	14	12	61	<.3	5	7	319	3.38	2	<5	<2	4	48	.5	2	5	99	.78	.053	2	16	.99	94	.20	<3	1.62	.15	.43	4	<5	<1	2	26
B 102351	1	17	8	59	<.3	4	7	307	3.55	3	<5	<2	3	40	<.2	<2	<2	102	.81	.055	2	12	1.07	134	.22	<3	1.56	.13	.46	4	<5	<1	2	29
B 102352	2	23	11	60	<.3	5	6	285	3.65	2	<5	<2	3	51	<.2	<2	<2	109	.83	.058	1	14	.96	100	.24	<3	1.69	.21	.55	3	<5	<1	1	17
B 102353	1	13	11	57	<.3	5	6	275	3.27	<2	<5	<2	3	52	.2	<2	<2	100	.79	.057	2	16	.93	91	.21	3	1.61	.21	.48	4	<5	<1	<1	16
B 102354	2	12	6	65	<.3	7	7	327	3.79	4	<5	<2	2	49	<.2	<2	3	105	.81	.057	2	22	1.13	86	.24	8	1.77	.21	.55	6	<5	<1	<1	17
B 102355	2	39	8	55	<.3	6	5	344	3.69	<2	<5	<2	2	43	.4	2	<2	100	.88	.055	1	15	1.06	85	.22	<3	1.68	.18	.49	4	<5	<1	6	16
RE B 102355	3	40	4	56	<.3	6	5	352	3.76	<2	<5	<2	<2	43	.2	<2	<2	101	.90	.056	1	16	1.08	85	.22	<3	1.71	.18	.50	4	<5	<1	2	-
RRE B 102355	2	39	8	55	<.3	5	5	348	3.76	2	<5	<2	2	41	<.2	2	<2	102	.88	.055	1	15	1.08	84	.22	<3	1.68	.17	.50	4	<5	<1	1	-
B 102356	2	40	8	57	<.3	7	5	321	3.98	4	<5	<2	2	47	<.2	<2	<2	115	.86	.060	1	18	1.15	87	.24	<3	1.77	.20	.54	4	<5	<1	5	16
B 102357	2	23	6	60	<.3	6	4	291	3.64	<2	<5	<2	2	46	.3	<2	<2	102	.72	.052	1	16	1.02	87	.23	<3	1.64	.20	.51	4	<5	<1	1	16

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-4517 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102358	18	1029	6	130	3.3	4	10	748	3.84	172	<5	<2	<2	20	.8	<2	<2	76	1.39	.038	<1	12	1.26	45	.09	<3	1.82	.06	.26	18	<5	<1	50	28
B 102359	4	1086	8	70	2.5	5	6	458	3.20	4	<5	<2	<2	17	.2	<2	<2	62	.95	.039	<1	15	1.15	49	.12	3	1.59	.07	.30	7	<5	<1	66	29
B 102360	6	991	4	98	2.6	4	5	435	3.18	<2	<5	<2	<2	22	.7	<2	<2	62	.83	.028	<1	15	1.28	55	.16	<3	1.70	.07	.37	6	<5	<1	16	31
B 102361	7	813	6	107	3.1	4	5	510	3.32	6	<5	<2	2	23	.5	<2	<2	58	1.09	.045	<1	15	1.30	42	.10	<3	1.67	.07	.31	6	<5	<1	52	29
B 102362	4	684	14	159	1.4	4	5	409	3.15	7	<5	<2	<2	23	1.3	<2	<2	74	.68	.015	<1	13	1.40	72	.22	3	1.74	.08	.44	14	<5	<1	17	18
B 102363	4	446	51	116	2.3	4	6	628	3.28	37	<5	<2	<2	16	.8	<2	4	57	1.55	.028	1	13	1.24	37	.07	<3	1.66	.04	.24	29	<5	1	33	16
B 102364	<1	107	6	68	.3	5	3	437	3.57	2	<5	<2	<2	31	<.2	<2	<2	95	1.23	.045	<1	13	1.16	78	.16	<3	1.59	.09	.31	9	<5	<1	3	28
B 102365	<1	221	6	57	.5	5	4	387	3.19	<2	<5	<2	2	33	<.2	<2	<2	80	.92	.041	<1	13	1.16	81	.15	<3	1.52	.09	.37	<2	<5	1	13	32
B 102366	<1	600	23	111	1.0	4	4	472	3.24	7	<5	<2	<2	20	.5	<2	3	82	.78	.041	<1	13	1.13	75	.15	<3	1.47	.07	.28	21	<5	<1	21	28
B 102367	1	119	7	68	<.3	5	4	401	3.28	<2	<5	<2	2	23	<.2	<2	<2	85	.74	.041	<1	15	1.33	88	.22	<3	1.65	.09	.44	4	<5	<1	5	26
B 102368	10	439	6	73	1.4	6	5	585	3.50	6	<5	<2	<2	17	.3	<2	<2	67	1.10	.023	<1	15	1.32	79	.13	<3	1.80	.05	.37	4	<5	1	10	29
B 102369	2	584	7	78	1.9	8	5	565	3.61	<2	<5	<2	<2	22	.4	<2	<2	74	1.09	.027	2	17	1.48	79	.19	3	1.88	.06	.41	5	<5	<1	12	27
B 102370	2	234	9	84	.4	6	4	525	3.47	<2	<5	<2	<2	32	.4	<2	2	91	.93	.039	<1	16	1.45	92	.23	4	1.86	.09	.48	6	<5	<1	56	28
RE B 102370	2	227	10	84	.4	6	4	517	3.40	<2	<5	<2	<2	32	.6	<2	<2	90	.92	.038	<1	17	1.43	91	.22	<3	1.83	.09	.48	6	<5	<1	11	-
RRE B 102370	2	228	10	78	.5	6	4	533	3.50	<2	<5	<2	<2	29	<.2	<2	2	92	.92	.039	<1	16	1.48	89	.23	<3	1.86	.08	.50	4	<5	1	16	-
B 102371	1	248	9	76	.4	6	4	441	3.20	2	<5	<2	<2	28	.2	<2	<2	92	.86	.045	<1	14	1.28	86	.20	<3	1.69	.08	.38	6	<5	<1	18	33
B 102372	4	1624	64	231	8.7	6	5	588	3.47	84	<5	<2	<2	23	1.9	9	<2	82	.87	.032	<1	16	1.32	70	.17	<3	1.75	.07	.36	3	<5	<1	29	27
B 102373	2	271	8	78	1.1	7	4	475	3.40	6	<5	<2	<2	27	.3	2	<2	93	.93	.043	<1	16	1.44	83	.21	<3	1.82	.09	.42	4	<5	<1	28	29
B 102374	<1	66	11	69	<.3	13	5	508	3.64	<2	<5	<2	<2	26	<.2	<2	<2	90	.79	.042	<1	33	1.63	86	.23	<3	1.95	.09	.52	4	<5	<1	5	28
B 102375	1	143	5	74	.4	6	4	567	3.84	<2	<5	<2	<2	26	<.2	2	<2	100	.88	.041	<1	16	1.57	66	.24	<3	2.00	.09	.43	4	<5	<1	6	30
B 102376	1	288	33	153	1.5	6	6	764	4.15	233	<5	<2	<2	17	.4	10	<2	102	1.30	.041	<1	12	1.51	82	.17	<3	2.04	.06	.46	6	<5	<1	36	27
B 102377	<1	335	11	92	.7	6	5	494	3.93	4	<5	<2	2	26	<.2	<2	4	111	.82	.024	<1	14	1.69	107	.28	<3	2.05	.09	.60	3	<5	<1	11	30
B 102378	20	228	5	77	.6	5	5	493	3.98	<2	<5	<2	2	29	.2	<2	<2	109	.97	.055	<1	15	1.39	85	.22	<3	1.92	.11	.47	3	<5	<1	7	28
B 102379	<1	124	14	84	.4	7	6	516	3.81	4	<5	<2	<2	22	.5	<2	<2	100	.96	.040	<1	13	1.63	88	.25	<3	2.00	.08	.56	3	<5	1	10	31
B 102380	5	425	6	85	1.0	7	10	546	4.56	2	<5	<2	<2	18	.4	<2	<2	109	1.11	.023	<1	15	1.63	105	.23	<3	2.11	.08	.64	56	<5	<1	357	19
RE B 102380	6	425	5	84	1.2	7	10	543	4.53	<2	<5	<2	<2	18	.3	<2	<2	108	1.11	.022	<1	14	1.63	104	.23	<3	2.10	.08	.64	58	<5	<1	80	-
RRE B 102380	5	428	14	81	1.0	8	9	521	4.37	3	<5	<2	<2	17	.4	<2	<2	103	1.04	.022	<1	16	1.56	98	.22	<3	2.00	.07	.61	73	<5	<1	91	-
B 102381	30	1040	4	77	3.9	7	11	615	4.44	21	<5	<2	<2	12	.4	4	<2	84	1.22	.059	1	14	1.26	74	.10	5	1.82	.04	.41	133	<5	<1	288	19
B 102382	4	120	6	71	.4	5	5	493	3.83	<2	<5	<2	<2	24	.2	<2	3	113	.93	.036	<1	14	1.56	108	.25	<3	2.01	.10	.74	5	<5	<1	7	31
B 102383	3	343	22	116	1.6	6	6	642	3.92	22	<5	<2	<2	21	<.2	<2	<2	99	.89	.036	<1	14	1.60	100	.22	<3	2.02	.08	.65	4	<5	<1	15	30
B 102384	2	133	10	71	.3	6	5	443	3.54	2	<5	<2	2	31	<.2	<2	<2	100	.85	.039	<1	14	1.38	92	.23	<3	1.87	.10	.56	5	<5	<1	9	30
B 102385	1	190	7	72	.4	6	5	411	3.64	<2	<5	<2	2	41	<.2	<2	<2	97	.81	.038	<1	17	1.39	84	.25	<3	1.89	.11	.53	3	<5	1	9	30
B 102386	2	251	8	71	.4	6	5	407	3.79	<2	<5	<2	<2	33	<.2	<2	<2	103	.78	.042	<1	13	1.40	96	.26	<3	1.94	.11	.59	3	<5	<1	20	28
B 102387	9	361	11	88	.9	6	6	515	3.98	2	<5	<2	<2	21	<.2	<2	<2	108	.93	.018	<1	15	1.55	102	.26	<3	2.06	.08	.62	4	<5	<1	18	15
B 102388	4	7445	8	274	12.3	7	20	618	5.25	<2	<5	<2	<2	17	1.7	3	25	92	.80	.027	1	18	1.34	83	.19	<3	1.97	.07	.59	579	7	<1	406	17
B 102389	10	637	20	92	1.1	7	8	488	3.64	2	<5	<2	<2	21	.3	<2	<2	83	.78	.018	<1	15	1.31	88	.23	<3	1.79	.08	.53	11	<5	<1	18	28
STANDARD C2/AU-R	21	58	38	140	7.3	77	39	1218	4.20	42	20	8	35	56	20.8	18	22	79	.58	.110	40	69	1.04	214	.09	24	2.15	.06	.17	14	<5	1	444	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 16 1996 **DATE REPORT MAILED:** Oct 1/96 **SIGNED BY** ....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-4517

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102390	13	403	15	85	.8	23	8	503	3.65	<2	<5	<2	3	21	.2	2	<2	84	.93	.019	2	81	1.47	91	.21	6	1.81	.09	.48	2	<5	1	25	28
B 102391	33	1903	44	172	6.6	17	10	664	4.15	124	<5	<2	4	16	1.0	<2	3	78	1.09	.022	3	37	1.37	70	.14	5	1.87	.06	.40	2	<5	<1	84	29
B 102392	22	756	15	99	2.3	7	8	667	3.88	<2	<5	<2	2	15	.4	<2	<2	79	1.25	.011	2	14	1.25	72	.12	<3	1.85	.05	.35	2	<5	1	56	27
B 102393	19	2324	118	366	12.1	8	9	1402	5.39	140	8	<2	2	10	3.2	6	4	68	1.27	.017	3	8	1.16	45	.04	4	1.98	.02	.27	2	<5	1	41	16
B 102394	15	333	162	430	2.1	6	11	1259	3.60	445	<5	<2	3	16	3.6	2	3	69	1.40	.036	3	15	1.24	79	.11	4	1.83	.04	.53	2	<5	<1	34	16
B 102395	6	449	268	5524	2.8	6	10	2971	6.22	1402	<5	<2	8	13	56.8	4	<2	87	1.11	.022	4	15	1.65	58	.09	7	2.43	.03	.43	2	<5	1	43	18
B 102396	16	971	207	600	4.9	6	6	1218	4.48	51	<5	<2	3	23	5.4	4	<2	85	1.47	.097	5	1	1.33	60	.12	<3	2.10	.06	.42	3	<5	1	102	16
B 102397	1	200	11	94	.6	5	4	497	3.40	<2	<5	<2	4	29	.4	<2	<2	84	.91	.036	2	3	1.38	71	.20	<3	1.92	.08	.46	2	<5	<1	13	15
RE B 102397	1	200	11	93	.6	5	4	497	3.41	<2	<5	<2	4	30	.5	2	<2	85	.92	.037	2	16	1.39	71	.20	<3	1.95	.08	.46	2	<5	<1	9	-
RRE B 102397	1	174	14	82	.5	6	4	513	3.46	<2	8	<2	4	32	.5	<2	2	86	.97	.038	2	10	1.40	74	.20	3	1.98	.09	.47	2	<5	1	7	-
B 102398	3	229	38	631	1.0	5	5	619	3.75	44	<5	<2	5	27	5.2	<2	2	88	.97	.011	1	13	1.52	75	.19	5	2.12	.06	.53	2	<5	1	18	16
B 102399	46	496	31	186	2.5	7	7	824	4.61	4	<5	<2	6	23	1.1	<2	<2	95	1.03	.018	2	10	1.58	88	.16	5	2.22	.07	.64	2	<5	<1	10	16
B 102400	3	63	7	66	<.3	5	2	532	3.88	<2	9	<2	3	40	<.2	3	<2	99	.85	.038	2	9	1.49	76	.32	3	2.05	.11	.58	2	9	<1	3	7
STANDARD C2/AU-R	19	57	40	133	6.5	70	35	1177	3.93	40	18	7	35	50	19.9	15	14	70	.54	.102	38	58	1.01	187	.08	23	2.04	.06	.15	10	<5	2	420	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-4636 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102401	2	16	85	196	.4	4	7	759	3.14	11	5	<2	4	50	1.5	2	3	97	.91	.052	5	20	.79	85	.16	6	1.69	.22	.37	3	<5	<1	7	28
B 102402	1	18	4	63	<.3	7	10	323	3.03	2	<5	<2	4	53	.4	<2	2	98	.82	.055	4	14	.85	98	.18	4	1.73	.23	.48	3	<5	1	2	29
B 102403	1	7	8	77	<.3	6	7	352	3.19	<2	<5	<2	2	49	.6	<2	2	101	.74	.052	3	17	.92	86	.19	4	1.68	.20	.43	3	<5	1	1	27
B 102404	1	11	16	75	<.3	3	9	346	3.17	2	<5	<2	4	50	.4	<2	3	98	.79	.056	4	15	.93	77	.18	7	1.73	.22	.41	3	<5	<1	2	30
B 102405	2	5	<3	74	<.3	6	7	329	3.04	<2	<5	<2	3	56	.5	2	<2	98	.85	.053	3	18	.89	93	.19	6	1.80	.24	.45	4	<5	2	1	29
B 102406	<1	10	8	75	<.3	2	5	314	3.00	<2	<5	<2	3	54	.4	<2	3	94	.79	.053	3	13	.85	89	.18	3	1.66	.22	.43	4	<5	<1	1	31
B 102407	1	24	16	103	<.3	5	8	394	3.27	<2	<5	<2	3	31	.8	<2	<2	87	.67	.054	3	17	.92	74	.16	5	1.46	.14	.25	4	<5	1	1	29
B 102408	1	44	13	152	<.3	3	12	338	3.09	2	<5	<2	3	31	1.5	<2	<2	80	.72	.055	3	14	.85	66	.15	8	1.38	.14	.24	3	<5	1	1	30
B 102409	2	26	6	73	<.3	3	6	338	3.17	4	6	<2	2	32	.5	<2	3	88	.67	.055	3	17	.86	77	.16	6	1.36	.15	.27	4	<5	<1	1	28
B 102410	1	128	10	93	.5	5	13	404	3.16	19	5	<2	3	26	.6	<2	<2	74	.86	.057	3	13	.97	65	.16	3	1.57	.12	.29	4	<5	<1	7	28
RE B 102410	1	131	11	93	.5	6	15	405	3.18	16	<5	<2	3	25	1.0	2	2	73	.86	.057	3	13	.97	65	.16	5	1.54	.13	.28	3	<5	1	4	-
RRE B 102410	1	121	14	92	.4	4	14	384	3.05	13	<5	<2	2	24	1.2	<2	<2	70	.82	.055	3	15	.94	65	.15	7	1.48	.11	.27	3	<5	1	6	-
B 102411	<1	39	10	73	<.3	2	6	444	2.82	<2	<5	<2	2	36	.7	<2	3	81	.80	.056	3	15	.78	58	.16	7	1.45	.16	.18	5	<5	1	2	27
B 102412	2	29	<3	74	<.3	7	8	373	3.10	<2	<5	<2	2	37	.5	2	3	94	.83	.056	3	16	.89	81	.17	<3	1.48	.16	.36	3	<5	1	2	31
B 102413	1	25	19	76	<.3	7	10	634	3.15	13	<5	<2	2	39	.5	<2	<2	95	.76	.055	3	13	.86	85	.16	4	1.56	.17	.42	3	<5	1	2	27
B 102414	2	19	8	68	<.3	5	7	321	2.93	<2	<5	<2	2	41	.3	<2	<2	91	.72	.052	3	17	.84	89	.18	3	1.50	.17	.41	3	<5	1	<1	30
B 102415	<1	36	4	61	<.3	4	8	353	2.93	9	<5	<2	2	41	.3	<2	<2	82	.70	.052	3	13	.79	62	.15	4	1.39	.14	.31	3	<5	1	3	30
B 102416	2	24	6	66	<.3	4	9	328	3.05	3	<5	<2	3	41	.5	<2	<2	92	.69	.056	2	18	.81	72	.17	5	1.51	.19	.38	3	<5	1	5	30
B 102417	1	9	11	78	<.3	3	6	357	3.14	<2	<5	<2	4	49	.3	<2	6	97	.79	.056	4	16	.87	91	.19	3	1.72	.23	.46	4	<5	2	4	29
B 102418	3	100	26	137	.3	7	12	439	2.91	2	<5	<2	3	35	1.0	<2	2	76	.88	.053	3	18	.84	76	.17	3	1.56	.16	.38	4	<5	1	7	29
B 102419	2	71	50	166	.5	4	10	576	3.16	315	<5	<2	3	31	1.4	2	4	83	.86	.055	4	14	.92	65	.15	3	1.59	.13	.30	4	<5	2	9	27
B 102420	3	30	38	70	1.3	7	5	506	3.14	463	<5	<2	4	36	.4	<2	7	89	1.09	.054	4	20	.91	76	.15	5	1.56	.15	.33	6	<5	2	43	29
RE B 102420	3	31	35	72	1.0	8	7	514	3.20	471	<5	<2	2	37	.5	2	2	91	1.11	.054	3	20	.92	76	.16	4	1.59	.16	.34	5	<5	2	20	-
RRE B 102420	2	37	60	66	1.1	4	7	549	3.13	490	<5	<2	2	32	.3	2	4	88	1.06	.055	4	12	.91	69	.14	4	1.47	.13	.31	5	<5	<1	14	-
B 102421	2	163	179	451	1.6	4	8	1544	3.56	2177	6	<2	3	24	4.6	6	<2	71	1.25	.053	11	14	.86	57	.08	11	1.48	.07	.32	6	<5	<1	69	16
B 102422	1	24	<3	62	<.3	5	6	372	3.46	4	<5	<2	2	56	.2	<2	<2	105	.93	.056	3	15	1.02	83	.19	4	1.63	.16	.39	3	<5	<1	4	26
B 102423	2	88	51	264	.6	8	8	1112	3.35	183	<5	<2	2	25	2.4	6	<2	78	1.20	.053	8	16	.85	57	.12	7	1.33	.09	.30	3	<5	<1	8	6
B 102424	13	12	275	23	5.4	2	72	8594	6.84	39394	<5	<2	22	12	.5	47	46	5	5.27	.002	43	11	1.44	1	<.01	71	.07	.01	.01	7	<5	<1	3680	2
B 102425	4	82	30	99	.6	7	6	1039	2.79	127	<5	<2	2	29	1.0	9	<2	61	1.02	.054	13	17	.66	57	.11	8	1.33	.13	.29	7	<5	<1	15	6
B 102426	1	29	9	61	<.3	4	6	422	3.08	174	<5	<2	2	31	.4	<2	<2	88	.92	.052	4	13	.87	80	.16	7	1.40	.15	.29	4	<5	1	10	17
B 102427	2	7	11	72	<.3	8	7	328	3.22	<2	<5	<2	4	41	.7	<2	<2	103	.70	.055	3	16	.92	114	.21	<3	1.59	.21	.52	3	<5	2	1	18
B 102428	1	11	4	64	<.3	4	7	311	3.17	3	<5	<2	2	43	.3	<2	<2	103	.76	.054	3	14	.91	110	.20	3	1.61	.21	.52	3	<5	2	1	18
B 102429	2	17	11	83	<.3	8	10	384	3.22	2	<5	<2	3	45	.6	<2	2	95	.75	.053	3	16	.96	86	.20	4	1.61	.19	.44	3	<5	2	2	16
B 102430	1	7	9	65	<.3	5	6	334	2.98	3	<5	<2	3	56	.4	<2	3	102	.81	.052	4	15	.82	99	.17	4	1.73	.26	.52	3	<5	<1	2	18
B 102431	2	7	<3	59	<.3	4	5	318	3.14	<2	<5	<2	2	49	.4	<2	3	99	.88	.051	3	17	.88	86	.18	3	1.67	.22	.48	3	<5	1	<1	18
B 102432	2	20	3	48	<.3	4	8	298	2.89	2	<5	<2	4	37	.2	<2	<2	83	.81	.051	4	14	.79	71	.16	5	1.39	.16	.43	2	<5	1	1	16
STANDARD C2/AU-R	21	61	32	145	7.4	81	39	1213	3.96	39	25	9	36	54	21.4	18	24	75	.56	.108	40	67	1.02	206	.09	30	2.14	.06	.16	12	<5	3	466	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 20 1996 **DATE REPORT MAILED:** Oct 1/96 **SIGNED BY** ......D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102433	2	39	15	100	.5	5	8	365	3.16	6	<5	<2	4	51	.5	<2	<2	104	.86	.058	3	17	.89	89	.19	3	1.64	.23	.52	4	<5	<1	4	17
B 102434	2	78	10619	1345	25.0	4	8	760	3.53	93	<5	<2	4	32	12.4	23	2	95	1.12	.055	3	13	.88	50	.14	3	1.41	.12	.25	4	<5	<1	12	18
B 102435	1	46	76	56	<.3	4	9	335	3.42	9	<5	<2	3	35	<.2	<2	<2	96	.86	.058	2	10	.86	48	.15	3	1.31	.12	.23	2	<5	<1	4	16
B 102436	2	40	48	68	<.3	5	7	334	3.27	11	<5	<2	4	44	.5	<2	<2	95	.78	.056	1	11	.75	48	.15	<3	1.25	.13	.22	4	<5	<1	2	16
B 102437	2	24	13	52	<.3	4	7	319	3.19	7	<5	<2	4	45	<.2	<2	4	101	.89	.058	2	13	.85	67	.17	<3	1.33	.15	.34	2	<5	<1	1	18
B 102438	3	297	14	59	.4	4	6	270	3.81	6	<5	<2	5	33	.2	<2	2	97	.60	.056	2	13	.80	79	.18	<3	1.23	.15	.41	4	<5	<1	7	17
B 102439	2	37	28	85	<.3	5	4	323	3.16	8	<5	<2	4	34	.8	2	<2	90	.81	.057	3	14	.75	66	.16	<3	1.20	.14	.28	4	<5	<1	2	12
B 102440	3	186	59	216	1.0	5	7	234	1.68	26	<5	<2	14	13	2.8	<2	2	33	.62	.021	11	14	.30	42	.05	5	.63	.06	.21	4	<5	1	8	2
B 102441	2	24	10	50	<.3	4	5	264	3.09	<2	<5	<2	3	34	.3	<2	2	94	.69	.055	2	9	.82	72	.17	3	1.20	.13	.30	3	<5	<1	6	16
B 102442	2	30	11	58	<.3	6	13	330	3.65	5	<5	<2	4	37	<.2	<2	<2	107	.89	.057	3	12	1.00	79	.19	<3	1.41	.14	.37	4	<5	<1	3	16
B 102443	1	22	10	52	<.3	4	6	328	3.39	<2	<5	<2	4	43	<.2	<2	<2	101	.78	.056	2	15	.98	85	.19	<3	1.36	.13	.42	2	<5	<1	2	17
B 102444	2	28	12	75	<.3	5	10	301	3.45	4	<5	<2	4	37	.3	<2	<2	100	.69	.056	2	13	.92	81	.20	<3	1.34	.15	.36	4	7	<1	4	17
B 102445	4	180	11	70	.7	6	8	380	3.36	29	<5	<2	4	41	.5	2	3	95	.76	.056	3	15	.93	94	.20	<3	1.52	.17	.43	5	<5	<1	5	19
RE B 102445	4	179	11	70	.9	6	8	376	3.35	31	<5	<2	4	42	<.2	<2	<2	94	.76	.056	3	15	.92	92	.20	3	1.52	.17	.43	4	<5	<1	10	-
RRE B 102445	3	199	13	71	1.0	5	8	385	3.38	37	6	<2	4	40	.2	<2	2	94	.75	.057	3	16	.93	95	.20	<3	1.51	.16	.44	5	<5	<1	5	-
B 102446	1	18	12	56	<.3	5	6	332	3.22	<2	<5	<2	4	38	<.2	<2	<2	103	.75	.058	3	12	.94	89	.20	<3	1.39	.13	.45	3	<5	<1	<1	17
B 102447	2	22	17	84	<.3	5	7	361	3.15	3	<5	<2	4	50	.3	<2	<2	100	.76	.055	2	21	.91	91	.20	3	1.48	.16	.48	4	5	<1	1	19
B 102448	3	81	11	72	<.3	6	8	314	3.46	5	<5	<2	4	53	<.2	<2	3	102	.69	.055	2	15	.89	87	.19	<3	1.45	.17	.45	4	<5	<1	2	18
B 102449	2	23	9	70	<.3	6	8	360	3.20	8	<5	<2	4	38	.3	<2	2	98	.98	.054	3	14	.91	82	.16	3	1.37	.14	.38	5	<5	<1	<1	19
STANDARD C2/AU-R	20	58	42	146	6.9	73	37	1153	3.82	42	17	8	37	54	20.4	15	21	73	.53	.107	38	65	.99	194	.08	26	1.94	.06	.14	16	<5	1	477	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-4739 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102450	35	11645	453	1961	56.4	8	10	12271	9.20	<2	<5	5	9	11	18.1	51	41	56	1.85	.556	45	<1	1.36	26	<.01	3	1.95	.01	.16	4808	<5	<1	707	7
B 102451	26	3287	9	160	11.2	8	16	2134	8.41	22	<5	<2	9	18	2.2	<2	6	121	1.71	.122	17	11	2.61	48	.05	<3	2.92	.01	.48	99	11	2	307	11
B 102452	39	1100	<3	112	3.8	8	12	1316	6.95	8	<5	<2	8	21	1.4	<2	4	124	2.00	.128	17	11	2.28	58	.07	<3	2.30	.01	.63	107	5	2	81	26
B 102453	11	992	23	171	2.4	7	12	1148	6.43	10	<5	<2	7	21	1.5	<2	4	120	2.07	.127	16	7	2.12	67	.09	<3	2.18	.02	.70	214	<5	1	28	26
B 102454	5	1128	14	157	3.8	7	12	834	6.66	2	<5	<2	6	19	1.9	<2	<2	170	1.48	.192	6	13	2.03	94	.15	<3	2.27	.05	1.30	76	<5	1	33	29
B 102455	2	611	13	98	2.2	7	12	910	6.96	7	<5	<2	9	20	1.1	<2	<2	241	1.55	.110	3	11	1.86	72	.12	<3	2.15	.05	.98	9	<5	<1	27	28
B 102456	1	569	4	97	1.6	7	10	841	6.51	4	<5	<2	8	22	1.0	2	<2	204	1.16	.073	2	13	2.00	86	.16	<3	2.37	.07	1.23	4	<5	<1	13	28
B 102457	3	388	7	86	1.4	6	9	784	5.72	3	<5	<2	10	18	.7	<2	<2	166	1.03	.070	3	13	1.87	72	.13	<3	2.26	.06	.99	3	<5	1	10	29
B 102458	3	234	27	135	1.7	5	9	875	5.25	<2	<5	<2	6	18	1.2	<2	<2	184	1.17	.039	2	11	1.73	54	.12	<3	2.05	.06	.70	4	<5	<1	5	28
B 102459	2	242	7	131	1.1	5	8	833	5.45	<2	<5	<2	10	17	1.2	<2	<2	192	1.11	.092	3	11	1.84	56	.14	<3	2.12	.07	.86	2	<5	<1	15	27
B 102460	1	236	<3	160	.9	6	10	909	6.15	<2	<5	<2	6	17	1.4	<2	<2	178	1.03	.032	2	14	2.14	76	.17	<3	2.41	.07	1.25	2	<5	<1	10	32
RE B 102460	1	233	<3	164	1.0	7	10	923	6.23	2	<5	<2	7	18	1.4	2	<2	180	1.04	.031	2	14	2.16	77	.18	<3	2.45	.07	1.26	3	<5	1	15	-
RRE B 102460	1	252	5	171	1.0	5	10	976	6.61	<2	<5	<2	8	19	1.6	2	<2	191	1.09	.034	2	13	2.29	81	.19	<3	2.59	.08	1.34	4	<5	1	16	-
B 102461	8	459	4	145	1.7	6	13	1147	7.77	2	<5	<2	9	18	1.1	<2	<2	176	1.14	.017	2	10	2.79	96	.19	<3	3.05	.05	1.56	9	<5	<1	12	33
B 102462	6	464	4	109	1.6	5	10	1035	6.87	<2	<5	<2	7	18	.7	<2	<2	133	1.08	.017	1	11	2.49	88	.18	<3	2.73	.06	1.43	<2	<5	1	17	30
B 102463	41	6694	4	258	20.6	8	20	735	5.52	6	<5	<2	9	17	2.5	2	<2	83	1.25	.110	4	7	1.53	49	.12	<3	1.83	.06	.71	244	<5	1	689	8
B 102464	6	116	3	142	.3	5	9	744	5.22	6	<5	<2	10	20	.6	4	<2	100	1.55	.080	2	12	1.81	55	.14	<3	2.14	.07	.79	2	<5	2	4	14
B 102465	20	1268	602	1092	9.8	7	16	2963	8.18	717	<5	<2	9	25	8.3	30	3	140	2.55	.294	9	9	1.64	27	.03	<3	2.58	.02	.28	95	10	<1	296	6
B 102466	4	258	11	138	1.2	5	11	873	5.89	6	<5	<2	11	17	1.4	<2	<2	110	1.15	.063	1	9	2.14	58	.14	<3	2.40	.06	.86	4	<5	1	284	10
B 102467	5	356	63	232	1.8	6	8	1069	5.34	79	<5	<2	12	19	1.7	6	<2	107	1.60	.101	3	10	1.95	44	.11	<3	2.20	.05	.64	19	<5	1	15	37
B 102468	8	267	3	95	.9	5	7	728	4.33	<2	<5	<2	8	22	.6	<2	<2	89	1.27	.070	2	9	1.80	43	.12	<3	2.00	.06	.68	<2	<5	1	14	32
B 102469	8	318	4	91	1.0	5	6	752	4.33	5	<5	<2	11	20	.6	<2	<2	84	1.34	.061	2	10	1.85	33	.12	<3	1.95	.06	.51	3	<5	1	21	10
B 102470	12	166	<3	93	.6	5	5	528	3.23	<2	<5	<2	10	18	.6	<2	<2	55	.79	.016	2	11	1.22	33	.07	<3	1.57	.07	.41	3	<5	1	6	6
RE B 102470	12	162	6	90	.5	5	5	513	3.15	<2	<5	<2	9	18	.6	<2	<2	53	.76	.016	2	12	1.19	32	.07	<3	1.53	.06	.39	3	<5	<1	1	-
RRE B 102470	12	174	5	97	.5	5	5	542	3.32	<2	<5	<2	9	18	.6	<2	<2	56	.82	.016	1	12	1.26	33	.07	<3	1.61	.06	.42	3	<5	1	27	-
B 102471	8	457	<3	140	1.6	5	7	787	4.55	3	<5	<2	11	19	1.0	2	<2	83	1.40	.083	2	10	1.88	36	.12	<3	2.01	.06	.52	<2	<5	1	22	31
B 102472	8	647	7	140	2.1	6	9	877	5.43	<2	<5	<2	13	21	1.2	<2	<2	94	1.36	.022	1	10	2.08	46	.14	<3	2.31	.05	.70	<2	<5	1	64	36
B 102473	8	925	<3	89	2.2	6	8	818	5.08	2	<5	<2	6	20	.6	<2	<2	85	1.08	.003	2	12	2.06	55	.16	<3	2.24	.07	.86	7	<5	1	36	33
B 102474	17	1282	15	211	4.5	7	10	1044	6.20	3	<5	<2	7	20	2.0	<2	<2	96	1.09	.002	1	12	2.37	64	.15	<3	2.52	.05	.99	<2	<5	1	62	33
B 102475	29	1694	6	295	6.1	6	12	1245	7.49	3	<5	<2	8	18	2.5	<2	2	115	1.11	.004	2	10	2.94	74	.16	<3	3.05	.05	1.32	<2	<5	1	144	32
B 102476	47	1910	3	332	7.5	5	11	1462	8.54	3	6	<2	6	16	2.6	<2	<2	105	1.06	.001	5	15	2.46	45	.08	<3	3.40	.02	.52	3	9	1	109	34
B 102477	52	964	20	197	5.1	6	12	1716	8.22	430	<5	<2	5	19	1.8	<2	11	84	1.39	.002	4	12	2.33	33	.04	<3	3.30	.02	.29	21	12	1	154	31
B 102478	63	1255	12	253	4.1	5	11	1075	6.31	4	<5	<2	14	19	2.0	<2	2	84	1.22	.006	1	14	2.30	45	.13	<3	2.62	.05	.62	<2	<5	1	136	30
B 102479	31	1002	23	176	2.5	4	9	783	4.90	5	<5	<2	9	16	1.3	2	<2	64	.72	.003	<1	15	1.81	43	.15	<3	2.09	.07	.55	<2	<5	1	54	29
B 102480	10	1871	19	218	6.5	6	9	1048	5.58	<2	<5	<2	2	18	1.8	<2	<2	64	1.03	.007	2	17	1.65	28	.09	<3	2.49	.05	.21	15	<5	<1	133	29
B 102481	16	2582	20	266	9.5	7	12	1298	5.59	9	<5	<2	<2	15	1.9	<2	<2	53	1.34	.006	16	18	1.36	27	.05	<3	2.42	.03	.16	2	6	<1	356	30
STANDARD C2/AU-R	21	62	43	153	7.4	81	40	1217	4.05	47	17	9	38	56	21.5	14	18	77	.55	.106	40	71	1.03	209	.08	28	2.08	.06	.15	14	<5	3	506	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: SEP 24 1996 **DATE REPORT MAILED:** Oct 4/96 **SIGNED BY**..........D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102482	33	1752	27	168	6.5	5	10	1228	5.93	4	<5	<2	2	17	1.6	<2	<2	72	1.29	.010	3	13	1.71	31	.08	<3	2.61	.04	.26	<2	<5	<1	71	29
B 102483	88	1836	7	200	4.5	6	17	1319	7.92	10	5	<2	8	16	1.9	<2	<2	111	1.42	.011	1	18	2.78	58	.15	<3	3.17	.04	.84	<2	<5	<1	241	29
B 102484	53	1165	4	191	2.7	5	12	1063	6.23	7	<5	<2	8	18	1.5	<2	<2	83	1.15	.006	1	17	2.20	47	.15	<3	2.58	.05	.58	<2	<5	<1	81	27
B 102485	5	781	10	161	2.0	5	11	1095	5.61	4	<5	<2	3	20	1.3	<2	<2	74	1.27	.003	1	20	1.90	40	.11	<3	2.48	.05	.36	2	<5	<1	72	31
B 102486	10	921	842	6562	8.9	5	12	4949	10.60	9278	<5	<2	2	13	62.9	26	5	71	1.33	.002	3	20	1.78	37	.01	<3	2.19	.01	.24	<2	<5	<1	326	11
B 102487	16	1785	1575	2668	14.8	8	14	4765	7.68	4191	<5	<2	<2	11	27.3	18	12	27	.67	.004	6	14	.92	61	<.01	4	.74	.01	.29	14	<5	<1	37	8
B 102488	4	1075	62	335	4.9	6	13	2724	10.39	13	<5	<2	3	14	3.2	3	<2	133	1.31	.007	6	35	2.46	35	.04	<3	3.88	.02	.33	72	<5	1	127	23
B 102489	15	2509	19	275	6.9	5	13	871	3.87	10	5	<2	<2	22	2.3	2	5	34	2.23	.016	12	15	.70	44	.01	<3	1.51	.03	.17	117	<5	<1	225	31
B 102490	10	3359	16	230	9.9	5	14	893	4.72	<2	<5	<2	2	19	1.9	<2	<2	47	1.45	.004	6	15	.98	48	.05	<3	1.86	.04	.15	7	<5	<1	115	26
B 102491	17	4331	13	191	8.6	6	17	976	5.97	5	<5	<2	2	18	1.7	<2	<2	78	1.35	.087	6	18	1.46	42	.06	<3	2.32	.04	.21	27	<5	<1	326	30
B 102492	23	5867	3	274	15.6	7	18	1224	6.80	4	<5	<2	<2	17	2.4	<2	5	75	1.54	.010	5	18	1.25	46	.04	<3	2.46	.02	.20	4	<5	<1	302	30
RE B 102492	23	5772	5	274	15.5	7	18	1210	6.71	3	<5	<2	<2	17	2.7	2	<2	74	1.53	.010	5	17	1.24	46	.04	<3	2.43	.02	.19	3	<5	<1	369	-
RRE B 102492	24	6567	3	291	17.2	7	21	1208	7.09	6	<5	<2	<2	18	2.2	<2	<2	75	1.57	.012	6	17	1.28	45	.04	<3	2.49	.03	.19	5	<5	<1	294	-
B 102493	51	6095	213	713	19.6	7	19	1527	5.35	821	<5	<2	<2	16	5.3	17	49	42	1.44	.019	10	15	.78	63	.01	5	1.51	.01	.21	51	<5	<1	293	28
B 102494	17	3113	93	368	9.7	6	19	1292	6.36	216	<5	<2	2	19	2.8	10	26	79	1.38	.011	4	17	1.37	62	.07	<3	2.15	.03	.32	91	<5	<1	140	32
B 102495	49	2837	16	252	7.7	6	34	1292	9.40	18	<5	<2	9	16	2.1	<2	2	131	1.15	.014	30	25	2.34	49	.13	<3	3.28	.05	.35	4	<5	<1	124	10
B 102496	60	3154	17	178	8.1	7	14	715	3.63	4	<5	<2	<2	29	1.8	2	<2	30	2.19	.005	33	15	.56	70	.01	4	1.32	.03	.22	2	<5	<1	112	12
B 102497	38	3593	13	187	9.4	5	18	704	4.28	<2	<5	<2	<2	24	1.6	3	3	39	1.81	.005	8	16	.72	55	.03	3	1.50	.03	.21	<2	<5	<1	402	32
B 102498	19	1965	15	164	6.7	5	13	1068	5.54	3	<5	<2	3	19	1.4	2	<2	68	1.32	.004	5	17	1.16	51	.06	<3	2.19	.04	.21	<2	<5	1	99	27
B 102499	8	1767	12	216	5.9	7	15	1403	8.32	<2	<5	<2	5	15	2.0	<2	<2	114	1.04	.003	2	17	2.01	49	.10	<3	3.13	.04	.36	<2	<5	<1	74	20
B 102500	29	2298	17	164	7.0	6	11	731	4.46	2	<5	<2	2	18	.8	<2	<2	56	.75	.004	4	17	1.00	59	.10	<3	1.89	.04	.10	3	<5	<1	96	21
B 102501	35	2605	11	202	7.7	6	12	818	4.35	9	<5	<2	<2	18	1.9	2	<2	53	1.19	.003	4	15	.91	52	.09	<3	1.79	.04	.12	9	<5	<1	238	18
B 102502	50	4409	15	193	12.7	13	12	947	4.42	3	<5	<2	<2	26	2.0	2	<2	45	1.73	<.001	14	21	.75	91	.01	4	1.55	.03	.23	<2	<5	<1	302	14
RE B 102502	50	4253	17	189	12.0	13	12	919	4.26	2	<5	<2	<2	26	1.5	<2	<2	44	1.67	<.001	13	18	.73	88	.01	3	1.51	.03	.23	<2	<5	<1	384	-
RRE B 102502	53	4280	13	187	11.9	12	12	918	4.26	<2	<5	<2	<2	26	1.7	<2	<2	45	1.66	<.001	14	20	.73	89	.01	<3	1.51	.02	.23	2	<5	<1	222	-
B 102503	39	3812	143	537	12.4	8	24	1848	3.70	1571	<5	<2	<2	19	4.3	9	25	16	1.46	.005	10	14	.43	62	<.01	5	.73	.02	.25	6	<5	<1	336	18
B 102504	18	3380	22	227	9.6	10	13	1330	6.37	4	<5	<2	8	26	2.0	<2	3	74	1.71	.002	7	18	1.40	50	.03	<3	2.34	.03	.30	<2	<5	<1	233	20
B 102505	18	3388	40	302	10.7	11	11	1485	5.16	405	<5	<2	3	30	2.4	<2	7	51	1.94	.001	5	21	.80	62	.01	<3	1.83	.02	.25	2	<5	<1	348	20
B 102506	35	3620	20	202	11.4	10	9	1060	4.07	<2	<5	2	<2	38	1.8	2	2	43	1.88	<.001	4	20	.73	72	.01	3	1.50	.03	.22	<2	<5	<1	238	20
B 102507	44	4893	19	214	12.5	11	9	776	3.24	2	<5	<2	<2	53	2.0	<2	2	26	2.05	<.001	9	15	.48	82	.01	<3	1.09	.03	.19	2	<5	<1	490	19
B 102508	62	3645	20	242	11.1	12	9	1122	4.86	11	<5	<2	<2	33	2.1	<2	2	53	1.72	.003	7	18	.80	66	.01	<3	1.76	.03	.21	<2	<5	<1	302	18
B 102509	51	3680	30	291	12.1	9	9	1362	4.12	19	<5	<2	<2	26	2.4	<2	2	35	1.83	.001	5	14	.60	65	<.01	<3	1.42	.02	.20	<2	<5	<1	326	15
B 102510	68	9063	26	317	48.0	18	14	1296	4.68	<2	<5	34	<2	23	2.6	<2	<2	24	1.66	.036	8	14	.46	68	<.01	4	1.18	.03	.24	<2	<5	<1	1248	10
B 102511	23	228	12	97	.7	8	8	728	4.80	2	<5	<2	<2	31	.9	<2	<2	59	1.54	.006	2	14	1.36	37	.09	<3	2.11	.07	.19	3	<5	<1	12	8
B 102512	63	6279	97	469	24.4	18	9	2335	5.59	1929	<5	<2	<2	17	3.8	7	6	41	1.40	<.001	27	15	.66	65	<.01	3	1.42	.01	.26	<2	<5	<1	2093	20
B 102513	32	9504	56	571	26.0	18	16	1518	4.29	9	<5	<2	<2	35	4.7	<2	4	19	2.10	.009	6	16	.34	68	<.01	4	.98	.02	.26	<2	<5	<1	1162	19
B 102514	21	4965	31	300	14.1	7	11	1175	4.75	11	<5	<2	<2	31	2.5	<2	3	41	1.79	.002	26	17	.75	65	.01	<3	1.69	.03	.20	<2	<5	<1	874	18
STANDARD C2/AU-R	22	63	49	152	7.4	79	40	1211	4.05	42	22	8	38	56	21.6	16	22	79	.56	.109	41	68	1.03	213	.08	25	2.06	.06	.15	13	<5	1	490	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-4739

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102515	40	4269	18	240	11.4	6	9	935	3.76	10	<5	<2	<2	26	2.3	2	<2	37	1.63	.004	6	14	.66	54	.02	<3	1.32	.03	.18	5	<5	<1	301	21
B 102516	124	5183	30	322	16.8	6	11	1300	4.29	70	<5	<2	<2	41	2.9	2	5	32	2.13	.009	14	15	.54	74	.01	<3	1.30	.03	.22	<2	<5	<1	416	20
B 102517	121	1532	20	150	5.3	5	5	1289	3.62	84	<5	<2	<2	36	1.7	<2	5	29	2.15	.005	11	13	.40	61	<.01	<3	1.10	.02	.19	<2	<5	<1	35	14
B 102518	109	2332	30	198	8.1	6	5	1195	2.98	9	<5	<2	<2	38	2.0	<2	5	25	1.96	.012	129	15	.34	68	<.01	3	.95	.02	.23	<2	<5	<1	26	17
B 102519	69	1029	17	176	3.6	5	2	946	1.70	4	<5	<2	<2	49	1.3	<2	<2	13	2.03	.007	8	14	.17	71	<.01	3	.59	.02	.22	<2	<5	<1	8	15
B 102520	32	851	41	242	3.7	4	2	1905	2.77	51	<5	<2	<2	25	1.9	<2	4	22	1.91	.024	6	13	.33	55	<.01	<3	.88	.02	.25	2	<5	<1	6	19
B 102521	36	1600	45	261	6.5	5	4	1806	4.13	139	5	<2	2	23	2.5	3	7	37	1.71	.007	4	16	.54	59	<.01	<3	1.27	.02	.22	2	<5	<1	97	19
B 102522	6	2044	40	233	7.1	4	4	1311	2.38	51	<5	<2	<2	24	2.5	3	9	15	1.62	.006	7	11	.22	66	<.01	3	.59	.02	.21	<2	<5	<1	16	18
B 102523	8	1485	22	163	5.1	5	4	1265	2.96	4	<5	<2	<2	31	1.7	<2	<2	29	1.73	.004	6	17	.44	70	<.01	<3	1.01	.02	.19	<2	<5	<1	8	17
RE B 102523	8	1632	18	175	5.8	5	5	1360	3.17	5	<5	<2	2	34	1.8	<2	<2	32	1.87	.003	6	18	.47	75	<.01	<3	1.09	.02	.21	<2	<5	1	15	-
RRE B 102523	8	1550	18	184	5.3	5	4	1311	3.04	3	<5	<2	<2	32	1.5	<2	<2	31	1.81	.003	6	17	.45	71	<.01	<3	1.04	.02	.20	<2	<5	<1	12	-
B 102524	10	1323	25	168	4.4	6	4	1306	2.13	4	10	<2	<2	33	1.3	2	<2	12	1.84	.009	21	17	.15	77	<.01	5	.51	.02	.25	4	<5	<1	8	14
B 102525	8	1162	72	268	6.0	4	3	2159	2.01	61	<5	<2	<2	26	2.4	3	25	7	2.35	.011	4	11	.16	67	<.01	4	.41	.02	.25	<2	<5	<1	24	13
B 102526	11	3644	49	258	11.4	7	7	1413	2.25	9	11	<2	<2	23	2.2	<2	<2	2	1.79	.031	13	14	.09	81	<.01	5	.33	.02	.25	4	<5	<1	72	14
B 102527	7	974	26	191	3.2	5	2	1095	1.02	2	5	<2	<2	30	1.6	2	<2	1	2.18	.012	3	13	.05	65	<.01	7	.25	.02	.22	2	<5	<1	8	15
STANDARD C2/AU-R	20	58	41	142	7.0	77	38	1140	3.88	44	18	8	34	52	20.8	17	22	72	.51	.105	38	65	.96	192	.07	23	1.88	.06	.14	13	<5	2	450	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-4942 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2GB Submitted by: Steve Robertson

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	Tl	Hg	Au*	SAMPLE
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppb	lb
B 102528	2	302	<3	162	1.2	5	7	834	4.70	2	<5	<2	8	20	.7	2	<2	86	1.18	.003	1	10	2.06	76	.17	<3	2.20	.04	.75	<2	5	<1	11	15
B 102529	2	232	<3	104	.9	6	8	932	5.32	3	<5	<2	14	19	.3	<2	<2	100	1.35	.003	<1	11	2.36	86	.20	<3	2.42	.05	.81	2	<5	<1	4	17
B 102530	5	426	<3	96	1.5	6	8	1203	5.35	2	<5	<2	7	19	<.2	4	<2	75	1.76	.009	1	13	1.92	66	.08	<3	2.38	.03	.45	3	<5	<1	15	9
B 102531	4	5576	250	956	36.2	11	40	2564	8.80	14	<5	<2	7	14	7.8	12	11	75	1.16	.047	4	8	2.03	42	.04	3	2.45	.01	.35	3	<5	<1	910	9
B 102532	6	2149	9	148	9.7	11	30	2104	8.00	7	<5	<2	7	15	.8	<2	<2	73	1.29	.003	2	13	1.92	40	.02	<3	2.57	.01	.24	7	<5	<1	108	8
B 102533	6	287	3	117	1.0	5	7	842	4.29	<2	<5	<2	4	21	.4	<2	<2	76	1.44	.007	2	8	1.71	66	.10	<3	2.08	.04	.46	42	<5	<1	26	17
B 102534	6	379	<3	105	2.0	7	9	960	5.20	5	<5	<2	3	25	<.2	<2	<2	76	1.76	.007	2	12	1.82	67	.08	<3	2.26	.03	.44	4	<5	<1	8	16
B 102535	3	799	<3	118	2.6	6	10	1116	5.81	7	<5	<2	10	21	.2	<2	5	82	1.36	.005	1	10	1.79	55	.07	<3	2.57	.03	.34	5	<5	<1	1630	17
B 102536	2	195	6	78	.3	5	6	548	3.95	<2	<5	<2	3	37	.2	3	<2	82	1.05	.015	1	11	1.54	97	.19	<3	2.01	.08	.71	<2	<5	<1	37	15
B 102537	2	338	6	108	.8	7	7	1146	5.04	5	<5	<2	5	28	.2	<2	<2	89	1.57	.013	2	11	1.72	75	.13	<3	2.28	.05	.54	23	<5	<1	13	16
B 102538	4	245	4	92	.9	5	8	916	5.06	<2	<5	<2	8	22	.2	<2	<2	84	1.24	.006	1	11	1.88	86	.16	<3	2.31	.04	.70	2	<5	<1	8	16
RE B 102538	4	233	<3	92	.9	6	8	914	5.02	<2	<5	<2	10	22	.2	<2	<2	83	1.24	.005	1	13	1.87	83	.16	<3	2.28	.04	.69	<2	<5	<1	4	-
RRE B 102538	3	266	<3	97	1.1	6	8	956	5.12	2	<5	<2	10	21	<.2	2	<2	84	1.25	.005	1	11	1.91	82	.16	<3	2.30	.04	.70	2	<5	<1	11	-
B 102539	3	474	4	152	1.6	7	9	984	5.41	2	<5	<2	9	23	.5	<2	<2	91	1.25	.005	3	7	2.04	91	.18	<3	2.31	.05	.88	45	<5	<1	37	18
B 102540	3	144	<3	78	.3	6	7	695	3.99	5	<5	<2	3	33	<.2	2	<2	82	1.54	.007	2	10	1.56	126	.15	<3	1.97	.06	.65	<2	5	<1	8	15
B 102541	2	130	7	99	.5	7	8	1242	7.28	20	<5	<2	8	26	<.2	2	3	112	1.04	.016	1	11	2.46	89	.17	<3	3.12	.05	.79	4	<5	<1	21	17
B 102542	1	374	7	100	1.5	6	8	808	5.94	2	<5	<2	6	24	.2	<2	<2	103	.94	.005	<1	9	2.45	118	.27	<3	2.63	.07	1.45	7	<5	<1	28	17
B 102543	1	220	<3	116	1.1	7	10	996	7.13	<2	<5	<2	10	21	<.2	<2	<2	128	.95	.004	<1	10	2.99	128	.27	<3	3.06	.07	1.60	7	<5	<1	19	17
B 102544	6	115	7	107	.4	6	8	879	6.37	<2	<5	<2	10	23	<.2	<2	<2	110	.72	.003	<1	10	2.54	124	.26	<3	2.74	.07	1.54	<2	<5	<1	8	16
B 102545	3	315	3	151	1.6	7	10	1164	7.60	6	<5	<2	7	18	.5	<2	<2	134	1.01	.004	1	10	3.06	124	.26	<3	3.23	.06	1.51	4	<5	<1	5	16
B 102546	3	898	52	187	4.7	8	12	1912	9.59	22	<5	<2	14	16	.6	<2	<2	151	1.09	.002	1	8	3.25	93	.17	<3	3.73	.03	1.07	3	<5	<1	103	17
B 102547	3	975	2491	9914	25.9	1	5	26626	9.19	5398	7	<2	6	16	94.7	34	33	26	1.36	.027	2	8	.77	45	<.01	4	.52	.01	.36	3	53	<1	132	8
B 102548	<1	895	2151	15194	27.3	<1	4	71221	14.35	9235	<5	<2	<2	21	136.2	73	41	28	2.98	.044	<1	9	1.04	54	<.01	<3	.41	<.01	.31	<2	175	<1	118	4
B 102549	6	876	2972	7005	29.1	8	24	22451	26.12	99999	<5	<2	<2	12	78.2	413	59	18	1.89	.031	3	40	.48	59	<.01	<3	.50	<.01	.31	<2	20	<1	1650	2
B 102550	4	191	855	2147	2.9	4	5	9493	5.88	307	<5	<2	4	21	19.1	5	<2	55	1.30	.057	4	8	.81	46	.01	7	.98	.01	.41	<2	<5	<1	12	15
RE B 102550	3	193	882	2184	3.0	5	5	9676	6.01	330	<5	<2	4	21	19.5	5	<2	57	1.32	.058	4	8	.83	47	.01	9	1.00	.01	.43	<2	<5	<1	8	-
RRE B 102550	4	192	917	2202	3.0	4	6	9557	6.11	602	<5	<2	5	21	19.7	7	<2	58	1.35	.056	5	9	.85	49	.01	8	1.03	.02	.43	<2	<5	<1	10	-
B 102551	46	482	<3	166	1.7	6	6	655	4.20	103	5	<2	16	29	1.3	<2	<2	101	1.06	.037	4	13	1.29	70	.16	<3	1.82	.09	.64	2	<5	<1	25	17
B 102552	3	32	4	65	<.3	4	3	358	3.78	31	<5	<2	4	33	.3	<2	<2	114	.77	.051	1	12	1.10	71	.21	<3	1.55	.10	.50	3	<5	<1	3	18
B 102553	21	70	4	65	<.3	5	4	445	4.60	6	<5	<2	6	34	<.2	<2	<2	144	.92	.062	1	11	1.33	82	.23	<3	1.81	.09	.61	3	6	<1	2	16
B 102554	2	20	4	56	<.3	6	3	410	3.81	16	7	<2	3	41	.3	2	<2	109	1.03	.058	1	12	1.05	72	.18	<3	1.54	.10	.38	3	<5	<1	2	16
B 102555	4	25	5	68	<.3	5	4	743	3.96	6	<5	<2	3	30	.4	<2	<2	112	1.27	.062	2	10	1.14	62	.17	<3	1.62	.09	.37	2	<5	<1	1	18
B 102556	4	655	13	107	1.2	7	6	751	4.88	12	<5	<2	7	29	.4	3	<2	145	1.11	.056	10	11	1.46	81	.22	<3	1.99	.09	.56	9	<5	<1	15	15
B 102557	3	204	<3	73	.7	6	5	489	4.58	5	5	<2	4	33	.2	<2	<2	144	.98	.071	3	11	1.36	90	.23	<3	1.83	.10	.64	23	<5	<1	11	20
B 102558	4	58	5	62	<.3	6	5	394	4.45	5	8	<2	6	51	<.2	<2	<2	143	1.04	.061	2	10	1.17	82	.24	<3	1.82	.14	.50	2	5	<1	5	18
B 102559	2	51	<3	65	<.3	5	4	462	4.75	5	5	<2	5	36	<.2	<2	<2	136	.89	.056	1	11	1.44	86	.25	<3	1.84	.11	.60	3	5	1	3	17
STANDARD C2/	21	60	40	147	7.3	76	39	1202	3.90	43	17	8	36	56	21.3	17	20	75	.55	.108	38	64	1.00	210	.09	26	1.99	.07	.16	16	<5	1	446	-

Standard is STANDARD C2/AU-R.

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: P1 TO P2 CORE P3 ROCK P4 MOSS MAT AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 1 1996 **DATE REPORT MAILED:** Oct 10/96 **SIGNED BY** .... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-4942

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102560	1	60	45	157	.3	9	3	551	3.86	4	9	<2	6	34	1.2	<2	<2	103	.91	.051	2	12	1.15	66	.19	4	1.68	.11	.40	<2	<5	<1	4	17
B 102561	1	67	8	54	.3	6	3	309	3.81	<2	<5	<2	7	35	.4	<2	5	113	.82	.052	2	10	1.22	91	.22	4	1.67	.12	.46	<2	<5	1	5	16
B 102562	1	137	6	80	.4	7	4	472	4.78	2	<5	<2	7	35	<.2	<2	<2	123	1.07	.064	3	12	1.49	91	.19	5	1.92	.11	.47	<2	<5	<1	8	18
B 102563	1	56	8	68	.3	6	2	551	4.28	<2	6	<2	7	35	<.2	<2	<2	120	1.15	.062	3	10	1.27	85	.20	4	1.72	.11	.41	<2	<5	<1	2	17
B 102564	3	198	7	61	.7	5	3	400	3.71	<2	<5	<2	6	35	.4	<2	2	100	1.08	.051	2	11	1.04	85	.19	5	1.54	.11	.37	3	<5	1	18	18
B 102565	3	544	10	93	1.5	4	4	540	3.74	108	<5	<2	5	34	.4	<2	<2	96	.96	.051	3	11	1.01	91	.18	6	1.52	.10	.44	<2	<5	<1	27	17
B 102566	4	172	4	63	.3	5	4	474	4.21	<2	<5	<2	7	38	.3	<2	<2	104	1.13	.046	3	12	1.22	84	.17	4	1.76	.11	.50	2	<5	<1	10	17
RE B 102566	4	172	6	63	.5	6	6	471	4.16	<2	<5	<2	7	37	.3	<2	<2	104	1.11	.045	3	12	1.20	84	.17	8	1.74	.11	.49	2	<5	<1	15	-
RRE B 102566	3	148	4	62	.5	6	6	467	4.22	2	<5	<2	7	36	<.2	<2	<2	107	1.12	.046	3	10	1.22	81	.17	3	1.74	.10	.48	2	<5	<1	16	-
B 102567	3	283	9	56	.6	7	4	339	3.49	<2	9	<2	5	41	<.2	<2	3	95	.98	.052	3	13	1.00	104	.20	3	1.59	.12	.51	2	<5	<1	18	16
B 102568	1	127	7	55	<.3	4	3	309	3.47	<2	<5	<2	5	35	.2	<2	2	98	.87	.053	3	10	1.08	94	.20	5	1.51	.12	.43	2	<5	<1	5	18
B 102569	3	101	7	59	.3	7	4	334	3.62	3	<5	<2	5	34	.6	<2	4	96	.97	.052	3	12	1.11	81	.20	3	1.50	.10	.36	2	<5	1	26	16
B 102570	2	124	4	79	.4	7	4	327	3.53	<2	<5	<2	5	34	.6	<2	<2	97	1.03	.051	3	12	1.05	69	.18	6	1.48	.11	.32	2	<5	<1	10	7

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
66065R	55	2793	620	473	27.6	40	46	809	6.95	13802	<5	<2	3	9	3.3	69	262	57	.23	.057	11	17	.77	26	.02	5	1.67	.04	.23	5	<5	<1	980
66066R	8	685	98	323	8.1	15	23	1587	6.05	360	<5	<2	<2	9	2.4	2	38	79	.40	.041	19	12	1.51	21	.02	3	2.63	.03	.17	2	<5	<1	51
66067R	4	941	463	2144	41.8	10	34	479	6.02	8913	<5	<2	3	7	21.6	39	87	32	.15	.027	26	12	.31	22	<.01	20	.75	.02	.14	2	<5	<1	1210
66068R	4	723	2091	13934	123.7	28	36	140	6.47	31075	<5	2	2	13	149.4	177	299	2	.22	.004	5	13	.09	20	<.01	57	.05	.01	.03	<2	<5	<1	2340
66069R	7	1082	445	868	62.9	8	32	1375	6.37	5962	<5	<2	4	8	7.2	23	150	43	.32	.035	41	12	.81	25	<.01	7	1.48	.02	.18	<2	<5	<1	531
66604R	454	3479	4857	1341	361.2	105	342	241	33.98	99999	<5	<2	6	9	22.9	371	849	6	.05	.004	18	<1	<.01	23	<.01	<3	.13	<.01	.10	3700	<5	<1	6860
RE 66604R	451	3411	4851	1305	362.6	103	335	234	33.23	99999	<5	<2	5	9	22.0	364	857	6	.05	.002	18	<1	<.01	22	<.01	<3	.13	<.01	.09	3621	<5	<1	6740

Sample type: ROCK. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb
66601T	3	365	49	392	3.4	43	58	964	4.24	324	<5	3	<2	65	7.9	<2	2	50	1.71	.153	27	21	.49	79	.05	6	1.87	.02	.26	3	<5	<1	26
66602T	2	112	73	272	1.2	15	24	993	3.34	101	<5	<2	<2	59	4.3	<2	<2	74	1.32	.103	23	19	.73	145	.10	10	2.16	.02	.24	2	<5	<1	37
66603T	2	209	30	265	1.2	68	143	1042	2.76	100	<5	<2	<2	75	6.6	2	4	33	1.53	.152	18	13	.34	78	.04	11	1.61	.02	.29	<2	<5	1	10
RE 66603T	2	206	27	258	1.1	64	136	1008	2.89	99	<5	<2	<2	73	6.9	<2	<2	34	1.45	.146	17	13	.34	68	.04	9	1.60	.02	.28	<2	<5	<1	9

Sample type: MOSS MAT. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-5445 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102571	26	1562	901	4075	32.3	7	14	8903	9.47	2114	<5	<2	6	6	31.8	371	4	44	.83	.032	2	5	1.52	24	<.01	12	1.25	.01	.19	19	<5	1	243	14
B 102572	42	4754	2508	6712	82.8	6	55	10008	10.91	10385	<5	<2	3	7	68.7	737	8	17	2.15	.683	1	8	.51	19	<.01	20	.78	.01	.33	99	<5	1	340	5
B 102573	39	1556	251	890	12.2	5	6	3021	6.53	405	<5	<2	9	7	7.7	39	<2	25	1.16	.068	1	7	.98	26	<.01	16	.60	.01	.24	19	<5	2	53	11
B 102574	24	2829	78	242	14.8	5	14	3057	8.56	116	<5	<2	10	12	1.9	7	<2	77	1.74	.069	3	9	2.41	45	.02	8	2.55	.01	.27	36	<5	1	138	19
B 102575	22	1147	27	192	4.8	4	10	1897	7.10	25	<5	<2	8	17	1.3	3	<2	86	1.53	.054	4	10	2.64	58	.06	7	2.82	.02	.70	6	<5	<1	73	21
B 102576	15	1610	15	147	6.4	5	15	1885	8.67	45	<5	<2	14	16	.5	4	<2	105	1.31	.051	6	16	2.99	58	.09	5	3.26	.02	.85	3	<5	1	29	19
B 102577	17	1177	32	209	5.4	4	17	2464	9.59	108	<5	<2	7	12	1.2	2	<2	106	1.11	.092	4	20	2.90	50	.06	8	3.58	.01	.53	4	<5	<1	76	18
B 102578	17	684	21	124	3.6	4	14	2444	8.06	73	<5	<2	11	12	.8	<2	<2	90	1.19	.021	5	16	2.45	49	.04	6	3.14	.01	.36	4	<5	<1	79	19
B 102579	4	339	<3	126	1.2	3	12	3504	18.22	39	<5	<2	10	29	<.2	<2	<2	99	6.70	.022	4	17	1.84	95	.03	6	1.47	.01	.23	3	<5	2	6	2
B 102580	29	1224	159	595	9.7	5	9	5229	5.51	179	<5	<2	15	7	5.1	5	2	59	.85	.114	4	16	.98	44	.01	7	1.76	.01	.18	36	<5	1	40	18
RE B 102580	33	1265	165	623	9.7	5	9	5468	5.75	168	<5	<2	12	8	5.6	4	<2	61	.87	.118	4	16	1.02	45	.01	8	1.83	.01	.19	38	<5	1	76	-
RRE B 102580	30	1280	175	622	9.8	5	10	5437	5.79	181	<5	<2	12	8	5.5	4	<2	62	.89	.119	3	13	1.02	44	.01	6	1.84	.01	.18	36	<5	2	66	-
B 102581	25	1043	84	192	6.0	5	19	3030	9.36	178	<5	<2	7	11	1.4	<2	<2	124	1.55	.089	5	14	2.75	35	.04	7	3.38	.01	.42	80	<5	<1	87	19
B 102582	25	960	533	1209	7.2	5	18	4330	10.67	818	<5	<2	13	9	12.0	<2	<2	119	1.04	.059	4	12	2.48	27	.02	7	3.48	.01	.26	5	<5	<1	78	20
B 102583	21	2018	44	148	8.9	5	16	2549	8.36	89	<5	<2	11	11	.9	2	<2	104	1.12	.035	3	13	2.13	40	.03	5	2.98	.01	.29	8	<5	1	207	20
B 102584	16	1804	494	1121	13.8	6	17	4439	10.53	359	<5	<2	6	9	10.5	3	2	122	.78	.054	1	15	2.09	28	.01	7	2.87	.01	.16	4	<5	<1	113	19
B 102585	16	1616	771	2233	14.1	5	21	3399	9.63	333	<5	<2	10	7	18.8	6	<2	80	.66	.054	2	10	1.62	38	.01	9	2.20	.01	.21	3	<5	1	99	19
B 102586	28	2820	305	532	18.0	5	30	3140	9.89	239	<5	<2	8	8	4.3	3	<2	91	.83	.110	5	7	1.87	28	.01	9	2.25	.01	.14	5	6	2	126	19
B 102587	24	3285	550	1256	26.6	7	14	7065	11.87	334	<5	<2	8	7	12.3	4	<2	104	.73	.171	4	10	2.08	27	.01	10	2.75	.01	.20	29	<5	<1	720	16
B 102588	17	6092	558	6572	118.6	6	17	4496	13.08	24140	<5	3	8	5	67.4	200	78	17	.33	.013	1	9	.56	23	<.01	9	.44	<.01	.22	568	<5	1	2680	3
B 102589	12	1274	340	1015	12.9	5	8	6865	6.78	868	<5	4	4	6	9.0	7	7	41	.93	.234	6	10	1.06	37	<.01	13	1.33	.01	.34	5	6	2	2460	19
B 102590	18	1456	289	860	10.7	5	15	3384	4.49	620	5	<2	4	9	8.0	7	4	29	1.10	.176	7	9	.87	45	<.01	14	.94	.01	.28	39	<5	2	517	18
RE B 102590	17	1474	278	851	10.2	5	15	3390	4.49	620	<5	<2	3	9	7.8	6	3	29	1.09	.175	8	9	.87	45	<.01	13	.94	.01	.28	39	<5	1	435	-
RRE B 102590	17	1476	283	853	10.9	5	17	3376	4.45	654	<5	<2	3	9	7.9	8	3	28	1.09	.177	8	9	.87	45	<.01	11	.94	.01	.27	40	6	1	494	-
B 102591	28	2499	364	942	16.2	7	8	4540	5.82	556	5	<2	3	9	8.8	9	2	34	1.17	.210	5	11	.98	43	<.01	12	.78	.01	.28	12	<5	<1	612	20
B 102592	52	5325	747	1454	34.9	6	7	4782	9.07	982	<5	<2	3	6	14.8	17	2	103	.43	.049	14	11	1.76	28	.01	12	2.66	.01	.22	484	<5	<1	570	19
B 102593	18	1104	579	1770	8.7	5	7	3432	8.66	530	<5	<2	8	10	17.4	6	<2	108	.86	.038	6	7	2.16	38	.03	7	3.14	.01	.31	6	<5	<1	119	19
B 102594	22	1248	249	1342	15.1	3	9	4042	9.03	4918	<5	<2	9	6	13.1	13	18	79	.77	.119	3	7	1.57	39	.01	11	2.81	.01	.30	8	<5	1	200	16
B 102595	3	1037	433	3077	30.5	5	54	3527	11.59	18833	<5	<2	7	8	28.3	32	61	139	1.81	.178	1	6	1.51	20	.01	7	3.21	<.01	.21	24	<5	<1	1510	3
B 102596	8	1244	207	460	12.0	4	12	2376	8.16	743	<5	<2	6	14	4.3	11	19	135	.98	.064	3	7	2.04	48	.03	6	2.92	.01	.37	3	<5	2	222	20
B 102597	11	268	17	159	.7	5	13	1100	6.78	17	<5	<2	11	29	1.0	<2	<2	180	1.76	.052	3	5	2.30	69	.10	3	2.51	.04	.88	2	<5	2	10	16
B 102598	3	314	47	222	.9	4	10	3850	8.93	37	<5	<2	8	38	1.7	2	<2	122	3.12	.028	6	8	1.40	30	<.01	8	.63	.01	.12	6	<5	3	16	12
B 102599	7	231	6	74	.6	4	6	692	4.18	<2	<5	<2	6	25	.2	<2	<2	106	1.23	.030	2	11	1.40	43	.08	4	1.83	.06	.43	<2	<5	<1	6	15
B 102600	68	3005	1105	4930	20.4	9	7	5351	11.83	721	<5	<2	4	8	47.4	8	<2	174	.32	.003	3	15	2.23	18	<.01	13	2.30	<.01	.14	<2	<5	2	415	13
B 102601	40	109	438	2215	1.6	6	5	4809	8.56	607	35	<2	5	8	20.0	6	<2	48	.25	.004	6	14	1.52	19	<.01	13	.84	.01	.22	678	<5	<1	118	9
B 102602	6	53	65	179	<.3	2	6	1787	4.65	2	<5	<2	8	23	1.2	<2	<2	95	1.44	.030	2	9	1.61	29	.05	5	1.92	.03	.28	3	<5	<1	6	20
STANDARD C2/AU-R	18	60	41	129	6.5	69	37	1160	4.02	40	22	8	34	51	20.3	17	15	69	.50	.105	35	63	.99	184	.06	27	2.01	.06	.14	12	<5	1	457	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 18 1996 **DATE REPORT MAILED:** Oct 28/96 **SIGNED BY** ....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-5445

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102603	4	255	52	402	.9	4	5	1578	5.82	79	<5	<2	7	23	3.2	<2	<2	116	1.30	.067	3	13	1.44	25	.05	<3	2.37	.04	.26	3	<5	<1	7	16
B 102604	9	1691	163	282	7.6	5	8	3190	10.40	68	<5	<2	14	24	2.4	<2	<2	233	1.89	.049	14	16	2.73	23	.02	<3	3.66	.01	.20	8	5	<1	95	18
B 102605	5	347	8	78	.6	3	7	863	5.04	<2	<5	<2	14	16	<.2	<2	<2	105	1.53	.075	1	8	1.90	38	.10	3	2.12	.04	.70	7	<5	1	11	19
B 102606	9	544	17	120	1.3	4	7	660	4.82	<2	<5	<2	10	15	.7	<2	<2	102	.87	.091	2	10	1.71	53	.13	4	2.20	.06	.73	<2	<5	<1	14	20
B 102607	9	375	6	102	.9	4	8	668	4.46	8	<5	<2	12	16	.4	<2	<2	81	.97	.082	2	10	1.58	51	.11	4	1.97	.05	.60	3	<5	<1	21	20
B 102608	15	408	61	198	1.9	3	8	1604	6.35	10	<5	<2	10	15	1.4	<2	2	97	1.11	.035	3	13	2.10	40	.05	<3	2.78	.03	.40	3	<5	<1	18	15
B 102609	33	5133	816	1748	33.0	6	19	2938	9.49	3864	<5	<2	8	7	16.8	29	<2	97	.42	.003	3	21	1.85	35	.01	<3	3.29	.01	.21	95	<5	<1	761	13
B 102610	21	502	12	138	1.4	3	7	831	4.59	26	<5	<2	8	15	.8	<2	3	70	.93	.004	1	13	1.51	48	.09	<3	2.11	.04	.46	<2	<5	<1	18	21
B 102611	31	985	23	133	3.7	5	9	975	4.42	26	<5	<2	4	15	.8	<2	2	62	1.01	.005	1	12	1.26	58	.06	3	1.94	.04	.31	<2	<5	<1	35	19
B 102612	14	620	9	107	1.6	4	7	823	4.61	7	<5	<2	6	17	.5	<2	<2	72	1.01	.046	2	13	1.52	38	.09	<3	2.11	.05	.45	<2	<5	<1	18	20
B 102613	10	634	8	100	1.6	5	6	661	3.80	19	<5	<2	3	18	.4	<2	<2	62	.95	.051	2	12	1.13	43	.07	3	1.78	.05	.28	<2	<5	<1	22	20
B 102614	9	830	18	200	2.4	4	8	1126	5.06	54	<5	<2	5	16	1.5	<2	<2	82	1.29	.035	2	13	1.61	42	.07	<3	2.29	.04	.47	2	<5	<1	13	19
RE B 102614	10	828	22	198	2.5	3	8	1114	5.04	55	<5	<2	5	15	1.2	<2	<2	81	1.27	.034	2	12	1.60	42	.07	<3	2.29	.04	.47	<2	<5	<1	43	-
RRE B 102614	10	826	20	196	2.5	3	8	1106	5.02	51	<5	<2	4	16	1.1	<2	<2	80	1.26	.034	1	11	1.58	44	.07	<3	2.27	.05	.48	<2	<5	<1	17	-
B 102615	19	235	8	137	.8	4	7	1136	5.10	30	<5	<2	5	17	.6	<2	2	71	1.14	.004	<1	13	1.74	35	.08	<3	2.38	.06	.47	<2	<5	<1	6	20
B 102616	22	351	9	124	.7	4	7	904	3.87	54	<5	<2	3	17	.6	<2	<2	54	1.25	.005	2	15	1.19	30	.05	<3	1.84	.05	.25	<2	<5	<1	8	19
B 102617	47	636	7	82	1.1	4	8	796	4.61	23	<5	<2	4	22	<.2	<2	<2	66	.88	.008	2	13	1.34	51	.10	<3	2.10	.06	.43	<2	8	<1	57	20
B 102618	39	133	9	87	.4	4	6	666	4.22	11	<5	<2	6	20	.3	<2	<2	64	.85	.007	2	13	1.46	40	.08	<3	2.08	.06	.40	<2	<5	1	4	19
B 102619	159	914	18	135	3.2	4	10	1302	5.58	34	<5	<2	5	19	.8	<2	<2	83	1.46	.016	5	12	1.47	46	.04	<3	2.14	.03	.39	7	<5	<1	19	20
B 102620	491	1506	444	2058	7.3	3	12	1916	6.16	947	<5	<2	9	20	18.0	<2	<2	69	1.32	.079	221	16	1.35	38	.02	4	2.19	.02	.26	13	<5	1	95	19
B 102621	10	969	11	100	2.6	4	7	758	4.49	60	<5	<2	3	20	.6	<2	<2	52	1.19	.010	6	14	1.19	41	.05	<3	2.03	.04	.27	11	<5	<1	41	19
B 102622	10	803	30	115	2.7	4	10	1196	5.75	76	<5	<2	2	19	.5	<2	<2	84	1.21	.014	4	16	1.64	45	.06	<3	2.50	.04	.48	8	<5	<1	184	20
B 102623	7	1515	11	106	4.4	5	17	920	5.26	181	<5	<2	3	22	.6	<2	<2	75	1.26	.010	7	12	1.24	48	.03	<3	2.26	.04	.25	17	<5	<1	155	19
B 102624	7	834	38	141	3.1	4	13	1246	4.25	166	<5	<2	3	20	1.1	<2	<2	52	1.45	.012	6	13	.88	43	.01	5	1.92	.03	.21	10	<5	<1	66	17
B 102625	8	1266	86	425	7.1	6	8	3935	4.54	341	<5	<2	2	19	3.7	<2	<2	35	1.73	.011	4	12	.69	35	<.01	6	1.66	.01	.32	7	<5	<1	104	14
B 102626	9	3021	1364	1544	20.8	5	21	3577	7.70	2109	<5	<2	12	14	15.2	5	4	110	1.22	.019	6	10	1.41	37	.01	4	2.95	.01	.25	48	<5	<1	362	9
RE B 102626	7	3085	1427	1597	20.8	5	22	3671	8.04	2264	<5	<2	12	14	15.7	3	2	112	1.25	.018	5	10	1.45	37	.01	4	3.01	.01	.27	46	<5	<1	349	-
RRE B 102626	7	2912	1383	1573	20.2	5	21	3541	7.67	2029	<5	<2	13	14	15.6	5	5	108	1.23	.017	7	11	1.41	36	.01	3	2.92	.01	.25	40	<5	<1	471	-
B 102627	6	786	238	2249	4.5	2	8	2828	3.90	403	<5	<2	3	15	20.6	2	<2	39	1.45	.012	3	9	.69	32	<.01	6	1.52	.01	.24	51	<5	<1	71	19
B 102628	11	1356	37	203	4.6	5	8	1377	3.74	107	<5	<2	2	22	1.7	<2	<2	38	1.59	.008	4	13	.68	52	<.01	4	1.55	.02	.24	141	<5	<1	85	19
B 102629	5	2096	425	913	15.1	4	15	2614	7.64	2145	<5	<2	7	16	9.7	11	<2	90	1.25	.103	7	9	1.31	51	.01	3	2.62	.01	.27	3	<5	<1	144	19
B 102630	10	1630	32	172	4.6	5	14	836	4.90	157	<5	<2	7	19	1.4	<2	2	62	1.04	.013	3	13	1.10	56	.04	<3	2.10	.04	.22	2	<5	<1	111	19
B 102631	8	954	83	252	3.4	4	8	1233	4.94	148	<5	<2	4	21	1.9	<2	<2	57	1.55	.010	5	13	.99	46	.01	4	2.11	.03	.18	5	<5	<1	63	20
B 102632	18	1000	22	125	3.4	3	18	1696	4.63	366	<5	<2	2	21	1.0	<2	<2	45	1.73	.050	6	11	.66	40	.01	4	1.55	.02	.27	18	<5	<1	127	13
B 102633	22	1175	360	1195	14.2	6	11	3634	6.07	2207	<5	<2	8	12	10.0	7	5	36	.56	.006	302	16	.70	34	<.01	3	.91	.01	.31	4	<5	<1	142	4
B 102634	5	21026	2331	3666	286.8	1	311	1478	23.45	46353	<5	18	2	18	32.6	302	1851	16	1.40	<.001	40	7	.50	18	<.01	3	.33	<.01	.14	73	<5	2	13700	6
B 102635	8	4124	97	2195	43.1	6	17	2678	6.99	2133	<5	<2	4	12	19.5	45	17	38	.39	.004	4	9	.61	26	<.01	<3	.89	.01	.30	6	6	<1	2650	4
STANDARD C2/	21	65	46	140	6.8	72	37	1160	4.15	44	18	8	35	52	21.0	19	15	71	.52	.107	41	63	.99	187	.06	26	2.12	.06	.14	11	<5	1	454	-

Standard is STANDARD C2/AU-R. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102636	15	1493	48	894	8.8	3	20	1287	4.89	158	<5	<2	4	18	7.9	9	2	51	1.21	.006	4	12	.95	39	.02	11	1.86	.04	.20	265	<5	<1	172	12
B 102637	15	2012	20	172	5.2	4	22	920	5.67	146	<5	<2	5	19	.9	2	<2	69	1.06	.010	3	13	1.30	42	.05	10	2.50	.05	.20	10	<5	<1	149	18
B 102638	13	1347	15	132	3.0	4	24	825	5.70	144	<5	<2	6	19	.5	2	<2	76	.74	.010	1	17	1.42	65	.11	11	2.52	.06	.34	8	<5	<1	68	15
B 102639	14	1097	28	178	3.6	3	18	1290	5.39	92	<5	<2	5	20	1.2	3	<2	72	1.55	.016	6	13	1.20	49	.03	7	2.35	.03	.29	9	<5	<1	142	20
B 102640	19	877	29	180	3.1	2	19	1236	4.52	114	<5	<2	6	21	1.1	2	<2	53	1.58	.014	5	13	1.00	50	.01	9	2.03	.03	.20	4	<5	<1	62	18
B 102641	13	703	14	102	1.6	2	13	610	3.62	67	<5	<2	4	31	.6	2	<2	43	1.24	.016	3	15	.83	55	.04	9	1.64	.05	.14	3	<5	<1	21	19
B 102642	13	834	18	106	3.3	3	11	861	3.68	51	<5	<2	3	31	.7	2	2	43	1.72	.015	3	13	.78	57	.02	10	1.49	.04	.21	130	<5	<1	72	19
B 102643	20	871	14	94	3.1	2	14	768	3.40	77	<5	<2	3	27	.4	2	<2	38	1.55	.011	6	14	.69	62	.02	12	1.46	.04	.18	31	<5	<1	41	20
B 102644	13	741	301	935	5.2	2	15	1916	5.06	134	<5	<2	3	20	4.8	4	<2	43	1.25	.012	4	14	.81	64	.01	12	1.70	.02	.24	6	<5	<1	77	18
B 102645	10	955	66	178	3.8	2	17	1247	4.39	71	<5	<2	3	24	.9	2	<2	45	1.72	.013	7	13	.87	58	.01	10	1.83	.03	.20	4	<5	<1	67	19
B 102646	10	872	152	1032	5.3	2	14	1717	5.64	102	<5	<2	4	26	6.2	11	4	56	1.41	.015	9	13	1.07	44	.01	12	2.13	.02	.19	87	<5	<1	80	13
B 102647	15	1389	182	276	7.0	3	18	1258	5.12	48	<5	<2	3	26	1.4	3	<2	61	1.60	.012	5	15	1.12	48	.01	11	2.07	.03	.21	20	<5	<1	67	17
B 102648	15	1114	48	185	4.7	2	12	1223	4.60	23	<5	<2	5	24	1.1	9	<2	28	1.53	.006	6	10	.68	43	<.01	13	.63	.02	.22	11	<5	<1	34	9
RE B 102648	14	1068	54	188	4.3	3	11	1220	4.55	23	<5	<2	4	24	1.0	9	<2	28	1.54	.006	5	11	.68	43	<.01	15	.63	.02	.21	10	<5	<1	28	-
RRE B 102648	15	1199	47	175	4.9	3	12	1176	4.44	28	<5	<2	3	24	1.1	9	<2	26	1.58	.006	5	11	.68	45	<.01	14	.62	.02	.23	10	<5	<1	45	-
B 102649	6	1667	890	6046	12.8	3	13	3714	6.96	3193	<5	<2	2	7	48.3	293	7	3	.32	.036	1	9	.26	20	<.01	9	.32	.01	.30	13	<5	<1	284	10
B 102650	9	1200	445	800	11.3	2	8	1615	4.04	21	<5	<2	3	18	4.5	11	<2	15	1.14	.005	4	11	.54	53	<.01	11	.44	.01	.23	9	<5	<1	37	10
B 102651	7	833	29	106	3.1	2	8	945	3.10	26	<5	<2	2	31	.6	4	<2	23	1.69	.008	4	14	.52	49	<.01	13	.79	.03	.18	11	<5	1	35	19
B 102652	11	994	104	261	5.4	2	17	986	3.05	104	5	<2	3	26	1.8	20	2	11	1.70	.010	4	12	.45	55	<.01	12	.37	.02	.23	31	<5	<1	67	20
B 102653	7	868	144	310	4.3	2	16	1443	3.72	36	<5	<2	6	26	1.9	49	<2	29	1.75	.032	5	12	.65	53	<.01	11	.78	.02	.22	2	<5	<1	29	18
B 102654	9	1009	23	124	3.9	3	11	922	3.95	18	<5	<2	4	29	.8	14	<2	36	1.69	.009	4	11	.70	65	<.01	12	1.02	.02	.19	3	<5	<1	17	17
B 102655	6	753	354	2778	5.2	3	6	3292	6.90	392	<5	<2	3	13	22.1	87	<2	14	.71	.008	1	10	.80	21	<.01	12	.34	.01	.27	<2	<5	<1	31	9
B 102656	1	1570	92	1333	7.7	1	9	2702	23.87	7788	<5	<2	<2	6	13.9	375	2	<1	1.10	<.001	1	7	.49	4	<.01	<3	.07	<.01	.04	8	<5	2	920	4
B 102657	9	597	91	1487	5.4	3	6	670	7.60	1369	<5	<2	2	6	14.8	182	4	2	.11	.002	1	12	.09	16	<.01	9	.29	.01	.32	25	<5	<1	67	10
B 102658	2	2075	12231	17716	99.2	<1	2	40609	16.65	39622	<5	<2	<2	3	190.3	13047	45	2	.86	.001	<1	10	.82	2	<.01	<3	.06	<.01	.02	96	<5	<1	3130	9
B 102659	4	1135	59	825	9.0	3	195	1709	15.13	5012	<5	<2	3	21	8.2	508	<2	5	1.64	.004	2	7	.58	16	<.01	10	.24	.01	.19	10	63	<1	249	10
B 102660	8	1016	151	983	6.0	3	10	2242	6.25	41	<5	<2	8	27	7.8	61	<2	36	1.39	.012	7	11	.85	36	<.01	11	.44	.01	.23	3	<5	<1	103	16
RE B 102660	7	982	150	968	6.5	3	10	2174	6.07	42	<5	<2	7	26	7.7	63	<2	35	1.36	.011	9	9	.83	35	<.01	12	.42	.01	.19	3	<5	<1	28	-
RRE B 102660	8	936	144	993	5.7	2	10	2278	6.20	32	<5	<2	6	26	7.8	55	<2	36	1.35	.011	5	7	.85	36	<.01	11	.45	.01	.22	<2	<5	<1	35	-
B 102661	6	932	39	180	5.0	3	9	1234	4.54	19	<5	<2	6	35	1.2	27	<2	48	1.80	.049	5	10	.80	29	.01	13	1.12	.02	.18	6	<5	<1	548	20
B 102662	5	830	135	330	3.5	2	8	1393	4.81	10	<5	<2	3	32	2.0	30	<2	52	1.90	.110	7	9	1.02	29	.01	11	1.27	.02	.24	2	<5	<1	39	15
B 102663	2	2784	1203	3237	54.1	3	87	994	7.77	17870	<5	<2	9	9	26.5	65	256	9	.35	.090	103	10	.29	18	<.01	11	.40	.01	.30	<2	5	<1	1330	8
B 102664	5	2067	1232	3373	59.2	3	10	1828	6.82	4858	<5	<2	2	11	25.1	59	192	15	.40	.089	5	9	.55	24	<.01	13	.47	.01	.34	6	<5	<1	265	12
B 102665	5	818	158	627	5.4	2	9	2008	5.08	147	<5	<2	5	18	4.7	8	2	59	1.39	.079	22	12	1.06	39	.01	11	1.79	.02	.23	2	<5	<1	22	20
B 102666	5	564	73	666	2.6	2	9	1987	5.71	45	<5	<2	8	23	4.8	5	<2	77	1.59	.073	4	11	1.36	40	.02	10	2.32	.03	.21	<2	<5	<1	15	17
B 102667	3	1030	348	2477	14.0	2	32	2315	6.93	3439	<5	<2	4	32	16.2	58	20	61	1.75	.084	5	9	1.15	51	<.01	10	.90	.01	.22	19	<5	<1	91	14
B 102668	4	817	48	195	4.2	3	10	1368	5.57	93	<5	<2	5	22	1.4	3	<2	79	1.47	.063	4	10	1.40	44	.02	9	2.40	.03	.25	<2	<5	<1	14	19
STANDARD C2/	19	63	43	134	6.8	69	37	1160	4.17	39	17	7	35	51	20.4	20	14	69	.50	.106	37	61	.99	191	.06	29	2.14	.06	.14	11	<5	2	440	-

Standard is STANDARD C2/AU-R. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102669	6	444	28	123	3.9	4	15	1712	6.87	8	<5	<2	7	25	.9	<2	<2	112	1.61	.005	2	11	1.95	32	.07	<3	2.98	.04	.34	2	<5	<1	16	11
B 102670	6	849	113	428	5.0	3	9	1606	5.29	9	<5	<2	<2	25	3.2	<2	2	57	1.54	.006	3	9	1.17	31	.01	4	2.00	.02	.21	<2	<5	<1	20	19
B 102671	6	928	7	113	4.2	4	12	1102	5.14	12	<5	<2	3	24	.7	<2	<2	69	1.41	.003	2	10	1.27	25	.03	<3	2.23	.03	.18	3	<5	<1	19	15
B 102672	7	788	456	1897	6.0	4	8	2805	6.85	538	<5	<2	4	18	15.2	5	6	79	1.17	.003	2	11	1.32	27	.01	3	2.13	.01	.24	<2	<5	<1	139	20
B 102673	6	981	218	1298	7.6	4	10	2021	5.56	90	<5	<2	3	16	10.5	5	13	61	1.03	.011	3	11	1.13	24	.01	3	2.01	.01	.24	2	<5	<1	45	19
B 102674	8	1012	94	262	5.2	4	13	1245	4.64	8	<5	<2	3	25	2.4	<2	3	65	1.54	.001	1	12	1.24	22	.03	<3	2.15	.04	.19	2	<5	<1	20	18
B 102675	8	1045	183	400	7.7	4	8	1987	6.07	20	<5	<2	4	25	2.2	<2	3	74	1.64	.002	3	13	1.39	27	.02	<3	2.41	.02	.25	<2	<5	<1	29	20
B 102676	18	381	112	1896	3.6	3	11	2268	6.33	1243	<5	<2	2	15	15.5	11	<2	22	.81	.003	6	7	.85	30	<.01	3	.54	.01	.25	24	<5	<1	24	15
B 102677	5	3902	250	760	33.1	5	317	1598	7.79	33677	<5	2	7	7	5.9	24	34	10	.18	.002	3	13	.37	47	<.01	<3	.33	.01	.24	73	<5	<1	422	6
B 102678	11	811	6	133	3.4	3	25	982	5.25	67	6	<2	7	31	.8	<2	<2	82	.99	.002	1	15	1.38	38	.08	<3	2.29	.06	.32	4	<5	<1	26	20
RE B 102678	12	837	12	137	3.5	3	26	1010	5.40	69	<5	<2	5	32	1.0	<2	<2	85	1.01	.002	1	16	1.41	39	.08	<3	2.34	.06	.33	4	<5	<1	25	-
RRE B 102678	11	880	9	133	3.6	3	26	1003	5.30	45	<5	<2	8	32	.6	2	<2	83	.99	.002	1	12	1.39	37	.08	<3	2.30	.05	.32	3	<5	<1	28	-
B 102679	14	1033	70	262	5.3	4	12	1601	5.21	270	<5	<2	4	22	2.0	4	<2	64	1.41	.001	3	14	1.09	37	.02	<3	2.11	.02	.19	3	<5	<1	417	16
B 102680	12	1002	141	383	6.2	3	7	1335	3.49	443	<5	<2	3	27	4.0	<2	3	36	1.68	.009	4	11	.62	46	.01	3	1.29	.02	.22	10	<5	<1	32	18
B 102681	6	1131	186	353	4.8	3	5	1431	3.45	44	<5	<2	2	29	3.3	2	<2	39	1.75	.001	8	15	.66	55	.01	4	1.33	.03	.21	3	<5	<1	31	18
B 102682	5	933	18	115	3.1	2	4	651	2.48	6	<5	<2	<2	31	.9	2	<2	23	1.84	.005	3	11	.40	60	<.01	6	.96	.03	.18	4	<5	<1	47	19
B 102683	6	6771	1051	1971	150.9	2	8	2356	4.87	3355	<5	<2	8	15	16.7	104	159	9	1.34	<.001	127	9	.25	50	<.01	3	.38	.01	.23	<2	<5	<1	87	17
B 102684	20	939	193	761	8.8	2	3	2438	2.10	410	<5	<2	<2	16	6.0	2	2	3	1.22	.001	3	8	.27	45	<.01	7	.25	.01	.26	2	<5	<1	25	18
B 102685	24	2873	389	909	31.4	3	25	2183	6.58	23285	150	<2	3	12	7.4	25	14	7	.63	.001	1670	14	.19	46	<.01	5	.40	.01	.29	<2	<5	<1	514	8
B 102686	14	981	168	1379	8.9	2	4	2995	3.13	622	<5	<2	3	14	11.7	4	<2	2	1.28	.002	10	11	.29	62	<.01	7	.29	.01	.31	<2	<5	<1	40	18
B 102687	3	718	395	1071	4.8	2	5	1407	3.65	47	<5	<2	2	24	10.5	<2	<2	36	1.51	.014	1	10	.87	51	.03	<3	1.45	.03	.25	<2	<5	<1	30	16
B 102688	9	267	248	415	2.0	3	8	2650	9.50	71	<5	<2	5	26	4.2	<2	<2	148	1.50	.009	<1	7	2.28	61	.05	<3	3.73	.03	.22	<2	<5	<1	13	20
RE B 102688	10	268	239	414	2.0	3	9	2648	9.51	46	<5	<2	4	26	3.9	<2	<2	148	1.51	.009	1	8	2.28	60	.05	<3	3.73	.03	.22	<2	<5	<1	8	-
RRE B 102688	10	284	260	405	2.1	2	8	2627	9.36	62	<5	<2	4	26	3.6	<2	2	145	1.48	.010	1	7	2.25	59	.05	<3	3.69	.03	.21	<2	<5	<1	10	-
B 102689	5	437	42	297	2.6	2	9	1786	8.27	9	<5	<2	3	33	2.7	<2	<2	197	1.71	.035	1	6	2.26	51	.09	<3	3.54	.06	.12	<2	<5	<1	11	17
B 102690	6	419	45	299	2.5	3	10	2022	8.46	12	<5	<2	3	30	2.7	<2	2	120	1.86	.019	2	8	2.40	29	.05	<3	3.62	.04	.12	<2	<5	1	4	11
B 102691	1	557	13	169	2.7	1	3	923	2.80	4	<5	<2	2	32	1.1	<2	4	22	1.89	.014	3	8	.62	99	.01	9	1.01	.04	.19	2	<5	<1	6	12
B 102692	9	1149	36	168	3.6	3	2	1137	1.42	19	<5	<2	2	32	1.2	<2	<2	5	2.50	.001	3	30	.19	70	<.01	8	.31	.02	.25	4	<5	<1	270	16
STANDARD C2/AU-R	20	56	46	138	6.9	70	35	1160	4.08	45	19	8	33	50	20.1	15	18	68	.50	.105	36	60	.99	182	.07	24	2.06	.06	.13	16	<5	2	447	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-5589 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
GCS-96-11																																		
B 102693	12	712	462	1271	8.0	6	12	6641	6.22	522	<5	<2	<2	8	12.2	20	<2	122	1.21	.080	25	6	1.87	43	.03	<3	2.36	.02	.23	26	<5	<1	18	17
B 102694	32	581	440	1081	6.9	5	12	7179	8.66	769	<5	<2	<2	10	9.3	<2	<2	157	1.76	.309	66	8	2.60	46	.03	<3	3.24	.01	.22	22	<5	<1	33	16
B 102695	14	1082	1805	3983	17.3	4	8	4012	7.75	1607	<5	<2	5	8	40.4	10	<2	101	1.09	.094	21	7	1.43	26	.01	<3	2.26	.01	.17	<2	<5	<1	45	17
B 102696	11	595	455	1786	8.2	4	8	4601	7.10	644	<5	<2	4	7	13.8	6	<2	96	.74	.025	3	8	1.69	36	.01	3	2.41	.01	.19	6	<5	<1	40	17
B 102697	32	427	452	1816	7.1	3	9	5008	8.39	1318	<5	<2	<2	10	15.9	7	<2	144	1.15	.030	14	5	1.79	29	.01	<3	2.08	.01	.14	<2	<5	<1	16	19
B 102698	7	123	244	941	1.6	3	6	2882	4.81	395	<5	<2	7	13	8.4	<2	<2	101	1.74	.264	18	6	1.57	31	.05	<3	1.93	.04	.27	<2	<5	<1	4	20
B 102699	5	114	<3	108	.5	3	5	837	3.61	5	<5	<2	11	14	.8	<2	2	83	1.33	.151	4	7	1.39	32	.07	<3	1.72	.04	.23	5	<5	<1	3	16
B 102700	5	161	23	446	1.2	5	8	1434	4.91	5	<5	<2	14	16	3.9	<2	<2	108	1.97	.191	7	6	1.99	52	.08	<3	2.11	.04	.60	<2	<5	<1	6	17
B 102701	6	32	45	184	.5	4	5	1145	3.83	16	<5	<2	8	15	1.5	2	<2	72	1.45	.124	4	7	1.47	32	.08	<3	1.78	.04	.30	<2	<5	<1	1	18
B 102702	42	66	<3	153	.4	4	6	996	4.31	2	<5	<2	10	15	1.0	<2	<2	84	1.26	.137	6	10	1.64	50	.09	<3	1.93	.04	.49	<2	<5	<1	2	14
RE B 102702	39	71	4	156	.4	4	6	1023	4.42	2	<5	<2	10	16	1.1	<2	<2	86	1.30	.142	7	10	1.69	51	.10	<3	1.98	.03	.50	<2	<5	<1	3	-
RRE B 102702	42	69	<3	155	.4	3	6	1016	4.39	<2	<5	<2	10	15	1.1	<2	<2	85	1.29	.143	7	8	1.67	50	.09	<3	1.96	.03	.49	2	<5	<1	9	-
B 102703	5	150	8	288	1.0	3	8	1046	4.75	<2	<5	<2	10	17	2.1	<2	<2	93	1.35	.082	1	8	1.85	41	.11	<3	2.16	.04	.54	<2	<5	<1	5	17
B 102704	10	159	3	190	.9	4	7	1110	4.84	<2	<5	<2	10	15	1.4	<2	<2	97	1.63	.133	5	5	1.89	48	.12	<3	2.13	.04	.71	<2	<5	<1	4	18
B 102705	15	317	1735	5056	6.2	4	11	9010	7.14	68	<5	<2	3	26	59.8	4	<2	107	1.73	.130	17	5	1.38	51	.01	<3	1.81	.01	.14	5	<5	<1	12	13
B 102706	8	109	<3	88	.5	3	7	808	4.11	5	<5	<2	10	19	.6	<2	<2	80	1.15	.064	1	6	1.52	36	.09	<3	1.90	.05	.38	3	<5	<1	10	12
B 102707	9	252	38	220	2.5	5	8	1736	6.20	68	<5	<2	15	24	1.8	11	<2	94	2.79	.137	4	4	1.52	32	.05	<3	1.96	.02	.39	2	<5	<1	4	14
B 102708	<1	10360	15880	14724	311.0	4	31	2256	30.48	87064	<5	<2	<2	7	169.1	738	150	7	.76	.004	<1	11	.08	8	<.01	<3	.14	<.01	.05	7	<5	<1	4980	6
B 102709	19	212	45	331	4.9	5	8	5580	6.40	150	<5	<2	8	30	2.4	14	9	81	2.40	.022	7	4	1.35	21	<.01	4	.86	.01	.18	2	<5	<1	169	8
B 102710	13	358	97	972	4.5	5	9	1727	6.27	2755	<5	<2	7	23	6.9	18	5	147	2.05	.022	1	7	1.85	26	.05	<3	2.04	.03	.25	2	<5	<1	257	10
B 102711	6	74	15	135	.9	5	9	7212	4.30	24	<5	<2	3	40	.8	26	<2	69	2.65	.041	9	6	.81	18	<.01	5	.65	.01	.12	2	<5	<1	9	16
B 102712	2	109	88	928	1.5	4	9	15312	9.05	297	<5	<2	4	28	4.9	32	2	70	2.52	.045	8	4	1.26	22	<.01	7	.46	.01	.21	<2	<5	<1	11	17
B 102713	3	180	205	483	3.0	6	14	3435	6.10	51	<5	<2	11	62	1.8	48	<2	105	1.87	.068	8	3	.97	24	.01	<3	1.02	.02	.13	2	<5	<1	7	14
B 102714	3	157	36	195	1.4	6	13	5987	5.36	46	<5	<2	8	55	1.0	23	<2	108	2.18	.037	6	4	1.15	27	.01	<3	1.18	.02	.14	<2	<5	<1	6	12
B 102715	3	128	190	582	1.4	4	7	1359	4.55	7	<5	<2	11	27	3.1	<2	2	118	1.96	.047	3	4	1.57	22	.06	<3	1.79	.03	.18	<2	<5	<1	4	14
B 102716	4	164	527	5053	4.0	5	11	4135	8.62	277	<5	<2	7	41	41.2	39	<2	107	1.56	.031	5	4	1.38	28	.01	<3	1.37	.01	.19	<2	<5	<1	11	18
RE B 102716	4	161	544	5104	4.2	6	11	4210	8.75	285	<5	<2	10	41	41.7	44	<2	108	1.58	.030	5	2	1.40	29	.01	<3	1.39	.01	.19	<2	<5	<1	12	-
RRE B 102716	4	160	532	4888	4.0	5	11	4084	8.45	276	<5	<2	7	40	40.4	37	<2	104	1.54	.030	4	3	1.36	28	.01	<3	1.32	.01	.19	<2	<5	<1	12	-
B 102717	12	138	391	8504	3.6	5	10	5619	5.78	11	<5	<2	8	38	74.2	3	2	105	2.73	.014	4	4	1.67	32	.03	<3	1.57	.02	.25	<2	<5	<1	11	18
B 102718	14	189	335	7182	4.1	4	8	3596	6.00	57	5	<2	6	27	64.2	3	<2	117	2.11	.034	3	6	1.88	29	.05	<3	2.11	.03	.32	<2	<5	<1	28	19
B 102719	10	121	1008	1988	4.8	4	5	2049	4.31	26	<5	<2	5	19	13.8	4	<2	74	1.31	.033	2	8	1.42	24	.04	<3	1.70	.02	.24	<2	<5	<1	8	20
B 102720	12	603	3823	13247	19.3	3	9	3729	10.51	106	<5	<2	<2	8	142.3	18	<2	97	.57	.030	1	8	1.82	26	.01	<3	3.39	.01	.26	<2	<5	<1	26	18
B 102721	11	73	93	425	1.3	4	5	1064	4.04	2	<5	<2	5	30	2.7	<2	2	141	1.06	.026	2	9	1.14	29	.07	<3	1.57	.04	.15	<2	<5	<1	2	14
B 102722	10	189	470	2633	3.9	6	8	2220	6.92	27	<5	<2	4	11	19.9	<2	2	98	.52	.017	2	10	1.52	35	.01	<3	2.29	.01	.31	<2	<5	<1	31	20
B 102723	17	138	9	424	.8	4	7	1418	4.90	<2	7	<2	12	25	2.9	<2	<2	109	1.85	.023	1	6	1.93	38	.07	<3	2.19	.03	.48	<2	<5	<1	5	16
B 102724	7	250	602	1780	2.6	5	7	2644	4.98	18	7	<2	11	36	16.2	3	<2	106	2.32	.029	4	7	1.85	38	.06	<3	1.98	.03	.45	<2	<5	<1	11	19
STANDARD C2/	20	56	32	138	6.6	72	37	1160	4.07	35	16	7	33	49	19.5	14	17	70	.53	.101	38	61	.99	187	.08	22	2.00	.06	.14	12	<5	1	465	-

Standard is STANDARD C2/AU-R.

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 28 1996 **DATE REPORT MAILED:** Nov 4/96 **SIGNED BY**............D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102725	5	140	2931	8615	8.5	3	9	6196	7.05	624	5	<2	11	24	86.7	13	<2	129	2.28	.019	22	5	2.39	30	.03	<3	2.29	.02	.28	<2	<5	<1	51	17
B 102726	8	240	2167	10496	10.2	4	12	3083	7.87	15415	<5	<2	<2	19	93.9	63	8	43	2.14	.014	1	10	.86	14	<.01	<3	.59	.01	.14	<2	<5	1	1822	10
B 102727	8	464	1590	11305	12.1	5	16	3132	6.87	12002	<5	<2	3	14	106.9	36	9	36	.97	.015	1	11	.86	17	<.01	<3	.43	.01	.22	2	<5	1	1436	12
B 102728	11	320	2222	6142	8.6	5	8	5106	6.32	3614	<5	<2	7	24	59.7	13	<2	96	2.21	.017	3	6	1.76	32	.02	<3	1.55	.01	.29	<2	<5	<1	253	18
B 102729	5	328	2875	10065	12.2	3	9	3273	8.38	27243	<5	<2	<2	14	100.1	73	3	33	1.31	.010	3	10	1.06	18	<.01	<3	.50	.01	.23	50	<5	<1	2030	10
B 102730	4	297	1283	2146	4.7	4	8	2997	6.32	111	<5	<2	9	36	19.8	4	<2	130	2.28	.015	2	5	2.28	33	.06	<3	2.20	.02	.40	<2	<5	<1	18	8
B 102731	3	292	1855	4132	8.8	4	9	5919	8.06	552	<5	<2	11	40	43.9	52	<2	58	2.77	.010	2	6	1.54	23	<.01	3	.71	.01	.17	<2	<5	<1	25	10
B 102732	1	2409	1267	13120	47.2	2	15	3641	16.97	16470	<5	<2	2	20	135.9	300	38	15	1.62	.007	<1	9	.65	14	<.01	<3	.37	.01	.14	<2	<5	<1	1901	6
B 102733	5	360	944	4137	7.6	3	6	508	6.94	1851	<5	<2	4	10	33.0	109	2	5	.52	.012	<1	6	.07	16	<.01	<3	.36	.01	.30	6	<5	1	169	10
B 102734	1	4162	1013	44629	52.5	2	19	1168	15.72	19297	<5	2	4	8	438.5	594	55	2	1.31	.004	<1	22	<.01	7	<.01	<3	.09	<.01	.05	<2	18	<1	5227	6
B 102735	4	290	78	1552	3.4	3	10	203	8.22	3010	<5	<2	3	16	15.3	92	5	4	.63	.010	<1	9	.02	21	<.01	<3	.35	<.01	.28	10	<5	1	280	12
B 102736	3	670	332	11073	23.9	3	38	543	10.83	13059	<5	<2	4	24	127.2	175	71	9	.64	.018	<1	9	.11	30	<.01	<3	.37	.01	.28	7	<5	<1	2614	6
B 102737	2	2988	18295	4979	85.6	1	53	853	31.13	99999	<5	<2	2	26	50.9	455	12	5	.49	.002	<1	19	.06	22	<.01	<3	.27	<.01	.18	40	<5	<1	12830	3
B 102738	6	347	2608	3519	11.4	4	10	2000	8.24	563	<5	<2	4	25	26.9	22	5	26	.28	.022	1	6	.78	32	<.01	<3	.42	.01	.25	<2	<5	<1	59	11
RE B 102738	5	345	2671	3563	10.9	5	10	2026	8.29	586	<5	<2	5	25	27.1	23	5	27	.28	.020	1	5	.79	33	<.01	<3	.43	.01	.25	<2	<5	1	33	-
RRE B 102738	5	320	2524	3375	10.6	4	10	1922	8.02	517	<5	<2	5	25	25.6	21	2	25	.27	.019	1	5	.75	32	<.01	<3	.41	.01	.24	<2	<5	<1	29	-
B 102739	7	487	2406	3597	13.3	2	11	1564	7.44	8543	<5	<2	5	15	28.0	40	5	23	.81	.044	1	7	.61	17	<.01	<3	.44	.01	.26	<2	<5	<1	1040	12
B 102740	6	672	896	1752	9.3	2	7	2795	7.85	6533	<5	<2	<2	21	14.3	23	<2	28	.49	.010	1	6	.81	28	<.01	4	.46	.01	.23	<2	<5	1	518	17
B 102741	2	7581	20215	32982	171.1	2	11	2294	19.25	49555	<5	<2	2	19	421.8	328	31	12	2.40	<.001	1	8	.47	15	<.01	<3	.45	.01	.17	<2	<5	<1	5801	12
B 102742	4	1805	4412	1405	32.2	2	6	2248	8.36	13836	<5	<2	2	24	11.1	88	8	35	2.91	.008	2	8	.80	19	<.01	<3	.93	.01	.19	2	<5	1	1297	10
B 102743	16	556	124	399	4.1	3	6	1838	5.54	123	8	<2	4	25	2.8	<2	<2	74	1.45	.010	2	11	1.41	38	.03	<3	2.06	.03	.19	<2	<5	1	22	14
B 102744	22	863	305	998	7.6	4	8	1992	4.99	93	<5	<2	10	44	7.1	9	2	112	1.29	.033	16	11	.95	35	.01	<3	1.75	.03	.15	2	<5	2	21	12
STANDARD C2/	20	56	35	137	6.5	71	36	1160	4.04	39	17	6	35	50	18.7	14	19	68	.50	.099	36	58	.99	186	.07	22	2.00	.06	.14	12	<5	1	459	-

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-5660 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102745	22	869	697	1812	8.6	5	11	8224	6.37	448	<5	<2	3	13	17.1	7	2	105	.59	.048	30	9	1.81	35	.03	<3	2.47	.02	.21	<2	<5	<1	312	18
B 102746	14	782	26	273	3.0	7	9	1964	6.36	22	<5	<2	4	12	2.0	<2	3	129	1.61	.044	4	9	2.49	49	.09	<3	2.68	.03	.63	2	<5	<1	33	17
B 102747	19	1178	19	314	5.8	5	11	1697	6.56	18	<5	<2	6	18	2.8	<2	<2	139	2.12	.076	4	9	2.57	53	.10	<3	2.65	.02	.65	8	<5	<1	229	19
B 102748	12	315	10	136	1.5	5	9	1816	6.33	15	<5	<2	4	16	.9	<2	2	130	1.73	.061	6	10	2.05	43	.07	<3	2.40	.02	.47	11	<5	<1	26	17
B 102749	15	514	8	160	2.7	6	10	1639	6.33	6	<5	<2	6	18	1.2	<2	2	136	1.98	.095	11	8	2.36	51	.07	<3	2.56	.02	.49	4	<5	1	47	21
B 102750	9	761	5	191	3.4	5	10	1772	7.55	13	<5	<2	4	19	1.6	<2	<2	157	1.67	.081	2	10	2.98	55	.09	<3	3.05	.02	.85	13	<5	<1	24	19
B 102751	32	1617	1146	926	17.2	6	13	5349	9.03	633	<5	<2	<2	12	9.2	8	<2	172	1.70	.106	5	11	1.98	32	.02	<3	2.69	.01	.16	5	<5	<1	56	14
B 102752	6	642	1753	3310	12.4	5	6	2887	7.63	2097	<5	<2	<2	9	34.7	11	<2	124	1.25	.018	3	10	1.51	30	.01	<3	2.25	.01	.18	<2	<5	<1	25	18
B 102753	5	668	2277	4941	14.8	4	6	2697	7.94	2760	<5	<2	3	6	47.3	20	<2	102	.60	.039	2	9	1.40	24	<.01	3	2.14	.01	.25	<2	<5	<1	26	19
B 102754	7	609	950	2399	7.8	6	6	2911	8.34	2937	<5	<2	4	7	22.5	9	<2	148	.80	.062	5	10	1.78	23	.01	<3	2.71	.01	.17	30	<5	<1	41	9
RE B 102754	7	643	945	2437	7.9	7	6	2948	8.49	2979	<5	<2	4	8	22.4	8	2	150	.81	.063	4	9	1.81	23	.01	<3	2.74	.01	.17	27	<5	<1	49	-
RRE B 102754	7	715	937	2613	8.3	7	7	2873	8.39	3124	<5	<2	4	7	23.5	9	<2	151	.83	.057	4	8	1.80	21	.01	<3	2.70	.01	.15	19	<5	<1	79	-
B 102755	8	868	612	1396	7.3	5	9	2832	8.95	1286	<5	<2	8	12	13.5	7	<2	210	1.43	.058	6	10	2.84	34	.04	<3	3.09	.02	.52	<2	<5	<1	99	18
B 102756	10	258	35	140	1.2	3	7	1765	4.91	4	<5	<2	10	12	1.2	5	7	138	1.23	.047	6	10	1.71	38	.07	<3	2.07	.03	.52	1411	17	<1	23	17
B 102757	9	328	28	188	1.1	5	10	1002	5.71	15	<5	<2	7	14	1.6	<2	<2	162	1.13	.070	2	8	2.02	57	.16	<3	2.36	.06	.97	13	<5	<1	27	20
B 102758	10	354	23	205	1.5	4	10	1434	5.81	10	<5	<2	7	14	1.6	<2	2	146	1.28	.040	1	8	2.18	47	.15	<3	2.42	.04	.90	15	<5	<1	10	18
B 102759	10	346	300	838	2.9	4	10	2198	5.60	99	<5	<2	6	19	8.8	<2	<2	157	2.04	.069	7	7	2.16	44	.07	<3	2.22	.04	.61	<2	<5	<1	11	19
B 102760	13	551	227	554	4.5	5	11	4407	8.11	369	<5	<2	4	19	5.2	3	<2	140	1.94	.077	6	6	2.01	31	.02	<3	1.92	.01	.30	<2	<5	<1	23	7
B 102761	10	897	97	292	2.6	6	11	1385	6.88	195	<5	<2	7	20	2.9	<2	<2	161	1.66	.071	2	10	2.62	57	.12	<3	2.65	.04	.90	4	<5	<1	51	16
B 102762	11	391	10	131	1.1	4	8	1041	5.76	5	<5	<2	7	22	1.0	<2	<2	139	1.40	.056	2	9	2.17	53	.16	<3	2.41	.04	.96	15	<5	<1	18	20
B 102763	9	508	3	120	1.4	5	9	1197	5.60	9	<5	<2	8	28	.9	<2	<2	128	2.36	.023	3	7	1.89	52	.10	<3	2.01	.03	.71	2	<5	<1	16	10
B 102764	42	686	24	104	3.8	4	10	3213	5.60	53	<5	<2	3	23	.9	<2	<2	164	1.92	.112	11	7	1.14	35	.01	3	1.24	.01	.14	29	<5	<1	23	15
B 102765	32	289	45	151	2.7	6	13	4264	8.36	79	<5	<2	9	27	1.5	6	<2	208	2.77	.232	50	8	1.56	25	.01	<3	1.18	.01	.13	3	<5	<1	12	13
B 102766	6	309	18	155	.9	4	9	992	4.73	19	<5	<2	4	17	1.4	<2	5	106	.90	.014	1	10	1.67	38	.11	<3	2.09	.04	.53	2	<5	<1	13	16
B 102767	11	332	24	174	1.4	4	7	1462	4.21	2	<5	<2	5	19	1.4	<2	<2	99	1.19	.033	3	10	1.44	33	.09	<3	1.82	.05	.42	3	<5	<1	19	19
B 102768	24	1184	26	280	4.6	6	14	1288	4.96	24	<5	<2	5	16	2.2	8	2	120	.83	.069	5	13	1.40	38	.06	<3	1.79	.03	.38	3	<5	<1	26	17
RE B 102768	25	1219	28	288	4.9	6	15	1329	5.08	26	<5	<2	6	17	2.6	6	<2	122	.86	.071	5	13	1.43	39	.07	<3	1.84	.03	.39	3	<5	<1	33	-
RRE B 102768	19	1110	28	281	4.1	6	14	1330	5.01	19	<5	<2	7	17	2.2	7	<2	120	.86	.062	4	14	1.40	43	.07	3	1.85	.03	.39	5	<5	<1	45	-
B 102769	26	357	58	286	2.1	5	17	2846	7.25	217	<5	<2	4	19	2.4	<2	<2	176	1.67	.043	14	12	2.28	35	.04	<3	2.53	.02	.43	6	<5	<1	21	18
B 102770	16	1085	71	244	5.8	4	8	2017	5.35	73	<5	<2	6	17	2.2	<2	<2	123	1.52	.051	18	14	1.66	43	.05	<3	2.08	.03	.40	3	<5	<1	34	19
B 102771	15	410	94	364	2.0	4	9	1600	5.37	133	<5	<2	8	20	3.3	2	<2	122	1.67	.034	3	12	1.68	35	.05	<3	2.02	.03	.34	8	<5	<1	13	17
B 102772	5	343	60	792	1.8	4	9	1536	4.90	3	<5	<2	7	21	6.3	<2	<2	94	1.35	.013	2	12	1.60	36	.06	<3	1.91	.04	.35	88	<5	<1	14	14
B 102773	12	455	4	102	1.4	3	7	952	4.76	2	<5	<2	23	19	1.0	<2	<2	127	1.31	.059	2	10	1.71	45	.10	<3	1.93	.05	.61	2	<5	<1	14	14
B 102774	30	915	32	207	5.0	8	15	2915	7.82	46	6	<2	7	27	2.1	<2	<2	298	2.63	.131	10	11	2.60	41	.08	<3	2.75	.02	.49	2	<5	<1	17	9
B 102775	13	195	261	315	.9	3	7	1410	5.32	<2	<5	<2	11	22	3.1	<2	<2	137	1.50	.060	5	13	1.93	45	.10	<3	2.22	.04	.60	<2	<5	<1	5	18
B 102776	25	276	<3	76	1.0	5	9	1410	7.09	5	<5	<2	5	20	1.0	<2	4	250	1.97	.110	4	13	2.27	45	.11	<3	2.49	.03	.61	3	<5	<1	11	18
STANDARD C2/AU-R	19	55	36	134	6.6	69	35	1160	4.07	39	18	8	33	49	18.8	15	17	67	.51	.103	37	56	.99	183	.08	24	2.03	.06	.13	12	<5	1	531	-

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.
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- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)
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DATE RECEIVED: OCT 30 1996 **DATE REPORT MAILED:** Nov 7/96 **SIGNED BY**.......D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102777	14	210	4	70	.7	3	5	1144	4.28	2	<5	<2	7	20	.4	<2	<2	77	.96	.061	8	12	.72	37	.01	<3	1.08	.02	.13	4	<5	<1	6	14
B 102778	5	935	109	543	5.1	3	21	2685	5.12	2415	<5	<2	5	18	4.8	<2	2	105	1.39	.045	4	11	1.15	43	.02	<3	1.73	.02	.24	<2	<5	<1	152	19
B 102779	10	1156	19	179	3.4	4	9	1084	4.89	5	<5	<2	9	22	1.6	<2	<2	121	1.40	.086	4	15	1.52	51	.07	<3	1.87	.03	.44	6	<5	<1	22	20
B 102780	8	191	7	101	.6	3	6	745	3.88	9	<5	<2	7	19	.7	<2	<2	110	1.17	.053	2	15	1.13	48	.07	<3	1.62	.04	.34	2	<5	<1	4	18
B 102781	4	302	52	204	1.1	3	7	1086	4.04	33	<5	<2	5	22	1.6	<2	2	123	1.09	.065	2	16	1.21	48	.12	<3	1.71	.06	.33	21	<5	<1	10	20
B 102782	4	304	12	119	.7	3	5	626	3.53	4	<5	<2	5	24	1.0	<2	<2	105	.85	.047	3	13	1.07	41	.08	<3	1.55	.05	.19	3	<5	<1	9	18
B 102783	3	194	117	432	3.7	3	7	1934	5.25	1330	<5	<2	4	24	3.6	2	3	101	.92	.041	5	10	1.27	30	.04	3	1.82	.04	.19	2	<5	<1	26	19
B 102784	4	800	449	2980	7.5	2	10	2612	5.35	2716	<5	<2	6	15	29.5	30	<2	81	1.27	.099	4	11	.93	34	<.01	<3	1.12	.01	.21	2	<5	<1	66	18
B 102785	7	381	237	1468	2.6	4	10	1897	4.70	208	<5	<2	7	17	14.6	3	<2	105	1.44	.058	6	15	1.25	40	.03	<3	1.82	.02	.26	<2	<5	<1	22	18
B 102786	7	341	309	830	3.2	3	8	2354	3.76	95	<5	<2	14	15	7.8	<2	<2	68	1.33	.041	3	15	.81	39	.01	<3	1.27	.01	.20	<2	<5	<1	18	19
B 102787	22	1742	260	552	15.0	10	22	2620	7.03	79	<5	<2	7	14	4.5	22	<2	234	1.44	.092	59	14	1.50	37	.01	<3	2.21	.01	.17	7	<5	<1	40	15
B 102788	9	166	78	200	1.6	6	9	1882	6.18	<2	<5	<2	13	21	1.5	<2	<2	192	1.84	.127	6	19	2.31	60	.16	<3	2.68	.05	.57	<2	<5	<1	10	19
RE B 102788	6	173	80	200	1.5	5	9	1879	6.15	<2	<5	<2	13	21	1.6	<2	<2	192	1.83	.128	7	17	2.30	60	.16	<3	2.67	.05	.57	2	<5	<1	8	-
RRE B 102788	6	189	81	199	1.8	5	8	1846	5.94	<2	<5	<2	10	21	1.4	<2	<2	186	1.82	.135	7	16	2.21	58	.15	<3	2.59	.05	.53	<2	<5	<1	6	-
B 102789	6	123	10	106	.5	4	7	930	5.01	<2	<5	<2	13	22	.7	<2	<2	168	1.37	.140	5	20	1.90	71	.22	<3	2.26	.07	.73	3	<5	<1	3	19
B 102790	3	198	5	118	.7	5	8	841	4.84	3	<5	<2	16	21	.8	<2	2	154	1.27	.126	6	13	1.90	86	.21	<3	2.24	.07	.78	2	<5	<1	18	19
B 102791	4	357	15	167	1.2	6	12	1002	6.24	12	<5	<2	15	19	1.3	<2	<2	173	1.15	.047	<1	11	2.53	124	.29	<3	2.67	.06	1.30	<2	<5	<1	9	18
B 102792	3	295	14	153	.9	6	12	1046	6.05	8	<5	<2	13	18	1.3	<2	<2	173	1.11	.048	<1	9	2.43	111	.25	<3	2.57	.05	1.10	5	<5	<1	10	18
B 102793	2	208	23	225	.9	6	12	1123	6.22	11	5	<2	11	21	1.8	<2	<2	160	1.39	.033	<1	8	2.65	101	.24	<3	2.66	.05	1.07	<2	<5	<1	12	19
B 102794	2	286	19	254	1.3	6	9	1131	6.06	<2	<5	<2	14	22	1.9	<2	<2	145	1.22	.019	<1	8	2.79	115	.23	<3	2.75	.06	1.16	<2	<5	<1	6	18
STANDARD C2/AU-R	19	54	37	134	6.6	68	35	1218	4.15	38	16	7	33	47	19.3	17	17	69	.50	.105	36	61	.96	186	.07	23	1.99	.06	.13	14	<5	1	476	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-5789 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102795	31	3328	18	154	14.1	8	18	2366	9.32	67	<5	<2	10	13	.7	<2	<2	157	1.30	.020	23	9	2.94	78	.10	<3	3.45	.02	.65	99	<5	<1	147	20
B 102796	12	595	45	206	3.7	5	12	1898	8.18	6	<5	<2	10	16	.6	<2	<2	171	1.51	.038	2	7	3.31	77	.12	<3	3.42	.02	.92	6	<5	1	40	12
B 102797	13	661	67	396	4.4	6	12	2640	9.27	28	<5	<2	12	13	2.7	3	<2	169	1.39	.040	5	8	3.40	67	.09	<3	3.70	.01	.54	<2	<5	<1	15	14
B 102798	21	561	737	2235	8.0	6	8	5787	11.15	1665	<5	<2	11	11	18.6	24	<2	113	1.01	.026	3	6	1.88	24	<.01	<3	1.82	.01	.17	<2	<5	<1	90	12
B 102799	19	4518	2625	11294	232.2	6	38	35410	15.22	18524	<5	<2	<2	20	87.6	943	143	32	4.53	.008	5	10	1.86	17	<.01	<3	.38	.01	.17	<2	<5	<1	2395	4
B 102800	13	443	819	2578	5.6	5	8	4485	7.60	440	<5	<2	11	10	21.3	34	4	86	.80	.020	3	7	1.47	41	.01	3	1.66	.01	.21	<2	<5	<1	29	9
B 102801	15	54	15	122	.9	5	9	1085	5.50	24	<5	<2	8	18	.2	2	<2	135	1.22	.016	1	7	2.39	109	.18	<3	2.42	.04	1.15	<2	<5	<1	4	18
B 102802	19	71	20	125	.6	6	9	1582	6.38	<2	<5	<2	12	19	<.2	2	<2	148	1.29	.011	1	7	2.70	88	.15	<3	2.64	.02	.85	<2	<5	<1	3	18
B 102803	18	549	10	125	3.1	6	10	1669	7.98	13	<5	<2	11	16	<.2	<2	<2	168	1.15	.009	3	10	3.37	104	.15	<3	3.50	.02	.86	<2	<5	<1	27	20
B 102804	8	198	<3	91	.6	5	8	1114	5.21	<2	<5	<2	6	19	<.2	<2	<2	137	1.27	.011	1	8	2.48	94	.17	<3	2.43	.04	.92	<2	<5	<1	4	19
B 102805	13	512	27	126	1.1	8	9	1122	5.02	7	<5	<2	10	19	<.2	<2	<2	135	1.23	.019	3	10	2.35	105	.14	4	2.32	.04	.74	<2	<5	<1	7	20
B 102806	44	132	8	103	.7	7	12	1093	5.97	<2	<5	<2	7	24	<.2	<2	2	181	1.55	.025	5	9	2.73	112	.21	<3	2.67	.05	1.09	<2	<5	<1	3	19
RE B 102806	45	120	6	94	.7	6	10	979	5.41	2	<5	<2	5	22	<.2	<2	<2	164	1.38	.024	5	10	2.44	106	.20	<3	2.39	.04	.98	<2	<5	<1	2	-
RRE B 102806	41	127	<3	93	.5	7	12	996	5.63	2	<5	<2	6	22	<.2	<2	<2	175	1.37	.023	6	8	2.51	110	.21	<3	2.47	.05	1.02	<2	<5	<1	2	-
B 102807	20	94	8	88	.7	5	10	1655	6.30	7	<5	<2	8	25	<.2	<2	<2	184	1.81	.045	9	8	2.62	89	.15	<3	2.31	.03	.86	<2	<5	<1	2	19
B 102808	21	512	1500	3403	9.9	6	7	3067	9.34	1826	<5	<2	9	7	27.8	22	<2	68	.44	.014	23	7	1.46	25	<.01	<3	.80	.01	.26	<2	<5	<1	19	6
B 102809	4796	62	374	2396	1.9	4	5	2859	6.97	21329	<5	<2	<2	21	15.5	176	<2	31	.57	.011	1247	10	.71	9	<.01	81	.25	.01	.10	<2	<5	<1	288	5
B 102810	20	156	1144	2318	5.6	5	5	4202	9.03	1507	<5	<2	3	7	19.1	35	4	60	.31	.029	34	6	1.04	17	<.01	<3	.52	.01	.23	758	<5	<1	51	10
B 102811	32	402	95	357	2.1	5	9	1404	5.77	38	8	<2	9	19	2.1	<2	2	188	1.35	.045	6	7	2.57	98	.17	<3	2.46	.04	1.13	9	<5	<1	14	19
B 102812	58	309	61	242	2.1	6	10	3152	7.65	36	6	<2	15	17	1.0	<2	<2	257	1.83	.040	22	9	2.90	69	.07	<3	3.09	.02	.60	8	<5	<1	65	19
B 102813	11	79	9	83	.4	5	6	635	5.25	<2	<5	<2	3	30	<.2	<2	<2	327	1.35	.059	2	9	1.36	74	.10	<3	1.81	.07	.39	<2	<5	<1	4	21
B 102814	10	105	4	100	.4	5	8	805	6.52	<2	<5	<2	2	32	<.2	<2	<2	159	1.54	.060	2	10	1.52	79	.13	<3	2.07	.07	.51	<2	<5	<1	4	19
B 102815	13	265	27	954	2.2	5	8	4773	5.88	1628	<5	<2	3	37	3.7	20	<2	103	1.85	.062	4	8	.89	44	.03	5	1.41	.03	.33	<2	<5	<1	10	5
B 102816	476	17474	5467	7772	118.4	11	15	3336	9.83	2672	<5	<2	2	12	70.2	54	7	148	1.14	.059	2	9	1.19	27	.01	18	1.54	.01	.09	6	<5	<1	331	7
RE B 102816	440	17637	5519	7801	120.3	12	15	3368	9.86	2630	<5	<2	3	12	70.6	55	<2	149	1.15	.057	2	9	1.19	27	.01	19	1.54	.01	.10	6	<5	<1	271	-
RRE B 102816	479	18275	5700	7995	124.0	11	14	3327	9.84	2715	<5	<2	3	12	72.1	55	5	152	1.26	.058	2	8	1.19	27	.01	18	1.57	.01	.09	3	<5	<1	282	-
B 102817	140	575	108	453	3.9	6	7	2573	6.79	17	9	<2	4	13	2.2	<2	<2	141	1.19	.052	11	7	1.58	67	.02	<3	2.24	.01	.24	<2	<5	<1	17	18
B 102818	91	1211	33	166	5.9	5	7	2378	5.99	23	<5	<2	2	15	.4	3	<2	99	1.31	.121	20	6	1.29	57	.01	3	1.70	.01	.20	5	<5	<1	17	18
B 102819	127	698	126	461	5.0	6	9	4078	7.30	33	<5	<2	<2	15	1.8	2	<2	116	1.41	.016	<1	5	1.82	59	.01	<3	2.13	.01	.18	10	<5	<1	16	12
B 102820	33	262	11	108	1.7	5	7	770	4.19	21	7	<2	3	30	<.2	<2	<2	95	1.33	.058	2	10	1.46	83	.09	<3	2.06	.06	.37	<2	<5	<1	25	18
B 102821	4	58	27	115	.4	4	6	731	3.64	30	<5	<2	3	31	.4	4	<2	95	1.16	.029	2	10	1.12	51	.07	<3	1.52	.05	.21	<2	<5	<1	3	16
B 102822	117	6167	2666	5799	73.0	8	7	2029	7.19	4874	6	<2	<2	10	45.4	111	9	22	.65	.100	16	3	.58	33	<.01	5	.48	.01	.31	339	<5	<1	876	16
B 102823	70	3300	942	2802	31.3	8	6	1721	5.16	2392	<5	<2	<2	15	22.2	45	3	24	1.03	.124	27	6	.63	39	<.01	8	.57	.01	.32	11	<5	<1	175	19
B 102824	98	3475	732	2825	29.2	6	14	1958	6.10	4101	<5	<2	<2	10	25.1	27	6	22	.49	.058	23	6	.68	32	<.01	6	.39	.01	.28	41	<5	<1	565	17
B 102825	63	5875	492	2096	35.6	6	5	2182	6.13	1216	5	<2	2	9	18.1	28	8	21	.52	.099	10	5	.65	37	<.01	7	.45	.01	.32	870	<5	<1	446	17
B 102826	258	16116	417	3939	109.6	7	12	1657	6.56	7403	<5	<2	<2	9	33.3	95	4	16	.60	.140	86	7	.38	37	<.01	6	.43	.01	.30	349	<5	<1	481	18
STANDARD C2/AU-R	20	58	37	143	6.8	71	36	1160	4.12	42	17	8	35	52	19.3	17	22	73	.54	.108	40	64	.99	193	.09	24	2.03	.06	.16	15	<5	1	517	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: NOV 5 1996 **DATE REPORT MAILED:** Nov 14/96 **SIGNED BY**.......D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-5789

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102827	81	13438	1214	17869	193.2	15	12	1481	7.45	21616	6	<2	<2	8	172.9	273	88	3	.42	.020	24	7	.24	29	<.01	<3	.26	.01	.22	<2	<5	<1	335	11
B 102828	123	293	125	1068	3.7	6	8	3144	8.95	353	<5	<2	3	26	7.4	5	<2	110	1.29	.040	2	6	1.71	30	.01	<3	1.77	.01	.15	<2	<5	<1	32	16
B 102829	18	121	15	228	1.1	6	8	1037	5.41	36	<5	<2	10	26	.9	2	<2	134	.87	.137	3	10	1.96	66	.11	3	2.22	.02	.63	3	<5	<1	6	14
B 102830	2	62	30	172	.6	7	8	966	5.23	2	<5	<2	11	30	.4	<2	<2	162	1.44	.083	2	10	2.70	101	.22	<3	2.60	.04	1.15	<2	<5	<1	4	20
B 102831	12	221	8	109	1.1	7	8	1263	5.37	<2	<5	<2	9	20	<.2	2	<2	155	1.28	.075	4	12	2.36	95	.21	<3	2.49	.04	.99	2	<5	<1	5	20
B 102832	52	804	130	367	6.0	8	10	2208	6.88	917	<5	<2	8	17	2.3	13	<2	159	1.15	.036	3	9	2.64	91	.19	<3	2.80	.02	.98	23	<5	<1	36	20
B 102833	3	570	352	629	24.8	6	13	1650	6.67	4713	<5	<2	6	23	4.2	23	46	117	.75	.055	4	11	1.75	50	.08	<3	2.20	.02	.46	2	<5	<1	241	19
B 102834	4	130	9	89	.5	5	7	714	4.22	6	<5	<2	6	20	<.2	2	<2	105	.95	.044	1	9	1.79	76	.16	<3	2.05	.05	.79	<2	<5	<1	4	20
B 102835	8	287	12	105	.8	4	7	696	4.37	7	<5	<2	7	15	<.2	<2	<2	116	.93	.049	<1	10	1.95	74	.18	3	2.11	.04	.77	2	<5	<1	6	18
B 102836	7	140	31	234	.9	6	8	1481	5.44	40	<5	<2	10	13	.9	<2	<2	126	.97	.045	2	7	2.12	68	.14	<3	2.50	.04	.60	<2	<5	<1	5	19
B 102837	4	201	11	146	.9	6	10	782	4.99	14	<5	<2	9	14	<.2	<2	4	127	.95	.023	1	10	1.95	64	.17	3	2.15	.04	.66	<2	<5	<1	27	20
B 102838	2	288	11	164	1.4	5	8	764	4.91	4	<5	<2	9	18	.7	<2	<2	124	.96	.013	1	8	1.81	77	.17	3	2.14	.04	.84	<2	<5	1	5	17
B 102839	3	520	256	932	18.2	5	19	2888	6.39	3357	<5	<2	9	20	7.0	30	16	48	.85	.024	3	7	1.02	33	<.01	6	.71	.01	.21	<2	<5	<1	338	7
B 102840	4	330	12	152	1.0	6	11	802	4.47	32	<5	<2	11	19	.7	<2	<2	113	.94	.013	5	10	1.38	62	.10	3	1.75	.04	.43	<2	<5	<1	11	21
RE B 102840	3	323	18	148	1.0	5	10	781	4.36	29	<5	<2	11	19	.7	<2	<2	111	.91	.014	4	10	1.33	61	.09	<3	1.70	.04	.43	<2	<5	<1	9	-
RRE B 102840	3	335	16	152	1.1	5	11	793	4.40	26	<5	<2	10	19	.5	<2	<2	112	.92	.013	5	11	1.35	63	.09	3	1.73	.04	.44	<2	<5	<1	20	-
B 102841	5	142	13	124	.6	5	13	772	4.13	61	<5	<2	13	20	.4	<2	<2	101	1.28	.006	1	12	1.63	59	.12	<3	1.92	.04	.46	2	<5	<1	262	20
B 102842	6	567	52	184	4.0	5	7	1090	3.86	28	<5	<2	14	17	.9	4	<2	91	1.12	.009	14	11	1.46	52	.09	3	1.75	.03	.32	<2	<5	<1	33	20
B 102843	2	188	62	166	.8	4	7	1168	4.36	<2	<5	<2	13	22	.6	<2	<2	110	1.51	.009	2	12	1.59	50	.07	<3	2.02	.04	.39	2	<5	<1	8	14
B 102844	5	500	258	1439	4.2	4	7	2034	5.68	2798	<5	<2	10	12	10.3	18	<2	51	.62	.017	6	9	.98	39	.01	7	.88	.01	.30	2	<5	<1	57	14
B 102845	23	3747	550	2529	70.6	7	12	992	11.03	61128	45	<2	<2	7	17.7	253	36	28	.14	<.001	974	11	.37	38	<.01	3	.41	<.01	.25	<2	<5	<1	1455	3
B 102846	45	533	133	581	2.1	4	9	1205	3.65	222	<5	<2	7	17	4.4	2	<2	87	1.35	.015	6	11	.89	32	.02	3	1.26	.03	.19	<2	<5	<1	22	20
B 102847	20	561	11	120	1.4	5	7	768	3.86	24	<5	<2	4	20	.7	<2	<2	131	1.49	.040	6	13	1.13	43	.06	<3	1.62	.04	.17	<2	<5	<1	19	19
B 102848	10	596	16	109	1.4	4	6	654	3.25	19	9	<2	10	15	.5	<2	2	105	1.14	.054	30	14	.90	36	.04	3	1.33	.04	.16	<2	<5	<1	71	20
B 102849	11	370	393	1305	2.7	4	6	952	3.24	1144	<5	<2	8	17	11.9	2	<2	89	1.33	.025	2	13	.91	25	.03	3	1.38	.04	.19	<2	<5	<1	66	18
B 102850	9	376	64	192	1.2	4	7	834	3.74	116	<5	<2	8	18	.9	<2	<2	119	1.35	.031	2	14	1.07	25	.05	<3	1.56	.04	.18	<2	<5	<1	21	19
RE B 102850	8	358	56	179	1.2	3	7	789	3.54	113	<5	<2	7	17	1.2	<2	<2	113	1.29	.030	2	14	1.02	25	.05	<3	1.48	.04	.17	<2	<5	<1	19	-
RRE B 102850	8	355	56	177	1.2	3	7	782	3.52	119	<5	<2	7	17	1.0	<2	<2	112	1.28	.030	2	13	1.01	24	.05	<3	1.47	.04	.17	<2	<5	<1	35	-
B 102851	9	338	8	76	.7	5	8	684	3.87	15	<5	<2	11	21	<.2	<2	<2	106	1.18	.028	2	13	1.24	26	.07	<3	1.66	.05	.12	<2	<5	<1	23	19
B 102852	10	400	130	431	1.9	3	9	1560	4.35	99	<5	<2	11	17	3.1	<2	<2	94	1.57	.018	4	17	1.27	22	.02	<3	1.86	.02	.20	3	<5	<1	20	18
B 102853	8	542	11	108	1.5	4	9	687	4.10	9	<5	<2	8	15	.4	<2	<2	118	.94	.043	2	12	1.21	26	.07	<3	1.71	.05	.15	<2	<5	<1	56	20
B 102854	3	311	30	388	1.1	4	9	1489	5.05	71	<5	<2	20	16	2.4	2	<2	124	1.38	.013	1	10	1.61	34	.09	<3	1.98	.03	.29	<2	<5	<1	28	19
B 102855	1	244	37	253	1.3	5	7	942	4.56	1009	<5	<2	14	14	1.5	<2	<2	126	.73	.016	<1	10	1.52	50	.11	<3	1.97	.05	.33	<2	<5	<1	18	19
B 102856	1	161	353	1427	3.6	5	7	2429	8.48	1717	<5	<2	12	10	10.6	2	11	158	.40	.002	1	14	1.97	48	.08	<3	3.09	.02	.46	<2	<5	<1	48	4
B 102857	7	736	261	1843	11.4	5	7	1399	11.15	40686	<5	<2	10	4	12.8	59	13	38	.28	.026	10	9	.50	18	<.01	<3	1.00	.01	.21	<2	<5	<1	1760	7
B 102858	7	423	466	2067	2.8	3	10	1215	4.27	299	<5	<2	13	16	20.4	<2	<2	139	1.28	.030	1	12	1.66	29	.07	<3	1.96	.05	.25	<2	<5	<1	77	19
B 102859	3	601	439	4365	5.8	6	11	1665	7.08	555	<5	<2	22	7	41.7	3	<2	120	.25	.039	2	11	1.53	34	.05	<3	2.07	.02	.32	3	<5	<1	133	8
STANDARD C2/	20	59	42	145	6.8	72	36	1160	4.06	47	16	7	36	50	19.8	19	20	69	.50	.110	38	63	.99	190	.07	24	2.01	.06	.14	13	<5	1	469	-

Standard is STANDARD C2/AU-R. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

ACME ANALYTICAL

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-5789

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102860	<1	1441	2049	85312	24.9	3	18	820	26.38	12730	<5	<2	5	3	786.9	48	32	31	.03	<.001	<1	7	.22	4	<.01	<3	.83	<.01	.08	<2	<5	<1	1530	4
B 102861	15	613	217	1084	8.5	6	9	1821	7.12	280	<5	<2	13	10	8.4	8	4	125	.51	.040	7	9	1.45	23	.04	<3	1.94	.03	.23	34	<5	<1	132	19
B 102862	1	299	26	297	1.1	5	13	1180	5.07	15	<5	<2	18	17	1.6	3	<2	148	1.30	.027	3	12	1.38	24	.06	<3	1.93	.04	.15	3	<5	<1	16	19
B 102863	4	120	9	310	.6	4	6	818	4.12	24	<5	<2	12	17	1.7	<2	<2	141	.98	.055	4	9	1.17	29	.07	<3	1.49	.05	.17	4	<5	<1	9	19
B 102864	4	135	6	92	.3	5	6	459	3.24	11	<5	<2	9	15	<.2	<2	<2	99	.63	.015	<1	9	1.07	39	.09	<3	1.37	.06	.20	<2	<5	<1	6	20
B 102865	6	272	52	302	1.3	4	11	1004	4.44	21	<5	<2	11	19	1.6	<2	2	106	.96	.016	1	6	1.34	33	.06	<3	1.58	.04	.15	<2	<5	<1	10	19
B 102866	8	451	621	629	3.0	5	11	869	3.98	130	<5	<2	13	16	5.9	2	<2	101	1.01	.011	1	8	1.27	24	.06	<3	1.56	.03	.13	<2	<5	<1	25	18
B 102867	2	109	64	165	.6	6	13	1157	4.63	18	<5	<2	11	17	.5	<2	<2	127	1.27	.022	13	7	1.71	32	.09	<3	1.95	.04	.18	<2	<5	<1	4	19
B 102868	1	115	11	106	.5	5	9	796	3.99	7	<5	<2	10	17	<.2	<2	<2	120	.99	.017	1	8	1.67	46	.16	<3	1.97	.06	.40	2	<5	<1	3	18
RE B 102868	1	111	14	101	.5	5	9	771	3.89	6	<5	<2	10	17	<.2	<2	<2	116	.96	.017	<1	8	1.64	44	.16	<3	1.93	.06	.39	2	<5	<1	7	-
RRE B 102868	2	118	11	109	.5	5	9	807	4.04	6	<5	<2	10	18	<.2	<2	<2	122	1.01	.017	<1	8	1.69	47	.16	<3	2.01	.06	.40	2	<5	<1	2	-
B 102869	1	169	111	356	1.2	6	8	1243	5.49	62	<5	<2	11	16	1.9	<2	<2	135	1.05	.026	1	6	2.19	57	.15	<3	2.56	.05	.53	<2	<5	<1	6	21
B 102870	1	368	237	738	3.0	5	31	1859	7.06	13566	<5	<2	13	16	4.9	10	5	135	1.26	.020	1	7	1.83	30	.06	<3	2.45	.03	.32	<2	<5	<1	702	20
B 102871	1	236	12	126	1.0	6	10	879	4.29	30	<5	<2	10	20	.2	<2	3	128	1.23	.035	1	7	1.71	57	.14	<3	2.07	.06	.56	<2	<5	<1	14	7

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Rerauns.

Data ✓ FA ____

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-5935 Page 1

420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au** ppb	SAMPLE lb
B 102872	1	166	949	5572	4.4	<1	7	5278	8.63	1818	<5	<2	12	10	57.9	21	4	75	.76	.057	3	10	1.35	20	<.01	5	1.48	.02	.21	4	<5	1	114	15
B 102873	2	188	145	2039	2.3	9	9	4569	7.86	182	<5	<2	11	29	18.6	6	<2	163	2.57	.099	6	9	1.70	22	.03	12	2.20	.02	.38	<2	<5	<1	12	14
B 102874	<1	155	133	1244	2.0	4	6	1748	5.96	16	<5	<2	10	20	10.7	6	2	134	1.46	.041	2	11	1.81	39	.09	7	2.27	.04	.54	<2	<5	<1	18	19
B 102875	3	137	16	224	1.2	6	9	1087	6.01	12	<5	<2	13	19	1.5	2	<2	143	.97	.029	2	12	2.10	53	.14	6	2.64	.04	.84	2	<5	<1	5	16
B 102876	2	221	16	185	1.0	2	9	924	5.50	8	<5	<2	11	20	.9	<2	3	117	1.28	.021	2	9	1.86	46	.12	4	2.39	.05	.69	2	<5	<1	17	17
B 102877	4	133	6	219	.9	8	5	857	4.87	<2	<5	<2	10	17	1.7	<2	<2	98	1.29	.021	3	10	1.82	33	.12	9	2.22	.04	.64	<2	<5	<1	8	20
B 102878	4	145	8	155	1.1	3	6	999	4.41	<2	<5	<2	13	22	1.4	<2	<2	96	1.74	.010	5	7	1.68	46	.08	10	1.92	.04	.45	<2	<5	<1	9	17
B 102879	16	616	5	114	1.8	9	9	931	5.62	9	<5	<2	11	16	1.0	<2	4	112	1.20	.045	12	8	2.04	53	.13	5	2.31	.04	.78	5	<5	<1	38	22
B 102880	7	227	10	190	1.1	5	4	835	5.17	2	<5	<2	11	14	1.6	2	<2	108	1.09	.053	3	8	1.90	49	.16	4	2.27	.05	.88	2	<5	<1	4	21
B 102881	6	216	7	112	.9	4	5	2859	4.85	4	<5	<2	9	24	.8	3	2	104	1.86	.025	7	8	1.88	53	.09	5	2.04	.04	.53	3	<5	1	15	18
B 102882	5	485	<3	160	1.7	5	6	931	5.42	4	<5	<2	10	22	1.1	<2	3	126	1.23	.042	3	9	1.96	60	.11	7	2.32	.04	.88	<2	<5	1	13	21
RE B 102882	5	482	3	154	1.6	3	6	918	5.41	5	<5	<2	10	22	.6	<2	3	125	1.22	.041	3	9	1.96	63	.11	6	2.34	.04	.88	<2	<5	<1	15	-
RRE B 102882	5	418	4	143	1.7	4	6	916	5.26	<2	<5	<2	10	22	1.0	<2	2	121	1.25	.042	2	9	1.93	53	.11	5	2.30	.05	.84	2	<5	1	8	-
B 102883	6	408	9	162	1.9	4	6	1062	6.15	<2	<5	<2	9	21	.7	<2	<2	137	1.30	.031	3	8	2.19	63	.12	6	2.59	.05	.92	<2	<5	<1	15	20
B 102884	10	746	6	134	3.2	5	10	1626	9.04	<2	<5	<2	7	19	.3	2	6	179	1.43	.035	4	9	3.09	94	.15	10	3.62	.03	1.47	4	<5	1	95	19
B 102885	2	1177	13	123	7.3	7	7	1784	9.76	<2	<5	<2	11	14	<.2	<2	<2	157	1.21	.050	3	10	2.84	50	.08	7	3.95	.03	.57	<2	<5	<1	116	19
B 102886	1	237	35	191	1.2	3	5	982	5.14	<2	<5	<2	8	21	1.6	<2	4	77	1.28	.014	2	11	1.78	43	.10	7	2.37	.05	.57	13	<5	<1	295	19
B 102887	3	812	13	110	3.1	6	7	1351	4.73	10	<5	<2	4	22	1.1	<2	<2	63	1.28	.012	3	12	1.12	43	.03	4	1.89	.03	.23	6	<5	<1	38	17
B 102888	5	510	4	99	1.4	5	7	805	4.63	2	<5	<2	5	21	1.0	<2	<2	90	1.25	.077	3	12	1.53	71	.14	<3	2.01	.06	.62	<2	<5	1	13	20
B 102889	6	291	14	187	1.4	4	6	1104	4.93	50	<5	<2	5	21	2.0	<2	<2	94	1.21	.085	7	14	1.52	60	.12	4	2.20	.06	.55	<2	<5	2	29	20
B 102890	2	395	3	86	1.5	6	9	929	5.34	11	<5	<2	5	21	.6	<2	5	100	1.13	.020	2	12	1.77	56	.11	3	2.30	.06	.62	42	<5	1	36	19
B 102891	3	726	10	153	2.2	7	11	848	5.16	68	<5	<2	8	18	1.5	2	3	98	.99	.008	2	10	1.63	73	.11	10	2.14	.05	.70	<2	<5	<1	43	20
B 102892	9	1226	19	154	5.2	9	13	1107	5.64	112	<5	<2	5	19	1.5	<2	2	73	1.01	.006	3	11	1.43	71	.06	6	2.36	.03	.39	9	<5	2	71	19
B 102893	28	526	91	302	2.7	3	9	1400	6.40	23	<5	<2	6	27	2.3	<2	<2	106	1.07	.007	15	9	1.99	63	.07	6	2.52	.05	.81	7	<5	1	86	20
B 102894	26	846	5	118	3.8	7	10	1278	7.41	15	<5	<2	7	23	.5	<2	2	97	1.30	.003	2	23	2.54	64	.08	<3	3.13	.04	.85	7	<5	1	71	19
RE B 102894	27	822	5	109	3.7	7	8	1188	7.34	19	<5	<2	6	23	<.2	<2	4	93	1.21	.005	2	22	2.44	63	.08	<3	2.96	.04	.84	6	<5	<1	44	-
RRE B 102894	26	865	<3	123	3.3	3	10	1388	7.86	17	<5	<2	7	24	.3	<2	3	103	1.42	.004	2	24	2.71	64	.08	<3	3.31	.05	.88	8	<5	2	45	-
B 102895	59	535	5	105	2.2	6	8	1097	6.91	49	<5	<2	4	23	.3	<2	<2	103	1.32	.004	3	16	2.03	78	.13	<3	2.75	.04	1.01	<2	<5	1	91	14
B 102896	57	920	11	99	2.9	5	7	646	3.48	100	<5	<2	4	26	.8	4	<2	25	1.01	.006	6	11	.54	47	.02	5	1.29	.03	.16	3	<5	<1	39	15
B 102897	9	3239	241	776	18.6	5	8	2962	8.22	3418	<5	<2	5	18	6.6	7	4	100	1.12	.003	14	14	1.60	37	.02	8	2.66	.02	.26	179	<5	<1	691	18
B 102898	6	2504	24	194	11.6	5	9	2141	8.32	51	<5	<2	5	38	.4	<2	<2	138	1.56	.001	7	22	1.70	43	.04	3	2.49	.03	.33	23	<5	2	179	13
B 102899	8	870	110	217	5.4	1	10	3661	10.14	96	<5	<2	3	21	.2	<2	4	69	.74	.004	1	8	1.51	37	.02	8	3.19	.01	.21	<2	<5	2	34	12
B 102900	7	341	137	484	3.1	5	10	3052	7.82	159	<5	<2	3	19	3.0	2	<2	68	.95	.005	3	9	1.38	30	.02	4	2.73	.02	.29	<2	<5	1	16	12
B 102901	14	1267	370	1363	9.1	7	16	2858	7.41	1006	<5	<2	6	16	10.5	11	<2	86	.97	.005	11	15	1.40	51	.01	8	2.53	.01	.19	2	<5	1	58	20
B 102902	10	779	462	2581	7.1	5	11	3694	7.39	3193	<5	<2	6	21	22.2	30	5	41	1.14	.013	4	12	.78	37	<.01	9	1.01	.02	.24	<2	<5	<1	138	18
B 102903	13	932	71	542	4.6	7	11	1823	5.71	108	<5	<2	7	24	3.8	6	<2	75	1.02	.017	3	16	1.15	47	.04	6	1.98	.04	.33	2	<5	2	56	19
STANDARD C2/AU-R	20	56	36	136	6.8	73	35	1160	4.15	43	17	7	36	50	19.8	15	23	68	.52	.106	39	60	.99	187	.07	30	2.06	.06	.14	10	<5	3	457	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU** ANALYSIS BY FA/ICP FROM 30 GM SAMPLE.
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: NOV 12 1996 **DATE REPORT MAILED:** Nov 19/96 **SIGNED BY** .... D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

 Data ✓ FA ____

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	Tl ppm	Hg ppm	Au** ppb	SAMPLE lb
B 102904	17	1302	7	113	3.1	9	9	728	4.58	75	<5	<2	7	38	1.3	<2	<2	61	1.03	.010	2	10	1.20	56	.08	<3	2.00	.06	.33	<2	<5	<1	64	19
B 102905	16	1424	5	133	3.5	5	9	820	5.18	50	<5	<2	6	30	.8	<2	5	64	1.39	.027	4	13	1.45	49	.06	6	2.28	.05	.36	<2	<5	1	47	12
B 102906	16	940	10	118	2.8	5	8	822	3.52	100	<5	<2	4	26	1.0	<2	3	38	1.40	.017	4	11	.78	52	.01	5	1.47	.04	.17	<2	<5	1	68	16
B 102907	18	1952	10	143	5.3	1	8	643	3.23	75	<5	<2	2	24	1.3	2	<2	30	1.28	.011	5	12	.63	59	.01	4	1.27	.03	.17	<2	<5	<1	1161	15
B 102908	14	452	6	102	1.8	6	8	1000	5.40	32	<5	<2	5	26	.8	<2	<2	67	.98	.008	2	10	1.51	52	.08	<3	2.37	.05	.53	<2	<5	1	19	20
B 102909	14	202	4	90	.7	4	5	968	5.43	8	<5	<2	6	29	<.2	<2	<2	70	1.14	.008	2	10	1.58	60	.11	<3	2.42	.07	.56	<2	<5	2	9	13
B 102910	18	1253	32	185	4.8	5	9	1410	3.00	143	<5	<2	3	22	1.4	<2	<2	27	1.78	.026	6	9	.59	45	<.01	7	.88	.02	.23	182	<5	<1	159	17
B 102911	13	1052	182	1695	14.6	1	7	2281	5.72	2623	<5	<2	4	20	15.1	5	18	60	1.17	.021	4	9	.92	45	.01	7	1.40	.01	.28	158	<5	<1	238	18
B 102912	14	1159	173	452	5.7	7	11	1586	2.91	188	<5	<2	3	23	4.2	3	<2	22	1.82	.016	9	10	.47	48	<.01	6	.91	.02	.25	89	<5	<1	111	17
B 102913	9	637	18	166	2.5	5	7	1118	4.02	68	<5	<2	4	24	1.7	2	<2	41	1.68	.045	8	14	.79	48	.01	4	1.56	.03	.22	4	<5	<1	75	18
B 102914	12	1287	333	1552	16.4	7	9	2117	7.32	13457	<5	<2	7	15	11.5	6	27	57	1.00	.114	27	11	1.01	59	<.01	4	1.55	.01	.24	<2	<5	1	322	20
B 102915	54	936	667	1739	17.1	6	24	2065	6.74	13089	<5	<2	4	19	14.1	13	23	40	.80	.024	22	9	.64	47	<.01	8	.73	.01	.25	<2	<5	<1	426	11
B 102916	27	1235	21	237	6.2	2	11	2012	7.09	130	<5	<2	6	22	.8	<2	<2	92	1.42	.008	20	11	1.67	43	.05	4	2.83	.03	.32	<2	<5	<1	57	18
B 102917	46	2575	141	418	10.3	10	14	2484	9.57	136	10	<2	28	20	2.3	<2	4	172	1.81	.038	7	12	2.76	72	.09	<3	3.82	.03	.76	192	<5	1	81	18
B 102918	6	666	76	507	3.0	7	15	1613	8.62	111	<5	<2	8	21	3.7	<2	<2	158	1.55	.040	7	10	2.61	86	.13	5	3.56	.04	1.39	<2	<5	1	29	11
B 102919	30	837	4	109	2.5	6	15	778	4.97	134	<5	<2	7	19	1.1	<2	<2	76	.79	.009	2	13	1.35	64	.15	7	2.16	.06	.50	30	<5	<1	36	20
B 102920	59	1538	6	129	4.0	6	25	676	4.32	308	<5	<2	2	29	1.2	<2	4	51	.63	.021	3	10	.96	64	.13	6	1.84	.06	.23	<2	<5	<1	91	17
B 102921	35	2359	6	156	6.0	3	30	623	4.01	283	<5	<2	<2	44	1.6	<2	<2	41	.57	.011	2	15	.83	57	.10	5	1.67	.06	.10	14	<5	<1	160	10
B 102922	24	1585	33	170	8.7	6	21	1057	4.46	353	<5	<2	3	16	1.8	<2	11	47	1.20	.007	5	13	.93	61	.03	4	1.96	.04	.19	25	<5	1	86	19
B 102923	60	1521	158	1872	7.5	3	20	1573	4.72	587	<5	<2	4	14	16.9	2	<2	45	1.39	.012	5	12	.89	33	.01	9	2.07	.02	.25	2	<5	<1	129	17
B 102924	11	1047	4	105	2.8	4	23	743	3.34	224	<5	<2	3	22	1.0	<2	<2	37	1.48	.007	3	12	.75	40	.04	3	1.52	.04	.21	2	<5	<1	67	16
RE B 102924	11	1027	9	98	2.7	3	21	719	3.26	202	<5	<2	3	22	.9	<2	<2	36	1.44	.006	3	12	.73	43	.04	5	1.50	.04	.21	<2	<5	<1	70	-
RRE B 102924	12	1052	7	98	2.9	7	27	727	3.35	248	<5	<2	2	23	.9	<2	<2	37	1.47	.007	3	11	.74	39	.04	5	1.53	.04	.21	<2	<5	<1	66	-
B 102925	15	1926	12	169	4.7	6	45	557	3.24	347	<5	<2	4	17	1.5	<2	<2	35	.91	.006	2	16	.65	43	.07	3	1.38	.05	.10	3	<5	<1	195	7
B 102926	13	1283	15	124	3.1	10	24	513	2.33	225	<5	<2	<2	20	.7	2	<2	24	1.39	.007	3	14	.42	53	.07	6	1.05	.05	.16	<2	<5	<1	156	14
B 102927	11	1471	10	124	3.8	2	24	517	3.02	199	<5	<2	3	20	1.1	<2	2	36	.72	.011	1	16	.65	56	.08	3	1.39	.06	.10	65	<5	1	151	18
B 102928	8	849	7	92	2.1	7	29	499	3.14	294	<5	<2	3	27	.5	<2	<2	40	.69	.006	2	14	.81	42	.09	4	1.59	.06	.09	2	<5	<1	269	15
B 102929	12	989	5	102	3.5	7	10	793	4.24	80	<5	<2	4	20	1.0	<2	<2	53	1.24	.010	2	13	1.03	49	.08	3	1.87	.04	.22	<2	<5	1	221	18
B 102930	9	951	12	126	3.3	4	11	920	5.77	118	<5	<2	8	20	.4	<2	<2	84	.95	.011	2	13	1.54	60	.13	4	2.47	.06	.51	2	<5	<1	64	19
B 102931	11	525	10	121	1.5	9	15	763	5.15	122	<5	<2	6	25	.8	<2	<2	82	.93	.010	2	16	1.49	63	.17	<3	2.33	.07	.62	<2	<5	1	27	17
B 102932	8	675	7	101	2.1	3	15	602	3.85	214	<5	<2	3	23	.9	<2	<2	52	.88	.023	2	13	1.04	55	.11	4	1.91	.06	.23	9	<5	<1	36	15
B 102933	7	1974	<3	99	7.0	5	11	833	5.67	131	<5	<2	4	19	.4	<2	2	91	1.05	.025	2	14	1.36	69	.12	6	2.44	.05	.31	35	<5	<1	401	8
B 102934	9	785	328	659	4.7	2	9	1360	3.73	316	<5	<2	5	24	6.5	<2	<2	39	1.77	.039	7	13	.72	45	.01	6	1.22	.02	.22	20	<5	<1	81	10
B 102935	13	611	22	110	2.4	4	6	855	4.06	47	<5	<2	3	20	.6	<2	<2	53	1.32	.012	2	8	1.01	31	.05	8	1.79	.05	.23	<2	<5	<1	28	17
B 102936	11	490	10	121	1.7	2	7	1186	5.43	42	<5	<2	4	21	.3	<2	<2	83	1.57	.013	3	13	1.46	38	.07	4	2.38	.04	.36	20	<5	<1	44	18
B 102937	14	676	137	361	2.4	6	11	1548	4.85	61	<5	<2	3	24	2.5	<2	<2	62	1.89	.009	4	11	1.15	35	.05	10	2.17	.04	.22	3	<5	2	40	16
STANDARD C2/AU-R	20	59	38	140	6.7	70	35	1160	4.21	47	18	7	36	50	19.5	16	17	69	.51	.108	40	63	.99	201	.07	25	2.08	.06	.14	9	<5	2	482	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data FA ____

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

GEOCHEMICAL ANALYSIS CERTIFICATE

Imperial Metals Corporation PROJECT GIANT COPPER File # 96-6067 Page 1
420 - 355 Burrard St., Vancouver BC V6C 2G8 Submitted by: Steve Robertson

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102938	8	967	666	1678	8.6	5	9	5756	8.95	116	7	<2	4	10	12.4	12	5	107	1.10	.129	6	9	1.84	33	.01	<3	2.73	.01	.22	<2	<5	<1	163	13
B 102939	1	1207	9	135	3.9	6	8	1075	5.98	5	6	<2	4	27	<.2	<2	<2	137	1.74	.201	13	11	1.80	54	.09	<3	2.80	.06	.29	70	<5	1	9	13
B 102940	2	189	9	152	1.0	4	6	684	4.25	18	6	<2	2	20	<.2	4	<2	101	1.10	.077	4	8	1.33	48	.08	<3	2.21	.05	.20	<2	<5	<1	8	12
B 102941	5	462	7	190	2.5	6	11	1707	7.57	17	<5	<2	4	20	<.2	2	<2	146	1.81	.130	9	10	2.72	63	.08	<3	3.40	.02	.69	11	<5	<1	36	16
B 102942	12	759	556	3062	6.7	5	11	3508	11.23	312	7	<2	11	14	26.0	5	8	166	1.03	.006	5	10	3.35	51	.07	<3	4.27	.02	.54	3	<5	<1	40	20
B 102943	2	462	24	205	2.3	6	11	1444	7.74	<2	<5	<2	13	30	<.2	<2	3	169	1.73	.006	2	10	3.32	110	.16	<3	3.48	.05	1.59	4	<5	<1	15	19
B 102944	6	242	239	537	2.3	4	11	4837	9.32	7	7	<2	10	16	3.3	<2	2	131	1.85	.006	4	7	3.14	57	.07	<3	3.46	.02	.74	<2	<5	<1	7	10
B 102945	8	269	667	2262	5.5	4	6	5098	9.79	995	<5	<2	2	10	18.2	10	6	95	.77	.038	6	8	1.28	28	<.01	<3	.80	.01	.23	<2	<5	<1	15	17
B 102946	1	423	42	150	2.3	4	8	1817	7.25	5	<5	<2	10	18	.3	2	<2	184	1.70	.054	2	6	2.96	43	.11	<3	3.31	.04	.75	3	<5	<1	8	19
B 102947	3	282	19	176	1.7	4	10	1701	7.45	3	7	<2	7	19	.3	<2	3	134	1.64	.068	5	8	3.09	38	.11	<3	3.52	.04	.62	<2	<5	<1	24	19
B 102948	4	846	41	321	4.4	3	6	967	4.02	5	<5	<2	7	14	2.6	<2	<2	74	1.17	.131	1	5	1.76	30	.10	<3	2.17	.04	.48	<2	<5	<1	9	19
RE B 102948	3	848	48	317	3.9	3	6	968	4.04	6	7	<2	7	14	2.5	2	<2	75	1.17	.132	1	5	1.76	30	.10	<3	2.18	.05	.48	<2	<5	<1	11	-
RRE B 102948	3	831	46	323	4.0	4	6	974	4.05	5	6	<2	10	14	2.8	<2	2	74	1.18	.132	2	6	1.77	30	.10	<3	2.19	.05	.48	<2	<5	<1	14	-
B 102949	2	235	365	1132	2.3	3	7	1513	5.87	13	<5	<2	9	15	9.2	<2	2	83	1.15	.112	2	5	1.92	43	.09	<3	2.63	.05	.51	<2	<5	<1	11	12
B 102950	3	459	499	5318	4.1	4	15	4341	9.65	5685	<5	<2	6	11	45.1	7	4	62	1.08	.066	2	7	1.50	53	<.01	3	1.38	.01	.25	<2	<5	<1	98	11
B 102951	3	341	117	634	1.8	5	9	1638	6.69	59	5	<2	11	17	4.2	<2	2	101	1.41	.071	1	8	2.39	51	.11	<3	2.98	.05	.82	<2	<5	1	39	20
B 102952	4	664	8	221	2.7	4	8	888	4.62	8	<5	<2	11	14	1.2	<2	<2	72	.81	.003	1	6	1.80	50	.13	<3	2.36	.06	.76	<2	<5	<1	20	19
B 102953	9	648	5	124	2.0	4	11	1171	6.23	3	<5	<2	15	17	<.2	<2	<2	99	1.00	.004	<1	7	2.37	66	.16	<3	3.00	.06	1.12	<2	<5	<1	29	17
B 102954	5	731	15	131	3.7	5	11	1076	5.78	25	6	<2	13	16	<.2	<2	5	92	1.02	.007	1	10	2.23	69	.15	<3	2.85	.06	1.06	95	<5	<1	27	20
B 102955	5	534	12	201	2.6	3	8	1036	5.18	2	<5	<2	9	17	.8	<2	4	77	.92	.004	3	9	1.97	61	.16	<3	2.70	.06	.83	<2	<5	<1	8	19
B 102956	15	978	7	266	4.1	4	9	1039	5.22	<2	<5	<2	12	17	.8	<2	3	87	1.01	.003	<1	10	1.99	56	.14	<3	2.64	.06	.78	<2	<5	<1	50	19
B 102957	14	1813	7	160	6.8	4	10	1147	6.35	<2	10	<2	9	17	.2	<2	<2	84	1.02	<.001	1	10	1.86	41	.08	<3	3.00	.05	.38	<2	<5	1	89	19
B 102958	7	1022	11	143	4.4	6	12	1107	5.20	6	<5	<2	10	20	<.2	<2	2	72	1.42	<.001	2	10	1.75	44	.06	<3	2.66	.04	.41	<2	<5	<1	25	19
B 102959	7	3700	20	104	11.1	6	14	894	4.92	11	<5	<2	8	18	<.2	<2	7	80	1.29	<.001	1	11	1.80	45	.10	<3	2.39	.05	.61	<2	<5	<1	1167	19
B 102960	6	413	12	139	2.2	5	13	1739	7.07	10	<5	<2	2	20	<.2	3	4	97	1.23	.002	1	12	1.99	42	.08	<3	3.19	.03	.49	<2	<5	<1	32	18
RE B 102960	6	371	19	124	2.0	6	11	1629	6.34	9	<5	<2	4	18	<.2	<2	<2	89	1.12	.004	2	12	1.89	39	.07	<3	3.02	.03	.46	<2	<5	<1	39	-
RRE B 102960	6	393	11	129	2.1	5	12	1668	6.71	6	<5	<2	2	19	<.2	3	<2	92	1.17	.003	1	12	1.90	40	.07	<3	3.07	.03	.46	<2	<5	<1	23	-
B 102961	9	506	10	99	2.3	4	11	1039	4.63	15	5	<2	5	30	<.2	2	<2	60	1.22	.003	3	10	1.40	52	.06	<3	2.41	.04	.37	<2	<5	<1	20	19
B 102962	10	569	23	114	2.9	5	9	1403	4.66	21	5	<2	3	18	<.2	2	<2	53	1.14	.002	2	11	1.19	32	.03	<3	2.07	.02	.24	<2	<5	1	214	19
B 102963	12	584	40	214	3.2	4	18	1536	5.53	106	6	<2	4	28	.8	4	4	72	1.36	.004	3	12	1.65	43	.05	<3	2.70	.04	.36	<2	<5	1	35	19
B 102964	9	238	28	136	1.3	4	16	1114	5.28	9	<5	<2	3	23	.4	2	<2	89	1.24	.005	2	12	1.86	58	.10	<3	2.61	.04	.90	<2	<5	1	192	17
B 102965	32	203	15	98	.9	4	19	823	4.76	9	<5	<2	5	18	<.2	<2	2	65	.84	.006	1	12	1.61	56	.12	<3	2.31	.05	.75	<2	<5	<1	89	19
B 102966	48	380	15	95	2.1	5	12	1313	5.13	28	<5	<2	5	22	.2	<2	2	61	1.41	.007	8	11	1.46	48	.05	<3	2.39	.04	.40	<2	<5	<1	603	19
B 102967	42	361	32	177	1.8	4	13	1731	6.36	274	<5	<2	3	21	.4	2	<2	77	1.30	.005	7	11	1.68	44	.05	<3	2.75	.04	.41	<2	<5	<1	123	19
B 102968	45	1416	30	174	5.7	5	14	1296	5.99	102	<5	<2	4	17	.4	3	<2	82	1.08	.006	3	12	1.71	46	.08	<3	2.72	.04	.55	8	<5	1	75	19
B 102969	34	687	8	98	2.5	5	13	990	4.47	9	<5	<2	5	23	<.2	2	2	60	1.41	.008	2	12	1.27	53	.05	<3	2.37	.05	.24	<2	<5	<1	91	19
STANDARD C2/AU-R	19	56	42	134	6.9	69	36	1276	3.95	42	24	8	35	51	19.0	19	18	70	.52	.108	39	61	1.09	192	.08	25	2.28	.06	.15	14	<5	2	454	-

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.
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB
- SAMPLE TYPE: CORE AU* - IGNITED, AQUA-REGIA/MIBK EXTRACT, GF/AA FINISHED.(10 GM)
Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: NOV 18 1996 **DATE REPORT MAILED:** Nov 25/96 **SIGNED BY** C. L. .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

 Data___ FA ____

Imperial Metals Corporation PROJECT GIANT COPPER FILE # 96-6067

ACME ANALYTICAL

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	Tl ppm	Hg ppm	Au* ppb	SAMPLE lb
B 102970	13	1001	3	102	3.4	5	10	828	4.28	2	<5	<2	6	18	.5	<2	<2	61	1.11	.002	2	15	1.12	77	.04	<3	2.10	.05	.23	13	<5	<1	70	20
B 102971	47	966	6	101	3.1	5	28	606	3.56	81	<5	<2	4	17	.5	<2	<2	48	.85	.002	2	9	.89	64	.04	<3	1.69	.05	.15	35	<5	<1	160	19
B 102972	22	2033	20	258	14.0	4	28	1425	5.05	103	<5	13	3	17	2.1	23	<2	73	1.20	.003	2	10	1.16	65	.02	3	2.27	.04	.22	<2	<5	<1	123	20
B 102973	13	1128	8	113	4.0	4	16	1225	4.29	53	<5	<2	3	21	.6	2	<2	54	1.27	.005	3	8	1.08	47	.02	<3	1.88	.04	.20	<2	<5	<1	32	19
B 102974	9	548	116	298	3.1	3	11	1359	4.17	34	<5	<2	5	21	1.5	<2	<2	63	1.38	.003	2	13	1.20	43	.04	<3	1.82	.04	.28	<2	<5	<1	134	20
B 102975	29	1726	97	455	11.7	5	12	1350	4.13	31	<5	<2	3	22	3.6	11	4	41	1.11	.008	2	9	.79	31	.01	<3	1.13	.03	.21	<2	<5	<1	84	19
B 102976	16	625	18	229	2.4	5	12	1727	5.14	20	<5	<2	2	26	1.3	15	2	47	1.29	.007	3	12	.79	36	.02	<3	1.03	.02	.23	2	<5	<1	38	19
B 102977	19	1116	148	1458	8.4	5	9	1899	6.13	23	<5	<2	2	12	12.0	33	<2	14	.27	.001	1	7	.39	19	<.01	<3	.38	.01	.30	<2	<5	<1	84	19
B 102978	30	1053	93	185	6.5	5	6	1397	3.49	5	<5	<2	2	21	1.1	6	<2	36	1.11	.002	2	11	.62	46	.01	<3	1.28	.03	.19	4	<5	<1	25	19
B 102979	34	1638	44	185	6.4	3	8	1474	3.76	13	<5	<2	2	24	.8	5	<2	35	1.40	<.001	60	8	.62	57	.01	<3	1.36	.02	.24	13	<5	<1	68	18
B 102980	30	1427	25	135	5.7	4	8	1412	3.58	7	<5	<2	4	23	.8	5	<2	40	1.65	<.001	4	9	.70	68	.01	3	1.56	.02	.25	7	<5	<1	42	20
RE B 102980	30	1460	25	134	5.9	4	8	1427	3.62	6	<5	<2	3	23	.4	4	<2	40	1.67	<.001	2	11	.71	67	.01	3	1.58	.02	.26	8	<5	<1	32	-
RRE B 102980	30	1319	27	129	5.4	4	8	1406	3.49	9	<5	<2	2	22	.7	7	<2	39	1.62	<.001	4	10	.68	62	.01	3	1.51	.02	.25	7	<5	<1	20	-
B 102981	15	1395	40	154	4.8	4	16	1500	2.86	55	<5	<2	3	22	1.1	<2	<2	30	1.66	<.001	3	10	.54	63	.01	5	1.21	.03	.24	58	<5	<1	91	13
B 102982	19	1159	84	250	5.5	4	20	1815	2.94	98	5	<2	4	17	1.6	28	<2	28	1.46	<.001	3	10	.53	58	<.01	5	1.07	.02	.25	54	<5	<1	138	15
B 102983	17	1797	839	1624	40.5	4	12	2236	3.46	2572	<5	<2	2	10	12.6	177	84	9	.67	.002	2	7	.31	45	<.01	5	.41	.01	.27	5	<5	<1	400	10
B 102984	17	1080	415	868	23.9	2	32	2358	3.39	8099	<5	<2	<2	24	6.5	38	86	21	6.26	.004	5	5	.30	41	<.01	<3	.66	.01	.21	<2	<5	<1	700	12
B 102985	11	119	217	618	3.2	4	8	2180	3.59	702	<5	<2	<2	12	3.8	7	6	34	.82	.066	8	10	.54	68	.01	3	1.41	.01	.27	33	<5	<1	58	15
B 102986	22	225	10	95	1.1	3	11	1009	4.15	32	<5	<2	3	29	.2	4	<2	66	1.29	.052	2	9	1.11	37	.05	<3	2.02	.06	.24	<2	<5	<1	22	19
B 102987	35	929	17	108	2.8	4	13	717	3.90	15	<5	<2	5	24	.5	5	<2	62	1.11	.069	5	9	1.04	39	.06	<3	1.81	.06	.22	3	<5	<1	42	20
B 102988	14	2595	11	177	6.9	4	11	823	3.56	6	<5	<2	4	17	1.0	<2	<2	49	1.28	.059	4	7	.87	58	.02	<3	1.66	.04	.17	7	<5	<1	139	15
B 102989	19	247	10	67	1.7	3	7	542	3.27	11	<5	<2	4	33	.2	<2	<2	72	.92	.039	1	9	1.12	27	.11	<3	1.84	.12	.10	<2	<5	<1	30	19
B 102990	2	113	7	48	.3	4	3	426	3.03	<2	<5	<2	4	34	<.2	<2	<2	87	.92	.048	2	9	.82	49	.13	3	1.48	.11	.15	<2	<5	<1	6	20
RE B 102990	2	117	13	49	.5	4	4	435	3.11	<2	<5	<2	4	35	<.2	<2	<2	90	.94	.051	1	9	.83	50	.13	<3	1.51	.11	.15	<2	<5	<1	5	-
RRE B 102990	2	113	3	48	.3	4	4	425	3.04	3	<5	<2	4	34	<.2	<2	<2	88	.91	.049	1	8	.81	47	.13	3	1.48	.11	.14	<2	<5	<1	4	-
B 102991	1	98	6	54	.3	3	4	463	3.36	<2	<5	<2	3	48	.2	<2	<2	93	.98	.051	2	7	.88	85	.12	<3	1.58	.11	.18	<2	<5	<1	10	20
B 102992	1	72	<3	51	.3	4	4	574	3.53	2	<5	<2	3	42	<.2	<2	2	112	1.25	.053	1	8	.91	49	.12	<3	1.58	.11	.21	<2	<5	<1	6	20
B 102993	1	249	9	48	.8	3	4	401	3.27	<2	<5	<2	5	42	<.2	2	<2	92	.76	.044	1	6	.83	39	.11	<3	1.50	.11	.12	<2	<5	<1	12	18
B 102994	1	124	8	49	.4	3	3	451	2.92	<2	<5	<2	3	42	<.2	<2	<2	97	.81	.045	1	8	.79	26	.09	<3	1.45	.11	.05	<2	<5	<1	4	18
B 102995	1	106	6	48	.3	3	3	373	3.14	<2	<5	<2	4	36	<.2	<2	<2	108	.73	.047	1	8	.89	42	.11	<3	1.61	.12	.11	<2	<5	<1	5	18
B 102996	1	179	7	45	.4	3	3	434	2.65	<2	<5	<2	7	32	<.2	2	<2	78	.79	.030	<1	10	.80	18	.10	3	1.45	.11	.06	<2	<5	<1	4	20
B 102997	1	177	6	44	.3	3	3	405	2.86	<2	<5	<2	4	34	<.2	<2	<2	98	.81	.051	1	8	.72	21	.10	<3	1.40	.11	.06	<2	<5	<1	7	19
B 102998	2	650	16	116	1.6	4	6	576	3.06	2	<5	<2	4	33	.6	<2	<2	49	.88	.017	1	9	1.00	26	.06	<3	1.65	.08	.08	<2	<5	<1	32	19
B 102999	4	339	10	88	1.1	3	6	648	3.13	<2	<5	<2	5	29	<.2	<2	<2	55	.81	.018	1	10	1.07	24	.10	<3	1.74	.10	.09	<2	<5	<1	14	18
B 103000	1	202	12	78	.8	3	5	553	2.97	2	<5	<2	5	35	.4	<2	2	64	.87	.045	1	7	.88	36	.09	<3	1.61	.10	.11	<2	<5	<1	5	17
B 103001	5	230	17	83	1.2	3	6	682	3.13	6	<5	<2	5	30	.2	4	<2	47	1.09	.019	2	7	.95	38	.05	3	1.62	.07	.17	<2	<5	<1	15	15
B 103002	2	64	50	108	.6	3	7	790	3.59	<2	<5	<2	5	26	<.2	<2	<2	49	1.05	.010	1	8	1.03	35	.04	<3	1.74	.06	.19	<2	<5	<1	3	13
STANDARD C2/AU-R	19	58	41	137	6.6	70	36	1160	3.89	43	15	7	36	50	18.5	17	18	71	.51	.107	39	61	.99	193	.08	23	2.04	.06	.14	12	<5	1	477	-

Sample type: CORE. Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

Data ___ FA ____

APPENDIX B

Drill Logs

IMPERIAL METALS CORPORATION
DDH GCS96-1A

PROPERT Giant Copper
ZONE: Invermay

CASING: 14 feet
CORE SIZE: HQ AND NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.

AZIMUTH: 340
LENGTH: 120'
DIP: -45

STARTED: August 12, 1996
COMPLETED: August 13, 1996
LOGGED BY: Steve Robertson

DATE LOGGED 13-Aug-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	14.0	120.0	**CASING**								
14.0	21.6	7.6	**PYROXENITE DYKE** Medium grained dyke with 60% of rock as pyroxene phenos (approx. 1-2mm) in a glassy blue-green groundmass. Some pyroxenite coated with limonite and lime on fracture. Lower contact at 35 degrees to core axis. No Sulfides.	102015	14.00	21.60	7.6	14			8
21.6	24.5	2.9	**DIORITE DYKE** Fine grained intrusive with approx. 1% very fine disseminated pyrrhotite. Magnetic. Competent rock. Lower contact broken.	102016	21.60	24.50	2.9	54			4
24.5	33.0	8.5	**FELSIC TUFF** Most of interval badly broken. Banding at 20 degrees to core axis. From 30 feet to 33 feet core is intensely silicified. Traces of mariposite seen along fault plane which parallel banding. Large clots of pyrrhotite with minor chlorite up to 3cm. across.	102017 102018	24.50 30.00	30.00 33.00	5.5 3.0	140 367			2 5

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Present clots contain minor chalcopyrite.								
33.0	65.0	32.0	**DIORITE**	102019	33.00	42.00	9.0	177			1
			Unit includes a 10cm. thick band of dust tuff at 20 degrees to core axis at 38 feet.	102020	42.00	52.00	10.0	113			3
			Diorite is as described above.	102021	52.00	59.00	7.0	89			6
			Relatively competent.	102022	59.00	65.00	6.0	146	1469	3.7	10
			1-2% pyrrhotite with traces of pyrite								
			0.5cm veinlet at 62.7 feet.								
			At 35 degrees to core axis Veinlet consists of calcite, pyrrhotite, sphalerite and galena.								
65.0	74.3	9.3	**APLITE DYKE**	102023	65.00	70.00	5.0	359	7006	21.9	3
			Very strongly albitized.	102024	70.00	74.30	4.3	530	1685	22.2	2
			Upper contact at approx. 10 degrees to core axis.								
			Lower contact irregular.								
			Overall sulfide contact 75 degrees.								
			Dominated by pyrrhotite with lessor pyrite, galena, and chalcopyrite.								
			Strongly magnetic.								
			At 69.8 feet a 2.5cm. veinlet consisting of calcite, sphalerite, galena, marcasite, chalcopyrite, and arsenopyrite at 30 degrees to core axis.								
74.3	86.3	12.0	**FELSIC DUST TUFF**	102025	74.30	86.30	12.0	290	560	3.2	2
			Banding averages 15 degrees to core axis.								
			Contains 2-3% pyrrhotite.								
			Unit is very strongly broken up.								
86.3	96.3	10.0	**DIORITE**	102026	86.30	96.30	10.0	51			2
			Very fine grained.								
			Irregular contacts at approx. 45 degrees to core axis.								
			Very fine grained disseminated pyrrhotite approx. 0.5%.								
			Moderate hematite and albite alteration.								
			Competent.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
96.3	100.0	3.7	**FELSIC TUFF** Bottom contact at 35 degrees to core axis. Strongly silicified. 7% pyrrhotite - Very broken	102027	96.30	101.70	5.4	164			8
100.0	101.7	1.7	**APLITE DYKE** Gradational contact with tuff above. Blobs of sulfides total approx. 5%.								
101.7	108.0	6.3	**DIORITE** As last diorite interval.	102028	101.70	108.00	6.3	77			2
108.0	110.0	2.0	**STRONGLY ALTERED (APLITE??)** Original rock unrecognized. Strong flooding of albite and sulfide. 12-15% sulfides. Sulfides dominant by pyrrhotite with much less pyrite and chalcopyrite. Strongly magnetic.	102029	108.00	110.00	2.0	656			6
110.0	115.0	5.0	**FELSIC DYKE** Very strongly broken. 1.5cm. veinlet of pyrrhotite, hematite, sphalerite and galena. Occasional small blobs of pyrrhotite.	102030	110.00	115.00	5.0	45	2183	3.8	3
115.0	116.0	1.0	No recovery								
116.0	120.0	4.0	**FELSIC TUFF** Very badly broken making it difficult to measure banding. Traces of sulfides. End of Hole at 120 feet.	102031	116.00	120.00	4.0	55			5

IMPERIAL METALS CORPORATION
DDH GCS96-2

PROPERTY: Giant Copper
ZONE: Invermay
CASING: 52 feet
CORE SIZE: HQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.
AZIMUTH: 340
LENGTH: 1001'
DIP: -45
STARTED: August 14, 1996
COMPLETED: August 24,1996
OBJECTIVE: High Grade min. to depth and SW of No. 1 Zone
LOGGED BY: S. Robertson
DATE LOGGED: 16-Aug-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
0.00	52.00	52.00	**CASING**						
52.00	77.50	25.50	**FELSIC TUFF**	102032	52.00	59.00	7.0	467	16
			Rock is strongly fractured and brecciated in localized spots.	102033	59.00	66.30	7.3	84	6
			Rock can be badly broken, but some hairline fractures healed with tourmaline and chlorite.						
52.00	59.00	7.00	Strongly broken section.	102034	66.30	70.00	3.7	115	4
			Brecciated with clasts ranging from sand size to 3 -4 cm.	102035	70.00	75.00	5.0	148	4
			Diss pyrite in matrix totals 3 - 5 % of rock.	102036	76.00	77.50	1.5	120	5
			Fault at 70 degrees to Core Axis at 58 feet is approximately 1 foot wide with gouge.						
			Occasional yellow brown? carbonate? in matrix.						
59.00	66.30	7.30	More competent with no breccia, but abundant, randomly oriented fracture filled with tourmaline/ chlorite.						
			1 % pyrite and trace chalcopyrite.						
66.30	70.00	3.70	As above, but more broken and albite and mariposite flooding.						
			Bedding approximately 30 degrees to Core Axis.						
70.00	75.00	5.00	As 59 - 66.3.						
75.00	76.00	1.00	No recovery.						
76.00	77.50	1.50	Broken up.						

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
			Small breccia fragments and gouge. Poor recovery.						
77.50	124.50	47.00	**DIORITE** Medium to fine grained 1 -2 mm feldspars in a generally finer grained groundmass. Some coarse biotite and homblende.	102037	77.50	81.00	3.5	208	5
77.50	81.00	3.50	Very badly broken up 3 -5 % total sulfides (pyrite or marcasite). Minor quartz / carbonate stringers						
				102038	81.00	91.00	10.0	89	5
81.00	86.00	5.00	As above, but with decreasing sulfides.						
86.00	124.50	38.50	More competent rock with broken and faulted sections.						
			Most joints are poorly healed with calcite with minor pyrite.	102039	91.00	101.00	10.0	25	6
			Some coarser grained sections, but chemistry very similar.						
			Fault at 10 degrees to Core Axis at 100 feet.	102040	101.00	107.00	6.0	47	6
			Mariposite with calcite from 99 feet to 102 feet.						
			From 107 to 124.5 feet get abundant orange-red stain on fracture.	102041	107.00	117.00	10.0	49	5
			Most of interval has sulfides restricted to fractures.	102042	117.00	124.50	7.5	30	7
124.50	145.00	20.50	**APLITE** Very leucocratic with dark streaks of tourmaline, pyrite which fill hairline fracture.	102043	124.50	134.00	9.5	37	1
			Non-magnetic.	102044	134.00	145.00	11.0	35	5
124.50	134.00	9.50	Fe stain on fracture planes. sulfides are restricted to fracture planes.						
134.00	145.00	11.00	As above interval, but no Fe stain and far more broken up with minor gouge from 136 -139. Bottom contact rather irregular at 30 degrees to Core Axis. Bottom 6 inches is brecciated.						
145.00	152.00	7.00	**DIORITE** Moderately broken. Contains 1 -2 % fine diss pyrite.	102045	145.00	152.00	7.0	153	6

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
152.00	162.00	10.00	**APLITE** As 124.5 - 145, but much more badly broken. Minor mariposite 153 - 155.	102046	152.00	162.00	10.0	128	10
162.00	167.00	5.00	**TUFF BRECCIA** Unit grades into a breccia with mafic tuff clasts and a leucocratic matrix (felsite). Clasts range from sand size to 1.5 inches in diameter. 163 - 164 is very gougy. Does not appear to be a strong fault (gouge is clay altered felsite matrix). Trace pyrite found along fracture in clasts.	102047	162.00	167.00	5.0	79	1
167.00	181.00	14.00	**MAFIC TUFF** Unit is very badly broken. Average piece is greater than 1 inch diameter.	102048	167.00	174.00	7.0	161	5
			Total sulfides approximately 0.5 % includes marcasite on fractures and diss pyrite (marcasite??)	102049	175.00	181.00	6.0	99	8
181.00	187.70	6.70	**ALPITE** Very similar to matrix of above unit. Has up to 1 % fine grain diss pyrite. In some areas, clay alteration of feldspar give rock the consistency of mud.	102050	181.00	187.70	6.7	96	2
187.70	196.00	8.30	**TUFF** Unit is very dark near the top and gradually becomes lighter toward bottom. Very broken. Patches of minor chlorite / tourmaline. Sulfides occur as both fracture fills and as diss (1 % pyrite).	102051	187.70	196.00	8.3	153	6

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
196.00	220.00	24.00	**TUFF BRECCIA**	102052	196.00	206.00	10.0	124	14
			Very similar to 162 - 167 feet. Ave 0.5 % pyrite.	102053	206.00	213.50	7.5	48	15
220.00	234.00	14.00	**APLITE**	102054	213.50	220.00	6.5	57	14
			Is brecciated (Autobreccia) in localized spots.	102055	220.00	226.00	6.0	10	4
			Some zones of intense clay alteration of feldspar.	102056	226.00	234.00	8.0	15	1
234.00	249.30	15.30	**TUFF BRECCIA**	102057	234.00	242.00	8.0	62	4
			Very strong breccia with angular to sub rounded tuff fragments.						
			Melanocratic matrix.	102058	242.00	249.30	7.3	12	7
			Fragments strongly altered and are locally rimmed by chlorite/tourmaline.						
			Matrix includes calcite and zones of smectite.						
			Trace pyrite.						
			Bottom contact at 45 degrees to Core Axis.						
249.30	300.00	50.70	**APLITE**	102059	249.30	260.00	10.7	6	3
			Rock quite altered in upper 1 foot.						
			Rock is very competent.	102060	260.00	270.00	10.0	7	2
			Small (0.5cm) zones of quartz/carbonate flooding around some joints.	102061	270.00	280.00	10.0	5	2
			10cm wide zone of flooding at 20 degrees to Core Axis at 264 feet.						
			Non-magnetic.	102062	280.00	290.00	10.0	9	1
			Traces of unidentified, very fine grained, blue-grey metallic sulfide as diss in rock.	102063	290.00	300.00	10.0	14	2
			Joint planes approximately 15, 45, 60 degrees.						
300.00	834.90	534.90	**DIORITE**						
			Upper contact is irregular and difficult to distinguish.	102064	300.00	310.00	10.0	9	5
			Diorite appears to be flooded and partially consumed by the Aplite.						
			Contact appears to be approximately 30 degrees to Core Axis along a joint.	102065	310.00	320.00	10.0	14	1
			Appears similar to Aplite, but has blue-grey colouring.						
			Medium grained.	102066	320.00	330.00	10.0	11	9
			Non-magnetic.						
			No sulfides.	102067	330.00	340.00	10.0	10	2
			Limonite along many of the fracture planes.						
			Rock generally very competent.	102068	340.00	350.00	10.0	5	1
			With alteration only as albite flooding around fractures.						
			Trace pyrite can be associated with albitization.						

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
			Diorite	102069	350.00	360.00	10.0	8	1
			Fault at 10 degrees to Core Axis at 378 - 380 feet.						
			Poor recovery and minor gouge.	102070	360.00	370.00	10.0	14	< 1
			382 - 383 feet = quartz flooded.						
				102071	370.00	380.00	10.0	7	< 1
			At 399 - 400 feet - Zone of smectite alteration at 80 degrees to Core Axis with minor						
			chlorite along random hairline fractures.	102072	380.00	390.00	10.0	15	7
			446.5 - 451.5 = Alteration zone.	102073	390.00	400.00	10.0	9	2
			Hydrothermal alteration surrounding fractures at 10 degrees to Core Axis.						
			Alteration includes calcite flooding and clay alteration of feldspars.	102074	400.00	410.00	10.0	9	1
				102075	410.00	420.00	10.0	10	1
			At approximately 460 - 560 feet - occasional limonite patches (approximately 2-3 mm)						
			around oxidized (pyrite?)	102076	420.00	430.00	10.0	14	<
			Oxidation not along obvious fractures.						
				102077	430.00	440.00	10.0	10	1
			Core quite broken with 1 cm vuggy calcite veinlets at 15 degrees to Core Axis.						
				102078	440.00	446.50	6.5	8	1
				102079	446.50	451.50	5.0	4	5
				102080	451.50	461.00	9.5	6	1
			Fault zone at 15 degrees to Core Axis from 560 feet - 562 feet.	102081	461.00	471.00	10.0	6	1
			Core badly broken with minor gouge and extensive clay alteration of feldspars.						
			Some small calcite veinlets.	102082	471.00	481.00	10.0	7	< 1
				102083	481.00	491.00	10.0	6	< 1
			Core badly broken from 500 - 510.5 feet.						
				102084	491.00	501.00	10.0	8	1
			Open space filling along fractures by calcite.						
			Some good crystal formation.	102085	501.00	511.00	10.0	6	1
				102086	511.00	521.00	10.0	6	1
			Minor envelopes of bleaching surround fractures.						
				102087	521.00	531.00	10.0	7	1

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
				102088	531.00	541.00	10.0	7	1
				102089	541.00	551.00	10.0	8	1
				102090	551.00	560.00	9.0	9	< 1
				102091	560.00	562.00	2.0	6	1
				102092	562.00	572.00	10.0	4	1
			DIORITE						
				102093	572.00	582.00	10.0	4	1
			At approximately 530 feet fractures filled with calcite become vuggy with good crystal development common.	102094	582.00	592.00	10.0	12	1
			Rock has a strong salt and pepper appearance, but felsic are a light blue-grey rather than white.	102095	592.00	595.50	3.5	7	1
				102096	595.50	600.00	4.5	14	1
			Fault at 35 degrees to Core Axis at 570 - 573 feet.						
			Rock is fractured and altered (brown alteration).	102097	600.00	610.00	10.0	10	1
			Rock is variably fractured and faulted and clay altered to 582 feet.	102098	610.00	620.00	10.0	20	1
			At 582 feet rock is intact and fractures are healed with calcite - very vuggy.	102099	620.00	630.00	10.0	10	2
			At 595 - 600 feet original rock completely obliterated by quartz/carbonate flooding. Minor limonite stain.	102100	630.00	640.00	10.0	8	2
			No sulfides. Zone is 20 degrees to Core Axis.	102101	640.00	650.00	10.0	11	2
			Rock passes back into relatively fresh rock with vuggy calcite veinlets with limonite.	102102	650.00	660.00	10.0	13	2
			Becomes gradually more bleached and clay altered at approximately 648 feet. Strongly broken and alteration from 660 - 673 feet.	102103	660.00	670.00	10.0	9	2
				102104	670.00	680.00	10.0	7	3
			DIORITE Rock is becoming progressively altered down hole.	102105	680.00	690.00	10.0	13	1
			Zone of bleaching and clay alteration more frequent and larger.	102106	690.00	700.00	10.0	10	2
			Rock takes on a general tan appearance rather than the fresh blue grey.	102107	700.00	710.00	10.0	14	2
				102108	710.00	720.00	10.0	7	2
			Traces of fracture related and diss pyrite appear at 700 feet - at 720 feet rock is approximately						

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
			1 % pyrite (diss).	102109	720.00	730.00	10.0	6	3
			Quartz /carbonate flooding associated with pyrite.						
			Tan alteration is inversely proportional to sulfide content.	102110	730.00	740.00	10.0	5	2
				102111	740.00	750.00	10.0	5	1
			700 - 750 Rock averages approximately 0.5 % sulfides.						
				102112	750.00	760.00	10.0	10	3
			Vugginess increases at 750 feet.						
			Most vugs at 45 degrees to Core Axis along fractures.	102113	760.00	770.00	10.0	14	1
			From 770 down the core is moderately altered with calcite along all fractures and bleaching	102114	770.00	780.00	10.0	10	4
			of most of the rock.	102115	780.00	790.00	10.0	27	30
			Sulfide content is very low and all sulfides are partially oxidized.	102116	790.00	800.00	10.0	10	3
			DIORITE	102117	800.00	810.00	10.0	8	3
			Strong tan alteration from 804.5 - 805.5 at 45 degrees to Core Axis.						
				102118	810.00	820.00	10.0	7	3
				102119	820.00	830.00	10.0	10	2
				102120	830.00	834.90	4.9	13	3
834.90	900.00	65.10	Strongly altered Diorite.	102121	834.90	845.00	10.1	77	8
			Altered with strong limonite staining and bleaching.						
			Migration front of fluids is clearly marked by bleaching and limonite in rock.	102122	845.00	855.00	10.0	45	3
			Sulfides beyond this front are unoxidized.						
			Rock contains approximately 0.5 % pyrrhotite.	102123	855.00	865.00	10.0	35	5
			No pyrrhotite was observed above aplite contact.						
			Contact at 40 degrees to Core Axis.	102124	865.00	875.00	10.0	43	4
			Much of limonite stain is from mafics.						
			Patches of fresh rock up to 30 cm long seen throughout.	102125	875.00	885.00	10.0	20	5
			At 860 sulfides are a mix of pyrite/pyrrhotite.						
				102126	885.00	895.00	10.0	16	2
				102127	895.00	905.00	10.0	15	2
				102128	905.00	915.00	10.0	15	2

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Au (ppb)
900.00	960.00	60.00	**ALTERED DIORITE**	102129	915.00	925.00	10.0	10	3
			At 900 feet slight decrease in alteration.						
			Sulfide content decreases to trace amounts.	102130	925.00	935.00	10.0	14	3
			Rock is moderately competent.	102131	935.00	945.00	10.0	10	5
960.00	1001.0	41.00	From 960 to end of hole at 1001 feet, rock is very competent and fresh diorite.	102132	945.00	955.00	10.0	20	2
				102133	955.00	965.00	10.0	10	2
			End of Hole = 1001 feet.						
				102134	965.00	975.00	10.0	21	2
				102135	975.00	985.00	10.0	23	2
				102136	985.00	995.00	10.0	19	2
				102137	995.00	1001.00	6.0	18	2

IMPERIAL METALS CORPORATION
DDH GCS96-3

PROPERTY: Giant Copper
ZONE: Invermay
CASING: 51 feet
CORE SIZE: HQ/NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.
AZIMUTH:
LENGTH: 847'
DIP: -90
STARTED: August 26, 1996
COMPLETED: August 28, 1996
LOGGED BY: S. Robertson
DATE LOGGED: 28-Aug-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Ag (g/t)	Au (ppb)
0.00	51.00	51.00	**CASING**							
				102138	51.00	61.00	10.0	636	33.0	132
51.00	375.80	324.80	**DIORITE BRECCIA**							
			Some patches of relatively fresh diorite remain.	102139	51.00	61.00	10.0	1500	7.6	117
			Fresh material is dark with 45 % mafic and 55 % plagioclase/quartz mix.							
			Plagioclase/quartz has a blue grey appearance.	102140	71.00	81.00	10.0	806	4.7	62
			Altered zones are bleached with original rock texture mostly obliterated.							
			Limonite staining on and proximal to fracture planes.	102141	81.00	86.00	5.0	8430	48.2	716
			Fractures can be healed with orthoclase (crystals to 2 cm long), chlorite, magnetite, chalcopyrite, pyrite, quartz, and tourmaline.	102142	86.00	91.00	5.0	5499	24.0	53
			Chalcopyrite is present as large irregular blebs and clots (up to 2 cm x 5 cm) proximal to fractures which are generally 60 degrees to Core Axis.	102143	91.00	96.00	5.0	6256	35.9	484
			Chalcopyrite less commonly disseminated in bleached rock.							
			Start to see the very large clots of chalcopyrite (>1cm in both dimensions) at 83 feet.							
			Diorite Breccia	102144	96.00	101.00	5.0	493	3.1	41
			Strong chalcopyrite mineralization continues through 114 feet where size of chalcopyrite clots decreases.	102145	101.00	106.00	5.0	5186	27.0	136
			Min still moderately strong.							
				102146	106.00	111.00	5.0	5323	30.3	920
			Core is badly broken from 121 - 132 feet by low angle faults (approximately 5- 10 degrees to Core Axis) with minor gouge.	102147	111.00	116.00	5.0	7161	47.4	64
				102148	116.00	121.00	5.0	857	4.7	40

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Ag (g/t)	Au (ppb)
			Dramatic decrease in limonite below 132 feet.							
			Only minor limonite along a few fractures.	102149	121.00	127.00	6.0	3672	24.4	722
			Core is moderately silicified.	102150	127.00	132.00	5.0	825	8.2	48
			Arsenopyrite at 156 feet - finely diss along a band 1 cm wide.	102151	132.00	142.00	10.0	1212	8.9	35
				102152	142.00	152.00	10.0	4373	37.0	81
			Chalcopyrite has many different associations at 144 feet							
			Orthoclase - chalcopyrite: At 150 feet Mont - chalcopyrite : at 156 feet tourmaline - chalcopyrite:	102153	152.00	156.00	4.0	3133	36.8	87
			at 161 feet pyrite - chalcopyrite.							
				102154	156.00	166.00	10.0	6038	43.2	535
				102155	166.00	176.00	10.0	1240	12.1	183
			Diorite breccia	102156	176.00	186.00	10.0			
			Very dark alterations and pyrrhotite with chalcopyrite from 171 - 192 feet.	102157	186.00	196.00	10.0			
			192 - 236 feet rock is very leucocratic.	102158	196.00	206.00	10.0			
			Alteration can have a greenish colour characteristic of albite flooding.							
			Most mineralised clots have tourmaline and quartz.	102159	206.00	216.00	10.0			
				102160	216.00	226.00	10.0			
			At approximately 214 feet and 218 - 225 there is approximately 1 - 2 % arsenopyrite as 1 -2 mm							
			well formed crystals.	102161	226.00	236.00	10.0			
			This section also markedly softer with an increase in clay alteration.							
			Rock still competent though.	102162	236.00	246.00	10.0			
			Some clots of sulfides are now equal or greater amounts of pyrite than chalcopyrite.	102163	246.00	253.00	7.0			
			Total sulfides content averages 3 - 5%.							
			Darker alteration at 235 - 242 feet with flecks of epidote and chlorite.							
			All changes in rock are gradational.							
			Diorite Breccia	102164	253.00	263.00	10.0			
			Reduces from HQ to NQ at 253 feet.							

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Ag (g/t)	Au (ppb)
				102165	263.00	273.00	10.0			
			At 253 feet rock appears to be much less altered.							
			Rock is dark with flecks of epidote (1 - 4mm across) and occasional disseminated pyrite,	102166	273.00	283.00	10.0			
			pyrrhotite, and chalcopyrite.	102167	283.00	293.00	10.0			
			Start seeing patches of bladed or fiberous soft green mineral up to 10 cm long (actinolite).	102168	293.00	303.00	10.0			
			Blades up to 2 cm long.	102169	303.00	310.00	7.0			
			At 310 feet to 313 feet rock is strongly clay altered and vuggy with formation of crystals	102170	310.00	313.00	3.0			
			of arsenopyrite and quartz crystals (transport with perfect term) up to 1 cm long forming in vugs.	102171	313.00	323.00	10.0			
				102172	323.00	333.00	10.0			
			After 313 feet rock is of a rather consistent nature to 353 feet.							
			Patchy alteration with flecks of epidote and diss chalcopyrite +/- pyrite or pyrrhotite and often	102173	333.00	343.00	10.0			
			proximal to a healed fracture.	102174	343.00	353.00	10.0			
			Toward bottom of interval rock maintains moderate propylitic alteration with flecks of epidote,	102175	353.00	365.00	10.0			
			and weak mineralization with patches of diss chalcopyrite associated with lesser pyrrhotite							
			and pyrite.	102176	363.00	370.00	7.0			
				102177	370.00	375.80	5.8			
375.80	416.00	40.20	**FELDSPAR PORPHYRY**							
			Unit has 20 % 1 - 5mm felspar phenocrysts in a dark grey, very fine grained homogeneous	102178	375.80	385.00	9.2			
			groundmass.							
			Very slight reaction to HCl.	102179	385.00	395.00	10.0			
			Low silica content (scratches).							
			Includes occasional fragments of fine grain intrusive up to 10 cm across which are quite rounded.	102180	395.00	405.00	10.0			
			Alternation includes chloritization and 1 - 2 % of rock is epidote flecks in many spots.							
			Mineralization includes pyrite in rock fragments and small veinlets (1 to 10 mm) of pyrrhotite,	102181	405.00	414.00	9.0			
			pyrite, chalcopyrite and quartz.							

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Ag (g/t)	Au (ppb)
			Veinlets are relatively planar, but all orientations.	102182	414.00	416.00	2.0			
			Overall sulfide content is trace.							
				102183	416.00	426.00	10.0			
			Top contact of unit at 40 degrees to Core Axis.							
			Badly broken with heavy chlorite alteration at 401 - 406 feet.							
			Feldspar Porphyry	102184	426.00	436.00	10.0			
			1 inch wide zone at 409' at 20 degrees to Core Axis with quartz, ankerite, garnets??, pyrite,							
			and minor chalcopyrite and possibly arsenopyrite.	102185	436.00	446.00	10.0			
			A similar 6 inch wide zone (True width) at 20 degrees to Core Axis at 415 - 416.	102186	446.00	456.00	10.0			
			Rock is strongly clay altered at 414 - 415 feet.	102187	456.00	459.00	3.0			
			Bottom contact with altered diorite is very irregular at 417 feet.	102188	459.00	459.60	0.6			
			Diorite has concentration of mafics and pyrite and chalcopyrite along area where it has							
			consumed feldspar porphyry along the margin.	102189	459.60	462.00	2.4			
416.00	468.50	52.50	**DIORITE BRECCIA**							
			As above, feldspar porphyry.							
			From 417 to 431 many large fragments of feldspar porphyry within diorite.							
			Diorite has weak propylitic alteration and occasional patches of diss chalcopyrite.							
			ALTERED DIORITE	102190	462.00	468.50	6.5			
			At 459 to 459.6 - Massive sulfide vein at approximately 90 degrees to Core Axis.							
			Vein consists of 60 % pyrite, 7 % chalcopyrite, 12 % grey/brown sulfide, 21 % mixed quartz,	102191	468.50	478.50	10.0			
			tourmaline and feldspar.							
			4 inch section above vein is strongly clay alteration with diss of pyrite, arsenopyrite,	102192	478.50	488.00	9.5			
			chalcopyrite.	102193	488.00	498.00	10.0			
			Intensity of propylitic alteration and diss min both increase moderately toward bottom contact.	102194	498.00	508.00	10.0			
				102195	508.00	515.00	7.0			
468.50	520.50	52.00	**APLITE**							
			Irregular top contact perpendicular to Core Axis.	102196	515.00	520.50	5.5			
			Fingers of diorite intrude feldspar porphyry.							
			Weak propylitic allteration (epidote and chlorite).	102197	520.50	529.00	8.5			
			Patches of weak diss pyrite and chalcopyrite seen throughout.							
			Interval consists of approximately 30 % diorite.	102198	529.00	539.00	10.0			

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Ag (g/t)	Au (ppb)
			Bottom contact irregular at low angles to core axis.							
			Core is very competent.	102199	539.00	549.00	10.0			
				102200	549.00	559.00	10.0			
520.50	650.00	129.50	**DIORITE BRECCIA**	102201	559.00	564.50	5.5			
			Alteration picks up at approximately 529 feet with the return o f feldspar flooding (albitization)							
			as seen in the upper 300 feet of this hole.	102202	564.50	569.20	4.7			
			Noticeable increase in diss chalcopyrite association with weak feldspar flooding.	102203	569.20	578.00	8.8			
			Some patches silicified as well.							
			Continues to have flecks of epidote.	102204	578.00	588.00	10.0			
				102205	588.00	598.00	10.0			
			Intense albitization, silicificaiton with 7 - 9 % pyrite and 1% arsenopyrite.							
			Minor vugs and open space filling at 564.5 - 569.2.	102206	598.00	604.00	6.0			
			Also a reddish alteration (biotite?)	102207	604.00	614.00	10.0			
			Alteration of diorite decreasing down hole.	102208	614.00	624.00	10.0			
			Veinlet at 573 feet at 30 degrees to Core Axis quartz + pyrite + arsenopyrite (4mm)	102209	624.00	634.00	10.0			
			surrounded by 15 cm envelope of bleaching.							
			At 578.5 - 580.5 weaker veinlet - roughly parallel to Core Axis.							
			Veinlet at 601 - 604 feet parallel to Core Axis with chalcopyrite + galena + sphalerite.							
650.00	847.00	197.00	**DIORITE**	102210	634.00	644.00	10.0			
			Below 640 alteration and minerlization restricted to occasional fractures at various angles	102211	644.00	654.00	10.0			
			(45 degrees-perpendicular to Core Axis) with weak but pervasive chlorite alteration of mafics.	102212	654.00	664.00	10.0			
			Below 650 feet rock is very fresh with a fine coating of pyrite and chalcopyrite on occasional	102213	664.00	674.00	10.0			
			fractures.	102214	674.00	684.00	10.0			
			Core very competent with very wide spaced joints.	102215	684.00	694.00	10.0			
			Some 5 feet pieces of core.							
				102216	694.00	704.00	10.0			
			Most fractures are barren of sulfides.							
				102217	704.00	714.00	10.0			
			At 735 feet see an increase in mineralization and alteration with strong albitization and clay							

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (m)	To (m)	Width (m)	Cu (ppm)	Ag (g/t)	Au (ppb)
			alteration at 755 - 765 feet.	102218	714.00	724.00	10.0			
			Pyrite + chalcopyrite + chlorite along hairline fracture parallel to Core Axis at 739 feet, 765 - 768, 785 feet.	102219	724.00	734.00	10.0			
			Minor epidote 750 - 770 feet.							
			DIORITE	102220	734.00	744.00	10.0			
			Alteration and mineralization are both weak, but present in lower part of hole.	102221	744.00	754.00	10.0			
			Albite flooding may be associated with small (2 inch) dyke at 60 degrees to Core Axis at 756 feet.	102222	754.00	764.00	10.0			
			Total width of zone including dyke and adjacent fault zone + 10 feet.	102223	764.00	774.00	10.0			
				102224	774.00	784.00	10.0			
			Below 750 core has a red green appearance.							
			Mafics are altered to chlorite and felsics have a red tinge to them (?microscopic hematite?).	102225	784.00	794.00	10.0			
				102226	794.00	804.00	10.0			
			Many 5 mm veinletes roughly perpendicular to Core Axis 790 - 800.							
				102227	804.00	814.00	10.0			
			End of Hole 847 feet.							
				102228	814.00	824.00	10.0			
				102229	824.00	834.00	10.0			
				102230	834.00	840.00	6.0			
				102231	840.00	847.00	7.0			

IMPERIAL METALS CORPORATION
DDH GCS 96-5

PROPERTY Giant Copper
ZONE: Invermay

AZIMUTH:
LENGTH: 367'
DIP: -90

CASING: 42 Feet
CORE SIZE: HQ and NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.
STARTED: September 4, 1996
COMPLETED: September 6, 1996
LOGGED BY: Steve Robertson

DATE LOGGED: 6-Sep-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	42.0	42.0	**CASING**								
42.0	193.0	151.0	**DIORITE**	102318	42.0	52.0	10.0	60			2
			Unaltered - salt and pepper appearance.								
			Frequent xenoliths of finer grained mafic intrusive - xenos range 5 mm to 10 cm and are rounded.	102319	52.0	62.0	10.0	38			< 1
			Clay alteration along many fractures at 15 degrees to Core Axis at 65 - 67 feet.	102320	62.0	68.0	6.0	38			2
			Altered zone 68 - 72 with very broken core.								
			Alteration consists of tourmaline, chlorite, ablite, quartz.	102321	68.0	72.0	4.0	34			6
			Increase in sulfides not noted.								
			Zone appears to be 15 degrees to Core Axis.	102322	72.0	82.0	10.0	123			5
			Below 72 rock resumes unaltered appearance.	102323	82.0	92.0	10.0	65			4
			Diorite has trace amounts of diss pyrite and chalcopyrite usually associated with chlorite / sericite alteration of mafic minerals.								
			Most fractures are irregular and approximately perpendicular to Core Axis.								
			DIORITE	102324	92.0	101.0	9.0	24	257	0.4	1
			Zone of complete replacement 101 feet - 103 feet.	102325	101.0	103.0	2.0	49	0.123%	5.7	162

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Has a preferred orientation fabric at 35 degrees to Core Axis but contacts are very irregular.	102326	103.0	113.0	10.0	24	228	0.6	13
			Zone is approximately 80% tourmaline - 2 inch portion at bottom of zone is 95% quartz.	102327	113.0	123.0	10.0	8	86	2.1	3
			2 -3% pyrite with very fine diss arsenopyrite along margins of zone.								
			Alteration envelope around zone is very small.	102328	123.0	133.0	10.0	8			< 1
				102329	133.0	142.0	9.0	28			33
			Jointing varies from 15 - 90 degrees to Core Axis.								
			Occasional joint at low angle to Core Axis is healed with quartz/albite flooding.	102330	142.0	143.0	1.0	356	695	3.2	30
			No associated sulfides.								
				102331	143.0	153.0	10.0	43			3
			Trace diss chalcopyrite and pyrite in rock.								
				102332	153.0	163.0	10.0	16			1
			142 - 143 - zone of strong quartz flooding with approximately 3% diss chalcopyrite,								
			5% tourmaline approximately 60 degrees to Core Axis.	102333	163.0	173.0	10.0	31			2
			Very consistent rock with slight increase in pyrite down hole.	102334	173.0	183.0	10.0	159			9
				102335	183.0	193.0	10.0	42			1
193.0	208.0	15.0	**FELDSPAR PORPHYRY**	102336	193.0	203.0	10.0	6			< 1
			Very fine grained melanocratic groundmass with 5% white feldspar phenocrysts to 5mm								
			across.	102337	203.0	208.0	5.0	15			3
			Also has 2% mafic (amphibole) phenocrysts of similar size.	102338	208.0	218.0	10.0	5			< 1
			Upper contact approximately 65 degrees to Core Axis, but difficult to distinguish as Feldspar	102339	218.0	228.0	10.0	7			5
			Porphyry has chemically reacted and partially assimilated the surrounding diorite.								
			Lower contact same as upper.	102340	228.0	238.0	10.0	10			1
				102341	238.0	248.0	10.0	11			< 1
			Unit unaltered and unmineralized.								
				102342	248.0	258.0	10.0	6			3
208.0	274.5	66.5	**DIORITE**								
			As above 193.	102343	258.0	268.0	10.0	12			< 1
			At 230 feet start to see alteration along fractures.								
			Most fractures have a very weak and poorly formed coating of calcite, feldspar, clay mush.								
			(not gouge).								
			No associated sulfides.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Some minor limonite on occasional fracture.								
			DIORITE	102344	268.0	274.5	6.5	139	168	1.2	3
			Noted increase in hydrothermal alteration at 258.								
			Strong chlorite and less albite, calcite and silica flooding.	102345	274.5	275.5	1.0	36	204	0.9	1
			Core quite broken.								
				102346	275.5	276.0	0.5	0.176%	0.362%	18.7	77
			At 268 feet core is extremely altered, but still very low sulfide content.	102347	276.0	277.0	1.0	0.302%	6.521%	93.1	1280
274.5	275.5	1.0	**APLITE**	102348	277.0	278.0	1.0	621	0.192%	9.6	19
			80%? Albite? Phenocrysts with groundmass dominated by smectite.								
			Upper contact at approximately 15 degrees to Core Axis.	102349	278.0	288.0	10.0	54	189	0.4	6
			Lower at approximately 40 degrees to Core Axis.								
275.5	276.0	0.5	**GOUGE ZONE**								
			30 degrees - 40 degrees to Core Axis - 10 % pyrite in gouge.								
276.0	277.0	1.0	**QUARTZ VEIN**								
			2-3% chalcopyrite and pyrite mix.								
			Very fine grain quartz with chlorite mix.								
			Strong galena, sphalerite, arsenopyrite along veinlet.								
277.0	278.0	1.0	**APLITE**								
			35 degrees to Core Axis.								
			Minor very fine grained arsenopyrite.								
278.0	367.0	89.0	**DIORITE**	102350	288.0	298.0	10.0	14			2
			Hydrothermal alteration decreases rapidly below 278 feet.								
			Core moderately broken with clay and calcite on fracture 293 - 299 feet.	102351	298.0	308.0	10.0	17			2
			Below 299 feet core becomes very competent.	102352	308.0	318.0	10.0	23			1
			Drillers report several cases where full 10 foot run comes out in one piece.	102353	318.0	328.0	10.0	13			< 1
			Rock is moderately magnetic (magnetite).	102354	328.0	338.0	10.0	12			< 1
			Xenoliths present to end of hole.	102355	338.0	348.0	10.0	39			6

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Sulfides very rare.								
				102356	348.0	358.0	10.0	40			5
			Reduced HQ to NQ at 311 feet.								
				102357	358.0	367.0	9.0	23			1
			End of Hole at 367 feet.								
			Sperry Sun 330 feet Az - Dip- 90 degrees Collar -90 degrees								

IMPERIAL METALS CORPORATION
DDH GCS96-6

PROPER Giant Copper
ZONE: Invermay

AZIMUTH 93
LENGTH: 455'
DIP: -43

CASING: 55 Feet
CORE SIZE: HQ - NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.
STARTED: September 8, 1996
COMPLETED: September 10, 1996
LOGGED BY: Steve Robertson

DATE LOGGED: 10-Sep-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	55.0	55.0	**BLOCKY TALUS**	102358	55.0	65.0	10.0	1029			50
			Had approximately 20 feet recoverage.								
			Talus consists mostly of relatively fresh diorite.	102359	65.0	75.0	10.0	1086			66
55.0	125.0	70.0	**DIORITE BRECCIA**	102360	75.0	85.0	10.0	991			16
			Core has patchy alteration with presentation of some fresh quartz diorte.								
			Alteration consists of bleaching and silicification with abundant brown stain (limonite) around fractures and along "migration front" of fluids.	102361	85.0	95.0	10.0	813			52
				102362	95.0	101.0	6.0	684			17
				102363	101.0	107.0	6.0	446			33
			Tourmaline with pyrite and chalcopyrite (up to 7mm thick found on some fractures).	102364	107.0	117.0	10.0	107			3
			These fractures generally 5 - 35 degrees to Core Axis.								
			Concentration of chalcopyrite along fractures can be very high, but overall sulfide content is trace.	102365	117.0	127.0	10.0	221			13
			Weak hydrothermal breccia texture in some spots below 85 feet.								
			Many mineralized fractures approximately parallel to Core Axis.								
			Intense silicification 101 feet - 105 feet and 105.5 feet to 109 feet.								
			Fabric at 30 degrees to Core Axis.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
125.0	416.0	291.0		102366	127.0	137.0	10.0	600			28
			Very gradational change from mostly altered to mostly fresh diorite.	102367	137.0	147.0	10.0	119			26
			Still occasional patches of silica flooding and bleaching.								
			Mineralization still mostly restricted to fractures.	102368	147.0	157.0	10.0	439			29
				102369	157.0	167.0	10.0	584			27
			Below 125 dominant sulfides associated with chalcopyrite is pyrrhotite, not pyrite.	102370	167.0	177.0	10.0	230			28
			140 - 170 - rock is approximately 40 - 50% altered with quartz flooding and lessor sericite,	102371	177.0	187.0	10.0	248			33
			chlorite, tourmaline, feldspar flooding.	102372	187.0	197.0	10.0	1624			27
			Most sulfides are localized along fractures with quartz and tourmaline.								
			Fractures vary 5 to 30 degrees to Core Axis.	102373	197.0	207.0	10.0	271			29
			Below 170 feet, rock is much fresher with 5 - 10% of total rock altered.	102374	207.0	217.0	10.0	66			28
			Has strong xenolithic salt and pepper diorite appearance.								
				102375	217.0	227.0	10.0	143			30
				102376	227.0	237.0	10.0	288			27
				102377	237.0	247.0	10.0	335			30
			DIORITE	102378	247.0	257.0	10.0	228			28
			Core consistently bleached and silicified 267 - 280 feet.								
			Alteration also includes abundant sericite and biotite and stringers of quartz / tourmaline /	102379	257.0	267.0	10.0	124			31
			sulfides.								
			Sulfides consists of pyrite, chalcopyrite, pyrrhotite.	102380	267.0	273.0	6.0	426			19
			Most stringers at 0- 15 degrees to Core Axis.								
				102381	273.0	280.0	7.0	1040			19
			280 - 319 - very fresh diorite.								
				102382	280.0	290.0	10.0	120			31
			319 - 320 - Intermediate composition dyke at 65 degrees to Core Axis.								
			Very sharp contacts.	102383	290.0	300.0	10.0	343			30
			No alteration or mineral association.								
				102384	300.0	310.0	10.0	133			30

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			At 335 feet see an increase in alteration, but quartz is mostly restricted to fractures.								
			Most of alteration is albite, chlorite, sericite.	102385	310.0	320.0	10.0	190			30
			Start to see minor epidote.								
			Increase in fracture related minerlization (chalcopyrite and pyrite) - Minor peacock blue tarnish on sulfide filled fracture at 345.5 feet.	102386	320.0	330.0	10.0	251			28
			Mineralized fractures mostly at 10 degrees to Core Axis, but can be up to 45 degrees to Core Axis.	102387	330.0	335.0	5.0	361			15
				102388	335.0	341.0	6.0	0.7445%	274	12.3	17
				102389	341.0	351.0	10.0	637			28
			DIORITE	102390	351.0	361.0	10.0	403			28
			Open veinlet (2cm) at 357 feet at 15 degrees to Core Axis.								
			Envelope of bleaching and strong silicification 10 cm into rock.	102391	361.0	371.0	10.0	0.1903%	172	6.6	29
			Veinlet consists of outer quartz followed by inner tourmaline with chalcopyrite throughout.	102392	371.0	381.0	10.0	756			27
			Zones of alteration and mineralization more common below 360 feet.	102393	381.0	391.0	10.0	0.2324%	366	12.1	16
			Sericite is also important alteration mineral.	102394	391.0	401.0	10.0	333			16
			Small (6") zone of strong quartz flooding with strong chalcopyrite at 390 feet.	102395	401.0	411.0	10.0	449			18
				102396	411.0	421.0	10.0	971			16
			Bleaching, silicification and clay alteration strong down to 412 feet.	102397	421.0	431.0	10.0	192			15
416.0	418.0	2.0	Mafic feldspar porphyry at 40 degrees to core axis.	102398	431.0	441.0	10.0	229			16
				102399	441.0	451.0	10.0	496			16
418.0	455.0	37.0	**DIORITE**								
			Very fresh, unaltered, xenolithic diorite.	102400	451.0	455.0	4.0	63			7
			Some patches of alteration, but only trace sulfides.								
			End of Hole at 455 feet.								
			Collar Az = 090 degrees Dip = -45								
			440 degrees Az = 090.5 degrees Dip = -44								

IMPERIAL METALS CORPORATION
DDH GCS96-7

PROPER Giant Copper
ZONE: Invermay

AZIMUTH 0
LENGTH: 463'
DIP: -45

CASING: 11 Feet
CORE SIZE: HQ - NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.
STARTED: September 12, 1996
COMPLETED: September 14, 1996
LOGGED BY: Steve Robertson

DATE LOGGED:
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	11.0	11.0	**CASING**	102401	11.0	21.0	10.0	16			7
11.0	463.0	452.0	**DIORITE**	102402	21.0	31.0	10.0	18			2
			Fresh quartz diorite.	102403	31.0	41.0	10.0	7			1
			Minor limonite staining on widely spaced fractures.								
			Chlorite alteration of mafics.	102404	41.0	51.0	10.0	11			2
			Many xenoliths (are approximately 1 cm) of more mafic intrusive.	102405	51.0	61.0	10.0	5			1
			Sulfide content is trace pyrite.								
				102406	61.0	71.0	10.0	10			1
			Rare hairline stringer, 20 degrees to 30 degrees to Core Axis with trace tourmaline and pyrite along it.	102407	71.0	81.0	10.0	24			1
			Core is very competent.								
				102408	81.0	91.0	10.0	44			1
			Incidence of bleaching, silicification and limonite staining in rocks increases below 80 feet.	102409	91.0	101.0	10.0	26			1
			Sulfides strictly fracture related, but can be associated with tourmaline or chlorite, sericite.	102410	101.0	111.0	10.0	128			7
				102411	111.0	121.0	10.0	39			2
				102412	121.0	131.0	10.0	29			2

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			DIORITE	102413	131.0	141.0	10.0	25			2
			Very gradually alteration increases down hole with strong chlorite alteration of mafics and								
			more common incidence of bleaching.	102414	141.0	151.0	10.0	19			< 1
			Occasional patch (approximately 0.5 - 1.0cm) of tourmaline.	102415	151.0	161.0	10.0	36			3
			Still generally unaltered.	102416	161.0	171.0	10.0	24			5
			Small patch of albite / quartz flooding at 187.5 - 188.5.	102417	171.0	181.0	10.0	9			4
			Associated with fractures at 25 degrees to Core Axis.								
				102418	181.0	191.0	10.0	100			7
			Sulfides very rare.								
				102419	191.0	201.0	10.0	71			9
			At 195 feet becomes more common to see albite and quartz flooding adjacent to fracture								
			(1-5 cm into rock) and now have arsenopyrite (approximately 1 %) and minor pyrite	102420	201.0	210.0	9.0	30			43
			associated with flooding.	102421	210.0	216.0	6.0	163			69
			Approximately 50% of core is quartz and albite flooded from 410 -416 along fracture at	102422	216.0	226.0	10.0	24			4
			45 degrees to core axis.								
			Arsenopyrite occurs as extremely fine, but well-formed diss crystals.								
			DIORITE	102423	226.0	229.5	3.5	88			8
			229.5 - 229.8	102424	229.5	230.8	1.3	12		5.4g/t	3.68g/t
			Quartz / feldspar vein with top contact approximately 70 degrees to core axis.								
			Arsenopyrite and tourmaline both occur as very well formed crystals (arsenopyrite to 3mm,	102425	230.8	235.0	4.2	82			15
			tourmaline to 1.3cm).								
			Total arsenopyrite approximately 10%.	102426	235.0	245.0	10.0	29			10
			Below this is a 12 inch massive tourmaline vein with bottom contact approximately 70 degrees								
			to core axis.								
			Many small vugs with well formed needle like tourmaline crystals.	102427	245.0	255.0	10.0	7			1
			Minor arsenopyrite (<<0.5%) only other mineral in this section.	102428	255.0	265.0	10.0	11			1
			3-4 inches of albite flooding in wall rock.	102429	265.0	275.0	10.0	17			2

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Core reduced HQ to NQ at 225 feet.	102430	275.0	285.0	10.0	7			2
			Below 235 feet diorite is very fresh looking with only partial chlorite alteration of mafics.	102431	285.0	295.0	10.0	7			< 1
			Core has a whitish appearance (matrix) with pink tinge (?K-spar?)	102432	295.0	305.0	10.0	20			1
				102433	305.0	315.0	10.0	39			4
			DIORITE	102434	315.0	325.0	10.0	78	0.135%	25.0g/t	12
			Quartz/K-spar/tourmaline veinlets (2x3 cm wide) at 20 degrees to core axis at 297 - 298 feet.								
			Trace pyrite and chalcopyrite present in altered wall rock.	102435	325.0	335.0	10.0	46			4
				102436	335.0	345.0	10.0	40			2
			315 feet - 318 feet - Several fractures at 35 - 45 degrees to Core Axis.								
			Well healed by quartz / feldspar (minor calcite).	102437	345.0	355.0	10.0	24			1
			No sign associated sulfides.								
			A 1.7 cm wide veinlet at 317.8 at 35 degrees to Core Axis.	102438	355.0	365.0	10.0	297			7
			50% quartz, 50% galena (plus minor sphalerite).								
				102439	365.0	371.5	6.5	37			2
			At 371.5 feet - Top contact of aplite dyke at 30 degrees to Core Axis.								
			True thickness 4.5" a second aplite dyke cross cuts it at 35 degrees to Core Axis.	102440	371.5	372.5	1.0	186			8
			Angle between two is 115 degrees.	102441	372.5	382.0	9.5	24			6
			Minor pyrite in and adjacent to dyke.								
				102442	382.0	392.0	10.0	30			3
			Core is generally extremely competent.								
			Small zones of diss chalcopyrite and pyrite below 357 feet.	102443	392.0	402.0	10.0	22			2
			Core broken and has a slightly darker appearance 385 -435 feet.	102445	412.0	422.0	10.0	180			5
			DIORITE	102446	422.0	432.0	10.0	18			< 1
			Rock becomes more leucocratic and more competent below 435 feet.	102447	432.0	442.0	10.0	22			1
			Occasional fracture coating of sulfides.	102448	442.0	452.0	10.0	81			2
			End of Hole at 463 feet.	102449	452.0	463.0	11.0	23			< 1

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Collar AZ 000 degrees Dip - 45 440' 002.5 degrees - 45.2								

IMPERIAL METALS CORPORATION

DDH GCS96-8

PROPER Giant Copper
ZONE: Invermay

CASING: 37 Feet
CORE SIZE: HQ - NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.

AZIMUTH 75
LENGTH: 723'
DIP: -56

STARTED: September 16, 1996
COMPLETED: September 19, 1996
LOGGED BY: Steve Robertson

DATE LOGGED: 18-Sep-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	37.0	37.0	**CASING**	102450	37.0	39.0	2.0	1.16%	0.196%	56.4g/t	707
37.0	197.0	160.0	**DIORITE BRECCIA**	102451	39.0	44.0	5.0	0.33%		11.2	307
			Strongly altered, hydrothermally altered diorite.								
			Has a generally dark appearance from strong chlorite and biotite? alteration.	102452	44.0	54.0	10.0	0.11%		3.8	81
			Relatively broken with limonite and carbonate on fracture.	102453	54.0	64.0	10.0	992		2.4	28
			Strong quartz and feldspar flooding.	102454	64.0	74.0	10.0	0.11%		3.8	33
			Intensely flooded 37 -39 with strong chalcopyrite with lessor pyrite and sphalerite and minor arsenopyrite.	102455	74.0	84.0	10.0	611		2.2	27
			39 -65 has smaller zones of flooding.	102456	84.0	94.0	10.0	569			13
			Zone has minor tourmaline.	102457	94.0	104.0	10.0	388			10
			Sulfide forms as patches and diss in flooded areas.								
				102458	104.0	114.0	10.0	234			5
			Breccia fragments sand size to 0.5 m.								
			Matrix very melanocratic from chlorite / biotite.								
			Less alteration and mineralization in fragments.								
			Sulfide content average 0.5 % - dominated by chalcopyrite.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			DIORITE BRECCIA	102459	114.0	124.0	10.0	242			15
			Core is badly broken down to 116 at which point it becomes quite competent.	102460	124.0	134.0	10.0	236			10
			Overall appearance of rock does not change, but decrease in sulfides.	102461	134.0	144.0	10.0	459			12
			Occasional patches of amphibole crystals in matrix.	102462	144.0	154.0	10.0	464			17
				102463	154.0	156.0	2.0	0.67%		20.6	689
			Very gradual and subtle increase in sulfides at 130 feet.								
			Massive chalcopyrite veinlet (5mm) at 155 feet.	102464	156.0	162.0	6.0	116			4
			6" wide envelope of alteration with very fine grain diss sulfides.								
				102465	162.0	163.0	1.0	0.13%	0.11%	9.8	296
			Fault zone 162' - 163' .								
			Strongly clay altleration.	102466	163.0	173.0	10.0	258			284
			Minor gouge.								
			Minor arsenopyrite.								
			Broken up.								
			Only occasional sulfides below 163 feet.	102467	173.0	183.0	10.0	356			15
			Start to see minor epidote in this area.								
				102468	183.0	193.0	10.0	267			14
197.0	197.5	0.5	**APLITE DYKE**								
			Very sharp contact with chilled margins at 40 degrees to core axis.	102469	193.0	197.0	4.0	318			21
				102470	197.0	198.0	1.0	166			6
197.5	426.0	228.5	**DIORITE BRECCIA**	102471	198.0	208.0	10.0	457			22
			As above aplite dyke.								
			Very low sulfide content.	102472	208.0	218.0	10.0	647		2.1	64
			Occasional epidote.								
				102473	218.0	228.0	10.0	925		2.2	36
			Gradual increase in silica, sericite, epidote and sulfides below 212 feet.								
			Sulfides occur in altered matrix of breccia.	102474	228.0	238.0	10.0	0.13%		4.5	62
			Overall sericite content high (in matrix of breccia).	102475	238.0	248.0	10.0	0.17%		6.1	144
			Rock has dark greenish colour with lighter patches (diorite fragements).	102476	248.0	258.0	10.0	0.19%		7.5	109
			Strong chalcopyrite mineralization (240' - 255') diss in matrix and at 268' - 270'.	102477	258.0	268.0	10.0	964		5.1	154

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102478	268.0	278.0	10.0	0.13%		4.1	136
			From 256 - 264, fragments of mafic feldspar porphyry observed in breccia.								
			Chalcopyrite usually associated with lessor pyrite, but in area of feldspar porphyry fragments, strong pyrrhotite with chalcopyrite.	102479	278.0	288.0	10.0	0.10%		2.5	54
				102480	288.0	298.0	10.0	0.19%		6.5	133
				102481	298.0	308.0	10.0	0.26%		9.5	356
			DIORITE BRECCIA	102482	308.0	318.0	10.0	0.18%		6.5	71
			Gradual color change at approximately 288 feet.								
			Rock becomes much lighter from very strong silicification and bleaching.	102483	318.0	328.0	10.0	0.18%		4.5	241
			Marked increase in sulfides with increase in silica.								
			Chalcopyrite associated with lessor pyrrhotite.	102484	328.0	338.0	10.0	0.11%		2.7	81
			Overall appearance of rock changed below 288 feet.	102485	338.0	348.0	10.0	781		2	72
			In darker sections more sericite with less chlorite.								
			Epidote occurance is still low, but more common.	102486	348.0	351.5	3.5	921	0.66%	8.9	326
			Rock still very competent.								
			Most sulfides diss in matrix, but some as coat on fractures approximately 35 degrees to	102487	351.5	354.0	2.5	0.18%	0.27%	14.8	37
			core axis.	102488	354.0	363.0	9.0	0.11%		4.9	127
				102489	363.0	373.0	10.0	0.25%		6.9	225
			Intensely clay altered, feldspar plus arsenopyrite plus tourmaline flood from 350 - 351.5								
			with a less intense envelope from 348 - 354 feet.	102490	373.0	383.0	10.0	0.34%		9.9	115
			From 363 - 374 - very intense albite flooding with strong chalcopyrite / pyrrhotite mineralization.								
			Sulfides associated with chlorite, K-spar, quartz, sericite.								
			DIORITE BRECCIA	102491	383.0	393.0	10.0	0.43%		8.6	326
			Below 390 feet breccia becomes very inundated with albite/quartz and in spots takes on appearance of aplite dyke.	102492	393.0	403.0	10.0	0.59%		15.6	302
			Can however still see diorite breccia texture and no sharp contacts.	102493	403.0	413.0	10.0	0.16%		19.6	293
			Very weak epidote below 390 feet.	102494	413.0	423.0	10.0	0.13%		9.7	140
			Sulfides is dominant pyrite with lessor chalcopyrite and pyrrhotite.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Occurs as coarse diss and knots.	102495	423.0	426.0	3.0	0.28%		7.7	124
			Increase in copper mineralization at 430 feet.	102496	426.0	430.0	4.0	0.31%		8.1	112
			Core reduced HQ to NQ at 443 feet.	102497	430.0	440.0	10.0	0.36%		9.4	402
			Core has apple green colour where albite is strongest.	102498	440.0	450.0	10.0	0.20%		6.7	99
			Alteration generally dominated by albite, sericite, quartz, chlorite (?microcline?).								
			Approximately 1% diss arsenopyrite (very fine crystals) 410 - 413.								
426.0	430.0	4.0	**APLITE DYKE**								
			Contacts unclear as Aplite has consumed and flooded into diorite breccia.								
			Fractures at 30 - 55 degrees to core axis.								
430.0	613.0	183.0	**DIORITE BRECCIA**	102499	450.0	460.0	10.0	0.18%		5.9	74
			Some dark sections with intense sericite and chlorite.								
			Mostly strong bleaching and silicification.	102500	460.0	470.0	10.0	0.23%		7	96
			Strong chalcopyrite (plus pyrite + pyrrhotite) with bleaching / silicification.								
			At 487 feet core is apple green form aplite flooding.	102501	470.0	480.0	10.0	0.26%		7.7	238
			Some very strong patches of chalcopyrite, pyrite, pyrrhotite have associated arsenopyrite.	102502	480.0	487.2	7.2	0.44%		12.7	302
			Breccia texture quite obvious.	102503	487.2	497.0	9.8	0.38%		12.4	336
			Zone of aplite flooding 487.2 - 497 (intense).								
				102504	497.0	507.0	10.0	0.34%		9.6	233
			Lower chalcopyrite 497 -517.								
			Sulfides below 517 commonly associated with fractures at approximately 20 -35 degrees	102505	507.0	517.0	10.0	0.34%		10.7	348
			to core axis.								
			Core has patchy look (alternating light + dark).	102506	517.0	527.0	10.0	0.36%		11.4	238
			Strong copper mineralization/chalcopyrite 547 - 559.5 feet and 583 - 600 feet.	102507	527.0	537.0	10.0	0.49%		12.5	490
			Significant decrease in sulfides where no bleaching or silicification.	102508	537.0	547.0	10.0	0.36%		11.1	302
				102509	547.0	555.0	8.0	0.37%		12.1	326
				102510	555.0	559.5	4.5	0.91%		48	1.25g/t

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			DIORITE BRECCIA	102511	559.5	562.0	2.5	228		0.7	12
			555 - 600 chalcopyrite is in coarse knots and along fractures.	102512	563.0	573.0	10.0	0.63%		24.4	2.09g/t
			Total sulfide contact in this interval is 2 -3%.	102513	573.0	583.0	10.0	0.95%		26	1.16g/t
613.0	723.0	110.0	**APLITE DYKE**	102514	583.0	593.0	10.0	0.50%		14.1	874
			Upper contact difficult to distinguish.								
			Dyke is very broken up.	102515	593.0	603.0	10.0	0.43%		11.4	301
			Has an overall apple green colour.								
			Sulfides occur in patches or clots associated with quartz, chlorite, feldspar, sericite.	102516	603.0	613.0	10.0	0.52%		16.8	416
			These clots can have significant chalcopyrite, but fairly wide spaced.								
			Core fairly badly broken throughout dyke with occasional very broken areas with high clay	102517	613.0	623.0	10.0	0.15%		5.3	35
			content.	102518	623.0	633.0	10.0	0.23%		8.1	26
				102519	633.0	643.0	10.0	0.10%		3.6	8
				102520	643.0	653.0	10.0	851		3.7	6
				102521	653.0	663.0	10.0	0.16%		6.5	97
				102522	663.0	673.0	10.0	0.20%		7.1	16
			APLITE DYKE	102523	673.0	683.0	10.0	0.15%		5.1	8
			As previous page.								
			Average fabric orientation approximately 50 degrees to Core axis.	102524	683.0	693.0	10.0	0.13%		4.4	8
			End of Hole at 723 feet.	102525	693.0	703.0	10.0	0.12%		6	24
				102526	703.0	713.0	10.0	0.36%		11.4	72
				102527	713.0	723.0	10.0	974		3.2	8

Depth	Az	Dip
Collar	075	-56 degrees
450'	068.5	-54 degrees
730'	069.5	-54 degrees

IMPERIAL METALS CORPORATION
DDH GCS96-9

PROPER Giant Copper
ZONE: Invermay

AZIMUTH 0
LENGTH: 437'
DIP: -90

CASING: 52 Feet
CORE SIZE: NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.
STARTED: September 22, 1996
COMPLETED: September 24, 1996
LOGGED BY: Steve Robertson

DATE LOGGED: 23-Sep-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	52.0	52.0	**CASING**	102528	52.0	62.0	10.0	302		1.2	11
52.0	243.0	191.0	**DIORITE BRECCIA**	102529	62.0	72.0	10.0	232		0.9	4
			Alteration of hydrothermal breccia is highly variable.								
			Frequent patches of fresh rock with adjacent zones of intense alteration.	102530	72.0	77.0	5.0	426		1.5	15
			Alteration includes feldspar + quartz flooding, biotite, chlorite, sericite, smectite, tourmaline,	102531	77.0	82.0	5.0	0.558%		36.2	910
			probable K-spar and sulfides.	102532	82.0	87.0	5.0	0.215%		9.7	108
			Sulfides usually highly concentrated as coarse diss over small areas.	102533	87.0	97.0	10.0	287		1	26
			Stronger alteration - mineralization at 72 - 87 feet.								
				102534	97.0	107.0	10.0	379		2	8
			Sudden decrease in alteration - mineralization at 117 feet.	102535	107.0	117.0	10.0	799		2.6	1630
			Long stretches (5 feet - 10 feet) below 117 have no breccia texture, but greater than								
			50% is brecciated and altered.	102536	117.0	127.0	10.0	195		0.3	37
				102537	127.0	137.0	10.0	338		0.8	13
			Sulfides occur as chalcopyrite or chalcopyrite and lessor pyrite.								
				102538	137.0	147.0	10.0	245		0.9	8
				102539	147.0	157.0	10.0	474		1.6	37
			DIORITE BRECCIA	102540	157.0	167.0	10.0	144		0.3	8
			Diorite is mainly very fresh xenoliths (mafics intact) with dark rims and felted green (chliser)	102541	167.0	177.0	10.0	130		0.5	21

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			matrix which is often in bladed crystals.	102542	177.0	187.0	10.0	374		1.5	28
			Minor chalcopyrite in matrix below 210 feet with strong concentration over 1 inch at 216 feet.	102543	187.0	197.0	10.0	220		1.1	19
			Intense bleaching 227 - 243 feet.	102544	197.0	207.0	10.0	115		0.4	8
			Intense clay alteration 231 -234.3.								
			Greater than 10% arsenopyrite 233 - 234.3.	102545	207.0	217.0	10.0	315		1.6	5
			Zone at approximately 35 degrees to core axis.								
				102546	217.0	227.0	10.0	898		4.7	103
243.0	437.0	194.0	**QUARTZ DIORITE**								
			Below 243 feet rock is very fresh with occasional xenolith, but no breccia.	102547	227.0	231.0	4.0	975	0.991%	25.9	132
			Occasional fracture at 60 degrees - 90 degrees to core axis with small envelope (up to 2 ")	102548	231.0	233.0	2.0	895	1.519%	27.3	118
			with bleaching and silicification, minor epidote and occasional sulfides (pyrite with trace chalcopyrite).	102549	233.0	234.3	1.3	876	0.701%	29.1	1650
				102550	234.3	243.0	8.7	191	0.215%	2.9	12
				102551	243.0	253.0	10.0	482		1.7	25
			QUARTZ DIORITE	102552	253.0	263.0	10.0	32		<0.3	3
			At 295 - 307 some widely spaced fractures with feldspar, silica, epidote + chalcopyrite.								
				102553	263.0	273.0	10.0	70		<0.3	2
			At 314 - 322 feet have some small dykes and flooding of mafic feldspar dyke material into diorite.	102554	273.0	283.0	10.0	20		<0.3	2
			No hydrothermal alteration or mineralization association.	102555	283.0	293.0	10.0	25		<0.3	1
				102556	293.0	303.0	10.0	655		1.2	15
			Below 322 feet flecks of epidote in diorite (adjacent to mafics) common.								
			Mafics chlorite altered.	102557	303.0	313.0	10.0	204		0.7	11
				102558	313.0	323.0	10.0	58		<0.3	5
			At 400 - 405 feet some more frequent (35 degrees to core axis) fractures with increased								
			alteration including bleaching, talc + chlorite and up to 2% pyrite in spots.	102559	323.0	333.0	10.0	51		<0.3	3
			Below 405 feet back to same.	102560	333.0	343.0	10.0	60		0.3	4
				102561	343.0	353.0	10.0	67		0.3	5

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102562	353.0	363.0	10.0	137		0.4	8
				102563	363.0	373.0	10.0	56		0.3	2
			QUARTZ DIORITE	102564	373.0	383.0	10.0	198		0.7	18
			Fresh medium grained diorite with chlorite altered mafics.	102565	383.0	393.0	10.0	544		1.5	27
			End of Hole = 437 feet	102566	393.0	403.0	10.0	172		0.3	10
			Depth	102567	403.0	413.0	10.0	283		0.6	18
			Collar 0 -90 degrees								
			430 feet 217.5 -86 degrees	102568	413.0	423.0	10.0	127		<0.3	5
				102569	423.0	433.0	10.0	101		0.3	26
				102570	433.0	437.0	4.0	124		0.4	10

IMPERIAL METALS CORPORATION
DDH GCS96-9

PROPER Giant Copper
ZONE: Invermay

CASING: 52 Feet
CORE SIZE: NQ
CORE STORAGE: Property
DRILLING COMPANY: Beaupre Contracting Ltd.

AZIMUTH 0
LENGTH: 437'
DIP: -90

STARTED: September 22, 1996
COMPLETED: September 24, 1996
LOGGED BY: Steve Robertson

DATE LOGGED: 23-Sep-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	52.0	52.0	**CASING**	102528	52.0	62.0	10.0	302		1.2	11
52.0	243.0	191.0	**DIORITE BRECCIA**	102529	62.0	72.0	10.0	232		0.9	4
			Alteration of hydrothermal breccia is highly variable.								
			Frequent patches of fresh rock with adjacent zones of intense alteration.	102530	72.0	77.0	5.0	426		1.5	15
			Alteration includes feldspar + quartz flooding, biotite, chlorite, sericite, smectite, tourmaline,	102531	77.0	82.0	5.0	0.558%		36.2	910
			probable K-spar and sulfides.	102532	82.0	87.0	5.0	0.215%		9.7	108
			Sulfides usually highly concentrated as coarse diss over small areas.	102533	87.0	97.0	10.0	287		1	26
			Stronger alteration - mineralization at 72 - 87 feet.								
				102534	97.0	107.0	10.0	379		2	8
			Sudden decrease in alteration - mineralization at 117 feet.	102535	107.0	117.0	10.0	799		2.6	1630
			Long stretches (5 feet - 10 feet) below 117 have no breccia texture, but greater than								
			50% is brecciated and altered.	102536	117.0	127.0	10.0	195		0.3	37
				102537	127.0	137.0	10.0	338		0.8	13
			Sulfides occur as chalcopyrite or chalcopyrite and lessor pyrite.								
				102538	137.0	147.0	10.0	245		0.9	8
				102539	147.0	157.0	10.0	474		1.6	37
			DIORITE BRECCIA	102540	157.0	167.0	10.0	144		0.3	8
			Diorite is mainly very fresh xenoliths (mafics intact) with dark rims and felted green (chliser)	102541	167.0	177.0	10.0	130		0.5	21

From (ft)	To (ft)	Length (ft)	Description
			matrix which is often in bladed crystals. Minor chalcopyrite in matrix below 210 feet with strong concentration over 1 inch at 216 feet. Intense bleaching 227 - 243 feet. Intense clay alteration 231 -234.3. Greater than 10% arsenopyrite 233 - 234.3. Zone at approximately 35 degrees to core axis.
243.0	437.0	194.0	**QUARTZ DIORITE** Below 243 feet rock is very fresh with occasional xenolith, but no breccia. Occasional fracture at 60 degrees - 90 degrees to core axis with small envelope (up to 2 ") with bleaching and silicification, minor epidote and occasional sulfides (pyrite with trace chalcopyrite). **QUARTZ DIORITE** At 295 - 307 some widely spaced fractures with feldspar, silica, epidote + chalcopyrite. At 314 - 322 feet have some small dykes and flooding of mafic feldspar dyke material into diorite. No hydrothermal alteration or mineralization association. Below 322 feet flecks of epidote in diorite (adjacent to mafics) common. Mafics chlorite altered. At 400 - 405 feet some more frequent (35 degrees to core axis) fractures with increased alteration including bleaching, talc + chlorite and up to 2% pyrite in spots. Below 405 feet back to same.

Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
102542	177.0	187.0	10.0	374		1.5	28
102543	187.0	197.0	10.0	220		1.1	19
102544	197.0	207.0	10.0	115		0.4	8
102545	207.0	217.0	10.0	315		1.6	5
102546	217.0	227.0	10.0	898		4.7	103
102547	227.0	231.0	4.0	975	0.991%	25.9	132
102548	231.0	233.0	2.0	895	1.519%	27.3	118
102549	233.0	234.3	1.3	876	0.701%	29.1	1650
102550	234.3	243.0	8.7	191	0.215%	2.9	12
102551	243.0	253.0	10.0	482		1.7	25
102552	253.0	263.0	10.0	32		<0.3	3
102553	263.0	273.0	10.0	70		<0.3	2
102554	273.0	283.0	10.0	20		<0.3	2
102555	283.0	293.0	10.0	25		<0.3	1
102556	293.0	303.0	10.0	655		1.2	15
102557	303.0	313.0	10.0	204		0.7	11
102558	313.0	323.0	10.0	58		<0.3	5
102559	323.0	333.0	10.0	51		<0.3	3
102560	333.0	343.0	10.0	60		0.3	4
102561	343.0	353.0	10.0	67		0.3	5

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102562	353.0	363.0	10.0	137		0.4	8
				102563	363.0	373.0	10.0	56		0.3	2
			QUARTZ DIORITE	102564	373.0	383.0	10.0	198		0.7	18
			Fresh medium grained diorite with chlorite altered mafics.	102565	383.0	393.0	10.0	544		1.5	27
			End of Hole = 437 feet	102566	393.0	403.0	10.0	172		0.3	10
			Depth	102567	403.0	413.0	10.0	283		0.6	18
			Collar 0 -90 degrees								
			430 feet 217.5 -86 degrees	102568	413.0	423.0	10.0	127		<0.3	5
				102569	423.0	433.0	10.0	101		0.3	26
				102570	433.0	437.0	4.0	124		0.4	10

IMPERIAL METALS CORPORATION
DDH GCS96-10

PROPERTY Giant Copper
ZONE: Invermay
CASING: 30 Feet
CORE SIZE: NQ 2
CORE STORAGE: Property
DRILLING COMPANY: Boisvenu F. Drilling Ltd.
AZIMUTH: 0
LENGTH: 1017'
DIP: -90
STARTED: October 9, 1996
COMPLETED: October 16, 1996
LOGGED BY: Steve Robertson
DATE LOGGED: 10-Oct-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description
0.0	30.0	30.0	**CASING**
30.0	39.0	9.0	**DIORITE BRECCIA** Strongly altered. Bleached, clay altered, patches of quartz flooding. Approximatley 1% sulfides with chalcopyrite, pyrite, and minor arsenopyrite. Patches of talc present. Very broken with abundant limonite on fractures.
39.0	41.3	2.3	**FAULT ZONE** 25 degrees to core axis. Minor gouge near the top of zone, but mostly well healed with quartz, feldspar, and sulfides. Sulfides approximately 10% with abundant arsenopyrite and pyrite (possible stib).
41.3	47.0	5.7	**APLITE** Strongly altered - strong quartz flooding with associated tourmaline and minor chalcopyrite and pyrite. Both top and bottom contacts not distinct. Appears to be approximately 40 degrees to core axis.

Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
102571	30.00	39.00	9.0	0.156%	0.408%	32.3	243
102572	39.00	41.30	2.3	0.475%	0.671%	82.8	340
102573	41.30	47.00	5.7	0.156%	890	12.2	53
102574	47.00	57.00	10.0	0.283%	242	14.8	138
102575	57.00	67.00	10.0	0.115%	192	4.8	73

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
47.0	96.0	49.0	**DIORITE BRECCIA**	102576	67.00	77.00	10.0	0.161%	147	6.4	29
			Breccia fragments subrounded and of mixed lithology from 47 - 62.	102577	77.00	87.00	10.0	0.118%	209	5.4	76
			From 59 - 64 rock changes from leucocratic to melanocratic and also no more fragments of aplite.	102578	87.00	96.00	9.0	684	124	3.6	79
				102579	96.00	97.20	1.2	339	126	1.2	6
			Chalcopyrite occurs along healed fractures in matrix of Breccia.								
			Occasional occurrence of pyrrhotite with chalcopyrite.	102580	97.20	108.00	10.8	0.122%	595	9.7	40
			Many patches of dark bladed amphibole in matrix.								
			Strong talc in occasional patches.								
96.0	97.2	1.2	Feldspar / calcite vein.								
			30 degrees to core axis.								
			No sulfides and only minor gouge.								
97.2	107.0	9.8	**APLITE**								
			No sharp contacts present.								
			Strongly altered - introduction of feldspar, quartz, with sericite + clay alteration.								
			Chalcopyrite found in small patches.								
			Minor tourmaline.								
107.0	571.5	464.5	**DIORITE BRECCIA**	102581	107.00	117.00	10.0	0.104%	192	6	87
			0.5% chalcopyrite occurs as patches and along fractures.	102582	117.00	127.00	10.0	960	0.121%	7.2	78
			Melanocratic.								
			Abundant chlorite with smaller areas of strong sericite.	102583	127.00	137.00	10.0	0.202%	148	8.9	207
			Also a minor amount of brown clay alteration (possibly smectite).								
				102584	137.00	147.00	10.0	0.180%	0.112%	13.8	113
			Strength of chalcopyrite mineralization is variable from trace to 1% chalcopyrite.								
			Possible small zone with bornite at 140 feet.	102585	147.00	157.00	10.0	0.162%	0.223%	14.1	99
				102586	157.00	167.00	10.0	0.282%	532	18	126
			Below 137 feet color lightens slightly with increase in sericite, smectite and talc.	102587	167.00	175.50	8.5	0.329%	0.126%	26.6	720
			Breccia texture still strongly evident.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102588	175.50	177.00	1.5	0.609%	0.657%	118.6	2688
			175.5 - 177 weak fault with minor gouge at 50 degrees to core axis.	102589	177.00	187.00	10.0	0.127%	0.102%	12.9	2460
			Below 177 feet core is much lighter in colour with strong bleaching and innundation of aplite material.	102590	187.00	197.00	10.0	0	860	10.7	317
			Some patches with strong quartz flooding and also some patches of very coarse chalcopyrite (approximately 1 cm across).	102591	197.00	207.00	10.0	0.250%	942	16.2	612
			DIORITE BRECCIA	102592	207.00	217.00	10.0	0.533%	0.145%	34.9	570
			Core much darker below 217 feet.								
			Alteration dominated by chlorite with lessor actinolite, sericite, talc.	102593	217.00	227.00	10.0	0.110%	0.177%	8.7	119
			229 -235.5 Sec less than 1.0% arsenopyrite as fine diss crystals in core.	102594	227.00	235.50	8.5	0.125%	0.134%	15.1	200
				102595	235.50	238.00	2.5	0.104%	0.308%	30.5	1510
			235.5 - 238 feet.								
			Weak structure with abundant arsenopyrite and small zones of gouge.	102596	238.00	248.00	10.0	0.124%	460	12	222
			Fabric approximately 40 degrees to core axis.								
				102597	248.00	256.50	8.5	268	159	0.7	10
			At 256.5 - 262.5 feet.	102598	256.50	262.50	6.0	314	222	0.9	16
			Zone is intensely flooded with quartz / feldspar.								
			Areas of intense clay alteration.								
			Some talc in zone.								
			Sulfides rare.	102599	262.50	271.00	8.5	231	74	0.6	6
			277 - 281 Very strong alteration - feldspar + smectite + quartz + tourmaline.	102600	271.00	277.00	6.0	0.301%	0.493%	20.4	415
			Some very coarse crystals of quartz, tourmaline, and sphalerite (in one place).								
			Weak sulfides.	102601	277.00	281.00	4.0	109	0.222%	1.6	118
			Below 281 feet - core can be quite broken.	102602	281.00	291.00	10.0	53	179	< 0.3	6
			Moderate alteration diorite breccia.								
			Alteration mostly chlorite/actin.								
				102603	291.00	301.00	10.0	255	402	0.9	7
			DIORITE BRECCIA	102604	301.00	311.00	10.0	0	282	7.6	95

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Core becomes much more competent at 311 feet.								
			Brokenness of core was due to clay along joints at low angles to core axis.	102605	311.00	321.00	10.0	347	78	0.6	11
			Overall sulfide contact is very low, but there is an occasional patch of strong chalcopyrite.	102606	321.00	331.00	10.0	544	120	1.3	14
				102607	331.00	341.00	10.0	375	102	0.9	21
			Below 311 feet core has a very distinctive breccia appearance with relatively fresh fragments in	102608	341.00	347.00	6.0	408	198	1.9	18
			stark contrast to the chlorite/actinolite/talc altered groundmass which hosts the sulfides.	102609	347.00	354.00	7.0	0.513%	0.175%	33	761
			Fragments can appear quite rounded.								
				102610	354.00	364.00	10.0	502	138	1.4	18
			Coe is bleached and hornfelsed 341 - 354 feet.								
			Minor arsenopyrite 347 -354 feet.	102611	364.00	374.00	10.0	983	133	3.7	35
			Overall alteration of matrix gradually decreases down hole and core colour lightens.	102612	374.00	384.00	10.0	620	107	1.6	18
			Chalcopyrite mineralization is only weak to moderate, but is relatively consistent.	102613	384.00	394.00	10.0	634	100	1.6	22
			Strong epidote alteration 427 - 429	102614	394.00	404.00	10.0	830	196	2.4	13
				102615	404.00	414.00	10.0	235	137	0.8	6
			DIORITE BRECCIA	102616	414.00	424.00	10.0	351	124	0.7	8
			At 450 feet intensity of alteration increases including both patches of bleaching / silicification								
			and chlorite / actinolite.	102617	424.00	434.00	10.0	636	82	1.1	57
			Strength of chalcopyrite mineralization is moderate, but occurrence is ubiquitous.								
			Areas of strong bleaching are associated with increase in very fine grain arsenopyrite +	102618	434.00	444.00	10.0	133	87	0.4	4
			Mo + / - sphalerite.								
				102619	444.00	454.00	10.0	914	135	3.2	19
			Increase arsenopyrite at 456 - 458 feet and 494 - 533 feet.								
			This last interval also shows a distinct increase in galena and hematite.	102620	454.00	464.00	10.0	0.151%	0.206%	7.3	95
			These metallic mineralizations are associated with silicification and quartz flood and	102621	464.00	474.00	10.0	969	100	2.6	41
			chalcopyrite as well.								
				102622	474.00	484.00	10.0	803	115	2.7	184
			502.5 - 533 is very light colored and inundated with aplitic material although breccia texture	102623	484.00	494.00	10.0	0.152%	106	4.4	155
			still present.								
				102624	494.00	502.50	8.5	834	141	3.1	66

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102625	502.50	509.00	6.5	0.127%	425	7.1	104
				102626	509.00	513.00	4.0	0.302%	0.154%	20.8	362
				102627	513.00	523.00	10.0	786	0.225%	4.5	71
			DIORITE BRECCIA	102628	523.00	533.00	10.0	0.136%	203	4.6	85
			Below 500 feet a very significant portion of sulfides associated with veinlets (approximately								
			1 cm in width) and small quartz flooded zones (up to 5 cm) which are commonly	102629	533.00	543.00	10.0	0.210%	913	15.1	144
			approximately 20 degrees to core axis.								
			Zones typically consist of quartz, pyrite, galena, sphalerite + / - hematite??	102630	543.00	553.00	10.0	0.163%	172	4.6	111
			With very fine grain arsenopyrite in wall rock.	102631	553.00	563.00	10.0	954	252	3.4	63
			Below 500 feet also notice an increase in amount of pyrite relative to	102632	563.00	569.50	6.5	0.100%	125	3.4	127
			chalcopyrite.								
				102633	569.50	571.50	2.0	0.118%	0.120%	14.2	142
			No epidote noted below patch seen at 429 feet.								
				102634	571.50	574.20	2.7	2.103%	0.367%	286.8	13700
571.5	574.2	2.7	**QUARTZ / SULFIDE VEIN**								
			Top and bottom contacts at 25 degrees to core axis.	102635	574.20	577.00	2.8	0.412%	0.220%	43.1	2650
			Quartz, pyrite, galena, sphalerite, chalcopyrite, arsenopyrite, minor gouge, calcite.								
			Crumbly.	102626	577.00	581.00	4.0	0.149%	894	8.8	172
				102637	581.00	591.00	10.0	0.201%	172	5.2	149
574.2	686.0	111.8	**DIORITE BRECCIA**								
			Flooding from vein down to 577 feet.								
			Increase sphalerite and arsenopyrite.	102638	591	601	10.0	0.135%	132	3	68
			Below 577 feet breccia texture is very prominent with angular, relatively fresh fragments.	102639	601	611	10.0	0.110%	178	3.6	142
			DIORITE BRECCIA	102640	611.00	621.00	10.0	827	180	3.1	62
			Below 600 feet rock colour lightens with bleaching / silicification of diorite breccia and	102641	621.00	631.00	10.0	703	102	1.6	21
			small zones of aplite flooding.								
				102642	631.00	641.00	10.0	834	106	3.3	72
			Chalcopyrite still present throughout core.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Quartz veinlets and quartz flooded zones now rare and sulfide occurs mostly in patches along	102643	641.00	651.00	10.0	871	94	3.1	41
			hairline fractures and as fine diss.	102644	651.00	661.00	10.0	741	935	5.2	77
			Pyrite in quartz veinlets is associated with unknown, very hard, brown silicate.	102645	661.00	671.00	10.0	955	178	3.8	67
				102646	671.00	678.00	7.0	872	0.103%	5.3	80
			Core strongly altered, but breccia texture still evident.	102647	678.00	686.00	8.0	0.139%	276	7	67
			Occasional quartz veinlet at 5 -20 degrees to core axis.								
				102648	686.00	689.00	3.0	0.111%	185	4.7	34
686.0	740.0	54.0	**APLITE**								
			Gradational upper contact, but fabric approximately 40 degrees to core axis.	102649	689.00	691.70	2.7	0.167%	0.605%	12.8	284
			Zone at 689 - 691.7 feet 90% quartz and close to 10% sulfides.								
			Sulfides strongly dominated by pyrite with chalcopyrite, sphalerite, arsenopyrite.	102650	691.70	697.00	5.3	0.120%	800	11.3	37
				102651	697.00	707.00	10.0	833	106	3.1	35
			APLITE	102652	707.00	717.00	10.0	994	261	5.4	67
			Chalcopyrite mineralization within aplite is similar intensity to that in breccia.	102653	717.00	727.00	10.0	868	310	4.3	29
			Aplite has very high quartz content and much of feldspar has been strongly altered giving rock	102654	727.00	736.50	9.5	0.101%	124	3.9	17
			apple green colour.	102655	736.50	740.00	3.5	753	0.278%	5.2	31
			Unit becomes dark grey in bottom 3.5 inch of unit.	102656	740.00	741.50	1.5	0.157%	0.133%	7.7	920
				102657	741.50	744.70	3.2	597	0.149%	5.4	67
740.0	741.5	1.5	**QUARTZ / SULFIDE VEIN**								
			15 degrees to core axis.	102658	744.70	747.00	2.3	0.208%	1.772%	99.2	3530
			50% sulfide / 50% quartz + minor K-spar.								
			Walls of vein are prismatic crystalls (some up to 1.2cm doubly terminated) which have	102659	747	748.5	1.5	0.114%	825	9	249
			been completely relaced by sulfides including pyrite, minor pyrrhotite, and sphalerite.								
			Many vugs (approximately 1-2mm).	102660	748.5	756	7.5	0.102%	983	6	105
			Followed by growth of translucent quartz crystals, followed by more quartz.								
			Still open vugs to to 2 cm across.								
741.5	744.7	3.2	**APLITE DYKE**								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			As 736.5 - 740.								
744.7	748.5	3.8	**QUARTZ / SULFIDE VEIN** 25 degrees to core axis.	102661	756	766	10.0	932	180	5	548
			Very different from 740 - 741.5 - top 1.5" (true width) is a mix of quartz, arsenopyrite, sphalerite, chalcopyrite, pyrite. Then down to 746.5 the rock consists of a dark grey mix of extremely fine grain quartz and sulfides. 746.5 - 747.5 is very similar to 740 - 741.5, but much more arsenopyrite.	102662	766	773	7.0	830	330	3.5	39
748.5	756.0	7.5	**APLITE** Can see faint ghosts of breccia fragments. Some chalcopyrite in interval, associated with quartz.								
756.0	937.0	181.0	**DIORITE BRECCIA** No true contact, but appears to be diorite breccia which has been innundated with aplite.								
			DIORITE BRECCIA	102663	773	775	2.0	0.279%	0.324%	54.1	1330
			At 773 feet core becomes quartz flooded with strong pyrite, chalcopyrite (+/- arsenopyrite).	102664	775	778	3.0	0.207%	0.337%	59.2	265
			773.8 - 774 quartz / sulfide vein at 40 degrees to core axis.	102665	778	788	10.0	818	627	5.4	22
			Core below vein remains quartz flooded and increase sulfides to 778 feet.	102666	788	797	9.0	564	666	2.6	15
				102667	797	804.5	7.5	0.103%	0.248%	14	91
			797 - 804.5 have strong silicification / bleaching with associated arsenopyrite (+ minor pyrite, trace chalcopyrite) at 30 degrees to core axis.	102668	804.5	814	9.5	817	195	4.2	14
			Cross cut by a later event of quartz with pyrite, chalcopyrite, sphalerite.								
				102669	814	819	5.0	444	123	3.9	16
			Most of core has been silicified and carries with it chalcopyrite, pyrite, pyrrhotite.	102670	819	829	10.0	849	428	5	20
			837 - 857 feet strongly bleached and silicified. Some small patches of very fine grain arsenopyrite.	102671	829	837	8.0	928	113	4.2	19

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Occasional quartz veinlet at 25 degrees to core axis.	102672	837	847	10.0	788	0.190%	6	139
			Bleaching picks up again at approximately 867 feet.	102673	847	857	10.0	981	0.130%	7.6	45
				102674	857	867	10.0	0.101%	262	5.2	2
			DIORITE BRECCIA	102675	867	877	10.0	0.105%	400	7.7	422
			Intensely bleached 878 - 886.5.								
			6" vein at 70 degrees to core axis.								
			2 -3% sulfides with quartz + feldspar.	102676	877	884.5	7.5	381	0.190%	3.6	26
				102677	884.5	886.5	2.0	0.390%	760	33.1	25
			Very strong arsenopyrite 885 - 886.5 with lessor pyrite / chalcopyrite in bleached zone.	102678	886.5	897	10.5	811	133	3.4	28
			887 - 898 dark diorite with very little brecciation, but still weak pyrite / chalcopyrite.	102679	897	907	10.0	0.103%	262	5.3	417
				102680	907	917	10.0	0.100%	383	6.2	32
			Core moderately broken 899 - 906 feet.								
				102681	917	927	10.0	0.113%	353	4.8	31
			Bleaching + silicification strong 906 - 933.								
				102682	927	937	10.0	933	115	3.1	47
937.0	971.0	34.0	**APLITE**								
			No distinct top contact - Unit has considerable quartz flooding with associated chalcopyrite,	102683	937	947	10.0	0.677%	0.197%	150.9	87
			with minor pyrite, pyrrhotite, and in spots arsenopyrite.	102684	947	956.5	9.5	939	761	8.8	25
			Intense quartz flooding with approximately 1% arsenopyrite at 956.5 - 959 feet.	102685	956.5	959	2.5	0.287%	909	31.4	514
				102686	959	969	10.0	981	0.138%	8.9	40
			APLITE	102687	969	977.5	8.5	718	0.107%	4.8	30
			Well mineralized throughout interval.								
			Alteration is mostly silica flooding, but also includes sericite and bleaching in localized spots.	102688	977.5	988	10.5	267	415	2	13
971.0	977.5	6.5	**DIORITE BRECCIA**								
			Most of interval flooded with aplite.	102690	988	998	10.0	437	297	2.6	11

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
977.5	1004.0	26.5	Mafic feldspar porphyry dyke. Mostly unaltered, but below 986 feet feldspar phenocrysts replaced with epidote. Top contact at 30 degrees to core axis. Rare hairline fracture healed with pyrite or quartz + galena. Otherwise unmineralized. Core very competent. Bottom contact at 40 degrees to core axis.	102691 102692	1004 1009	1009 1017	5.0 8.0	557 0.115%	169 168	2.7 3.6	6 270
1004.0	1017.0	13.0	**APLITE** As above mafic dyke, but weaker mineralization. End of Hole at 1017 feet. Hole shut down because drillers ran out of rods. Acid tests Dip 497' -90 degrees 997' -88 degrees								

IMPERIAL METALS CORPORATION
DDH GCS96-11

PROPERTY: Giant Copper
ZONE: Invermay

AZIMUTH: 0
LENGTH: 447'
DIP: -90

CASING: 51 Feet
CORE SIZE: NQ 2
CORE STORAGE: Property
DRILLING COMPANY: Boisvenu F. Diamond Drilling
STARTED: October 17, 1996
COMPLETED: October 24, 1996
LOGGED BY: Steve Robertson

DATE LOGGED 22-Oct-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description
0.0	51.0	51.0	**CASING**
51.0	192.0	141.0	**DIORITE BRECCIA** Breccia fragments clearly visible. In many areas fragments bleached and matrix is chlorite / actinolite altered. Patches of tourmaline comprise 1 - 2% of rock. At 51 - 117 sulfides are commonly fracture related and associated with strong limonite. 6" dyke of aplite at 30 degrees to core axis at 69 feet. Below dyke, rock more strongly altered by bleaching. Rock gradually darkens down to approximately 102 feet. Sulfides are dominated by pyrite with minor patches of chalcopyrite and very fine grained arsenopyrite. Also minor galena, sphalerite along some fractures. Where limonite diminishes (approximately 102 feet) see an increase in calcite along hairline fracture. Core is moderately to badly broken. Strong increase in silicification at 141 feet with small veins and patches of quartz with tourmaline + minor pyrite.

Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
102693	51.0	61.0	10.0	712	0.127%	8	18
102694	61.0	69.0	8.0	581	0.108%	6.9	33
102695	69.0	79.0	10.0	0.108%	0.398%	17.3	45
102696	79.0	89.0	10.0	595	0.179%	8.2	40
102697	89.0	99.0	10.0	427	0.182%	7.1	16
102698	99.0	109.0	10.0	123		1.6	4
102699	109.0	119.0	10.0	114		0.5	3
102700	119.0	129.0	10.0	161		1.2	6
102701	129.0	139.0	10.0	32		0.5	1
102702	139.0	150.0	11.0	66		0.4	2
102703	150.0	160.0	10.0	150		1	5

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102704	160.0	171.0	11.0	159		0.9	4
			DIORITE BRECCIA	102705	171.0	178.0	7.0	317	0.506%	6.2	12
			150' - 171' core is very dark with chlorite / actinolite alteration and absence of quartz flooding.	102706	178.0	188.0	10.0	109		0.5	10
			2 " inch gouge at 35 degrees to core axis at 158 feet.	102707	188.0	192.0	4.0	252		2.5	4
			At 171 feet core becomes very strongly bleached and silicified.	102708	192.0	195.0	3.0	1.036%	1.472%	311	4980
			Many small veinlets (2-3mm) of quartz with sphalerite and galena at 5 - 10 degrees to								
			core axis.	102709	195.0	199.0	4.0	212		4.9	169
			Increase in sericite and pyrite, chalcopyrite (+/- arsenopyrite) as fine grain diss.	102710	199.0	207.0	8.0	358		4.5	257
			Core continues to be badly broken.								
			Zone of strong bleachings + clay alteration 174 - 178 feet.								
			(only rare sulfides).								
192.0	195.0	3.0	**QUARTZ / SULFIDE VEIN**								
			Top and bottom contacts at 25 degrees to Core Axis.								
			Pyrite, quartz, chalcopyrite, sphalerite, ?stibnite? , galena.								
195.0	285.5	90.5	**DIORITE BRECCIA**								
			Intensely altered (minor sulfides) 195 - 199 feet.								
			DIORITE BRECCIA	102711	207.0	210.0	3.0	74		0.9	9
			199 - 207 rock is crumbly.								
			Approximately 1% association with small zones of quartz flooding.								
			Most of rock is innundated with chlorite / actin.	102712	210.0	220.0	10.0	109		1.5	11
			Also minor calcite along fractures.	102713	220.0	230.0	10.0	180		3	7
			10 inch quartz vein (no sulfides) at 207 feet and rock is quartz flooded to 210 feet.	102714	230.0	238.5	8.5	157		1.4	6
			No orientation determined as rock is very badly broken.	102715	238.5	245.5	7.0	128		1.4	4

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			210-220 feet - core is completely bleached and clay altered. Occasional quartz veinlets at 5 - 30 degrees to core axis. At 220 - 238.5 feet bleaching and clay alteration is restricted to matrix of breccia. Only minor sulfides. 238.5 - 245.5 - section of dark chlorite / actinolite altered breccia with no bleaching. Core competent. 245.5 - 255.5 - Appears to be a faullt zone. Rock is crumbly mush. Some very fine grained Sulfides probably pyrite, arsenopyrite, sphalerite. Fabric 10 -15 degrees to Core Axis.	102716	245.5	255.5	10.0	164	0.505%	4	11
			DIORITE BRECCIA Rock continues to be badly broken and altered to 272 feet and 272 feet - 285.5 feet is relatively fresh and competent.	102717	255.5	265.5	10.0	138	0.850%	3.6	11
				102718	265.5	275.5	10.0	189	0.718%	4.1	28
				102719	275.5	285.5	10.0	121	0.199%	4.8	8
			Many quartz veins (approximately 1 cm) at 10- 15 degrees to core axis. With abundant sphalerite + minor pyrite and at 290 feet galena and chalcopyrite.	102720	285.5	296.0	10.5	603	1.325%	19.3	26
285.5	296.0	10.5	**MAFIC FELDSPAR PORPHYRY DYKE** Top contact is irregular reactionary at 20 degrees to core axis.	102721	296.0	306.0	10.0	73		1.3	2
			Bottom contact is more regular at 40 degrees to core axis. Rock is relatively fresh, but contains many quartz veinlets (1 cm) at 10 -15 degrees to core axis with sulfides as described above.	102722	306.0	312.0	6.0	189	0.263%	3.9	31
296.0	311.0	15.0	**DIORITE BRECCIA** Bleached with sericite and smectite/ Contains some very fine grained diss sulfides (pyrite + arsenopyrite?)								
311.0	312.0	1.0	**MAFIC FELDSPAR PORPHYRY DYKE**								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Top contact at 45 degrees. Bottom contact 75 degrees. Both very irregular.								
312.0	380.5	68.5	**DIORITE BRECCIA**	102723	312.0	322.0	10.0	138		0.8	5
			Strong chlorite / actinolite alteration 312 - 340 feet with minor associated sulfides (pyrite +/- chalcopyrite).	102724	322.0	332.0	10.0	250	0.178%	2.6	11
			Sericite, smectite and sphalerite and quartz veining pick up around 340 feet.	102725	332.0	341.0	9.0	140	0.862%	8.5	51
				102726	341.0	346.0	5.0	240	1.050%	10.2	1822
			See much more arsenopyrite associated with quartz below 340 feet.								
				102727	346.0	352.0	6.0	464	1.131%	12.1	1436
			Core runs near parallel to a quartz vein 341 - 352 feet.								
			Vein appears to be approximately 2 inches wide.	102728	352.0	362.0	10.0	320	0.614%	8.6	253
			Core strongly altered 352 - 362 with bleaching, sericite, silicification, minor tourmaline, minor quartz stringers at low angles to core axis.	102729	362.0	367.5	5.5	328	1.007%	12.2	2030
			Patches of very fine grain arsenopyrite.	102730	367.5	373.5	6.0	297	0.215%	4.7	18
			362 - 367.5 feet same as above, but significant increase in quartz stringers / veins + arsenopyrite.	102731	373.5	380.5	7.0	292	0.413%	8.8	25
			Quartz veins at approximately 10%. Core axis contain K-spar, pyrite, chalcoopyrite, arsenopyrite, sphalerite.								
			367.5 - 373.5 - very strong chlorite / actinolite alteration.	102732	380.5	384.0	3.5	0.241%	1.312%	47.2	1901
			373.5 - 380.5 - intense sericite + talc.								
380.5	384.0	3.5	Quartz / sulfide / gouge vein. 20 degrees to core axis - strong gouge.								
384.0	387.5	3.5	**DIORITE BRECCIA**	102733	384.0	387.5	3.5	360	0.414%	7.6	169
			As 352 - 362 - fabric at 20 degrees to core axis.								
				102734	387.5	391.0	3.5	0.416%	4.463%	52.5	3227
387.5	391.0	3.5	**QUARTZ / SULFIDE VEIN**								
			Top and bottom contacts at 30 degrees to core axis.	102735	391.0	397.0	6.0	290	0.155%	3.4	280

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Vein is mostly quartz with 40% sulfides in patches.								
			Sulfides consist of pyrite, sphalerite, chalcopyrite with minor galena, arsenopyrite and 1-2% tourmaline.	102736	397.0	400.0	3.0	670	1.107%	23.9	2614
				102737	400.0	401.0	1.0	0.299%	0.498%	85.6	12830
391.0	447.0	56.0	**DIORITE BRECCIA**								
			At 384 - 387.45, but many crisscrossing quartz / sulfides and sulfide veinlets.	102738	401.0	405.0	4.0	347	0.352%	11.4	59
			No preferred orientation, but angles to core axis generally less than 45 degrees.	102739	405.0	411.0	6.0	487	0.360%	13.3	1040
			6 inch (true width) massive sulfide vein at 397 at 25 degrees to core axis.								
			Sulfides include pyrite, chalcopyrite, sphalerite, + minor galena, arsenopyrite.	102740	411.0	421.0	10.0	672	0.175%	9.3	518
			400 - 400.5 feet = 4 inch massive sulfide vein at 35 degrees to core axis.								
			Most dominating sulfide = arsenopyrite with pyrite, galena, sphalerite.								
			408 feet = 1 inch quartz / sulfide vein at 10 degrees to core axis.								
			Core over interval is quite broken.								
			Strong smectite / sericite alteration.								
			DIORITE BRECCIA	102741	421.0	425.0	4.0	0.758%	0	171.1	5801
			421 - 430 consists of approximately 50% breccia and 50% quartz / sulfide vein, veinlets and gouge zones.	102742	425.0	430.0	5.0	0	0	32.2	1297
			Many sulfides present including pyrite, arsenopyrite, stibnite, pyrrhotite, chalcopyrite, galena, sphalerite.	102743	430.0	437.0	7.0	556	399	4.1	22
			End of Hole = 447 feet.	102744	437.0	447.0	10.0	863	998	7.6	21

Depth	Az	Dip
Collar	045 degrees	-88 degrees
222 feet	043.0 degrees	-88 degrees
422 feet	053.0 degrees	-87.5 degrees

IMPERIAL METALS CORPORATION
DDH GCS96-12

PROPERTY Giant Copper
ZONE: Invermay
CASING: 40 Feet
CORE SIZE: NQ 2
CORE STORAGE: Property
DRILLING COMPANY: Boisvenu F. Diamond Drilling
AZIMUTH: 64
LENGTH: 498'
DIP: -44.5
STARTED: October 24, 1996
COMPLETED: October 28, 1996
LOGGED BY: Steve Robertson
DATE LOGGE 26-Oct-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Ag (g/t)	Au (ppb)
0.0	40.0	40.0	**CASING**	102745	40.0	50.0	10.0	869	8.6	312
40.0	498.0	458.0	**DIORITE BRECCIA**	102746	50.0	60.0	10.0	782	3.0	33
			Moderately to strongly altered.							
			Core bleached 40 to 50 feet and then darkens below 50 feet with strong chlorite / actin alteration.	102747	60.0	70.0	10.0	1178	5.8	229
			Weak to moderate chalcopyrite with lessor pyrite mineralization (diss). Minor quartz flooding.	102748	70.0	80.0	10.0	315	1.5	26
			Strong limonite stain to 74 feet. Weak limonite 74 -110 feet. Trace below 110 feet.	102749	80.0	90.0	10.0	514	2.7	47
			Sand filled fault (12 inch zone) at 15 degrees to core axis at 74 feet.	102750	90.0	100.0	10.0	761	3.4	24
			Also weak sericite throughout.	102751	100.0	108.0	8.0	1617	17.2	56
			Core back to bleaching sericite and minor quartz flooding 100 feet - 133 feet zone has been flooded with aplite.	102752	108.0	118.0	10.0	642	12.4	25
			Moderate amount of very fine grained sulfide includes pyrite, chalcopyrite, arsenopyrite +	102753	118.0	128.0	10.0	668	14.8	26
			galena / sphalerite in quartz veinlets + stringers. Below 133 feet changes back to chlorite / actinolite alteration.	102754	128.0	133.0	5.0	609	7.8	41
			Some fragments still relatively fresh.	102755	133.0	143.0	10.0	868	7.3	99

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Ag (g/t)	Au (ppb)
				102756	143.0	153.0	10.0	258	1.2	23
			DIORITE BRECCIA	102757	153.0	163.0	10.0	328	1.1	27
			At approximately 150 feet start to see a lot more sulfides (chalcopyrite, sphalerite, galena) in quartz stringers + veinlets.	102758	163.0	173.0	10.0	354	1.5	10
			183 - 187 - Weakly faulted with silicification and bleaching at approximately 40 degrees to core axis.	102759	173.0	183.0	10.0	346	2.9	11
			Only minor pyrite and arsenopyrite.							
			At 187 feet 4 inch aplite dyke at 35 degrees to core axis.	102760	183.0	187.0	4.0	551	4.5	23
			Below 187 feet core very dark with chlorite / actinolite alteration with approximately 1% pyrite	102761	187.0	197.0	10.0	897	2.6	51
			and chalcopyrite diss in groundmass of breccia.	102762	192.0	207.0	15.0	391	1.1	18
			219 feet - 221 feet Aplite flooding at 35 degrees to core axis.	102763	207.0	211.0	4.0	508	1.4	16
			Associated bleaching and quartz flooding down to 226 feet.							
			Moderate pyrite, arsenopyrite, and chalcopyrite associated with quartz.	102764	211.0	219.0	8.0	686	3.8	23
			Patches of tourmaline in zone.							
			226 - 299 feet shows alternating patches of chlorite / actinolite and bleaching / silicification.	102765	219.0	225.7	6.7	289	2.7	12
			2 inch vein of tourmaline at 40 degrees to core axis at 230 feet.	102766	225.7	235.0	9.3	309	0.9	13
			Pyrrhotite content increases below 270 feet.	102767	235.0	245.0	10.0	332	1.4	19
				102768	245.0	255.0	10.0	1184	4.6	26
			DIORITE BRECCIA	102769	255.0	265.0	10.0	357	2.1	21
			299 - 303 feet - Intense actinolite with radiating blades up to 2 cm long.							
			Open spaces up tp 3 cm across have been filled wiht K-spar.	102770	265.0	275.0	10.0	1085	5.8	34
			2% sulfides (mostly pyrite with minor chalcopyrite, sphalerite, galena) with actinolite.	102771	275.0	285.0	10.0	410	2.0	13
			303 - 330.5 - as above, but actinolite and K-spar both less intense.	102772	285.0	292.0	7.0	343	1.8	14
			Silicification however, increases below 323 to 330.5 feet.	102773	292.0	299.0	7.0	455	1.4	14
			4 inch quartz vein (no sulfides) at 50 degrees to core axis at 329 feet.	102774	299.0	303.0	4.0	915	5.0	17

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Ag (g/t)	Au (ppb)
			Chalcopyrite mineralization increases below 330.5 feet despite decrease in silicification. Some quartz veinlets (0.5 cm) at approximately 50 degrees to core axis have 2 - 3 inch envelopes with very fine grain arsenopyrite.	102775	303.0	313.0	10.0	195	0.9	5
				102776	313.0	323.0	10.0	276	1.0	11
			Core is generally quite competent. Below 360 feet some patches up to 5 feet long show no breccia texture. Those zones are also relatively fresh and unmineralized.	102777	323.0	330.5	7.5	210	0.7	6
				102778	330.5	340.0	9.5	935	5.1	152
				102779	340.0	350.0	10.0	1156	3.4	22
				102780	350.0	360.0	10.0	191	0.6	4
			DIORTIE BRECCIA Rock is very leucocratic with bleaching, sericite, quartz flooding and stringers, talc, 390 feet to 428 feet. Quartz flooding and stringers carry associated pyrite +/- chalcopyrite and minor sphalerite, arsenopyrite.	102781	360.0	370.0	10.0	302	1.1	10
				102782	370.0	380.0	10.0	304	0.7	9
				102783	380.0	390.0	10.0	194	3.7	26
			Quartz stringers vary 5 degrees to 35 degrees to core axis. Intense quartz flooding over 7 inches at 423.5 feet.	102784	390.0	400.0	10.0	800	7.5	66
				102785	400.0	410.0	10.0	381	2.6	22
			Below 428 feet sudden change to dark colored rock with chlorite / actinolite alteration. Degree of alteration is weak and rock shows a lower degree of brecciation. Pyrite, chalcopyrite, pyrrhotite present with chlorite / actinolite alteration, but very weak.	102786	410.0	420.0	10.0	341	3.2	18
				102787	420.0	428.0	8.0	1742	15.0	40
				102788	428.0	438.0	10.0	166	1.6	10
				102789	438.0	448.0	10.0	123	0.5	3
				102790	448.0	458.0	10.0	198	0.7	18
				102791	458.0	468.0	10.0	357	1.2	9

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Ag (g/t)	Au (ppb)
			DIORITE BRECCIA	102792	468.0	478.0	10.0	295	0.9	10
			Dark, chlorite / actin altered very weak breccia with weak sulfides continues to bottom of hole at 498 feet.	102793	478.0	488.0	10.0	208	0.9	12
			Fragments relatively fresh.	102794	488.0	498.0	10.0	286	1.3	6
			End of Hole 498 feet.							

Depth	Az	Dip
Collar	064 degrees	-44.5 degrees
250 feet	071.5 degrees	-44 degrees
490 feet	074.5 degrees	-44.5 degrees

IMPERIAL METALS CORPORATION
DDH GCS96-13

PROPERTY Giant Copper **CASING:** 90 Feet
ZONE: Invermay **CORE SIZE:** NQ 2
CORE STORAGE: Property
DRILLING COMPANY: Boisvenu F. Diamond Drilling
AZIMUTH: 70 **STARTED:** October 29, 1996 **DATE LOGGED** 31-Oct-96
LENGTH: 725' **COMPLETED:** November 01, 1996 **ASSAYED BY:** Acme
DIP: -45 **LOGGED BY:** Steve Robertson

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	90.0	90.0	**CASING**	102795	90	100	10.0	0.333%	154	14.1	147
90.0	248.0	158.0	**DIORITE BRECCIA**	102796	100	107	7.0	595	206	3.7	40
			Matrix of breccia strong chlorite alteration.								
			Core very dark.	102797	107	114	6.5	661	396	4.4	15
			Moderate chalcopyrite with minor pyrite, galena, sphalerite in matrix.								
			Fragments are variably altered.								
			Core moderately broken.								
			Moderate amount of tourmaline.								
			Also sericite alteration.	102798	114	121	7.0	561	0.224%	8	90
			113.5 - 126 feet - distinctly more leucocratic.	102799	121	122	1.5	0.452%	1.129%	8	90
			More bleaching, increased sericite, no chlorite, minor carbonate and smectite.								
			Increase in arsenopyrite, galena, sphalerite, and pyrite.	102800	122	126	4.0	443	0	5.6	29
			Clay alteration and talc in interval has made rock soft and less competent.	102801	126	136	10.0	54	122	0.9	4
			Feldspar, quartz, carbonate, sulfide vein at 25 degrees to core axis at 126.5 feet.								
			6 inches true width.	102802	136	146	10.0	71	125	0.6	3
			126- 196 feet - Core turns melanocratic again with increased chlorite / actinolite and no bleaching.	102803	146	156	10.0	549	125	3.1	27
			Only find occasional sulfide in patches of chalcopyrite, pyrite, pyrrhotite, associated with	102804	156	166	10.0	198	91	0.6	4

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			tourmaline.								
				102805	166	176	10.0	512	126	1.1	7
				102806	176	186	10.0	132	103	0.7	3
			DIORITE BRECCIA	102807	186	196	10.0	94		0.7	2
			Sulfide mineralization is quite weak in chlorite / actinolite altered breccia to 196 feet.	102808	196	201	4.5	512	0.340%	9.9	19
			196 206.5 feet - Strong bleaching and sericite.	102809	201	203	2.0	62	0.2396%	1.9	288
			Sulfide mineralization is moderate (mostly pyrite).								
			200.5 - 202.5 feet is 90% tourmaline.	102810	203	207	4.0	156	0.232%	5.6	51
			Some very well formed crystal - still some open vugs.								
			Zone contains significant Molybdenum.	102811	207	216	9.5	402		2.1	14
			Below 206.5 feet, diorite breccia has same appearance as 126 - 196 feet.	102812	216	226	10.0	309		2.1	65
			Minor mafic dyke flooding 237 - 239 feet.	102813	226	236	10.0	79		0.4	4
			Bottom approximately 2 feet of diorite breccia is bleached, seriticized.								
				102814	236	246	10.0	105		0.4	4
248.0	277.5	29.5	**MAFIC FELDSPAR PORPHYRY DYKE**								
			Top contact at 20 degrees to core axis. - dyke is later than diorite breccia.	102815	246	248	2.0	265		2.2	10
			Only weak sericite of feldspars.	102816	248	252	4.0	1.747%	0.777%	118.4	331
			Vein of inconsistent thickness and orientation at 249 - 252 feet.								
			Pinches at 252 feet.	102817	252	262	10.0	575		3.9	17
			Veins consists of 60% tourmaline, 30% quartz, 8% chalcopyrite, 2% sphalerite + galena.								
			Varies 1 cm - 4 cm wide.								
			Near parallel to core axis.	102818	262	272	10.0	0.121%		5.9	17
277.5	295.5	18.0	**DIORITE BRECCIA**	102819	272	278	5.5	698		5	16
			This section not particularly well altered or mineralized.								
			Minor chalcopyrite along hairline fractures.	102820	278	287	9.0	262		1.7	25
295.5	350.0	54.5	**APLITE**	102821	287	296	9.0	58		0.4	3
			Top contact at approximately 45 degrees to core axis.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Contact is relatively planar and much more distinct than seen in other holes.	102822	296	305	9.5	0.617%	0.580%	73	876
				102823	305	315	10.0	0.330%	0.280%	31.3	175
			Aplite is moderately to strongly altered.								
			Areas of quartz flooding, sericite, tourmaline, diss sulfides including pyrite, chalcopyrite and widely diss, fine grain crystals of arsenopyrite.	102824	315	325	10.0	0.348%	0.283%	29.2	565
			Also minor galena, sphalerite can be associated with pyrite.								
			Most sulfides are in blotches of zones, but arsenopyrite is ubiquitous.	102825	325	335	10.0	0.588%	0.210%	35.6	446
			Sulfide patches increase in frequency and size toward bottom of interval at 348 feet one	102826	335	345	10.0	1.612%	0.394%	109.6	481
			sulfide patch is approximately 10 cm in diameter.	102827	345	350	5.0	1.344%	1.787%	193.2	335
350.0	359.0	9.0	**MAFIC FELDSPAR PORPHYRY DYKE**	102828	350	359	9.0	293	0.107%	3.7	32
			Top contact very clean and 70 degrees to core axis where unit intrudes aplite.	102829	359	365	6.0	121	228	1.1	6
			Within dyke fabric 50 degrees to core axis very fine grained with fresh feldspar phenocrysts.								
			Mesocratic.								
			Bottom continues 50 degrees to core axis.	102830	365	375	10.0	62	172	0.6	4
			No sulfides.								
359.0	725.0	366.0	**DIORITE BRECCIA**	102831	375	385	10.0	221		1.1	5
			Top 6 feet flooded and bleached in spots with clay alteration.								
			Rare sulfides.	102832	385	395	10.0	804		6	36
			Below 365 feet core very competent.	102833	395	405	10.0	570		24.8	241
			Moderate chlorite/ actinolite alteration with rare sulfides.								
			Weak breccia texture.								
			Small structures at 386, 398 feet and 403 feet at approximately 40 degrees to core axis.	102834	405	415	10.0	130		0.5	4
			One at 398 feet fault has approximately 6 inches of gouge.								
			Other two zones are moderately bleached over approximately 1.5 feet.	102835	415	425	10.0	287		0.8	6
				102836	425	435	10.0	140		0.9	5
			2 cm wide structure at 453.5 feet at 30 degrees to core axis with bleaching.								
			453 - 455 feet minor arsenopyrite.	102837	435	445	10.0	201		0.9	27

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Below 465 core becomes more altered with increased silicification, bleaching, tourmaline.	102838	445	453	7.5	288		1.4	5
				102839	453	455	2.5	520		18.2	338
			Below 492 feet core is strongly silicified and bleached with only minor chlorite / actinol.								
			Rare sulfides.	102840	455	465	10.0	330		1	11
			3 inch fault zone at 499 feet at 60 degrees to core axis with strong arsenopyrite.	102841	465	475	10.0	142		0.6	262
			6 - 8 inches on either side.								
			Chalcopyrite and pyrite present above fault.								
				102842	475	485	10.0	567		4	33
			DIORITE BRECCIA	102843	485	492	7.0	188		0.8	8
			Below 510 feet, approximately 20% of core is patches of chlorite / actinolite+E130, but all of core	102844	492	498	6.0	500	0.144%	4.2	57
			been overprinted by moderate silicification / bleaching.								
			Breccia is far more fragment dominated than higher in hole.	102845	498	500	1.5	0.375%	0.253%	70.6	1455
			Occasional patches and hairline fractures of pyrite / chalcopyrite (with lessor galena,	102846	500	510	10.5	533		2.1	22
			sphalerite).								
			Sulfides increase at approximately 540 feet, especially sphalerite.	102847	510	520	10.0	561		1.4	19
			Healed fault at 586 feet at 10 degrees to core axis has been healed with quartz (1 cm wide	102848	520	530	10.0	596		1.4	71
			vein) with minor sulfide (pyrite).	102849	530	540	10.0	370	0.131%	2.7	66
			Vuggy quartz vein 601 - 602 feet at 60 degrees to core axis.	102850	540	550	10.0	376		1.2	21
			Vugs several centimeters across.								
			Quartz 80%, tourmaline 5%, pyrite 5%, arsenopyrite 7%, sphalerite + galena + pyrrhotite,	102851	550	560	10.0	338		0.7	23
			chalcopyrite 3%.								
			Vuggy quartz vein 620 - 621.5 feet at 15 degrees to core axis.	102852	560	570	10.0	400		1.9	20
			10% quartz, 70% pyrite, 10% sphalerite, pyrrhotite, galena, chalcopyrite, arsenopyrite 10%.								
			True width = 4.5 inches.	102853	570	580	10.0	542		1.5	56
			Small quartz sulfide stringers at low angles to core axis in area of 600 feet.	102854	580	590	10.0	311		1.1	28
			DIORTIE BRECCIA	102855	590	599	9.0	244		13.3	18

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Strong patches of smectite 615 feet to 635 feet.								
				102856	599	601	2.0	161	0.142%	3.6	48
			Silicification decreases below 647 feet.								
				102857	601	605	4.0	736	0.184%	11.4	1760
			Below 660 feet rock has a stronger breccia texture and appears to be matrix dominated in some zones.	102858	605	615	10.0	423	0.207%	2.8	77
			The rock color darkens below 660 feet as well as the matrix is strongly chlorite/actinolite altered.	102859	615	620	5.0	601	0.437%	5.8	133
			Weak chalcopyrite, but up to 1% pyrite.	102860	620	622	1.5	0.144%	8.531%	24.9	1530
			Local patches of sphalerite and galena.								
				102861	622	631	9.5	613	0.108%	8.5	132
				102862	631	641	10.0	299		1.1	16
				102863	641	651	10.0	120		0.6	9
				102864	651	661	10.0	135		0.3	6
				102865	661	671	10.0	272		1.3	10
				102866	671	681	10.0	451		3	25
			DIORITE BRECCIA	102867	681	691	10.0	109		0.5	3
			Core appears quite consistent 660 - 725 feet.								
				102868	691	701	10.0	115		0.5	7
			0.5 inch quartz veinlet at 15 degrees to core axis at 719.5 feet with 20% arsenopyrite.	102869	701	711	10.0	169		1.2	6
			End of Hole 725 feet.	102870	711	721	10.0	368		3	702

Depth	Az	Dip
Collar	070 degrees	-45 degrees
Acid test	700 feet	-49 degrees

IMPERIAL METALS CORPORATION
DDH GCS96-14

PROPER Giant Copper
ZONE: Invermay

CASING: 80 Feet
CORE SIZE: NQ 2
CORE STORAGE: Property
DRILLING COMPANY: Boisvenu F. Diamond Drilling
STARTED: November 1, 1996
COMPLETED: November 3, 1996
LOGGED BY: Steve Robertson

AZIMUTH 50
LENGTH: 676'
DIP: -43

DATE LOGGED: #######
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	80.0	80.0	**CASING**	102872	80.0	90.0	10.0	166	0.557%	4.4	114
80.0	317.0	237.0	**DIORITE BRECCIA**	102873	90.0	100.0	10.0	188	0.204%	2.3	12
			Core very badly broken to 117 feet and moderately broken below that.	102874	100.0	110.0	10.0	155	0.124%	2	18
			Very strong breccia - matrix dominated - Average fragment size greater than 4 cm .	102875	110.0	120.0	10.0	137		1.2	5
			Strongly chlorite / actinolite altered with some small zones of bleaching.								
			Diss pyrite in matrix less than 0.5% with trace chalcopyrite.	102876	120.0	130.0	10.0	221		1	17
				102877	130.0	140.0	10.0	133		0.9	8
			Small fault near parallel to core axis. 83 - 88 with minor gouge and increase sulfides.	102878	140.0	150.0	10.0	145		1.1	9
			Many joint surfaces are curved (5% of them) and some show slicks indicating movement.	102879	150.0	160.0	10.0	616		1.8	38
			Serpentine coating on this surfaces.	102880	160.0	170.0	10.0	227		1.1	4
			Core more competent below 160 feet and is weakly silicified in spots.	102881	170.0	180.0	10.0	216		0.9	15
			Chalcopyrite mineralization increases, but still weak below 190 feet.	102882	180.0	190.0	10.0	485		1.7	13
				102883	190.0	200.0	10.0	408		1.9	15
			DIORITE BRECCIA	102884	200.0	210.0	10.0	746		3.2	95
			Core is very consistent in appearance, alteration and mineralization below 160 feet, but								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			lightens with decreasing chlorite / actinolite and increasing silicification, sericite at approximately 235 feet.	102885	210.0	220.0	10.0	0.118%		7.3	116
			Still dominated by chlorite / actinolite though.	102886	220.0	230.0	10.0	237		1.2	295
			Quartz veinlet at 30 degrees to core axis at 242 feet.	102887	230.0	240.0	10.0	812		3.1	38
			Some diorite fragments up to 2.5 feet across, but most fragments angular and are 0.3 inches across.	102888	240.0	250.0	10.0	510		1.4	13
				102889	250.0	260.0	10.0	291		1.4	29
			Sulfides restricted to matrix of breccia.	102890	260.0	270.0	10.0	395		1.5	36
			At 270 feet increase in chalcopyrite mineralization, but not other sulfides.	102891	270.0	280.0	10.0	726		2.2	43
			Core very dark (chlorite 290 feet to 317 feet).	102892	280.0	290.0	10.0	0.123%		5.2	71
317.0	326.0	9.0	**APLITE**								
			No distinct contacts present - strongly aplite flooded zone. Badly broken.	102893	290.0	300.0	10.0	526		2.7	86
			Intense sericite alteration. Appears to be in fault zone at approximately 5 degrees to core axis. Moderate diss chalcopyrite.	102894	300.0	310.0	10.0	846		3.8	71
				102895	310.0	317.0	7.0	535		2.2	91
326.0	342.3	16.3	**DIORITE BRECCIA**								
			Strong chalcopyrite 326 - 336.	102896	317.0	326.0	9.0	920		2.9	39
			Dark chlorite alteration overprinted by silicification / bleaching and then a later event of ankerite along hairline fractures.	102897	326.0	336.0	10.0	0.342%		18.6	691
				102898	336.0	342.3	6.3	0.250%		11.6	179
342.3	354.5	12.2	**MAFIC FELDSPAR DYKE**								
			Very irregular top and bottom contacts at approximately 60 degrees to core axis.	102899	342.3	348.0	5.7	870		5.4	34
			Feldspar phenocrysts fresh. Contains some xenoliths of mineralized quartz breccia.	102900	348.0	354.5	6.5	341		3.1	16
				102901	354.5	365.0	10.5	0.127%	0.136%	9.1	58

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
354.5	573.0	218.5	**DIORITE BRECCIA** Core generally dark from chlorite alteration, but has lighter patches from silicification/	102902	365.0	375.0	10.0	779	0.258%	7.1	138
			bleaching and ankerite. Lighter zones at 354.5 - 380, 401 - 418.	102903	375.0	385.0	10.0	932		4.6	56
			Chalcopyrite mineralization relatively strong 354.5 - 418.	102904	385.0	395.0	10.0	0.130%		3.1	64
			0.5 inch irregular quartz veinlet approximately parallel to core axis from 367 - 370 with strong sphalerite and lessor chalcopyrite.	102905	395.0	401.0	6.0	0.142%		3.5	47
				102906	401.0	410.0	9.0	940		2.8	68
			Core is very dark (chlorite) and moderately broken 418 to 435.5 feet.	102907	410.0	418.0	8.0	0.195%		5.3	1161
			DIORITE BRECCIA Color changes from very dark to very light at 435.5 feet.	102908	418.0	428.0	10.0	452		1.8	19
			Light coloured rock is innundated with aplite material.	102909	428.0	435.5	7.5	202		0.7	9
			Strong sericite - Moderately strong chalcopyrite with sphalerite and arsenopyrite proximal to	102910	435.5	445.0	9.5	0.125%		4.8	159
			small quartz veinlets at 20 degrees to core axis and in quartz flooded zones.	102911	445.0	455.0	10.0	0.105%	0.170%	14.6	238
				102912	455.0	465.0	10.0	0.116%		5.7	111
			Remnant diorite breccia texture can still be seen throughout interval. Local zones of smectite and ankerite.	102913	465.0	475.0	10.0	637		2.5	75
				102914	475.0	485.0	10.0	0.129%	0.155%	16.4	322
			1 inch (true width) gouge and arsenopyrite zone at 40 degrees to core axis at 484 feet. Similar, but smaller (0.3 inch) zones to core axis at 487 - 489.	102915	485.0	490.5	5.5	936	0.174%	17.1	426
				102916	490.5	500.0	9.5	0.124%		6.2	57
			Core very dark 490.5 - 516 (as seen at 418 - 435.5) with strong chlorite and actinOLITE (does not equal biotite). Moderately strong chalcopyrite mineralization in matrix of breccia.	102917	500.0	510.0	10.0	0.258%		10.3	81
				102918	510.0	516.0	6.0	666		3	29
			Sulfide strongly dominated by chalcopyrite with lessor pyrite and pyrrhotite.	102919	516.0	526.0	10.0	837		2.5	36

From (ft)	To (ft)	Length (ft)	Description
			DIORITE BRECCIA At 516 feet breccia is suddenly far less altered although it continues to be mineralized. 516 - is by far the freshest example of breccia seen in core this year. Matrix is medium grained, diorite composition intrusive material with approximately 1% diss chalcopyrite. Average fragments are 1 - 2 cm across and angular. Core becomes moderately silicified below 541 feet. Strongly chalcopyrite mineralized 541 - 551 feet. Below 555 feet core has strong sericite alteration.
573.0	582.5	9.5	**APLITE** Top contact at 40 degrees to core axis, bottom at 45 degrees to core axis. Moderate diss chalcopyrite mineralization associated with pyrrhotite +/- pyrite. Dyke is medium grained with feldspar to 2 mm across.
582.5	641.5	59.0	**DIORITE BRECCIA** Breccia 582.5 - 600 is strongly aplite flooded. With patches of chlorite, chalcopyrite, pyrite, pyrrhotite.
			DIORITE BRECCIA 600 - 641.5 Breccia is much darker with strong chlorite / actinolite / biotite alteration of matrix. Most fragments still relatively fresh. Core very competent. Minor calcite associated with sulfides chlorite / actinolite / biotite. Some patches of bladed actinolite with crystals up to 1 inch long.
641.5	646.0	4.5	**APLITE** No distinctive top contact - Bottom continuous at 25 degrees to core axis. Strong sericite alteration.

Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
102920	526.0	536.0	10.0	0.154%		4	91
102921	536.0	541.0	5.0	0.236%		6	160
102922	541.0	551.0	10.0	0.159%		8.7	86
102923	551.0	561.0	10.0	0.152%	0.187%	7.5	129
102924	561.0	570.0	9.0	0.105%		2.8	67
102925	570.0	573.0	3.0	0.193%		4.7	195
102926	573.0	582.5	9.5	0.128%		3.1	156
102927	582.5	592.0	9.5	0.147%		3.8	151
102928	592.0	600.0	8.0	849		2.1	269
102929	600.0	610.0	10.0	989		3.5	221
102930	610.0	620.0	10.0	951		3.3	64
102931	620.0	630.0	10.0	525		1.5	27
102932	630.0	637.5	7.5	675		2.1	36
102933	637.5	641.5	4.0	0.197%		7	401
102934	641.5	647.5	6.0	785		4.7	81
102935	647.5	657.5	10.0	611		2.4	28
102936	657.5	667.0	9.5	490		1.7	44
102937	667.0	676.0	9.0	676		2.4	40

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
646.0	676.0	30.0	**DIORITE BRECCIA** Top 1.5 inch strong aplite flooding. Below 647.5 core is as 600 - 641.5. Strongly silicified, with moderate chalcopyrite mineralization. Increase in sphalerite mineralization with chalcopyrite in this zone. Hole shut down due to mechanical problems and weather. End of Hole = 676 feet.								

Depth	**Az**	**Dip**
Collar	050 degrees	-43 degrees Dip
Acid Test	640 degrees	-49 degrees uncorrected

IMPERIAL METALS CORPORATION
DDH GCS96-15

PROPERTY Giant Copper
ZONE: Invermay

CASING: 81 Feet
CORE SIZE: NQ 2
CORE STORAGE: Property
DRILLING COMPANY: Boisvenu F. Diamond Drilling

AZIMUTH: 0
LENGTH: 681'
DIP: -90

STARTED: November 5, 1996
COMPLETED: November 7, 1996
LOGGED BY: Steve Robertson

DATE LOGGED: 6-Nov-96
ASSAYED BY: Acme

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
0.0	81.0	81.0	**CASING**	102938	81.0	88.0	7.0	967		8.6	163
81.0	517.0	436.0	**DIORITE BRECCIA**	102939	88.0	95.0	7.0	0.121%		3.9	9
			Unit weakly broken to 107 feet, but more competent below that.	102940	95.0	101.0	6.0	189		1	8
			Bleached and clay altered to 88 feet then relatively unaltered to 101 feet.	102941	101.0	111.0	10.0	462		2.5	36
			Below 101 feet rock is very dark with intense biotite, chlorite / actinolite alteration.								
			Weak chalcopyrite mineralization in matrix of breccia.	102942	111.0	121.0	10.0	759	0.306%	6.7	40
			Below 117 feet, breccia texture is almost obliterated by intense hydrothermal biotite.	102943	121.0	131.0	10.0	462		2.3	15
			135 - 145 intensely bleached, quartz flooded and clay altered.	102944	131.0	135.0	4.0	242		2.3	7
			3 inch wide gouge filled zone at 50 degrees to core axis at 144.5.	102945	135.0	145.0	10.0	269	0.226%	5.5	15
			Approximately 0.5% arsenopyrite and pyrite over intervals.								
			Smectite, sericite, ankerite within zone.	102946	145.0	155.0	10.0	423		2.3	8
			145 - 180 feet as seen above 135 feet.	102947	155.0	165.0	10.0	282		1.7	24
			Biotite alteration decreases gradually down hole.								
				102948	165.0	175.0	10.0	846		4.4	9
			180 - 185 Bleached zone as 135 - 145 but less intense.	102949	175.0	180.0	5.0	235	0.113%	2.3	11
			DIORITE BRECCIA	102950	180.0	185.0	5.0	459	0.532%	4.1	98
			Below 185 feet rock has same appearance as above 180 feet.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Chalcopyrite is commonly found along hairline fracture and in patches of diss sulfides.	102951	185.0	195.0	10.0	341		1.8	39
				102952	195.0	205.0	10.0	664		2.7	20
			This interval of core is very consistent in terms of mineralization and alteration.	102953	205.0	215.0	10.0	648		2	29
			Much of sulfides along hairline fracture with a 0.5 inch veinlet at 10 degrees to core axis.at	102954	215.0	225.0	10.0	731		3.7	27
			266 feet, but most of sulfides is diss throughout matrix.	102955	225.0	235.0	10.0	534		2.6	8
			Core slightly more broken below 267.	102956	235.0	245.0	10.0	978		4.1	50
			Below 267 core gradually becomes more leucocratic with less biotite and more sericite,								
			chlorite / actinolite.	102957	245.0	255.0	10.0	0.181%		6.8	89
			Amount of chalcopyrite mineralization appears to decrease slightly as well.	102958	255.0	265.0	10.0	0.102%		4.4	25
				102959	265.0	275.0	10.0	0.370%		11.1	1167
			Minor bleaching in interval of 295 - 305.								
			Bleaching gradually decreased down to 315 feet.	102960	275.0	285.0	10.0	413		2.2	32
				102961	285.0	295.0	10.0	506		2.3	20
			DIORITE BRECCIA	102962	295.0	305.0	10.0	569		2.9	214
			Below 315 feet, core is alternating sections of moderate chlorite / actinolite / biotite alteration								
			and bleaching and silicification.	102963	305.0	315.0	10.0	584		3.2	35
			The bleaching / silicification generally overprints the darker alteration in zones where fluids have	102964	315.0	325.0	10.0	238		1.3	192
			migrated into rocks from large fractures.								
				102965	325.0	335.0	10.0	203		0.9	89
			There is no obvious link of sulfide mineralization with one alteration type.	102966	335.0	345.0	10.0	380		2.1	603
			Although changes in alteration very gradual, some bleached zones are 340-345.5,	102967	345.0	355.0	10.0	361		1.8	123
			347-348.5, 360-363.								
			368 onward turns to strongly silicified with some bleaching and sericite and occasional small	102968	355.0	365.0	10.0	0.142%		5.7	75
			patches of actinolite (+/- chlorite).								
			Fragments have ghostly appearance due to silicification.	102969	365.0	375.0	10.0	687		2.5	91
			Sulfides dominated by chalcopyrite with abundant pyrite, occasional pyrrhotite and rare	102970	375.0	385.0	10.0	0.100%		3.4	70
			arsenopyrite.								
			Occasional fleck or small patch of tourmaline.	102971	385.0	395.0	10.0	966		3.1	160
				102972	395.0	405.0	10.0	0.203%		14	123

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
				102973	405.0	415.0	10.0	0.113%		4	32
			DIORITE BRECCIA	102974	415.0	425.0	10.0	548		3.1	134
			436 - 455 feet approximately 50% of interval appears light creamy brown from ankerite / clay alteration.	102975	425.0	435.0	10.0	0.173%		11.7	84
			Some parts of interval also strongly silicified.	102976	435.0	445.0	10.0	625		2.4	38
			Below 455 feet - Very strong sericite and silicification in patches.	102977	445.0	455.0	10.0	0.112%	0.146%	8.4	84
				102978	455.0	465.0	10.0	0.105%		6.5	25
			All rock below 368 feet looks to be aplite flooded, but no aplite dyke observed.	102979	465.0	475.0	10.0	0.164%		6.4	68
			At 470 feet, 0.5 inch gougy zone at 15 degrees to core axis.	102980	475.0	485.0	10.0	0.143%		5.7	42
			Core becomes badly broken and intensely altered 499 - 511 due to a series of small gougy	102981	485.0	492.0	7.0	0.140%		4.8	91
			faults near parallel to core axis.	102982	492.0	499.0	7.0	0.116%		5.5	138
			Strong sericite / bleaching / silicification ends at 517 feet.	102983	499.0	505.0	6.0	0.180%	0.162%	40.5	400
517.0	535.0	18.0	**DIORITE**	102984	505.0	511.0	6.0	0.108%		23.9	700
			Unbrecciated and only weak chlorite alteration.								
			Minor sulfides toward bottom as breccia gradually starts.	102985	511.0	517.0	6.0	119		3.2	58
535.0	544.0	9.0	**DIORITE BRECCIA**	102986	517.0	527.0	10.0	225		1.1	22
			Breccia is only weakly altered with sericite of feldspar and weak chlorite.								
			Minor sulfides (mostly chalcopyrite).	102987	527.0	537.0	10.0	929		2.8	42
544.0	681.0	137.0	**DIORITE**	102988	537.0	544.0	7.0	0.260%		6.9	139
			Below 544, diorite is non-breccia.								
			Melanocratic.								
			Chlorite alteration of mafics, medium grain, occasional flecks of biotite.	102989	544.0	554.0	10.0	247		1.7	30
			Core moderately competent.	102990	554.0	564.0	10.0	113		0.3	6
			Only rare sulfides - usually along fracture or joints.								

From (ft)	To (ft)	Length (ft)	Description	Sample #	From (ft)	To (ft)	Width (ft)	Cu (ppm)	Zn (ppm)	Ag (g/t)	Au (ppb)
			Joints quite planar and usually widespaced.	102991	564.0	574.0	10.0	98		0.3	10
				102992	574.0	584.0	10.0	72		0.3	6
				102993	584.0	594.0	10.0	249		0.8	12
				102994	594.0	604.0	10.0	124		0.4	4
				102995	604.0	614.0	10.0	106		0.3	5
				102996	614.0	624.0	10.0	179		0.4	4
				102997	624.0	634.0	10.0	177		0.3	7
			DIORITE	102998	634.0	644.0	10.0	650		1.6	32
			This unit is very consistent below 544 feet.	102999	644.0	654.0	10.0	339		1.1	14
			2 zones of bleaching around fractures at near parallel to core axis at 634 - 639 and 669 - 673.	102300	654.0	664.0	10.0	202		0.8	5
			2 - 4 mm wide tourmaline stringer 669 - 674.	102301	664.0	674.0	10.0	230		1.2	15
			677 - 681 feet - Core is weakly altered with silicification and minor flecks of epidote. Rare pyrite.	102302	674.0	681.0	7.0	64		0.6	3
			End of Hole = 681 feet.								
			Sperry - Sun not working again.								
			Acid Test at 467 feet = -88 degrees.								

APPENDIX C

**IP Pseudosections
for the
Invermay Grid**

LINE : 8400 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

NA A

DEPTH POINT

N = 1, 2, 3, 4, ...

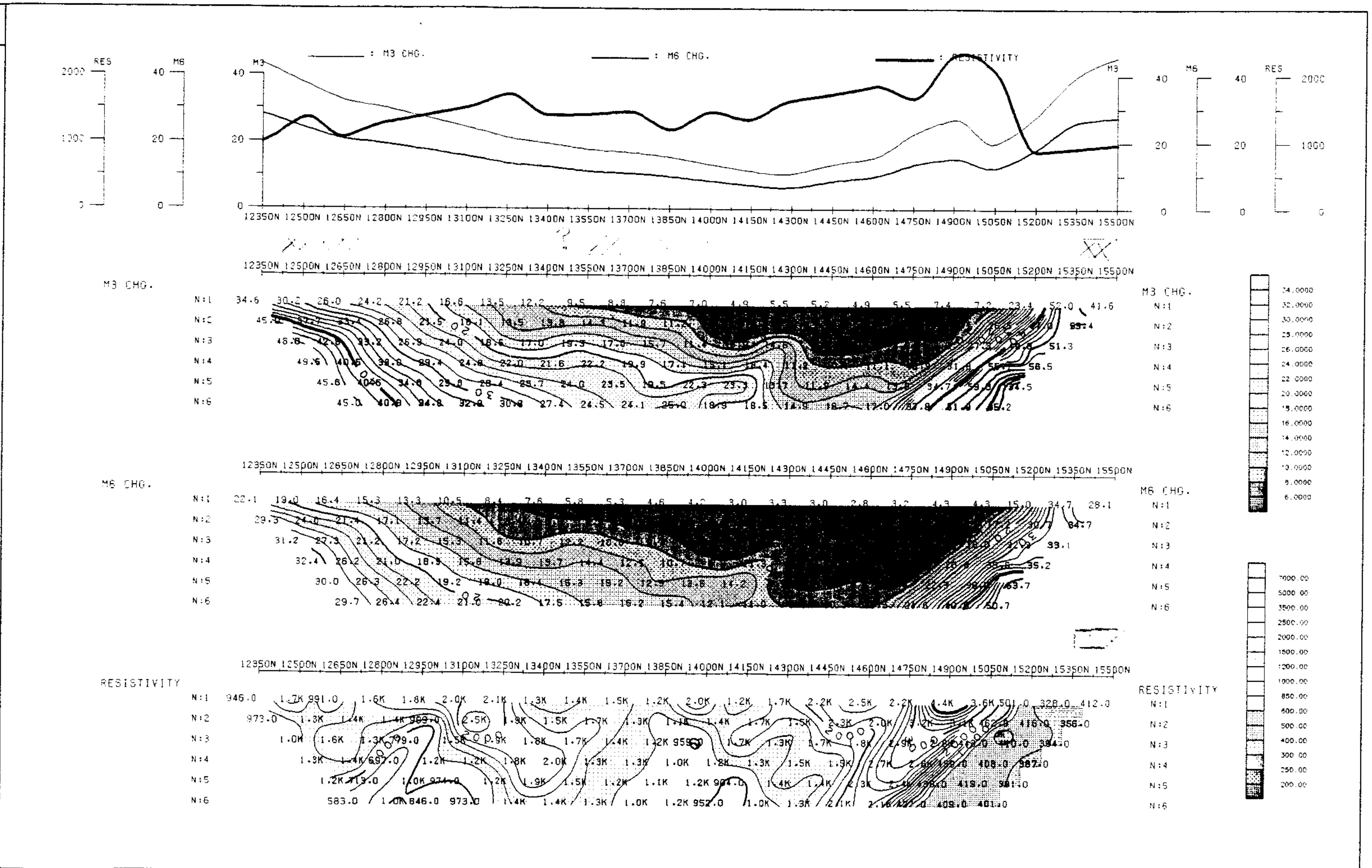
"A" SPACING = 150.0 FEET

Chargeability in milliseconds

window M3 [240ms - 320ms]

window M6 [560ms - 720ms]

Resistivity in Ohm-metres



IMPERIAL METALS CORP.

GIANT COPPER PROJECT

HOPE, BC

DATE : AUGUST 1996 | REF : NONE

SCALE = 1: 5000

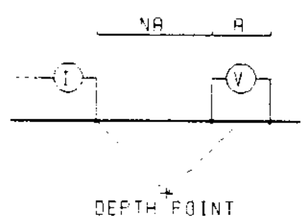
SJ GEOPHYSICS LTD.

LINE : 8000 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...

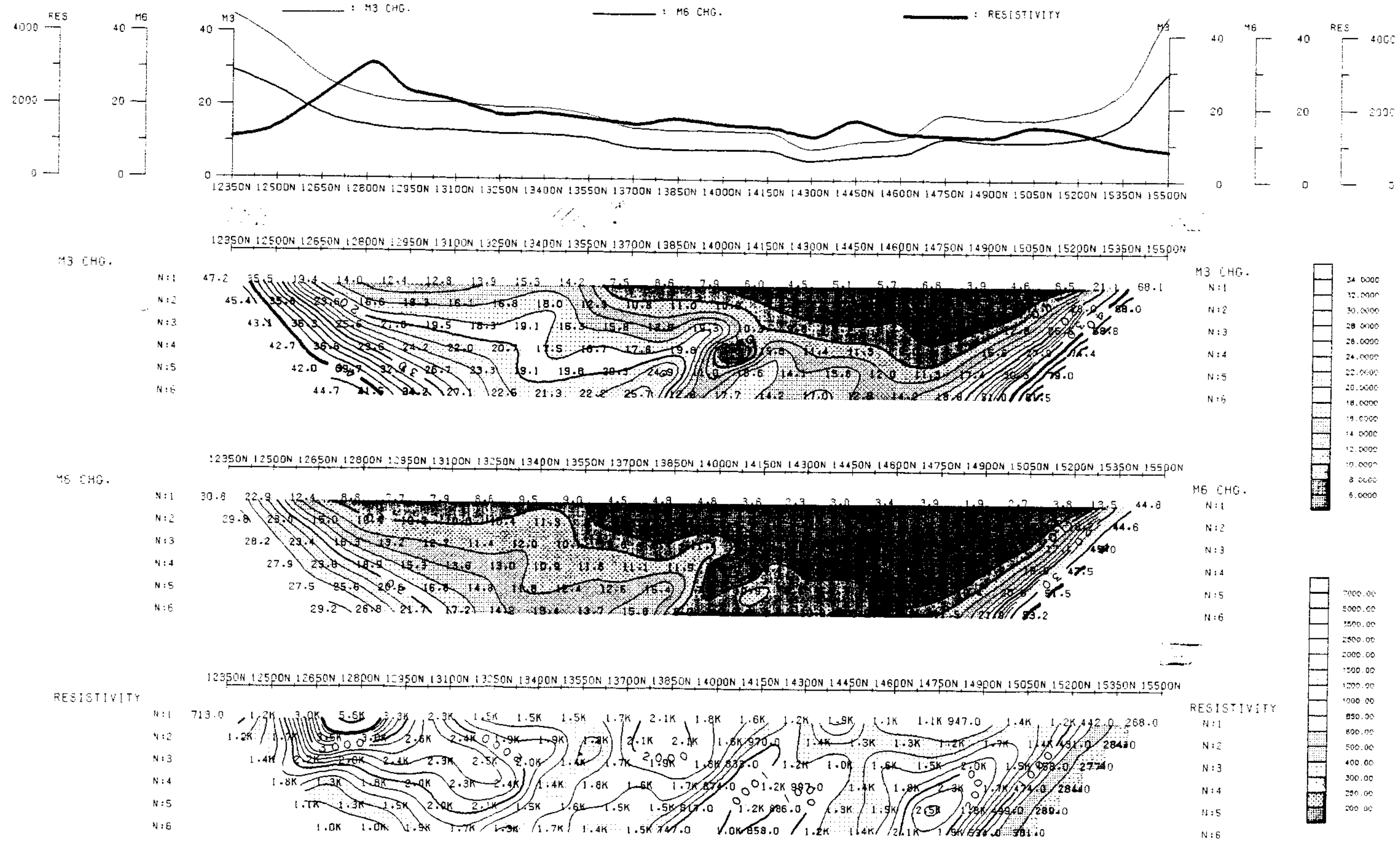
"A" SPACING = 150.0 FEET

Chargeability in milliseconds

Window M3 [240ms - 320ms]

Window M6 [550ms - 720ms]

Resistivity in Ohm-metres



IMPERIAL METALS CORP.

GIANT COPPER PROJECT

HOPE, BC

DATE : AUGUST 1996 | REF : NONE

SCALE = 1: 5000

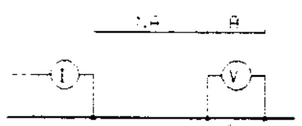
SJ GEOPHYSICS LTD.

LINE : 7600 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



DEPTH POINT

N = 1, 2, 3, 4, ...
"A" SPACING = 150.0 FEET
Chargeability in milliseconds
window M3 [240ms - 320ms]
window M6 [560ms - 720ms]

Resistivity in Ohm-metres

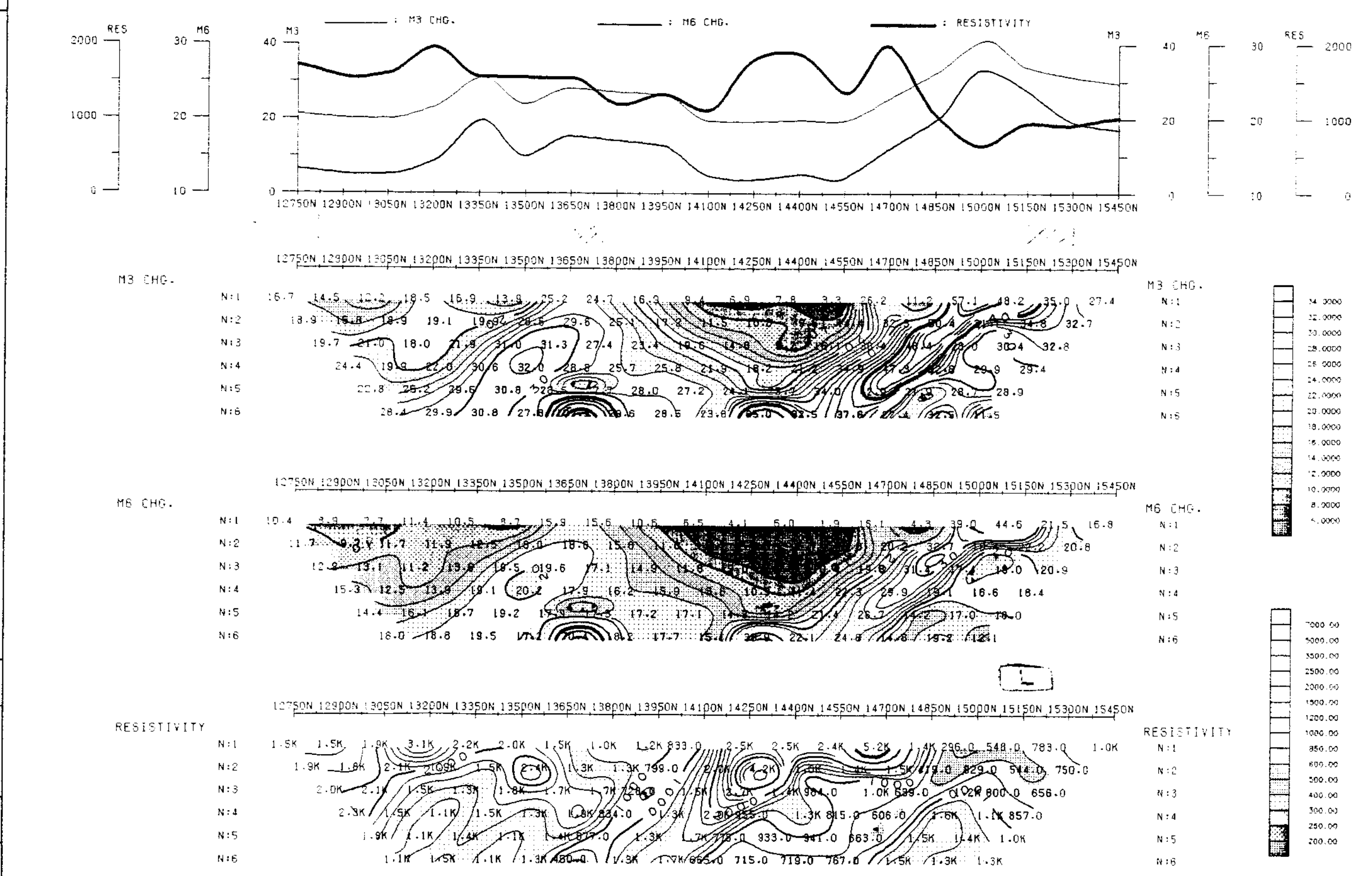
IMPERIAL METALS CORP.

GIANT COPPER PROJECT
HOPE, BC

DATE : AUGUST 1996 | REF : NONE

SCALE = 1: 5000

SJ GEOPHYSICS LTD.



LINE : 7200 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

DEPTH POINT

N = 1, 2, 3, 4, ...
"A" SPACING = 150.0 FEET
Chargeability in milliseconds
window M3 [240ms – 320ms]
window M6 [560ms – 720ms]

Resistivity in Ohm-metres

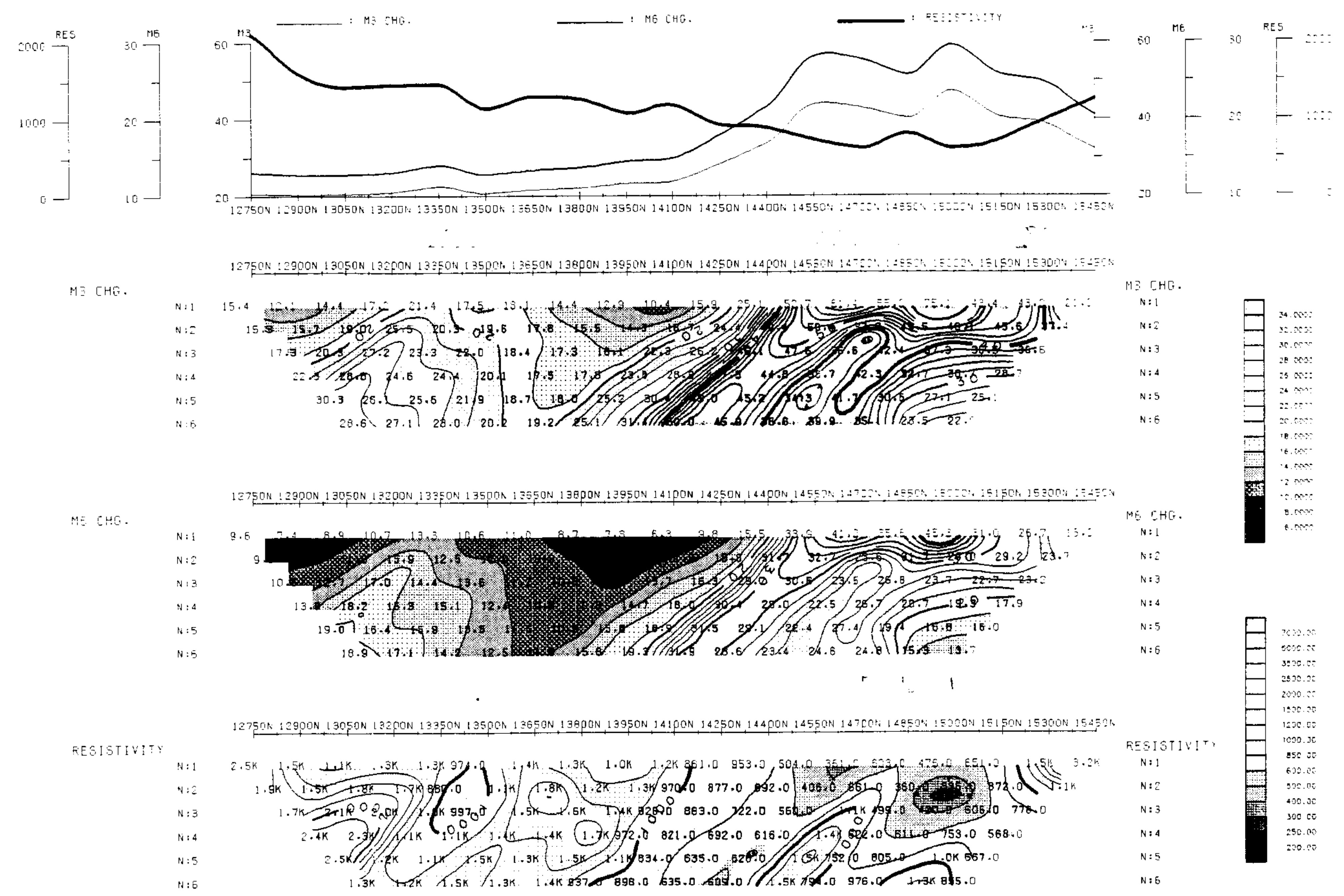
IMPERIAL METALS CORP.

GIANT COPPER PROJECT
HOPE, BC

DATE : AUGUST 1996 REF : NONE

SCALE = 1: 5000

SJ GEOPHYSICS LTD.

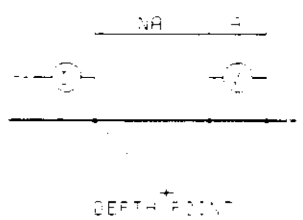


LINE : 6800 E

PSEUDOSECTION

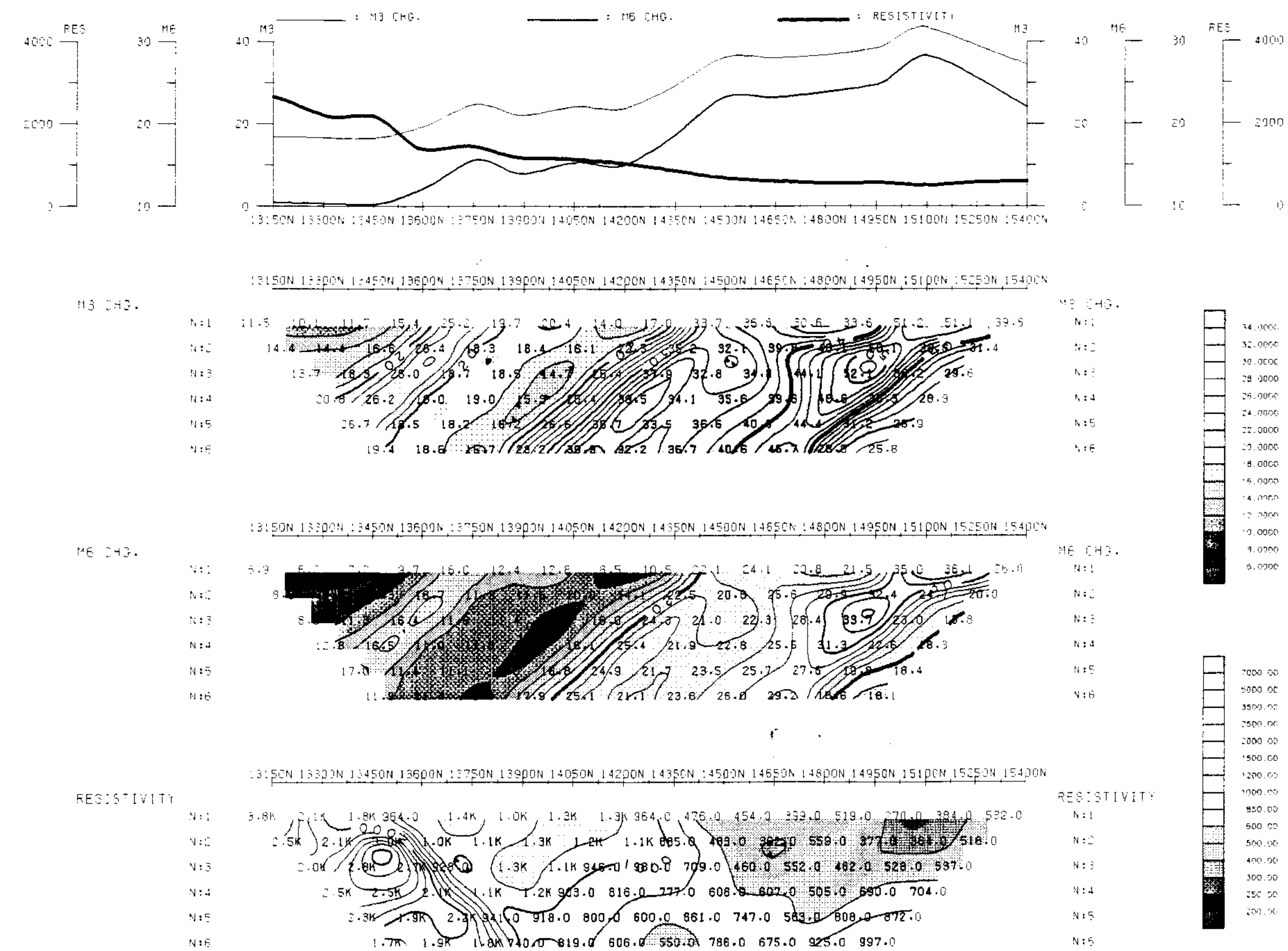
INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 150.0 FEET
Chargeability in milliseconds
window M3 (240ms - 320ms)
window M6 (560ms - 720ms)

Resistivity in Ohm-metres



IMPERIAL METALS CORP.

GIANT COPPER PROJECT

HOPE, BC

DATE : AUGUST 1996 | REF : NONE

SCALE = 1: 5000

SJ GEOPHYSICS LTD.

LINE : 6400 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

DEPTH POINT

N = 1, 2, 3, 4, ...

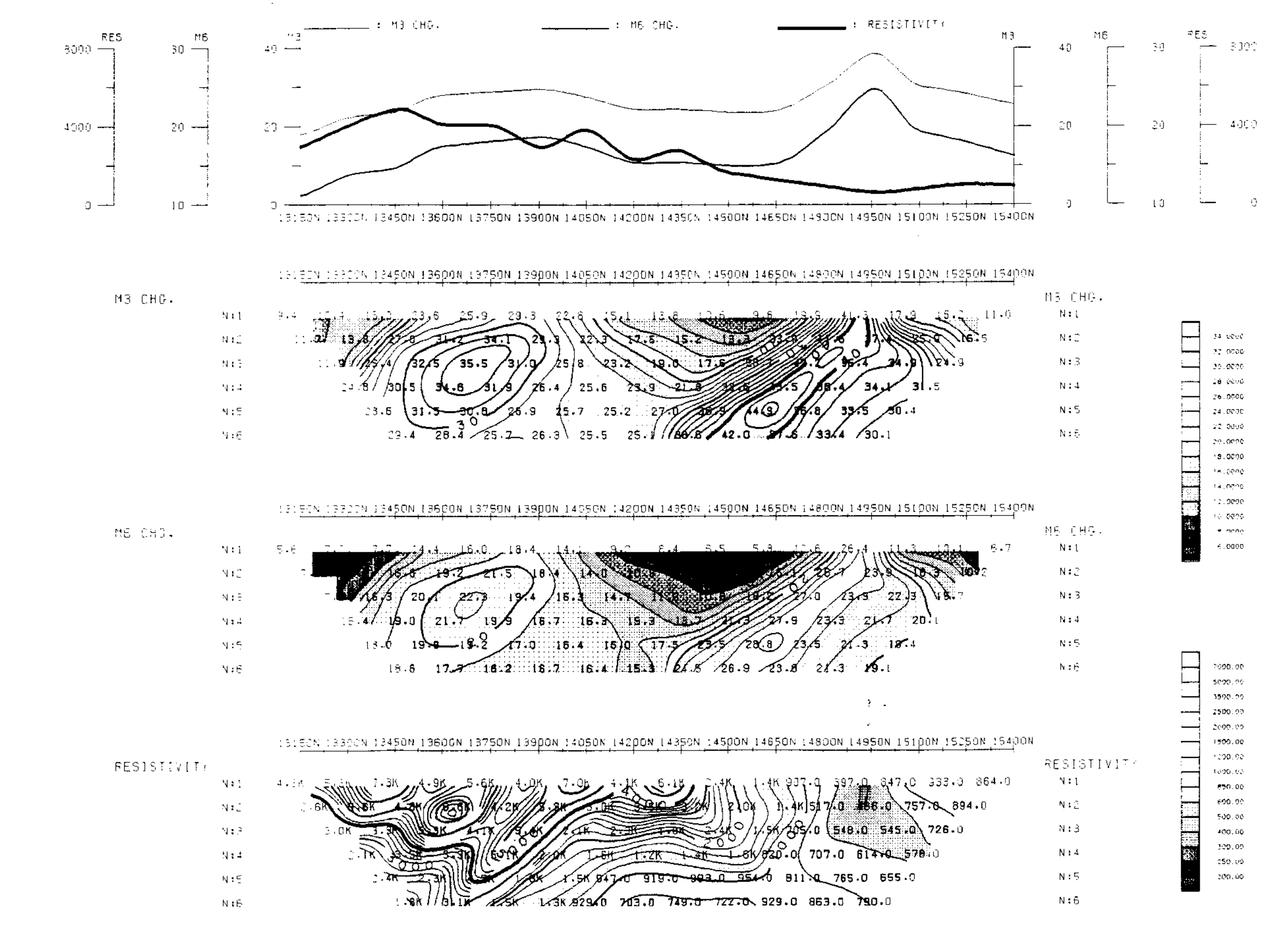
"A" SPACING = 150.0 FEET

Chargeability in milliseconds

window M3 [240ms – 320ms]

window M6 [560ms – 720ms]

Resistivity in Ohm-metres



IMPERIAL METALS CORP.

GIANT COPPER PROJECT

HOPE, BC

DATE : JULY 1996 | REF : NONE

SCALE = 1: 5000

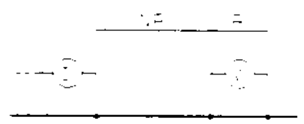
SJ GEOPHYSICS LTD.

LINE : 6000 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



DEPTH POINT

N = 1, 2, 3, 4, ...

IMPERIAL METALS CORP.

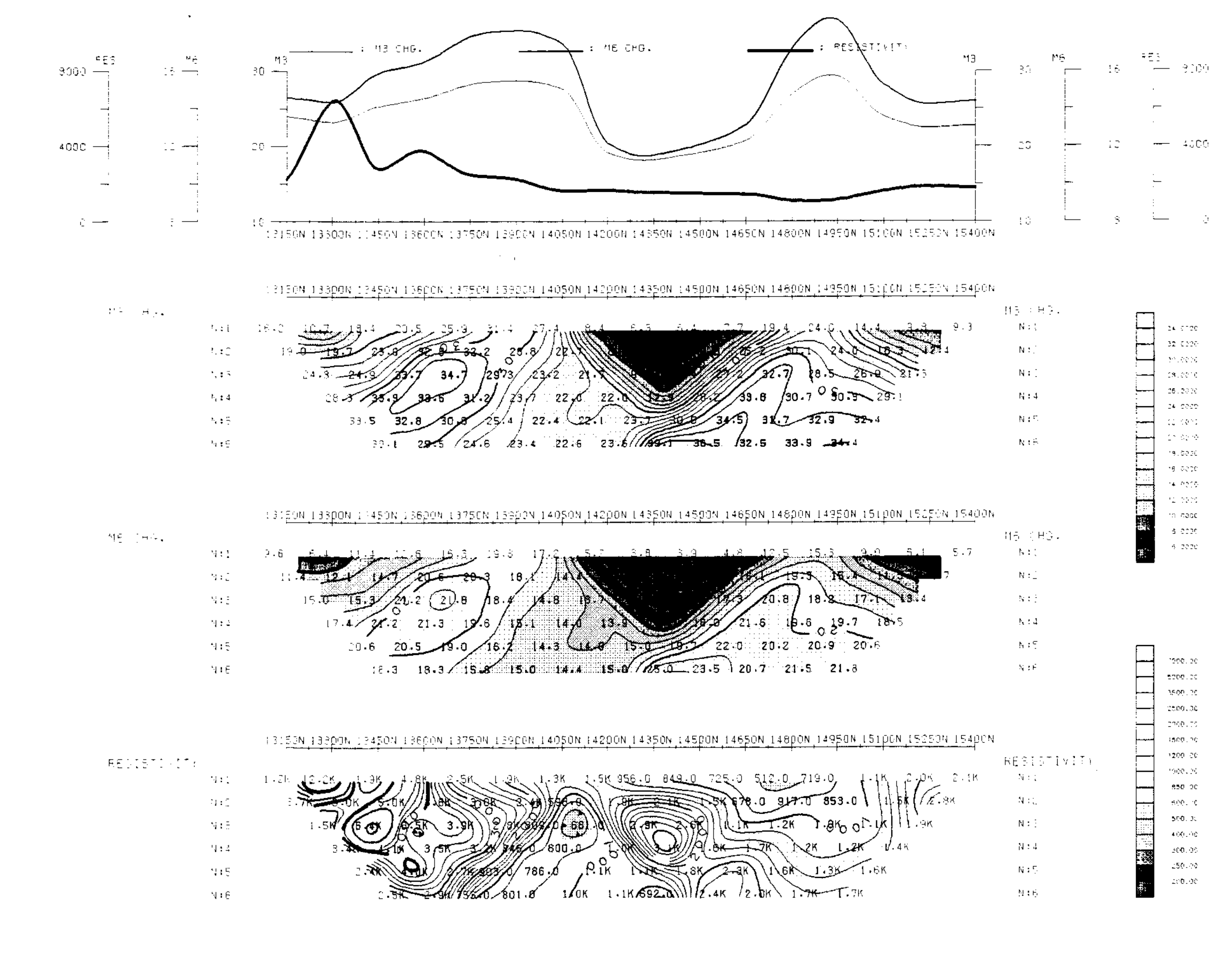
GIANT COPPER PROJECT

HOPE, BC

DATE : JULY 1996 | REF : NONE

SCALE = 1: 5000

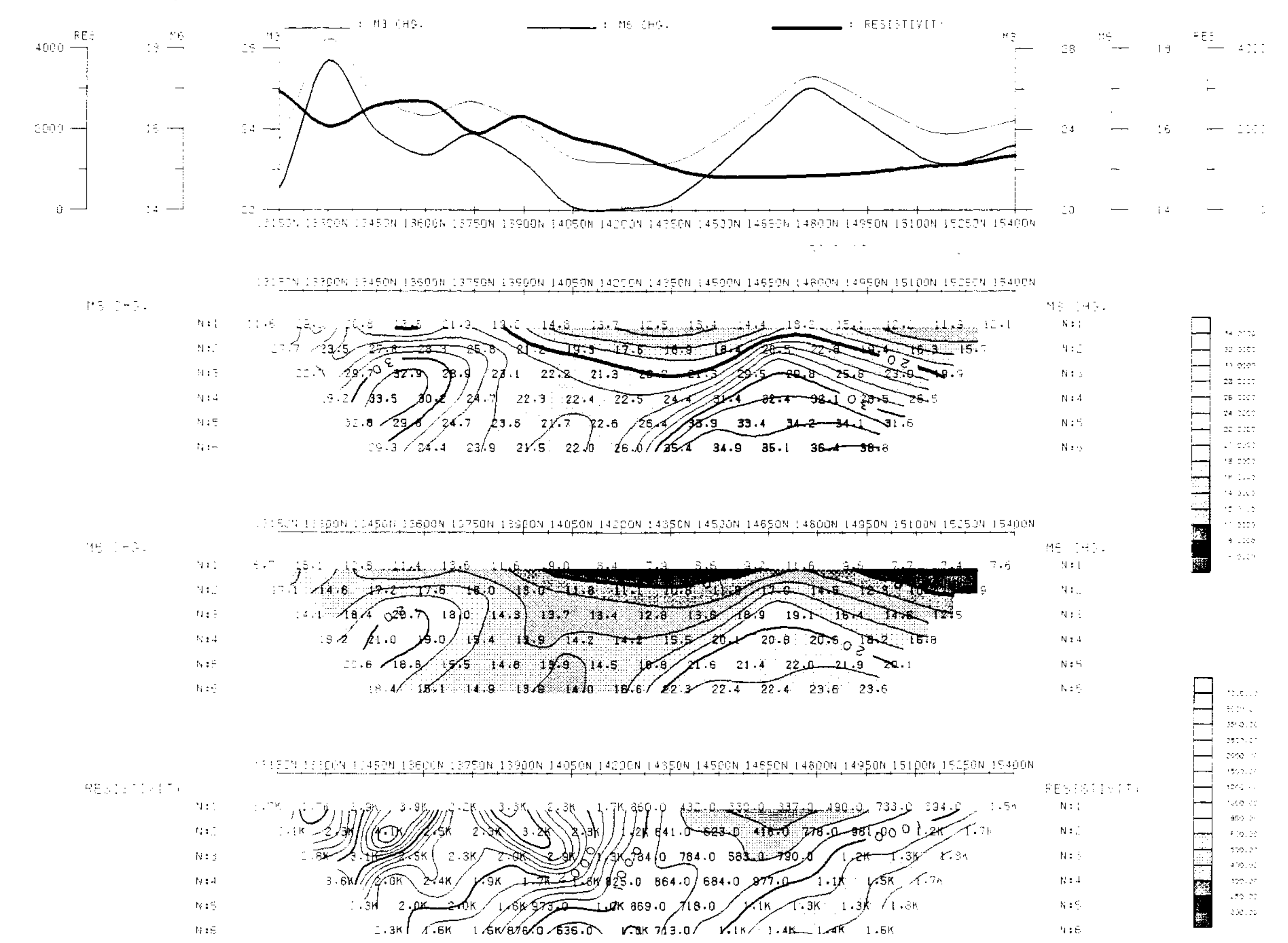
SJ GEOPHYSICS LTD.



LINE : 5600 E

PSEUDOSECTION

INDUCED POLARIZATION SURVEY



IMPERIAL METALS CORP.

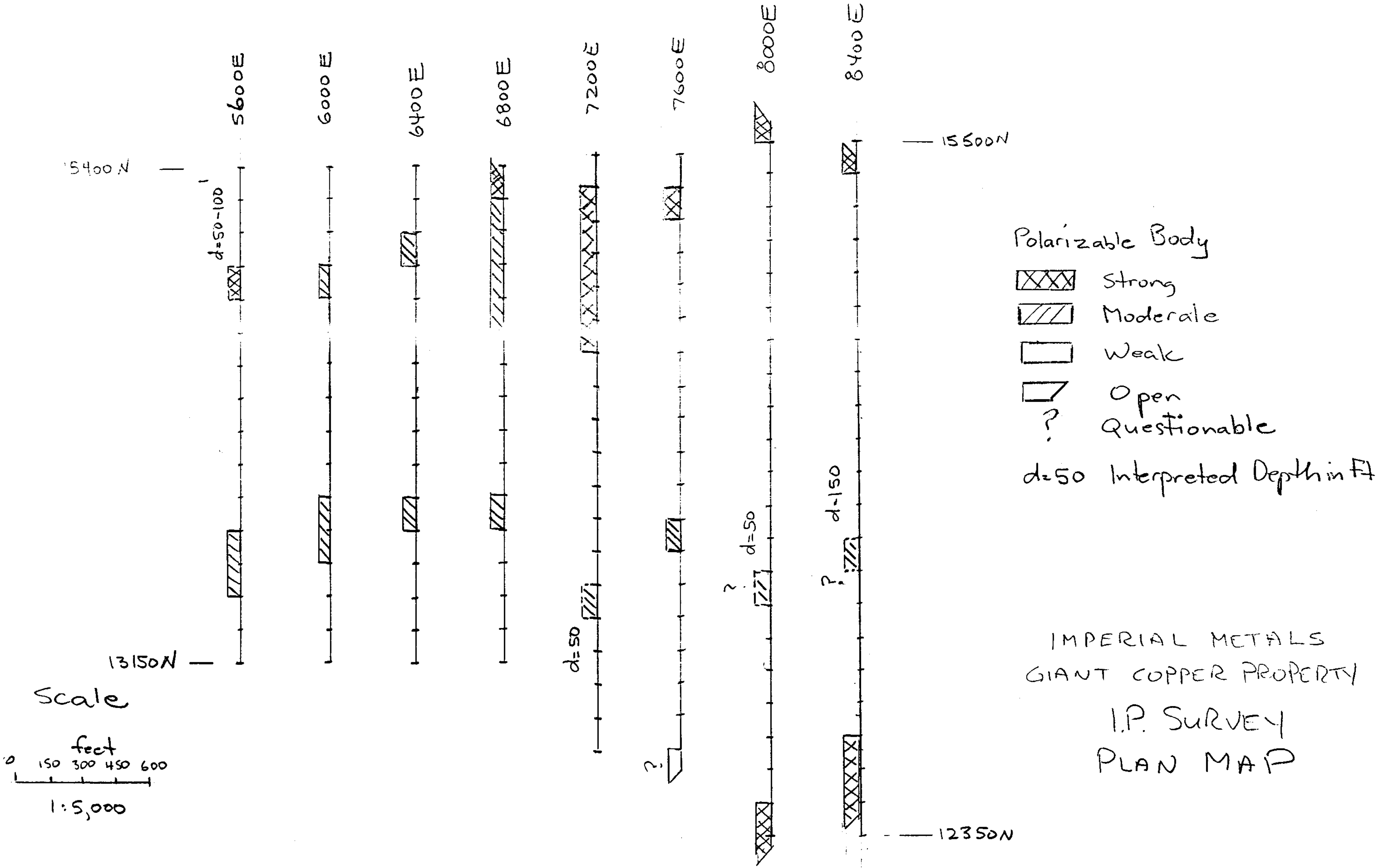
GIANT COPPER PROJECT

HOPE, BC

DATE : JULY 1996 REF : NONE

SCALE = 1: 5000

SJ GEOPHYSICS LTD.



5600E
6000E
6400E
6800E
7200E
7600E
8000E
8400E
15400N
15500N
13150N
12350N
d=50-100
d=50
d=50
d-150
?
Polarizable Body
Strong
Moderate
Weak
Open
? Questionable
d=50 Interpreted Depth in Ft.
Scale
feet
0 150 300 450 600
1:5,000
IMPERIAL METALS
GIANT COPPER PROPERTY
I.P. SURVEY
PLAN MAP

APPENDIX D

Petrographic Report

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph.D. Geologist
CRAIG LEITCH, Ph.D. Geologist
JEFF HARRIS, Ph.D. Geologist
KEN E. NORTHCOTE, Ph.D. Geologist

P.O. BOX 39
8080 GLOVER ROAD,
FORT LANGLEY, B.C.
V0X 1J0
PHONE (604) 888-1323
FAX. (604) 888-3642

PETROGRAPHIC REPORT ON 29 SAMPLES

Report for: Steve Robertson, P.Geo.
Imperial Metals Ltd.
420-355 Burrard Street
Vancouver, B.C. V6C 2G8.

Invoice 960859

Dec. 12, 1996.

SUMMARY:

This is a suite of mainly intermediate-felsic intrusive rocks, mostly equigranular and moderately to strongly altered. Alteration obscures the original composition, but the samples appear to range from rare diorite/gabbro (96-1-106.5, 10-606) and quartz diorite (9-313) or quartz monzodiorite-monzogabbro (96-8 90) to abundant quartz monzodiorite-diorite, lesser quartz monzonite-monzodiorite (5-206, 8-707, 13-527); hornblende and biotite may have been the orginal mafic minerals. Only the samples from 96-5-206 and 4-665 have a distinct porphyry texture, although in several samples quartz is coarse enough to suggest a phenocrystic phase. Two samples (96-2-133 and 158) are so phyllic altered ("greisenized") as to make identification vague (aplite and granite/quartz diorite respectively). Contacts between two of the above rock types are visible in 96-4-665 and in ?intrusive breccias of 96-12-313.5, 14-534.5, 15-191, -236.5) which generally consist of paler coloured, coarser, more felsic ?quartz monzodiorite clasts to 5 cm in a matrix of darker, finer, more mafic ?quartz diorite. Two samples are of sulfide-quartz-carbonate-sericite veins (96-1A-70 and 11-421.5).

The mineralogy of these rocks is mainly similar from sample to sample, consisting of variable proportions of altered plagioclase (?originally zoned, andesine-oligoclase crystals to 4 mm), mafic minerals (hornblende and biotite, subhedral crystals to 2.5 mm) and quartz (subhedral crystals to 3 mm). Most plagioclase is variably altered at rims to fine subhedral K-feldspar (?late-magmatic or hydrothermal; seems to be earlier than abundant alteration, concentrated at cores, to sericite and carbonate). Most hornblende is partly to completely altered to biotite, chlorite, sericite, carbonate, and minor epidote and tourmaline, and commonly hosts accessory sphene, rutile and minor opaques (?mainly sulfides; rare ?magnetite, e.g. 96-9-313). Sulfides identified (only one polished section from 1A-70) include marcasite (+/-arsenopyrite), sphalerite, galena and rare sulfosalt; in other samples, pyrite, pyrrhotite, chalcopyrite, sphalerite and rare galena are suspected, most commonly concentrated in mafic sites where they are variously intergrown with quartz, K-feldspar, carbonate, chlorite, biotite, amphibole, tourmaline and sericite. Carbonate varies from common calcite to less common ?ankerite or dolomite (96-3-158, 206.5; 4-665; 10-209; 11-421.5; 14-485; 15-442; 10-966); in some samples both occur. Tourmaline is a very

dark, Fe-rich schorl variety (96-1-106.5, 2-133, 3-206.5, 5-206, 8-81,-178, 10-209, 12-313.5,-527, 14-534.5,-577), in places but not always associated with sulfide and rarely traces of apatite. Rarely, apatite is a significant alteration mineral (96-2-133, 8-81,-178, 15-191).

Alteration ranges from potassic (quartz-K-feldspar-biotite-rare tourmaline-magnetite) to phyllic (quartz-sericite-carbonate-rutile to propylitic (chlorite-sericite-carbonate-epidote) but most commonly seems to involve early potassic overprinted by later phyllic-propylitic. Vein- and fracture-controlled alteration is not common, ranging from the major veins (1A-70; 11-421.5) to pyrite-pyyrhotite-chalcopyrite-sphalerite+/-tourmaline-quartz-K-feldspar-sericite-carbonate (3-206.5, 4-533.5,-665, 12-313.5) to rare quartz (8-90) and amphibole-chlorite-biotite-epidote-carbonate (8-178).

Craig H.B. Leitch, Ph.D., P.Eng (250) 653-9158
492 Isabella Point Road, Salt Spring Island, B.C. V8K 1V4

GC896-1 106.5': ?METADIORITE/GABBRO (AMPHIBOLE ALTERED TO BIOTITE-CLAY ALTERED PLAGIOCLASE WITH CLOTS OF SULFIDE-BIOTITE-QUARTZ-TOURMALINE-CALCITE)

Dense, massive, fine-grained reddish-brown and pale green rock, mainly softer than steel, weakly magnetic, minor reaction to HCl in places, no significant stain for K-feldspar in the etched slab. Modal mineralogy in thin section is approximately:

Amphibole (?tremolite-actinolite)	60%
Plagioclase (clay altered)	25%
Biotite	10%
Opaque (pyrrhotite?)	3-5%
Quartz (secondary)	1%
Tourmaline	<1%
Sphene, rutile	<1%
Carbonate (?calcite)	<1%

This sample consists mainly of fibrous amphibole as subhedral, highly ragged crystals up to about 1 mm in diameter with a matrix of subordinate plagioclase. Amphibole is very pale green with small to moderate extinction angle, suggesting tremolite-actinolite. Fine (<0.1 mm) ragged pale brown biotite appears to be mainly secondary (rimming and ?replacing amphibole) and is loosely associated with some of the opaques, although also occurring elsewhere. Plagioclase, and to a lesser degree amphibole, crystals are commonly clouded by very fine (1-2 micron) particles of ?clay and opaques; in places the amphibole contains minor ?intermixed sphene and rutile as subhedral aggregates to 0.1 mm. The composition of the plagioclase is difficult to determine due to the general lack of twinning and alteration; it is not seen in contact with quartz, so the relative relief is not determinable.

Tourmaline forms scattered subhedral to ragged, strongly zoned crystals up to 0.25 mm (deep blue-green cores to brownish rims likely indicate Fe-rich, or schorlitic, composition). Some tourmaline is associated with opaques, but some crystals are not.

Opaques, likely mostly sulfides (?pyrrhotite and/or pyrite) are closely associated or intergrown with biotite, quartz, tourmaline and traces of carbonate; where intergrown with amphibole, the amphibole is commonly recrystallized (clear compared to the mormally cloudy amphibole adjacent to it). Quartz (and carbonate) are only found with the sulfides. Quartz occurs as subhedral skeletal crystals to 0.25 mm diameter; carbonate as similar skeletal subhedral crystals to 0.1 mm intergrown with the sulfides.

This appears to be a diorite or gabbro, possibly metamorphosed to an assemblage of tremolite-actinolite (partlyu altered to biotite) and plagioclase (clay altered), with clots of secondary biotite-quartz-tourmaline-calcite associated with the sulfides.

96-1A 70': BANDED QUARTZ-CALCITE-MARCASITE-SPHALERITE-GALENA-TRACE ?SULFOSALT VEIN WITH INTENSE SERICITE-QUARTZ-CHLORITE ALTERED ENVELOPE

Sample of banded, crustiform vein up to 2.5 cm thick with layers of white quartz-carbonate (react strongly to HCl) and layers of sulfide (partly weakly magnetic; partly with radiating habit). The core of the vein is vuggy; there is no stain for K-feldspar. Modal mineralogy in polished thin section is approximately:

Marcasite, possible arsenopyrite	30%
Quartz	25%
Carbonate (?mainly calcite)	20%
Sphalerite	15%
Sericite	1-2%
Galena	1-2%
Chlorite	<1%
Rutile	<1%
?Sulfosalt (included in sphalerite)	tr

This vein consists of a major layer of marcasite up to almost 1 cm thick succeeded inward by a central layer of quartz and carbonate; the other wall is composed mainly of sphalerite and lesser Fe-sulfides intermixed with quartz and carbonate. Galena is associated with sphalerite in places. Wallrock on one side is intensely altered to sericite, quartz, chlorite, sulfides and rutile, cut by stringers of quartz-calcite that also cut the main vein. Sericite forms 10-25 micron flakes; secondary quartz forms 50-100 micron subhedral crystals. Chlorite, with blue anomalous birefringence and pale green pleochroism, is moderately Fe-rich; it forms subhedral flakes to 0.15 mm mainly distributed along a fracture parallel to the vein wall. Minute needle-like crystals of rutile to 20 microns are associated with chlorite and sericite.

In the vein, quartz forms euhedral crystals to 3 mm long with well-defined zonally arranged (primary) fluid inclusions mainly less than 10 microns in maximum dimension and mainly similar vapour/liquid ratios around 10% by area. Most show evidence of trapping perpendicular to crystal faces and of necking since trapping. Carbonate crystals are sub- to euhedral, up to 3 mm, and also contain abundant primary fluid inclusions in zonal arrangement.

Marcasite forms elongated lath-shaped crystals up to 1 cm long with radiating habit; rhombic cross-sections of finer crystals suggest the possible presence of arsenopyrite, but optical similarity to marcasite precludes positive identification. Zonally arranged inclusions define growth zones in marcasite, and inclusions of galena and sphalerite are common. Sphalerite, with deep red-brown colour indicating high Fe content, forms sub- to euhedral crystals mainly less than 3 mm in diameter, aggregating to masses up to almost 1 cm size and associated with minor galena as euehdral crystals to 2.5 mm size. Cores of sphalerite crystals contain fine (up to 35 microns long) bladed, oriented inclusions of an anisotropic ?sulfosalt close to galena in reflectance (could be any one a number of Pb-Cu-Sb or Bi sulfosalts; SEM, or scanning electron microscope, identification is required). In places, sphalerite rims marcasite (or forms cores that marcasite nucleated on).

96-2 133': QUARTZ-SERICITE-CARBONATE-RUTILE ALTERED ?QUARTZ-FELDSPAR PORPHYRITIC APLITE (CHLORITE-CARBONATE-TOURMALINE-RUTILE-SULFIDE CLOTS)

Grey-white, fine-grained, altered felsic rock that is non-magnetic but shows minor yellow stain for K-feldspar and reacts throughout to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz	50%
Sericite	30%
Carbonate (?mainly calcite)	15%
Chlorite	1-2%
Tourmaline	1-2%
Rutile	1%
Opaque (?sulfide)	<1%
Apatite	<1%

This sample consists of mainly quartz (?partly secondary) and sericite with lesser carbonate, with a texture suggestive of a former felsic high-level intrusive rock such as an aplitic quartz porphyry that may have been composed of about 10% subhedral quartz phenocrysts to 1.5 mm and relict feldspar crystals seldom over 1 mm long, plus rare relict mafic crystals to 1.5 mm, in a matrix of micrographic quartz-feldspar intergrowths. Feldspar(s) are completely altered to sericite as 10-15 micron flakes and carbonate, likely mostly calcite, as subhedral crystals mainly less than 0.1 mm in diameter. It is not possible to be sure how much of the quartz is secondary.

Opaques, mostly rutile as sub- to euhedral crystals mainly less than 50 microns that aggregate to over 1 mm, but in places including sulfide, are closely associated or intergrown with carbonate, chlorite, tourmaline and rare apatite; these areas likely represent former ?mafic sites. Carbonate forms subhedral crystals to 0.15 mm; chlorite, subhedral flakes to 0.2 mm; tourmaline, subhedral to ragged crystals up to 0.25 mm with green cores surrounded by brownish rims (schlorlitic composition). Apatite crystals are subhedral and up to 0.5 mm long.

Rare quartz stringers less than 0.5 m thick contain minor chlorite and opaques and appear to cross-cut earlier more diffuse hairline fractures containing tourmaline and apatite plus minor quartz.

96-2 158': QUARTZ-SERICITE-CARBONATE-SULFIDE-SPHENE/RUTILE ALTERED ("GREISENIZED") GRANITE OR QUARTZ DIORITE

Grey-buff, medium-grained, strongly altered ("greisenized") rock that is not magnetic, shows only traces of reaction to cold dilute HCl, no stain for K-feldspar, and contains minor black sulfide veinlets. Modal mineralogy in thin section is approximately:

Quartz	50%
Sericite	30%
Carbonate (?largely ankerite/dolomite)	15%
Opaque (pyrite)	3-5%
Rutile, sphene	1%
?Sphalerite	tr

This is a strongly quartz-sericite altered rock, in which the sericite is coarse enough in places to call muscovite, confirming a greisen-type alteration.

Quartz forms rounded to in places subhedral crystals mainly less than 1.5 mm in diameter, with undulose extinction, granulation and overgrowths at the margins suggesting partly secondary origin. Overgrowths are marked by inclusions of sericite around the rims. Sericite forms sub- to euhedral flakes up to 0.2 mm diameter, especially where in clots that may be after former mafic crystals. Carbonate forms subhedral to skeletal crystals mainly less than 0.25 mm in size with high relief and lack of reaction in hand specimen suggesting dolomite or ankerite composition.

Scattered aggregates of opaques (?mainly pyrite, as sub/euhedral aggregates up to 1 mm across) are associated with carbonate, coarse sericite or muscovite, and minor sphene/rutile as ragged irregu8lar to skeletal aggregates up to 1.5 mm long, likely marking the sites of former mafic minerals (possible amphibole cross-section shapes), Minor quartz, likely secondary, forms sub- to euhedral crystals to 0.2 mm associated with the opaques, but the major association of the sulfides is with carbonate, muscovite and sphene. Traces of red-brown ?sphalerite to 25 microns are found in these sites.

This could be a coarser-grained version of similar composition to the sample from 96-2 133', possibly a strongly quartz-sericite-carbonate altered amphibole-biotite granite or quartz diorite.

96-3 206.5: QUARTZ-SERICITE-KSPAR-CARBONATE-CHLORITE-TOURMALINE ALTERED ?GRANITE OR QUARTZ DIORITE, VEINS OF SULFIDE-QUARTZ-KSPAR-TOURMALINE

Grey-white, medium-grained, intensely altered rock similar in appearance to the sample at 158' but with abundant K-feldspar indicated by yellow stain in the etched slab, and clots or ?irregular veinlets of black euhedral tourmaline-sulfide and minor chalcopyrite-?pyrrhotite (magnetic). There is no reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

K-feldspar	40%
Quartz (partly secondary)	25%
Carbonate	15%
Sericite	15%
Tourmaline (schorl)	5%
Opaques (pyrite, pyrrhotite, chalcopyrite)	5%
Chlorite	3%
Sphene, rutile	<1%
Sphalerite	<1%

The alteration in this sample differs from that at 158' mainly in the presence of abundant K-feldspar, forming interlocking subhedral crystals mostly less than 1 mm in diameter but in aggregates that poikilitically enclose other minerals such as quartz, sericite and carbonate. The K-feldspar could be mostly secondary.

Sericite forms subhedral flakes mainly less than 50 microns in diameter, concentrated in patches with subhedral outlines up to 2 mm across that could represent former sites of ?plagioclase crystals. Minor carbonate as 10-25 micron crystals is found along fractures and around rims of these areas. Towards the irregular veins, both sericite and carbonate become coarser (to 0.25 and 0.5 mm respectively) and are mixed with chlorite as irregular flakes to 0.35 mm diameter and euhedral tourmaline to 1 mm long. Carbonate is likely mainly dolomite or ankerite (high relief, lack of reaction to HCl in hand specimen). Minor red-brown ?sphalerite and darker ?rutile, in places possibly mixed with sphene (all less than 50 microns but aggregating to 0.35 mm), is found at the center of most chlorite-sericite and some sericite-carbonate altered relics. Chlorite is pale green, but has weak anomalous birefringence and is length-slow, indicating moderate Fe content; tourmaline is very dark blue-green at the cores, with narrow bright red-brown rims, and probably Fe-rich schorl.

In the irregular veinlets, opaque sulfides (pyrite, ?pyrrhotite, chalcopyrite) and minor red-brown sphalerite are intergrown with schorl crystals to 6 mm long, secondary quartz to 5 mm, K-feldspar to 1.5 mm with relict twinning suggesting it is after ?plagioclase, chlorite-sericite-sphene/rutile pseudomorphs after euhedral ?amphibole up to 2 mm long, and carbonate to 0.5 mm, likely ankerite or siderite.

The precursor to this intensely quartz-sericite-Kspar-carbonate-chlorite altered rock was likely an ?amphibole granite or quartz diorite.

96-4 533.5': QUARTZ-SERICITE-KSPAR-CALCITE-SULFIDE ALTERED ?QUARTZ MONZONITE OR QUARTZ DIORITE

Pale buff-greenish ("greisenized") medium-grained intrusive cut by network of sulfide (non-magnetic ?pyrrhotite, chalcopyrite) veinlets; hostrock consists of quartz, K-feldspar (yellow stain in etched slab), sericite. The rock reacts strongly to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (partly secondary)	40%
Sericite	25%
K-feldspar (?partly secondary)	15%
Carbonate (?mainly calcite)	5%
Opaque (sulfides)	5%
Relict plagioclase (albite)	5%
Rutile	<1%

This sample is similar to or intermediate between the samples from 96-3 at 158 and 206.5: composed of quartz, sericite, significant K-feldspar and carbonate, with irregular veinlets/clots of sulfide-secondary quartz-minor carbonate.

The bulk of the slide consists of sub- to rarely euhedral crystals of quartz and K-feldspar up to 1 mm in diameter, mixed with patches withe subhedral outlines up to 1.2 mm long of sericite (after former plagioclase; in places relict twinning with extinction to 14 degrees and relief below that of quartz indicates an albitic composition near An_0. Scattered patches of carbonate (likely mostly calcite; subhedral crystals up to 0.1 mm diameter) are in places associated with minor rutile (euhedral deep brown crystals mainly less than 0.1 mm long) and opaques.

The opaques (mainly sulfides) form aggregates up to 0.5 cm long that are intergrown with euhedral secondary quartz to 1.5 mm across, subhedral K-feldspar to 1 mm, minor euhedral carbonate to 1.5 mm (likely mostly calcite) and sericitized ?plagioclase relics to 1.5 mm diameter. In places there are radiating rosettes up to 0.3 mm across of mainly sericite (could be mixed with a little chlorite in places, as in the previous sample).

The likely precursor to this strongly quartz-sericite-Kspar-calcite-sulfide altered rock would be a quartz monzonite or quartz diorite.

96-4 665': CONTACT BETWEEN INTENSELY SERICITIZED QUARTZ PORPHYRY AND KSPAR-CHLORITE-CARBONATE-SERICITE ALTERED ?AMPHIBOLE-FELDSPAR PORPHYRY

Grey, fine- to medium-grained, strongly altered felsic intrusive cut by irregular veinlets of fine-grained, non-magnetic sulfide (?pyrite) with 1-2 cm bleached envelopes (intensely stained yellow for K-feldspar). Beyond these envelopes, the rock appears to have a porphyritic texture, and reacts slightly to cold dilute HCl. Modal mineralogy in thin section is approximately:

K-feldspar (?mainly secondary)	35%
Sericite	25%
Quartz (partly secondary)	15%
Carbonate (?mainly dolomite)	10%
Opaque (sulfides)	5%
Chlorite	5%
Relict amphibole	3-5%
Sphene, rutile	1-2%

A contact is exposed in this slide, between a sericitized quartz porphyry (that does not stain for K-feldspar in hand specimen) and an intensely K-spar/chlorite/carbonate/sericite altered rock. Opaques (sulfides) along vaguely defined irregular veinlets are associated with more intense sericite-carbonate alteration.

The porphyry consists of relict quartz and ?mafic phenocrysts of about 1-1.5 mm diameter in a thoroughly altered matrix composed of 50 micron sericite, mainly secondary quartz to 0.25 mm, and lesser carbonate to 0.1 mm. Former ?mafic phenocrysts have euhedral rectangular outlines that are pseudomorphed by carbonate (partly calcite as euhedral crystals up to 1 mm in size, rimmed by ?dolomite or ankerite as anhedra <0.1 mm), sericite, quartz, and near the contact, chlorite. In some relics, euhedral sphene and rutile up to 0.7 mm long are abundant.

The more equigranular rock consists of relict mafic and ?feldspar phenocryst sites with euhedral outlines up to 2.5 mm long in a matrix of mainly secondary K-feldspar and chlorite, sericite and carbonate. The carbonate is likely mainly dolomite or ankerite to judge by the lack of reaction in hand specimen. Mafic relics are pseudomorphed by chlorite, rutile or sphene, K-feldspar, sericite and carbonate; former ?plagioclase crystals are pseudomorphed by K-feldspar, carbonate and sericite (relict twinning observed). Relict amphibole crystals to 0.25 mm are intergrown with chlorite in some of the mafic sites; patches of euhedral rutile and lesser sphene associated with carbonate occur in some sites.

Opaques (likely mainly sulphide) form irregular clots up to 0.5 cm across aligned along irregular vein-like areas. The opaques are intergrown with sericite, chlorite, carbonate and minor quartz and K-feldspar.

96-4-137: QUARTZ-K-FELDSPAR-BIOTITE-CHLORITE-SERICITE-CARBONATE ALTERED QUARTZ MONZONITE TO QUARTZ DIORITE

Dark grey-green, medium-grained, vaguely porphyritic rock that is strongly magnetic and shows minor reaction to HCl and moderate yellow stain for K-feldspar in the matrix. Modal mineralogy in thin section is approximately:

Relict plagioclase	30%
Quartz	20%
K-feldspar (partly secondary)	15%
Biotite	15%
Chlorite, green biotite	10%
Sericite	5%
Carbonate (?mainly calcite)	3%
Opaques (sulfide)	1-2%
Rutile, sphene	1%

This sample consists mainly of coarse subhedral quartz to 1.5 mm and sub- to euhedral relict plagioclase up to 2.5 mm long with interstitial mafic material (biotite, green biotite, chlorite). Plagioclase crystals are attacked at the margins by quartz and K-feldspar and are altered to sericite, chlorite and K-feldspar. The original composition of the plagioclase is not determinable; it now appears to have a secondary albitic composition.

Biotite in the matrix consists of subhedral crystals to 1 mm diameter with brown cores and green rims replaced around the margins by Fe-rich chlorite as subhedral flakes to 0.3 mm. Quartz also forms smaller skeletal crystals, mainly less than 0.6 mm in the matrix. Minor rutile as subhedral crystals, mainly less than 0.1 mm form aggregates up to 0.5 mm across concentrated in the biotite.

Opaques form irregular to anhedral masses up to 2.5 mm across, intergrown with quartz, chloritized biotite, sphene and minor carbonate. Sphene occurs as skeletal crystals up to 1 mm across, suggesting that the sulfide has replaced it. Carbonate, likely mostly calcite, forms subhedral crystals to 0.15 mm intergrown with the sulfide and also occurs in narrow fractures up to 0.1 mm thick.

This appears to have been a mafic to intermediate intrusive rock of about quartz monzonite to quartz diorite composition that has undergone significant alteration to K-feldspar, biotite, chlorite, quartz, sericite, and minor carbonate and sulfides.

96-5-206': PLAGIOCLASE-QUARTZ-AMPHIBOLE-PORPHYRY (?QUARTZ MONZODIORITE) ALTERED TO AMPHIBOLE-BIOTITE-CHLORITE-CLAY SERICITE-EPIDOTE-TOURMALINE

Dark grey-green, fine- to medium-grained, altered, vaguely porphyritic intrusive rock containing 5-10% anhedral quartz crystals and cloudy plagioclase relicts in a fine-grained matrix containing significant K-feldspar. The rock is strongly magnetic but shows no reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Plagioclase (andesine)	40%
K-feldspar	15%
Quartz (partly secondary)	10%
Amphibole	10%
Chlorite	10%
Biotite	5%
Opaque	5%
Tourmaline (schorl)	1-2%
Carbonate	1-2%
Sericite, clay	1-2%
Epidote	<1%
Apatite	<1%

This sample consists of 5-10% irregular quartz, 20-30% plagioclase, and 10-20% rellict mafic phenocrysts in a fine-grained but phaneritic matrix. Quartz crystals are anhedral, elongate, with a strongly corroded appearance; they show minor overgrowths and are fractured by sericite. They contain scattered subhedral to tabular opaques up to 0.35 mm in diameter. Plagioclase phenocrysts have euhedral outlines and are sharply zoned near the rims; composition varies from andesine (An_{43}) at the cores to narrow rims of An_{30}, based on extinction angles Y^010 of 28 and 14 degrees respectively. Plagioclase shows minor zoned alteration to very fine-grained clay-sericite and carbonate, and rarely contains euhedral apatite to 0.15 mm long.

Mafic relicts include both former ?amphibole as ragged crystals up to 1 mm in diameter (rarely up to 4 mm long) and biotite to 0.75 mm. Both are now replaced by green biotite, sericite, chlorite and opaques; some amphibole appears to be replaced by secondary biotite and/or fibrous secondary amphibole. ?Primary amphibole has distinctly brown pleochroism; fringing secondary amphibole is green. Rare epidote is associated with the altlered mafic sites as subhedral crystals to 0.6 mm that in places contain opaque crystals. Tourmaline forms subhedral to anhedral crystals up to 0.6 mm long in radiating clusters associated with secondary quartz (subhedral to 0.4 mm) and sericite to 50 microns; there are no opaques associated. Very deep brown to blackish brown pleochroism indicates an Fe-rich (schorl) composition. Most opaques are subhedral, less than 0.2 mm and closely associated with altered mafic sites; they may be magnetite. The rare tabular opaques associated with quartz may be sulfides.

The matrix consists of 0.1 to 0.2 mm plagioclase microlites and biotitized or chloritized mafics, plus euhedral 10-100 micron opaques, hosted by anhedral K-feldspar of less than 0.1 mm size.

This sample represents a plagioclase-quartz-amphibole porphyry of possibly quartz monzodiorite composition; minor alteration is to secondary amphibole, biotite, chlorite, clay-sericite, tourmaline, and epidote. The relation of opaques (probably magnetite) to enclosing silicates (amphibole) is likely primary.

96-8 81': QUARTZ-KSPAR-AMPHIBOLE-BIOTITE-CHLORITE-SERICITE-CARBONATE-TOURMALINE-APATITE ALTERED ?QUARTZ MONZODIORITE TO QUARTZ DIORITE

A dark-grey medium- to coarse-grained mafic-looking intrusive, weakly magnetic, with minor reaction to HCl and abundant K-feldspar indicated by yellow stain in the etched slab. Texture is porphyritic with small plagioclase crystals in a quartz-rich to mostly mafic matrix. Modal mineralogy in thin section is approximately:

Plagioclase	30%
Quartz	25%
Amphibole	20%
K-feldspar	10%
Biotite	5%
Chlorite	3%
Clay-sericite	3%
Apatite	1%
Carbonate (calcite)	1%
Opaques (?mainly sulfide)	1%
Tourmaline	1%
Sphene/rutile	<1%

This sample consists of variable quantities of plagioclase, amphibole and quartz with minor matrix K-feldspar and quartz. Much of the quartz appears to be secondary, having overgrown and replaced the margins or in places the entire crystals of plagioclase. Quartz has subhedral outlines up to 2.5 mm across that poikilitically enclose other minerals of the matrix. Plagioclase crystals are euhedral to subhedral, with ragged terminations where attacked by quartz and K-feldspar of the matrix. It is not clear how much of the K-feldspar in this sample is primary and how much secondary. Amphibole ranges from nearly fresh subhedral crystals up to 2.5 mm long (minor fine secondary biotite to 50 microns and dark green secondary amphibole at rims to 75 microns) to ragged fibrous crystals mainly less than 0.1 mm in diameter. Biotite forms subhedral to ragged crystals, mainly less than 0.5 mm in size and commonly replacing amphibole. In places further alteration is to chlorite as subhedral flakes to 0.35 mm and carbonate to 0.15 mm. Rare euhedral apatite to 0.15 mm occurs in amphibole. Areas of semi-massive amphibole up to 0.5 cm across occur; sphene, commonly containing minor rutile, forms subhedral crystals to 0.3 mm.

The matrix consists of minor quantities of K-feldspar (subhedral, to 0.25 mm) and quartz (that grades to the larger interstitial crystals). In places there are significantly altered areas of coarse, subhedral apatite (to 0.75 mm) or areas with tourmaline (sub- to anhedral crystals of very deep blue-green (Fe-rich) schorl to 0.2 mm long, in radiating clusters, intergrown with K-feldspar). The areas with tourmaline and K-feldspar are finer-grained than the rest of the rock and could be ?xenoliths. Minor carbonate forms subhedral crystals to 0.15 mm mixed with biotite and chlorite around the ?xenolith rim; carbonate, likely calcite, is also found along narrow fractures.

Opaques are found either scattered (associated with mafic minerals), or along vaguely defined fracture zones, intergrown with K-feldspar, quartz, amphibole and biotite (both commonly chloritized where in contact with opaque).

96-8 707': STRONGLY QUARTZ-SERICITE-CALCITE-?KSPAR ALTERED, MAINLY EQUIGRANULAR ?QUARTZ MONZONITE (RARE QUARTZ PHENOCRYSTS)

Buff-grey, fine-grained, strongly altered ("greisenized") intrusive with scattered spots or clots of sulfide up to 0.5 cm in diameter. The rock is not magnetic but reacts strongly to cold dilute HCl and shows minor interstitial yellow stain for K-feldspar except along intense sericite zones. Modal mineralogy in thin section is approximately:

Quartz	35%
Sericite	30%
Relict plagioclase (?albitic)	15%
Carbonate (?mainly calcite)	10%
K-feldspar	5-10%
Opaques (?mainly sulfide)	1-2%
Sphene, rutile	1%
Chlorite	<1%

This slide is composed of relict (sericitized, carbonate altered) feldspars with interstitial to rarely phenocrystic quartz. Scattered clots of opaques are mainly associated with quartz and lesser carbonate.

Quartz forms rare subhedral relict phenocrysts up to 3 mm in diameter, but mostly forms <1 mm sub- to anhedral crystals between the relict feldspar sites. Quartz crystals show overgrowth texture suggesting part is secondary; minor undulose extinction indicates strain. Former feldspar crystals have subhedral outlines up to about 2.5 mm in size, and were likely mostly plagioclase (remnant twiinning is visible in many of them). Relief less than quartz suggests the plagioclase is mainly albite, although parts of it may be replaced by K-feldspar. Thus it is not certain whether the majority of the K-feldspar, which forms subhedral crystals generally less than 0.25 mm in diameter, is primary or secondary.

Most plagioclase is partly to completely replaced by sericite as subhedral flakes to about 0.1 mm diameter and carbonate, likely mostly calcite, as rounded to subhedral crystals to 0.5 mm diameter. Traces of sphene form fine (10-20 micron) crystals in carbonate.

Opaques have euhedral outlines up to 1 mm across and are mostly contained in quartz, or less commonly are intergrown with carbonate, sericite and K-feldspar. At least part of the opaque clusters consist of rutile and sphehe as euhedral crystals up to 50 microns in size. Traces of chlorite up to 35 microns in diameter suggest the sulfides/rutile replace former mafic sites.

Without knowing the original ratio of plagioclase to total feldspar it is hard to be sure of the composition of this sample, but it may have been a quartz monzonite (mainly equigranular).

9S-8 90': QUARTZ-SERICITE-CALCITE-KSPAR-BIOTITE-CHLORITE ALTERED WEAKLY PORPHYRITIC ?QUARTZ MONZODIORITE-MONZOGABBRO

Grey-green, medium- to coarse-grained intrusive rock with an altered texture. Yellow stain for K-feldspar in the etched slab shows both in the matrix and around rims of plagioclase crystals. The rock is weakly magnetic and reacts slightly to cold dilute HCl. Modal mineralogy in thin section is approximately:

Relict plagioclase (sericitized)	30%
Quartz (?partly secondary)	25%
K-feldspar (?partly secondary)	15%
Sericite	10%
Chlorite	10%
Biotite	5-10%
Carbonate (calcite)	1-2%
Opaque (sulfide, rutile)	1%
?Orthite (allanite)	tr

This is an intermediate intrusive rock, composed of relict feldspar, quartz and interstitial mafics. Most of the feldspar is twinned and appears to be plagioclase of possibly albitic composition (relief less than that of quartz; extinction angle on 010 up to 17 degrees). However, remnant zoning could indicate some relict primary, more calcic cores. Most plagioclase is partly altered to fine (20-50 micron) sericite and lesser carbonate (likely mostly calcite), and at rims to ?secondary K-feldspar.

Quartz mainly forms ragged to skeletal crystals up to 2.5 mm across that poikilitically enclose other minerals, suggesting part of it is secondary. In places, irregular zones up to 1 mm thick have the appearance of vague, poorly defined veinlets in which quartz crystals to 0.5 mm ?replace feldspar.

Relict mafic sites have sub- to anhedral outlines up to 1.5 mm (4.5 mm where glomeratic) and likely represent former amphibole sites that are now replaced by brown biotite, bright green biotite, and chlorite all forming subhedral flakes to 0.25 mm, plus minor carbonate, rutile and sphene mainly less than 75 microns in diameter. Biotite crystals up to 1 mm in diameter could be relict primary.

Although the rock is not obviously porphyritic, there is a suggestion of minor phaneritic groundmass (quartz, feldspars and biotite crystals less than about 0.25 mm) between glomeratic feldspar crystals commonly up to 3 mm in diameter. Assuming part of the K-feldspar is secondary, the original composition may have been about quartz monzodiorite to monzogabbro. Alteration is partly potassic (K-spar, biotite) and partly phyllic-propylitic (sericite, calcite, chlorite). Opaques, partly sulfide and partly rutile (+/- sphene as subhedral skeletal crystals up to 1 mm across and rare allanite up to 0.25 mm), are most commonly found in quartz but in detail are associated with chlorite, calcite and late fractures, but not K-feldspar.

96-8 178': POTASSIC (KSPAR-QUARTZ-APATITE) TO PROPYLITIC (SERICITE-CHLORITE-EPIDOTE) ALTERED ?HORNBLENDE QUARTZ MONZODIORITE/DIORITE

Dark green, amphibole-rich, medium- to coarse-grained mafic intrusive cut by planar to irregular dark veins. The rock is not magnetic but shows slight reaction to HCl and (particularly around the veins) yellow stain for K-feldspar. Modal mineralogy in thin section is approximately:

Plagioclase (andesine-oligoclase)	35%
Amphibole (?hornblende)	30%
Quartz (?partly secondary)	10%
K-feldspar (?largely secondary)	10%
Sericite	10%
Chlorite	2-3%
Biotite	1%
Sphene, rutile	1%
Opaque	<1%
Apatite	<1%
Tourmaline (schorl)	tr
Epidote	tr

This is a fairly coarse-grained, equigranular rock composed mainly of subhedral plagioclase tablets up to 3 mm in diameter with lesser interstitial quartz, K-feldspar and chloritized amphibole/lesser biotite. Plagioclase crystals, although moderately altered by fine sericite and calcite, show zoning from cores of andesine (80-90% of the crystal, An_{40}) to rims of oligoclase (An_{23}) based on extinction Y^010 of 24 and 4 degrees respectively. Rims are commonly altered to K-feldspar aas subhedral crystals mainly less than 0.15 mm in diameter. Interstitial quartz forms subhedral crystals mainly less than 0.5 mm in diameter, locally overgrowing plagioclase. Amphibole forms ragged crystals up to about 1.5 mm across, mostly altered to chlorite and minor biotite plus trace epidote; biotite forms flakes to 0.5 mm across, also partly chloritized. Subhedral crystals of sphene to 0.15 mm, locally containing minor rutile to 50 microns, are common in the altered amphibole sites. Minor opaques (subhedral to ragged aggregates up to 0.8 mm across) are mainly sulfides (pyrite, pyrrhotite) and are closely associated with (?replacing) the mafic sites. The sulfides are intergrown with amphibole, chlorite and K-feldspar. Rarely, very dark blue-brown to black tourmaline (Fe-rich schorl) forms ragged to subhedral crystals up to 0.7 mm long contained in plagioclase. In one area, coarse pokilitic crystals or aggregates of apatite up to 5 mm across are developed, and are likely secondary.

The major veins consist of coarse sub- to euhedral amphibole up to 0.5 cm long showing minor alteration to chlorite and biotite, and containing scattered sericitized plagioclase and K-feldspar plus rare epidote and carbonate to 0.5 mm. Sulfides are not obviously associated with the veining.

This sample would appear to have been a hornblende quartz monzodiorite to quartz diorite, depending on how much of the K-feldspar is secondary. Significant amphibole veining and potassic (K-feldspar) to propylitic (sericite, chlorite, calcite, epidote) alteration is only loosely associated with minor sulfide mineralization.

96-8 700': POTASSIC (QUARTZ-KSPAR), PHYLLIC (SERICITE-CALCITE) ALTERED ?QUARTZ MONZODIORITE/DIORITE; CLOTS SULFIDE-SPHENE-RUTILE

Buff-grey, ?"greisenized"-looking felsic intrusive with scattered clots of sulfide (slightly magnetic) and TiO_2 relics (sphene, rutile). Minor interstitial K-feldspar is evidenced by yellow stain in the etched slab; there is strong reaction to HCl. Modal mineralogy in thin section is approximately:

Quartz (?partly secondary)	30%
Sericite	25%
Carbonate (largely calcite)	20%
Relict plagioclase	15%
K-feldspar (?partly secondary)	5-10%
Opaque (mainly sulfide)	1%
Sphene, rutile	1%
Zircon	tr

This appears to have been a felsic, leucocratic, intrusive possibly with minor quartz-Kspar alteration, before extensive alteration to sericite and carbonate. It mainly consists of sub- to euhedral tablets of relict plagioclase up to about 2 mm long, in places mantled by minor quartz and K-feldspar and intensely replaced in cores by sericite and calcite, plus interstitial quartz and scattered mafic relics (now marked by minor opaques and sphene/rutile). Composition of plagioclase is difficult to determine, but appears to be mainly secondary, with relief less than quartz and extinction on 010 up to 15 degrees (?albitic). Sericite (subhedral, to 100 microns) and calcite (sub- to anhedral, to 0.5 mm) replace up to 90% of the plagioclase crystals. K-feldspar forms sub- to anehdral crystals less than 0.1 mm at the rims of plagioclase, or up to 0.2 mm in the matrix. Quartz crystals are mainly less than 3 mm in diameter, and are subhedral in outline but poikilitic, enclosing sericitized plagioclase and remnant K-feldspar. Rare euhedral zircons are up to 35 microns in diameter.

Clots up to 2 mm across of opaque (sulfides) and sphene (subhedral crystals to 0.5 mm, in places associated with coarse rutile to 0.25 mm long) are intergrown with coarse sericite or muscovite up to 0.15 mm in diameter, carbonate to 0.25 mm, and ?secondary quartz to 0.3 mm.

Depending on how much of the K-feldspar is primary and how much secondary, this may have been a quartz monzodiorite to quartz diorite before alteration.

96-9 313': MAINLY PROPYLITIC (CHLORITE-SERICITE-EPIDOTE-CALCITE) ALTERED QUARTZ DIORITE WITH ACCESSORY ?MAGNETITE-SPHENE-RUTILE

Speckled, black and white, medium-grained intermediate intrusive; strongly magnetic, traces of reaction to HCl in mafic sites and minor interstitial yellow stain for K-feldspar. Modal mineralogy in thin section is approximately:

Plagioclase (andesine-oligoclase)	50%
Quartz (?partly secondary)	20%
Biotite	10%
Chlorite	5%
K-feldspar (partly secondary)	5%
Sericite	5%
Carbonate (calcite)	2-3%
Epidote	1-2%
Opaque (magnetite)	1-2%
Sphene, rutile	<1%

This sample consists of fairly large (3-4 mm) rounded to subhedral, glomeratic plagioclase crystals separated by interstitial quartz, K-feldspar, biotite and relict plagioclase.

Plagioclase crystals are strongly zoned, with homogeneous cores comprising up to 90% of the crystal of An_{45} (andesine) and narrow rims of oligoclase (An_{0}) that are commonly altered by minor K-feldspar and quartz. Cores are commonly altered to fine shreddy sericite (mainly less than 25 microns) and lesser carbonate, likely mostly calcite, and epidote (both as subhedral crystals mainly less than 0.25 mm diameter).

Mafics are mainly clusters of subhedral deep brown, subhedral biotite up to 0.5 mm in diameter that is largely chloritized around the rims by subhedral bright green flakes to 0.3 mm in diameter, in places intergrown with subhedral epidote to 0.6 mm and minor calcite to 0.2 mm. Most of the opaques (?magnetite, subhedral crystals to 0.5 mm) and the aggregates of sphene/rutile (subhedral, to 0.5 mm) are found in or closely associated with these altered mafic sites, some of which aggregate to over 3 mm long and suggest former ?amphibole sites.

Quartz crystals are subhedral and rarely over 1 mm in diameter, commonly poikilitically enclosing and/or replacing plagioclase.

This sample would likely be classed as a quartz diorite (if the bulk of the K-feldspar is primary, and only a small part of it is secondary). Alteration is mainly propylitic (chlorite-sericite-epidote-calcite); opaques may be mainly accessory (primary) magnetite rather than sulfides.

36-10-209': CHLORITIZED ?HORNBLENDE QUARTZ DIORITE/MONZODIORITE, CUT BY ZONES OF QUARTZ-SULFIDE-SERICITE+/-TOURMALINE WITH K-SPAR ENVELOPES OVERPRINTED BY QUARTZ-SERICITE-CARBONATE

Grey-white, strongly altered felsic intrusive cut by irregular quartz-sericite (+/- black tourmaline, sulfide) stringers, some with intense envelopes of secondary K-feldspar. The rock is not magnetic and does not react to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (partly secondary)	40%
K-feldspar (largely secondary)	25%
Carbonate (?largely dolomite/ankerite)	15%
Sericite (after plagioclase)	10%
Chlorite	5-10%
Opaques (mainly sulfides)	1-2%
Tourmaline (schorl)	1%
Sphene, rutile	1%

This is a strongly altered rock, composed mainly of secondary quartz and relict feldspar that is largely serictized; relict mafics are altered to chlorite, coarse sericite (muscovite) and carbonate. Secondary quartz has nucleated on existing (primary) quartz thatwas subhedral, up to 3 mm in diameter, and then has overgrown intervening feldspar. The boundary between the two types of quartz is clear due to the inclusions of sericite defining former twin planes in the replaced feldspar. In places, dark greeny-brown (Fe-rich) schorl occurs as subhedral to ragged crystals contained within quartz patches.

In the altered plagioclase sites, sericite forms sub- to euhedral flakes up to about 0.1 mm diameter and carbonate forms sub- to anhedral crystals generally less than 0.25 mm diameter. Carbonate is likely dolomite or ankerite, to judge by the lack of reaction in hand specimen. K-feldspar occurs as mainly fine, subhedral crystals less than 0.25 mm in diameter that are partly to largely altered to sericite and carbonate, as well as being replaced around their margins by secondary quartz.

Relict mafic sites consist of subhedral chlorite to almost 1 mm diameter, with interleaved lesser sericite, carbonate and sphene. The mafic sites have the appearance of being after former ?hornblende crystals up to 1.5 mm long. Opaques, mainly sulfide, form eu- to subhedral crystals up to 1 mm diameter that are generally enclosed in quartz (euhedral crystals of similar size) but central to the larger mafic minerals clots, i.e. sulfide is surrounded by quartz which is surrounded by relict mafic minerals; tourmaline is associated but only rarely in direct contact with the sulfides. The sulfides are associated with the most strongly sericitized zone across the slide.

This appears to have been an amphibole-bearing, quartz-rich intrusive such as the quartz diorite/monzodiorite of other samples in this suite, cut by irregular zones of quartz-sericite-sulfides+/-tourmaline with significant K-feldspar-quartz envelopes; these envelopes appear to have been overprinted by ongoing (?outward transgressing) sericite-carbonate alteration.

96-10-606': CHLORITE-BIOTITE-CALCITE-QUARTZ-KSPAR-SULFIDE ALTERED GABBRO OR ?AMPHIBOLITE

Dark green, mafic rock with scattered clots of chalcopyrite-pyrite; trace magnetism, some reaction to HCl, minor yellow stain for K-feldspar that appears to rim certain crystals and therefore is likely secondary. Modal mineralogy in thin section is approximately:

Amphibole (actinolitic)	40%
Chlorite	30%
Quartz (mainly secondary)	15%
Carbonate (mainly calcite)	5%
Biotite	5%
Opaque (mainly sulfide)	2-3%
K-feldspar (secondary)	1-2%
Relict plagioclase	<1%
Sphene, rutile	<1%

This is a mafic rock, composed mainly of altered amphibole in a matrix of (largely secondary) quartz that may in part be after former plagioclase; the rock hosts irregular patches of sulfide.

Amphibole forms bladed, lath-like to fibrous subhedral crystals up to 3 mm long, heavily intergrown with quartz and showing alteration to finer biotite and major chlorite; chlorite may be partly after biotite and partly after amphibole. The amphibole has pale green pleochroism and extinction angle near 16 degrees, suggesting actinolite. Biotite forms subhedral relict crystals mainly less than 0.35 mm in diameter, strongly corroded by dark green chlorite with intense pleochroism and length-slow character indicating high Fe content. Most chlorite forms sub- to euhedral flakes less than 0.25 mm in diameter and contains minor bundles of ?rutile or sphene as 10-50 micron crystals; sphene also forms larger crystals up to 0.1 mm. Rare ?allanite or zircon is as euhedral crystals to 25 microns are surrounded by dark pleochroic haloes in chlorite. In some relict amphibole sites, fine secondary biotite is intergrown with carbonate (both less than 0.1 mm diameter) and surrounded by chlorite. Carbonate is likely mostly calcite in this sample.

Quartz forms subhedral crystals mainly less than 0.5 mm in diameter or intimate intergrowths with amphibole and carbonate that could represent former ?plagioclase. Minor secondary K-feldspar occurs around the margins of chloritized amphibole relics in certain parts of the slide; it is also rarely visibe replacing plagioclase as relict sub- to euhedral crystals to 1 mm long.

Sulfides form either coarse aggregates up to 3 mm across intergrown with secondary quartz, carbonate and chlorite that mostlyh separate the sulfides from nearby amphibole, and finer subhedra less than 0.5 mm in diameter that are mainly intergrown with chlorite but in places touch amphibole and sphene.

This rock would be classified as a chlorite-biotite-calcite-quartz+/-K-feldspar-sulfide altered gabbro or ?amphibolite.

96-11-421.5': MASSIVE SULFIDE ?VEIN WITH LESSER QUARTZ, CARBONATE (?DOLOMITE/ANKERITE) AND SERICITE, CUT BY LATE CALCITE FRACTURES

Mainly massive sulfide (?vein), slightly magnetic, minor reaction to HCl but no stain for K-feldspar. Modal mineralogy in thin section is approximately:

Opaque (sulfides)	80%
Quartz (secondary)	10%
Carbonate (calcite and ?ankerite)	5%
Sericite	5%
?Sphene	<1%

Most of this slide consists of massive, mainly Fe-sulfides, mixed in places with minor chalcopyrite and coarse, deep red-brown sphalerite as euhedral to subhedral crystals up to 0.5 cm across. Part of the vein consists of coarse subhedral quartz up to 3 mm in diameter, commonly with intense undulose extinction and lamellar structure indicating strain; in places there are subhedral crystals up to 0.3 mm of carbonate, possibly dolomite or ankerite rather than calcite (shows strong relief against calcite in veins cutting it). Patches up to 0.5 cm across of fine (20-50 micron) subhedral sericite, mixed in places with high-relief ?carbonate such as ankerite, possibly with some ?sphene, could represent the sites of former ?plagioclase and/or mafic minerals that have been included in the vein and strongly altered. Sulfides tend to be most closely intergrown with euhedral quartz and not so closely associated with the sericitized wallrock remnants.

Both quartz and sulfides are abundantly fractured by carbonate, including both abundant calcite (low relief, clear) and lesser ?ankerite (higher relief, darker, mainly on borders of fractures). At least part of the carbonate, particularly the calcite, thus seems to be later than sulfide.

96-12-124': INTENSELY SERICITE-QUARTZ-KSPAR-CHLORITE-CARBONATE-RUTILE-SPHENE ALTERED ?QUARTZ DIORITE/MONZODIORITE; NO VISIBLE SULFIDES

Buff-grey, medium-grained felsic-intermediate altered intrusive rock with minor salmon-pink colour, and strong yellow stain in etched slab, indicating abundant, likely secondary, K-feldspar. The rock is not magnetic and there are traces of reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Sericite	35%
Quartz (partly secondary)	25%
K-feldspar (secondary)	20%
Chlorite	10%
Carbonate (?calcite and dolomite)	7-10%
Opaque (?rutile, sphene)	1-2%
Zircon (?or allanite)	tr

This is a strongly altered rock, composed of relict feldspar and mafic sites with abundant interstitial quartz. Former ?plagioclase and ?amphibole sites have subhedral outlines up to 2.5 mm size; alteration has blurred the distinction between them, but plagioclase appears to be altered to sericite, carbonate and minor chlorite whereas mafics are replaced by chlorite, carbonate and minor rutile/sphene plus traces of ?zircon or allanite.

Sericite forms subhedral flakes mainly less than 50 microns in diameter, intimately intermixed with carbonate of similar size and K-feldspar that is commonly optically continuous over 0.5 mm. The K-feldspar may have largely replaced plagioclase prior to the intense sericite-carbonate alteration.

Mafic relics may have included both amphibole and biotite; some relics have subhedral outlines and lack internal structure but others have a lamellar structure of interleaved chlorite, carbonate and sphene-rtuile suggesting pseudomorphs of biotite. Zircon crystals are euhedral and up to 60 microns long; ?allanite, surrounded by pleochroic haloes, are up to 75 microns long.

Quartz crystals are generally sub- to anhedral and less than 1 mm in diameter, commonly skeletal in form suggesting secondary overgrowth and replacement of pre-existing adjacent feldspar.

This appears to be an intensely phyllic (sericite-quartz-carbonate-chlorite-rutile/sphene) altered intrusive, possibly overprinted on a potassic (quartz-Kspar) alteration. Original composition, assuming most K-feldspar is secondary, would be about quartz diorite to monzodiorite. There do not appear to be sulfides present in this sample.

96-12 313.5':BRECCIA OF HIGHLY SILICIFIED CLASTS IN MATRIX OF CHLORITE-BIOTITE-CARBONATE-QUARTZ-KSPAR-APATITE; CUT BY TOURMALINE+/-SULFIDE

Dark grey to black, fine- to medium-grained ?breccia matrix to white or grey, siliceous subangular fragments up to 2.5 cm in diameter. Minor sulfides and black ?tourmaline are associated with the matrix or fractures in the clasts; yellow stain in the etched slab indicates ?secondary K-feldspar mainly replacing margins of former ?plagioclase in the matrix. The rock is weakly magnetic and there are traces of reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (largely secondary)	45%
Chlorite (after biotite, ?amphibole)	20%
Biotite	10%
K-feldspar (secondary)	10%
Relict plagioclase	5%
Carbonate (largely calcite)	5%
Tourmaline (schorl)	2-3%
Opaque (?mainly sulfide)	1%
Clay-sericite	<1%
Rutile	<1%
Apatite	<1%

Clasts are highly silicified, composed of rounded to spherulitic-textured quartz up to about 0.35 mm in diameter, with distinctive cores of fine clay-sericite, and interstices filled by chlorite, carbonate and K-feldspar all about 0.1 mm or less in size (surprisingly, although most of this feldspar has relief much below that of quartz, it does not show much stain in the etched slab). Veinlets of tourmaline cut through the clasts, surrounded by more intense silicification. Tourmaline has very deep green-brown, patchy pleochroism indicating hihg Fe content (schorl) and forms subhedral crystals rarely over 0.5 mm long. Sulfides are not generally directly associated with tourmaline.

The matrix consists largely of altered mafic material, principally chlorite and lesser biotite, with K-feldspar, quartz, minor carbonate, rutile and opaques; in places, tourmaline is present as well. Chlorite and biotite are intimately intergrown and form subhedral flakes mainly less than 0.2 mm in diameter (rarely to 0.7 mm), with textures indicating chlorite replaces biotite; rare amphibole relics are distinguished by their cleavage. K-feldspar forms subhedral crystals to 0.5 mm enclosed by secondary quartz (subhedral, skeletal crystals to 0.5 mm). Carbonate forms subhedral crystals up to 2 mm across, in places poikilitically enclosing chlorite-biotite and opaques, or intergrown with significant, likely secondary, apatite as skeletal crystals to 1.5 mm across. Rutile, possibly mixed in places with sphene, forms fine crystals mainly less than 50 microns in size. Opaques form subhedral crystals mainly less than 0.75 mm in size, mostly intergrown with chlorite or biotite, or to a lesser extent quartz and K-feldspar. This appears to be a classic mafic potassic (Kspar-quartz-biotite-chlorite-tourmaline-sulfides) hydrothermally altered matrix, possibly after an intrusive breccia.

96-13 527': SERICITE-CHLORITE-QUARTZ-KSPAR-CALCITE-EPIDOTE ALTERED, PORPHYRITIC ?HORNBLENDE QUARTZ MONZODIORITE/MONZONITE

Grey-white, quartz- and feldspar-porphyritic felsic intrusive rock with dark clotty mafics and fine but phaneritic groundmass rich in K-feldspar. The rock is barely magnetic and shows minor reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (phenocrysts, groundmass)	30%
Plagioclase (albitic)	30%
K-feldspar (partly secondary)	20%
Amphibole	7%
Sericite	5%
Chlorite	3%
Carbonate	2-3%
Sphene	1-2%
Opaque	1%
Epidote, apatite, zircon, ?tourmaline	<1%

This slide consists of about 10-20% 2-3 mm quartz, 30-40% 2-3 mm plagioclase, and 10% agglomerated mafic crystals in a finer matrix of 0.1 mm quartz and K-feldspar, giving the rock a porphyritic texture.

Quartz phenocrysts are subhedral to rounded, with minor fracturing by sericite or carbonate, and overgrowths of secondary quartz and in places K-feldspar; some of the crystals are aggregates of smaller grains. Plagioclase phenocrysts are euhedral in outline, partly twinned with extinction angle on 010 up to 11 degrees and altered texture suggesting a (secondary) albitic composition. Most show partial alteration to fine flakes of sericite, minor fractures of carbonate, and in places rims of K-feldspar. Amphibole forms subhedral crystals mainly less than 2 mm long, clustered up to 6 mm across with minor chlorite, carbonate, sphene, opaques and epidote. The amphibole shows pale yellowish green pleochroism and extinction angle about 16 degrees, suggesting ?hornblende. Chlorite forms subhedral flakes up to 0.3 mm diameter with anomalous (length-slow) birefringence suggesting high Fe content; carbonate forms subhedral crystals to 0.2 mm, likely mostly calcite; sphene occurs as subhedral or skeletal crystals up to 0.5 mm diameter, commonly intergrown with opaques up to 0.75 mm across and minor subhedral epidote to 0.2 mm. Rare apatite and dark brown ?tourmaline to 0.2 mm are loosely associated with the mafic aggregates and opaques (intergrown with K-feldspar); rare zircon euhedra are up to 150 microns long.

In summary, opaques (?sulfide) show an association with mafic mineral-sphene clusters, but in detail are intergrown with secondary minerals such as chlorite, carbonate, epidote and K-feldspar; this suggests they formed by hydrothermal replacement of mafic mineral sites. The host rock would be classed as a porphyritic hornblende quartz monzodiorite or quartz monzonite, depending on the amount of K-feldspar that is secondary.

96-14 485': PHYLLIC (QUARTZ-SERICITE-CARBONATE-CHLORITE-RUTILE-SULFIDE) ALTERED ?QUARTZ DIORITE/MONZODIORITE

Grey-buff, strongly altered felsic-intermediate intrusive with vaguely porphyritic texture caused by subhedral quartz crystals. The rock is weakly magnetic but there is no reaction to cold dilute HCl, and no stain for K-feldspar in the etched slab. Modal mineralogy in thin section is approximately:

Quartz (partly secondary)	45%
Sericite	30%
Carbonate (?mainly ankerite)	10-15%
Chlorite	10%
Opaque (sphalerite, sulfide)	2-3%
Rutile, sphene	1%
Zircon, apatite	tr

This sample consists of quartz, sericitized ?plagioclase relics and chlorite-carbonate altered mafic relics.

Quartz forms subhedral crystals up to 3 mm in diameter, in places aggregating to 4 mm. Strongly sericite-minor carbonate altered areas between the quartz appear to have been subhedral ?plagioclase crystals up to about 2 mm in diameter, commonly attacked at their margins by secondary quartz. In these altered ?plagioclase sites, sericite forms subhedral flakes mainly less than 0.1 mm in diameter, mixed with minor carbonate as an- to subhedral aggregates or rosettes up to 0.35 mm in diameter. The carbonate in both these sites and the mafic relics has high relief and dark brownish colour, suggesting ankerite rather than calcite; this is confirmed by the lack of reaction and buff colour in hand specimen.

Mafic relics are irregular to anhedral in outline and consist of mixtures of very pale chlorite (subhedral to radiating flakes to 0.7 mm) and rosettes of carbonate, plus lesser sericite, rutile, sphene and sulfides (mostly deep red-brown sphalerite). Sericite forms flakes to 0.3 mm diameter (muscovite). Rutile forms aggregates to 0.5 mm long of bundled 25-50 micron needles; sphene forms rare euhedra to 0.1 mm. Sphalerite and ?pyrrhotite form subhedral crystals to skeletal aggregates up to 1 mm across.

This may have been a hornblende quartz diorite to monzodiorite (if K-spar was originally present and has been sericitized); alteration is mainly phyllic, to quartz-sericite-ankerite-chlorite-rutile and sphalerite. Sphalerite and other sulfides are closely intergrown with carbonate, chlorite and rutile in the altered mafic sites.

96-14 507': STRONGLY CHLORITE-SULFIDE-KSPAR-CARBONATE-QUARTZ ALTERED ?HORNBLENDE QUARTZ DIORITE/MONZODIORITE

Grey, medium-grained, strongly altered and sulfidized felsic-intermediate intrusive rock (pyrite and chalcopyrite visible in hand specimen). The rock is weaklyh magnetic and shows strong reaction to cold dilute HCl; the etched slab stains strongly for K-feldspar interstitial to mafic and sulfide minerals. Modal mineralogy in thin section is approximately:

Chlorite	25%
Opaque (sulfide)	25%
K-feldspar (?largely secondary)	20%
Carbonate (mainly calcite)	15%
Quartz (partly secondary)	5-10%
Relict plagioclase	2-3%
Amphibole	2-3%
Biotite	1%
Rutile	1%

In this sample, areas of semi-massive sulfide (pyrite, chalcopyrite, minor red-brown sphalerite) up to 2.5 cm across are intimately intergrown with chlorite and quartz; smaller areas of sulfides are also intergrown with K-feldspar in places.

Individual crystals of opaques are generally sub- to euhedral and less than 1 mm in size. Chlorite, which forms sub- to euherdal flakes up to 1 mm diameter, has strong yellow to green pleochroism and pale blue anomalous birefringence (length-slow), indicating high Fe content; it clearly replaces both former amphibole and lesser biotite. Amphibole relics occur as skeletal to lath-like crystals less than 1 mm in size at the centers of chlorite patches; biotite forms minor red-brown subhedral flakes less than 0.1 mm in diameter, and could be in part after former ?amphibole. Rutile forms slender needles and bundles of needles, generally less than 50 microns long, contained in chlorite. Carbonate, likely mostly calcite, forms sub- to anhedral angular crystals mainly less than 0.5 mm diameter intergrown with chlorite, quartz and in places sulfide.

Quartz forms sub- to euhedral, commonly skeletal or poikilitic crystals less than 1 mm in maximum dimension that look to be mostly secondary, although some could be overgrowths on or recrystallizations of, primary crystals. K-feldspar forms subhedral crystals mainly less than 0.15 mm in size, interstitial to the other minerals and mainly intergrown with quartz. Although some sulfides are in contact with K-feldspar, in general it does not seem to be closely (directly) related to the mineralization. In places subhedral relict plagioclase crystals up to 2 mm in size are contained within the K-feldspar, suggesting a rock formerly richer in plagioclase that has been largely replaced by K-feldspar and quartz. This rock may have been a quartz diorite to monzodiorite depending on how much of the quartz and K-feldspar is secondary.

96-14 534.5: POTASSIC-PROPYLITIC (KSPAR-QUARTZ-CHLORITE-SERICITE-CALCITE +/-TOURMALINE, EPIDOTE) ALTERED BRECCIA (?QUARTZ DIORITE MATRIX TO QUARTZ MONZODIORITE CLASTS)

This section appears to cut the contact between a coarse-grained, grey-white, more felsic intrusive and a finer-grained, dark grey-green more mafic intrusive. The hand specimen suggests that the dark phase forms a breccia matrix to subangular clasts of the felsic phase up to 5 cm in diameter. Contacts are sharp; traces of sulfide appear to be more abundant in the matrix, but do also occur in the clasts. Yellow stain in the etched slab shows K-feldspar to be abundant in the matrix portion, and less common but clearly replacing rims of plagioclase in the clasts. The rock is not magnetic and there are only traces of reaction to cold dilute HCl. Modal mineralogy in thin section is:

Clasts		Matrix	
Quartz (partly secondary0	35%	K-feldspar (?secondary)	40%
Plagioclase (?oligoclase)	35%	Quartz (?partly secondary)	25%
K-feldspar (secondary)	15%	Chlorite (after biotite)	25%
Chlorite (after biotite)	10%	Carbonate (calcite)	5%
Biotite	1%	Biotite	1-2%
Sericite, clay	1%	Clay-sericite	1-2%
Carbonate (calcite)	1%	Sphene, rutile	<1%
Sphene	<1%	Opaque (sulfide)	<1%
Tourmaline (schorl)	<1%	Epidote	<1%
Epidote	<1%	Zircon	tr
Opaque (pyrite)	<1%		

The coarse-grained clasts consist of coarse plagioclase and quartz with minor interstitial chlritized mafics. Plagioclase forms subhedral glomeratic crystals up to 7 mm across, in places partly altered to fine sericite/clay and minor carbonate (calcite) as subhedral crystals less than 0.1 mm in diameter, mainly along fractures. Original composition in these strongly zoned crystals is about ?oligoclase, based on extinction angle Y^010 up to 6 degrees. The rims are commonly replaced by fine, sub- to anhedral secondary K-feldspar less than 0.1 mm in size. Chloritized mafic relics consist of subhedral, bright green (Fe-rich) chlorite flakes to 0.2 mm replacing red-brown biotite relics of similar or smaller size, minor calcite, sphene, epidote, opaque and tourmaline as sub- to euhedral crystals up to about 0.15 mm in size. Tourmaline is very dark blue to greenish brown, likely Fe-rich schorl. Rare opaques are intergrown with chlorite and biotite.

The fine-grained matrix consists of subhedral K-feldspar mainly less than 0.7 mm long intergrown with sub- to anhedral quartz up to 1 mm in diameter and chloritized mafic relics up to 1.5 mm long. The K-feldspar is mainly clouded by very fine (micron-sized) clay-sericite or altered to carbonate/chlorite, and largely appears to replace former ?plagioclase. Quartz is possibly partly secondary, overgrowing the margins of feldspar crystals. Chlorite (containing minor subhedral sphene and rare needle-like ?rutile to 0.1 mm) is as described for the clasts, and (with carbonate to 0.15 mm and trace epidote to 75 microns) also replaces biotite and rare amphibole. Opaques are almost always found in or adjacent to chlorite or biotite. Rare euhedral zircon crystals are up to 150 microns long. The matrix, which could have been a quartz diorite/monzodiorite, is more hydrothermally altered than the clasts (?quartz monzodiorite), but the alteration in both appears to be potassic-propylitic (Kspar-quartz-chlorite-sericite-calcite-tourmaline)

96-15 191': POTASSIC (KSPAR-QUARTZ-BIOTITE-CHLORITE-CALCITE-SERICITE-APATITE-SULFIDE ALTERED ?BRECCIA OF ?QUARTZ MONZODIORITE CLASTS IN MATRIX OF HORNBLENDE QUARTZ DIORITE

In hand specimen, apparently a breccia of lighter-coloured, coarser-grained subangular clasts to 2 cm diameter in a darker, finer-grained matrix (as in 96-14 534.5'). The rock is not magnetic and there are traces of reaction to cold dilute HCl; the etched slab shows abundant K-feldspar, likely replacing plagioclase. Modal mineralogy in thin section is approximately:

Amphibole (hornblende)	40%
K-feldspar (?largely secondary)	20%
Relict plagioclase	20%
Quartz (partly secondary)	10%
Chlorite	2-3%
Biotite	1-2%
Carbonate (calcite)	1-2%
Clay-sericite	1-2%
Apatite	1%
Opaques (?sulfide)	1%
Sphene	<1%

A breccia texture is not so obvious in thin section, although there are rare indications of the felsic ?clasts up to 0.5 cm across that are composed of coarser quartz and plagioclase (both subhedral, to 1 mm; plagioclase is zoned ?oligoclase rimmed by secondary K-feldspar), with minor chlorite-carbonate-sphene after biotite and amphibole (subhedral masses to 0.75 mm). The bulk of the rock is composed of abundant chlorite-biotite altered amphibole with a matrix of Kspar- altered plagioclase. Amphibole crystals are subhedral and mainly less than 1 mm long, with pale green to medium green pleochroism and extinction angle up to 18 degrees suggesting ?actinolitic composition; they overgrow and replace a brownish amphibole, possibly primary ?hornblende. Most crystals are intergrown with (?replaced by) minor red-brown biotite as subhedral flakes to 0.2 mm, Fe-rich chlorite to 0.1 mm, and minor carbonate (likely mostly calcite) to 0.15 mm. Minor opaques (?sulfide) forming sub- to euhedral crystals up to 0.5 mm across are intergrown with traces of sphene up to 0.1 mm across, both occurring almost exclusively in amphibole or its altered products. Subhedral apatite crystals up to 1 mm in diameter are intergrown with amphibole and quartz, apparently part of the hydrothermal assemblage.

K-feldspar forms sub- to euhedral crystals up to 1 mm in size, in places clearly replacing former plagioclase crystals that were up to 1.5 mm in size. Both feldspars are partly altered to fine sericite, carbonate and chlorite. Quartz forms mainly subhedral crystals less than 1 mm in size that (where finer) suggest they are secondary, replacing plagioclase and intergrown with secondary K-feldspar.

It is difficult to be sure of the original composition of the ?clasts and matrix due to the potassic-propylitic alteration to Kspar-quartz-biotite-chlorite-calcite-sericite-apatite-sulfides, but it appears likely that quartz monzodiorite clasts are hosted by a matrix of ?hornblende quartz diorite to diorite.

96-15 236.5': POTASSIC (KSPAR-QUARTZ-BIOTITE-CHLORITE-CALCITE-SERICITE ALTERED) BRECCIA OF ?QUARTZ MONZODIORITE CLASTS IN MATRIX OF ?BIOTITE QUARTZ MONZODIORITE/DIORITE

In hand specimen, apparently a breccia of large, lighter-coloured, coarser-grained rounded clasts to 5 cm diameter in a darker, finer-grained matrix (as in 96-14 534.5' and 15-191'). The matrix is magnetic and shows minor reaction to HCl; the etched slab shows abundant K-feldspar, mainly replacing plagioclase. Modal mineralogy in thin section is approximately:

Plagioclase (oligoclase-andesine?)	40%
Quartz (partly secondary)	25%
K-feldspar (?largely secondary)	15%
Biotite	10%
Chlorite	5%
Sericite	2-3%
Carbonate (calcite)	1-2%
Opaques (?sulfide)	<1%
Sphene, trace rutile	<1%
Apatite	<1%

In this slide, felsic ?clasts make up most of the section, with lesser finer matrix material. Clasts are composed of plagioclase (sub- to euhedral, up to 2.5 mm long), quartz (an- to subhedral, to 1 mm) and chloritized biotite; plagioclase is zoned ?oligoclase-andesine, rimmed by secondary K-feldspar. Most plagioclase, and to a lesser extent the secondary K-feldspar, is partly altered to fine sericite and lesser carbonate (calcite) as subhedral crystals to 50 and 75 microns respectively. Quartz forms skeletal crystals that appear to replace adjacent feldspar. Biotite as subhedral flakes to 0.25 mm, in places with traces of former ?amphibole, forms subhedral masses to 0.75 mm, partly altered at fringes to chlorite-rare carbonate (likely mostly calcite). Sphene occurs as rare large euhedral crystals to almost 1 mm in diameter, closely associated with opaques (skeletal aggregates, up to 1 mm across, of sub- to euhedral crystals; some are sulfide). Rare euhedral apatite to 0.1 mm is associated with the mafic sites.

The matrix portion is finer-grained, composed of more abundant chlorite-altered biotite (possibly after ?amphibole, traces of which as subhedra to 0.15 mm remain in places), mixed with strongly Kspar-altered plagioclase and quartz. Biotite is greenish-brown, forming subhedral flakes to 0.5 mm partly replaced by Fe-rich chlorite to 0.1 mm and minor carbonate (likely mostly calcite) to 0.15 mm. Traces of sphene form aggregates to 0.1 mm of 20-30 micron subhedra; rutile forms aggregates to 50 microns of 10-15 micron needles. Opaques (?sulfide) forming sub- to euhedral crystals up to 0.15 mm across, intergrown with biotite or its altered products, are very rare. K-feldspar forms sub- to euhedral crystals up to 0.1 mm in size, mainly replacing rims of plagioclase crystals up to 1 mm in size. Both feldspars are partly altered to fine sericite, carbonate and chlorite. Quartz forms mainly subhedral crystals less than 0.25 mm in size that although partly secondary, look like the groundmass in a weakly porphyritic rock.

It is difficult to be sure of the original composition of the ?clasts and matrix, due to the potassic-propylitic alteration to Kspar-quartz-biotite-chlorite-calcite-sericite, but it appears possible that quartz monzodiorite clasts are hosted by a matrix of biotite quartz monzodiorite/diorite.

96-15 442': POTASSIC (KSPAR-QUARTZ) ALTERED ?QUARTZ MONZODIORITE, OVERPRINTED BY INTENSE PHYLLIC (ANKERITE-SERICITE-CHLORITE) ALTERATION

Grey-green, medium-grained intermediate intrusive cut by abundant pink-buff fracturing; the latter appear to stain more strongly for K-feldspar in the etched slab, suggesting significant fracture-controlled secondary potassic alteration. The rock is not magnetic and there are traces of reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (partly secondary)	30%
Sericite (after feldspars)	25%
Carbonate (?ankerite, minor calcite)	20%
K-feldspar (secondary)	20%
Chlorite	3-5%
Rutile, ?sphene	1%
Opaques (?mainly sulfides)	<1%

This is a strongly altered rock, but the texture of an intermediate intrusive is largely preserved. Large, irregular-shaped areas of quartz up to 4 mm across are separated by altered plagioclase and mafic mineral relics.

Quartz masses are composed of sub- to anhedral crystals mainly less than 1 mm in diameter, mostly strongly fractured and with moderate undulose extinction indicating strain. Overgrowth textures at their margins suggest they are partly secondary, replacing adjacent feldspar.

Relict plagioclase crystals have eu- to subhedral outlines up to 3 mm long; they are mainly replaced (commonly at rims) by secondary K-feldspar, and are moderately to intensely replaced (mainly at cores) by fine-grained sericite and carbonate. The K-feldspar forms relict crystals less than 0.2 mm in diameter; sericite and carbonate are mostly less than 50 microns in diameter.

Mafic relics are in places difficult to distinguish from plagioclase relics, but tend to have a foliated appearance and are altered more to carbonate, lesser sericite and minor chlorite. Chlorite is rather pale in colour but length-slow, suggesting a moderately Fe-rich composition. Carbonate in both the mafic and plagioclase sites is distinctly brownish (?partly Fe-stained), with high relief compared to nearby calcite, suggesting it may be mostly ankerite. Interleaved sericite and chlorite flakes, and fine-grained aggregates of the ?ankerite, are up to 0.5 mm long, suggesting replacement of former biotite and/or hornblende crystals that were up to 1.5 mm across in places. Sphene, if present, is difficult to distinguish from the high-relief carbonate, but traces of rutile to 50 microns and rare opaque (?sulfide) to 0.25 mm are present in the altered mafic sites. Calcite appears to be mainly late, forming discrete fractures less than 0.1 mm thick or rare fine-grained masses.

The alteration in this sample may be two-fold: earlier potassic (K-feldspar and quartz) superposed by later phyllic (sericite-ankerite-chlorite-rutile) and lastly minor calcite fracturing. Depending on how much of the K-feldspar is secondary, it may have originally been a quartz monzodiorite to diorite.

96-15 577: POTASSIC-PROPYLITIC (QUARTZ-KSPAR-SERICITE-CALCITE-CHLORITE-TRACE TOURMALINE-SULFIDES) ALTERED ?QUARTZ MONZODIORITE/DIORITE

Grey-white, medium-grained, felsic-looking intrusive that shows abundant yellow stain in the etched slab for fine, ?partly secondary K-feldspar rimming former plagioclase crystals. The rock shows traces of magnetic attraction and of reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (?partly secondary)	35%
Plagioclase (relict, altered)	25%
K-feldspar (?partly secondary)	15%
Sericite	15%
Carbonate (calcite)	5%
Chlorite	3%
Opaque (sulfides)	<1%
Sphene, rutile	<1%
Epidote	<1%
Biotite	<1%
Tourmaline (schorl)	<1%

Plagioclase originally formed sub- to euhedral crystals rarely over 2.5 mm long that have been mainly altered, first by rims of K-feldspar (mainly subhedral crystals less than 0.15 mm) and then by fine sericite-carbonate (5-100 micron subhedra), more concentrated at cores of the former crystals. Composition of the plagioclase is difficult to determine through the alteration, but appears albitic. Rare tourmaline is found with K-feldspar.

Quartz forms mainly subhedral crystals less than 1 mm in diameter, probably partly secondary to judge by overgrowth textures replacing adjacent feldspars.

Relict mafic sites are mainly replaced by chlorite (bright green pleochroism, anomalous blue birefringence, length-slow character indicating high Fe content) as subhedral flakes mostly less than 0.35 mm in diameter. Lesser carbonate, likely mostly calcite, forms sub- to anhedral crystals to 0.25 mm size, and there is rare epidote (subhedra to 0.1 mm). Rutile forms bundles of fine 10-30 micron needles, in places intergrown with sphene as euhedral to skeletal crystals up to 1.2 mm in diameter. Opaques, mainly sulfides, form sub- to euhedral crystals up to 0.5 mm, most often intergrown with carbonate, but also in contact with quartz, K-feldspar, chlorite, and rare dark greenish-blue to brown tourmaline (Fe-rich schorl) to 0.2 mm. Rare biotite is deep red-brown, forming subhedral flakes to 0.15 mm. In places both sphene and rutile occur along narrow fractures, suggesting alteration was locally intense enough to mobilize TiO_2.

In summary, this is a somewhat finer-grained version of the quartz monzodiorite to diorite (depending on how much of the K-feldspar is secondary); alteration is potassic-propylitic (K-feldspar, quartz, sericite, carbonate, chlorite; trace tourmaline-sulfides).

96-10 966': POTASSIC-PHYLLIC (QUARTA-KSPAR-SERICITE-CARBOANTE-RUTILE-SPHENE-SULFIDE) ALTERED ?QUARTZ MONZODIORITE TO DIORITE

Buff-grey, strongly altered, medium-grained, felsic-looking intrusive with rare dark clots to 0.5 cm of minor sulfide; abundant K-feldspar is indicated by yellow stain in the etched slab. The rock is not magnetic but there is significant reaction to cold dilute HCl. Modal mineralogy in thin section is approximately:

Quartz (partly secondary)	35%
K-feldspar (partly secondary)	20%
Sericite	20-25%
Carbonate (calcite, minor ?ankerite)	20%
Sphene, rutile	1%
Opaque (?mainly sulfide)	1%

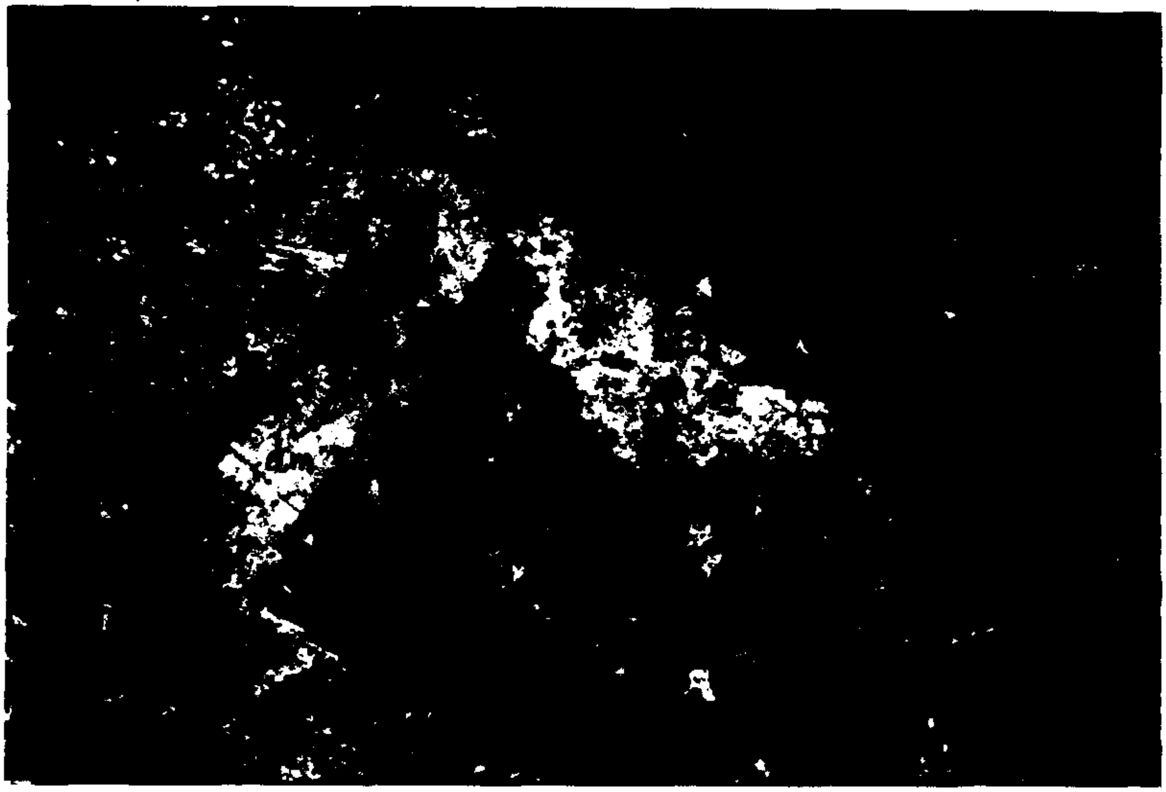
This slide is similar to 15-577 in being composed mainly of quartz and altered plagioclase relics less than 2-3 mm in size, although quartz masses are in places up to 0.5 cm across. Mafic relics are scarce but are distinguished by lamellar texture (after biotite?).

Quartz is abundant in this sample, forming both scattered large subhedral ?phenocrysts to 3 mm in diameter as well as more general 1 mm subhedra throughout the rock. Clear overgrowth rims on many crystals indicate that part of the quartz is secondary, replacing or intergrown with adjacent K-feldspar, itself likely partly secondary. Quartz crystals show moderate strain, indicated by lamellar structure, fracturing and undulose extinction.

Former plagioclase crystals have sub- to euhedral outlines and are completely replaced by K-feldspar (mainly around rims and along fractures through the interior of the crystals), sericite and carbonate. K-feldspar crystals are subhedral and range up to 1.2 mm in size, in places pseudomorphing the entire plagioclase crystal; elsewhere, 50-100 micron sericite and lesser carbonate are concentrated in the cores of crystals. Much of the carbonate has low relief and is likely calcite, but this calcite is commonly rimmed and veined by a higher-relief carbonate that may be dolomite or ankerite.

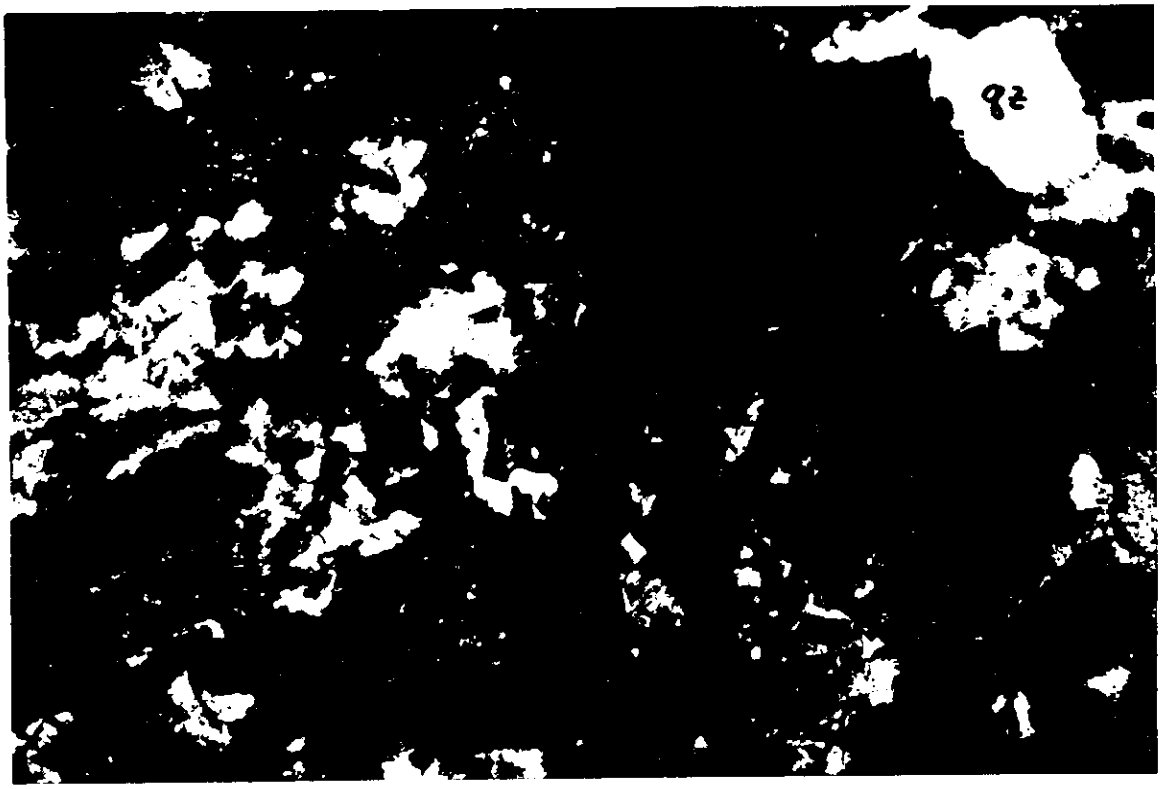
Mafic relics are pseudomorphed by interleaved carbonate (largely the ?ankerite) and sericite, mainly less than 0.25 mm in maximum dimension. Needle-like rutile mainly less than 35 microns long is common in the carbonate; in places rutile aggregates to 1.25 mm, and scattered euhedral sphene to 0.5 mm is associated. Opaques, mostly sulfide, form sub- to euhedral crystals to 1 mm across that are mostly intergrown with (secondary) quartz, K-feldspar and lesser sphene and carbonate.

This strongly potassic-phyllic (quartz-Kspar-sericite-carbonate-rutile-sphene-trace sulfide) altered rock would be classed as a quartz monzodiorite to diorite, depending on how much of the K-feldspar is primary and how much secondary.

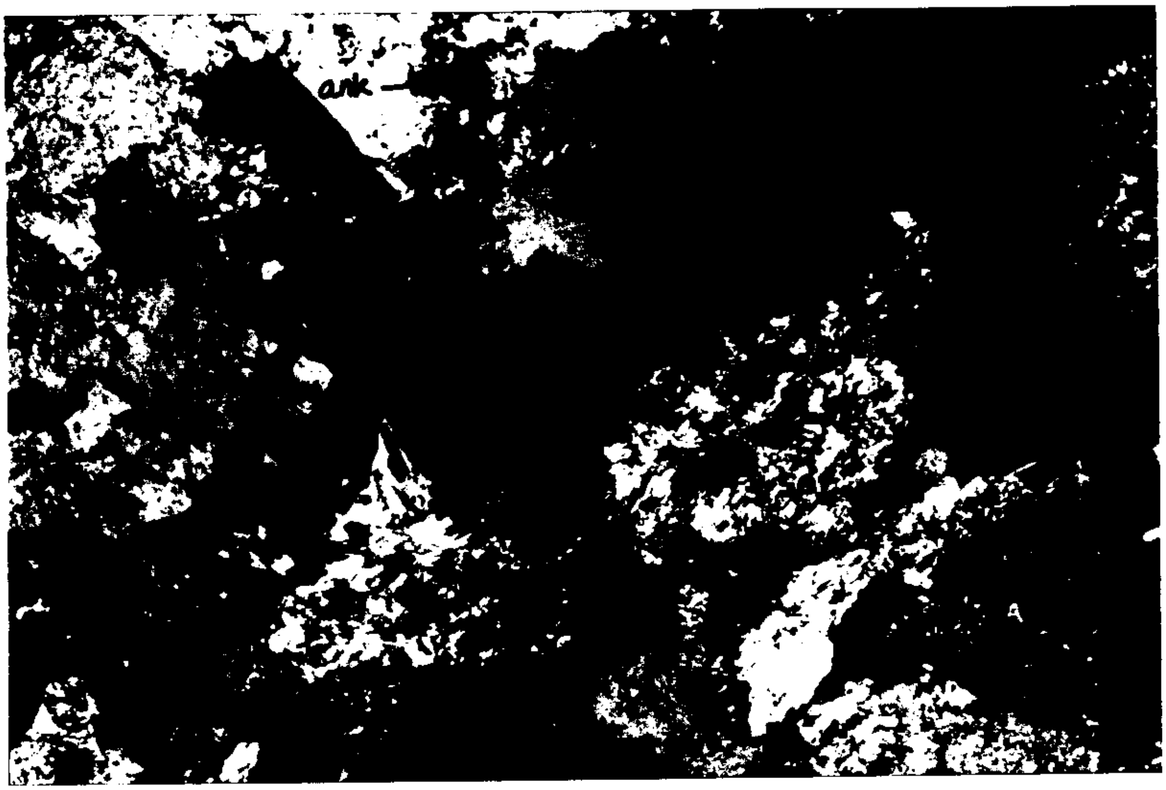


96-1-106.5: Clot of coarse tourmaline (blue-green), amphibole (pale) and brown biotite containing sulfides (black) in diorite-gabbro matrix. Transmitted light, uncrossed polars, 2.5 mm field of view (bottom photo in crossed polars).

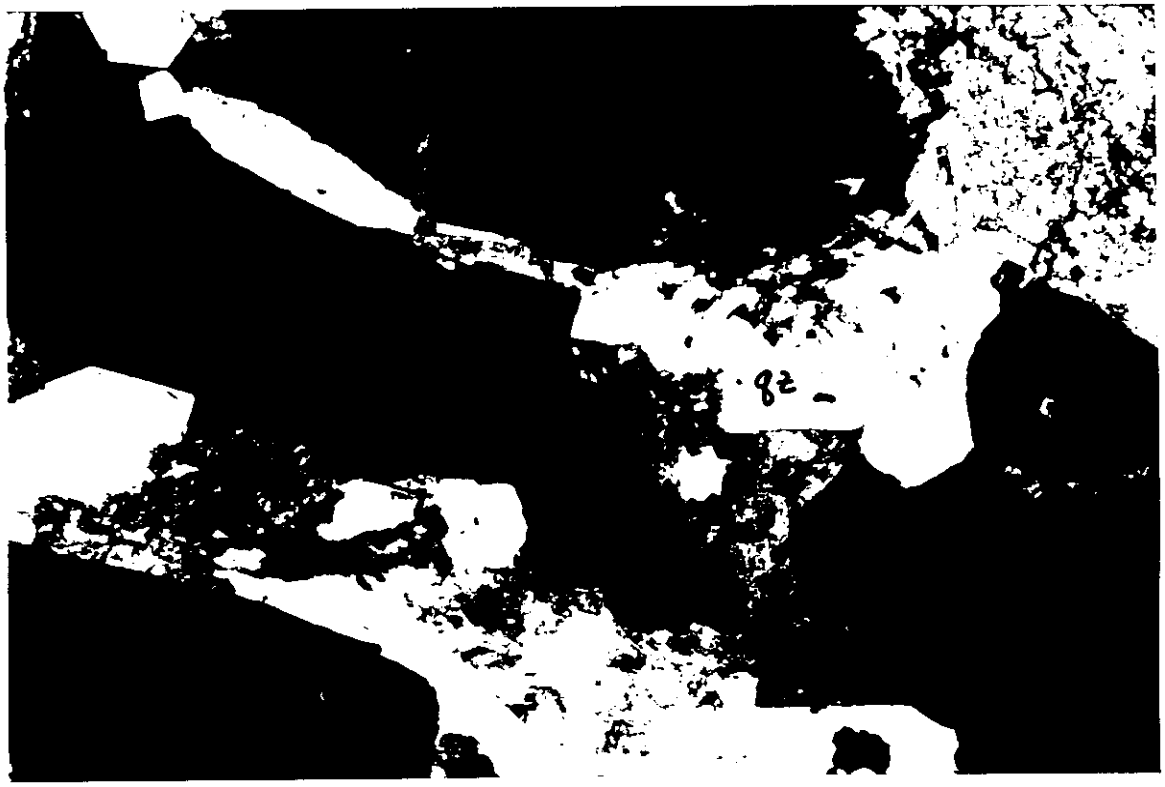
96-1A-70: Euhedral red-brown zoned sphalerite (sl), minor galena (gn) and euhedral arsenopyrite (as), in quartz(qz)-carbonate(carb) vein; late calcite (ca) fractures. Reflected (top) and transmitted (bottom) light, uncrossed polars; 2.0 and 2.5 mm field of view respectively.



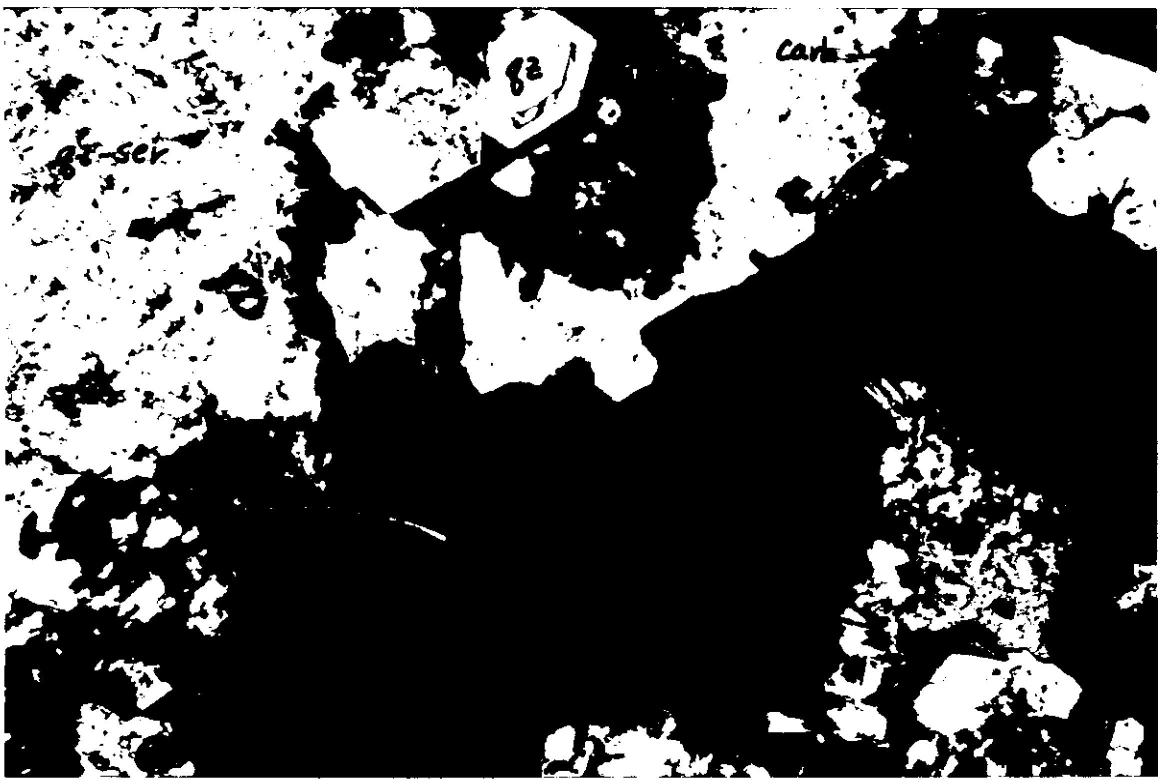
96-2-133: Clot of sulfide with tourmaline (coloured)-apatite (grey)-quartz (white), associated with narrow quartz veinlets, in phyllic (quartz-sericite-carbonate-rutile altered) ?aplite; transmitted light, crossed polars, 2.5 mm field of view).



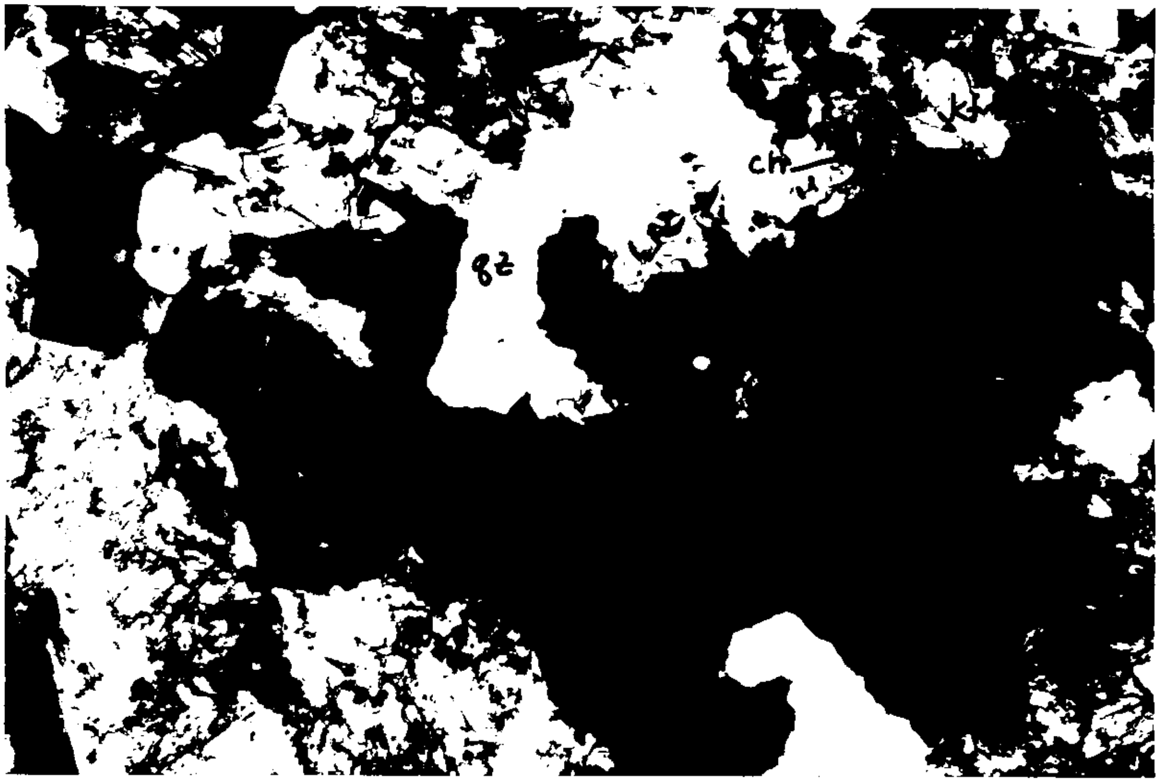
96-3-158: Clot of sulfide (black)-ankeritic carbonate (ank)-sericite (ser)-sphene-rutile in coarse secondary quartz, "greisenized" granite or quartz diorite; transmitted light, crossed polars, 2.5 mm wide.



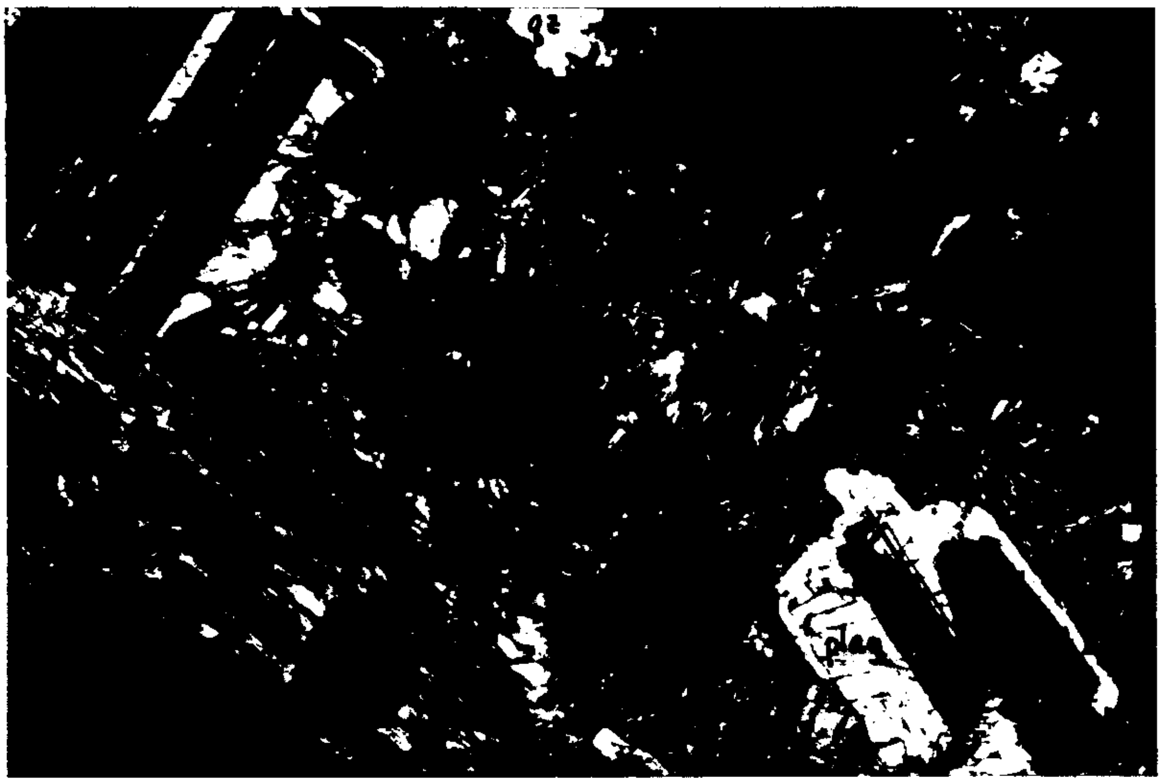
96-3-206.5: Vein of quartz-?ankeritic carbonate-tourmaline-sulfide cutting strongly quartz-sericite-carbonate altered ("greisenized") granite or quartz diorite; transmitted light, uncrossed polars, 2.5 mm.



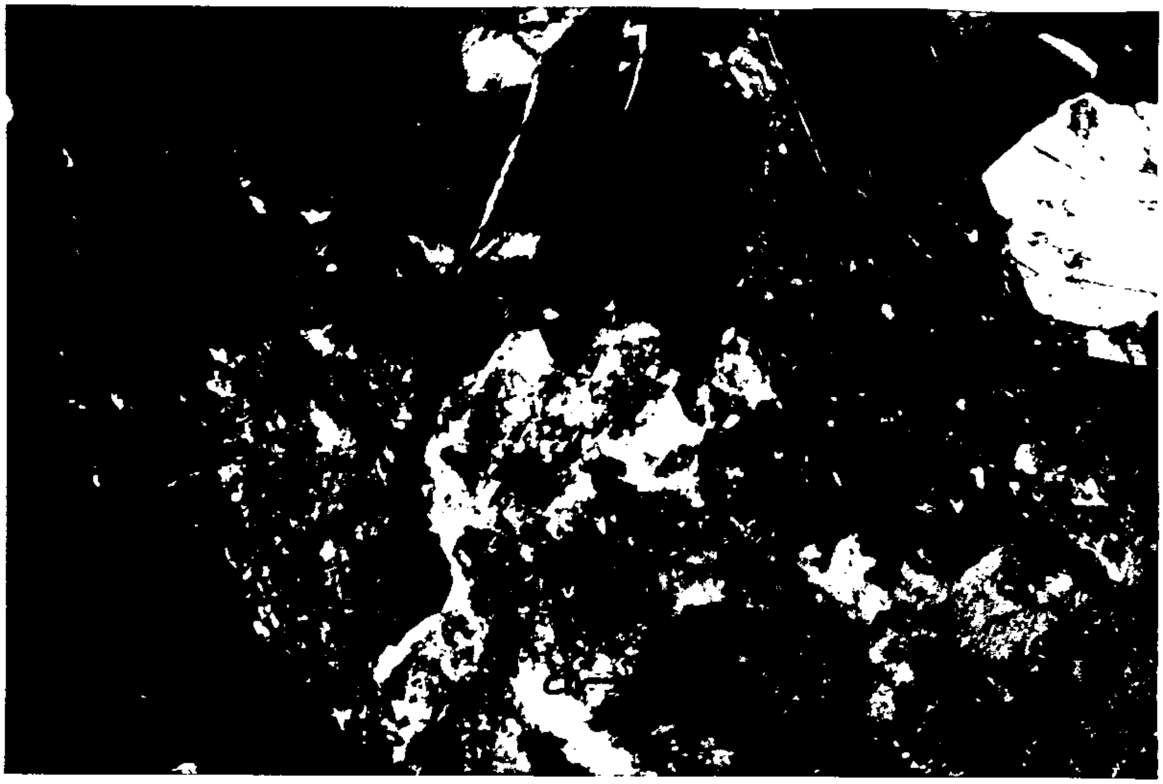
96-4-533.5: Quartz-Kspar-sericite-minor carbonate veins in intensely sericite-quartz altered quartz monzonite. Transmitted light, crossed polars, 2.5 mm field of view.



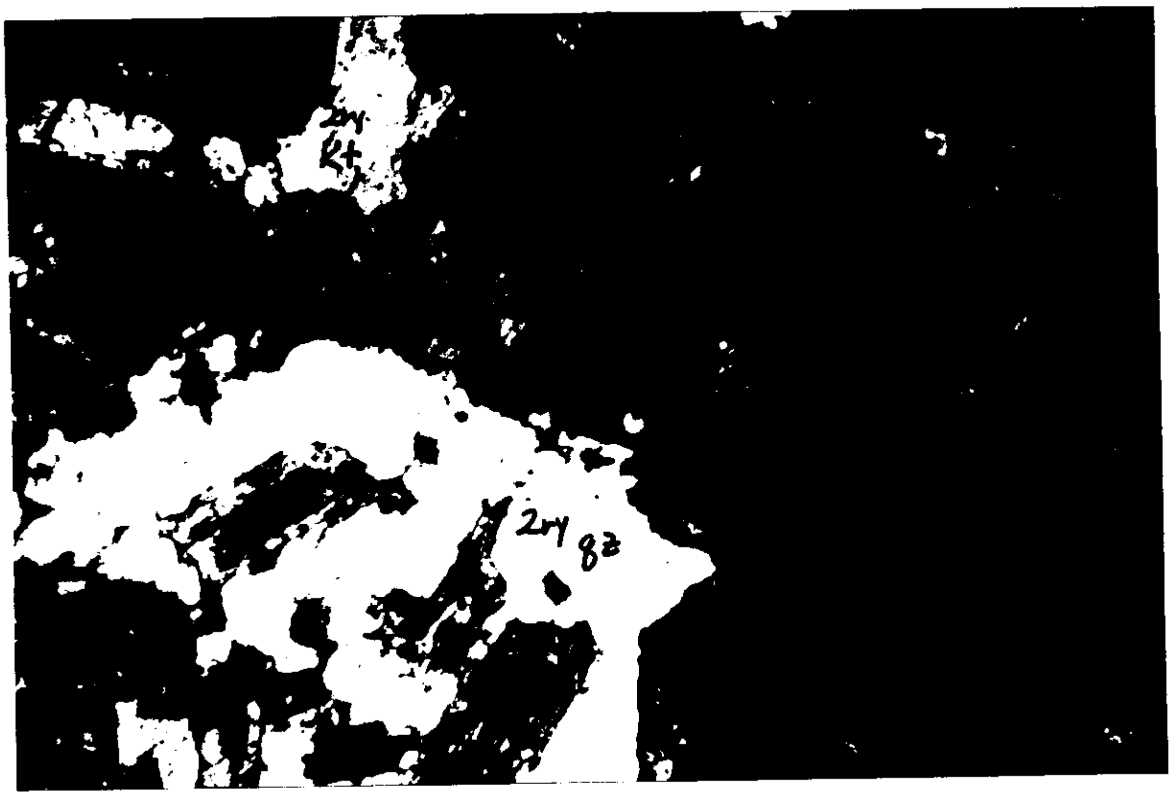
96-4-187: Sulfide clot associated with quartz-chloritized biotite-minor Kspar-sphene, in quartz-Kspar-biotite-chlorite-carbonate altered quartz monzonite/diorite; transmitted light, uncrossed polars, 2.5 mm wide.



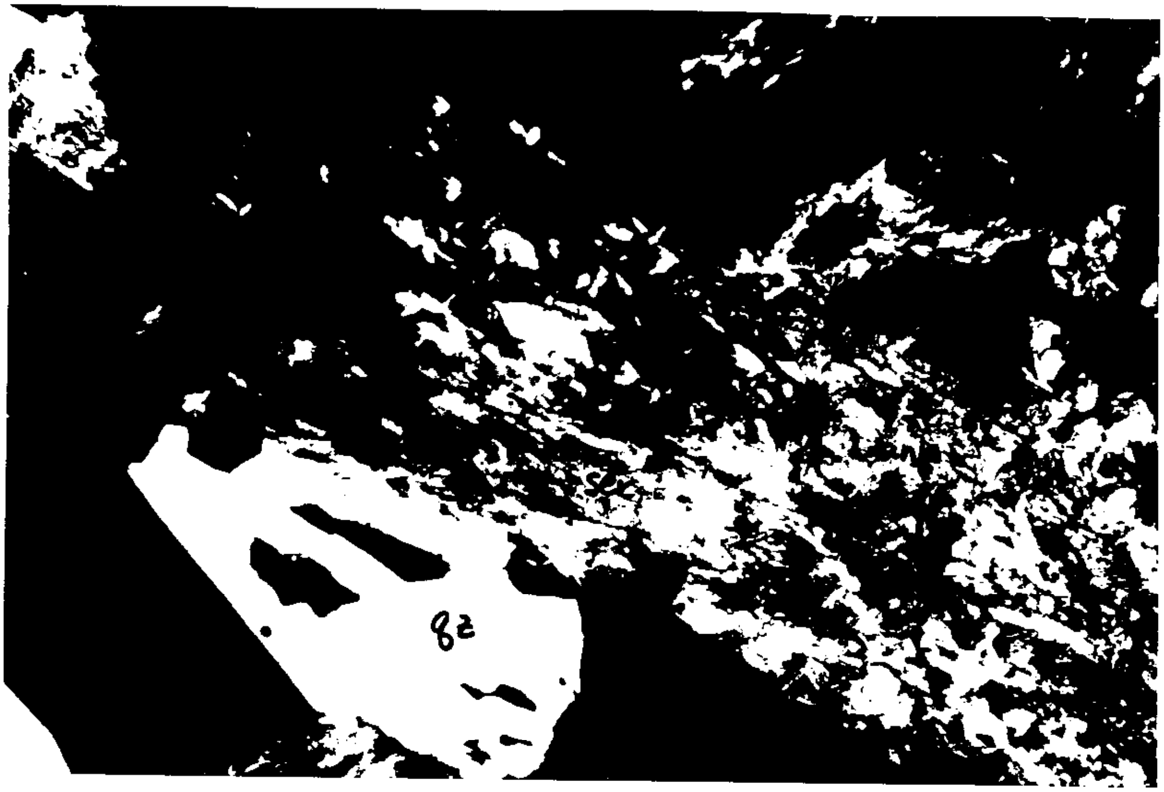
96-5-206: Twinned and zoned plagioclase (andesine-oligoclase), quartz and altered amphibole and biotite phenocrysts in groundmass of quartz-Kspar. Transmitted light, crossed polars, 2.5 mm field of view.



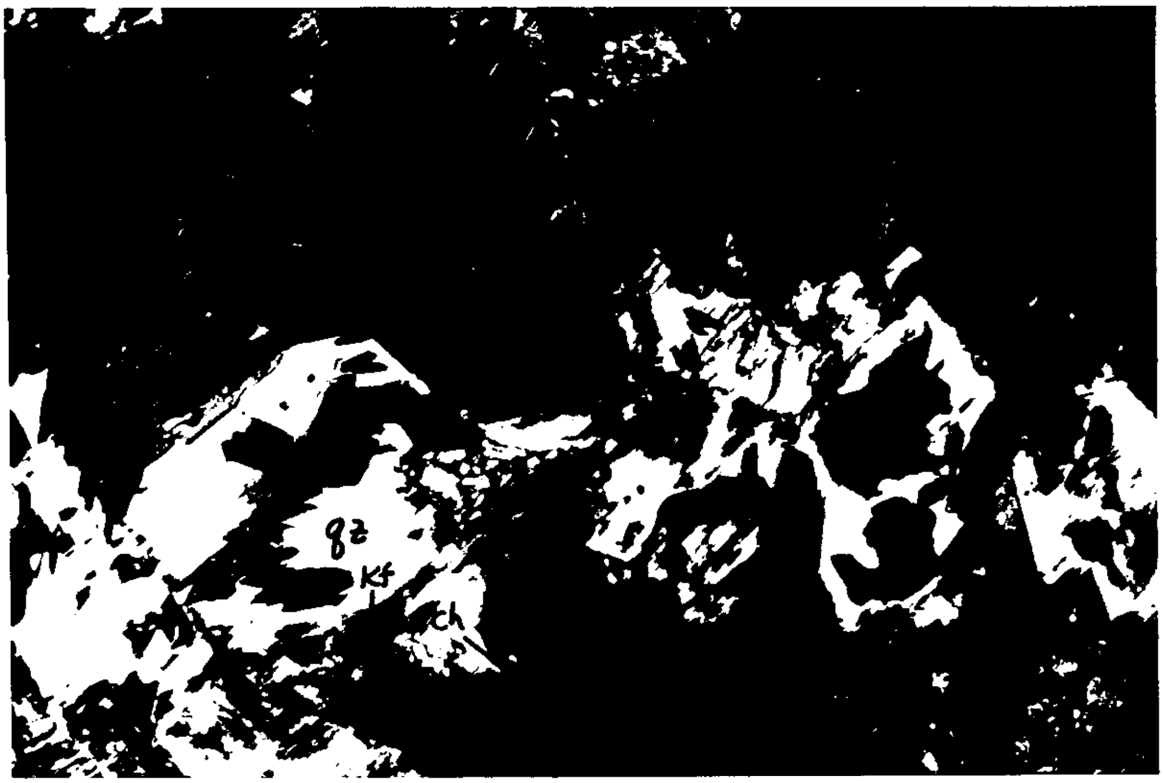
96-9-178: Vein of coarse amphibole-minor epidote cutting sericite-carbonate altered plagioclase, chloritized amphibole of quartz monzodiorite/diorite. Transmitted light, crossed polars, 2.5 mm.



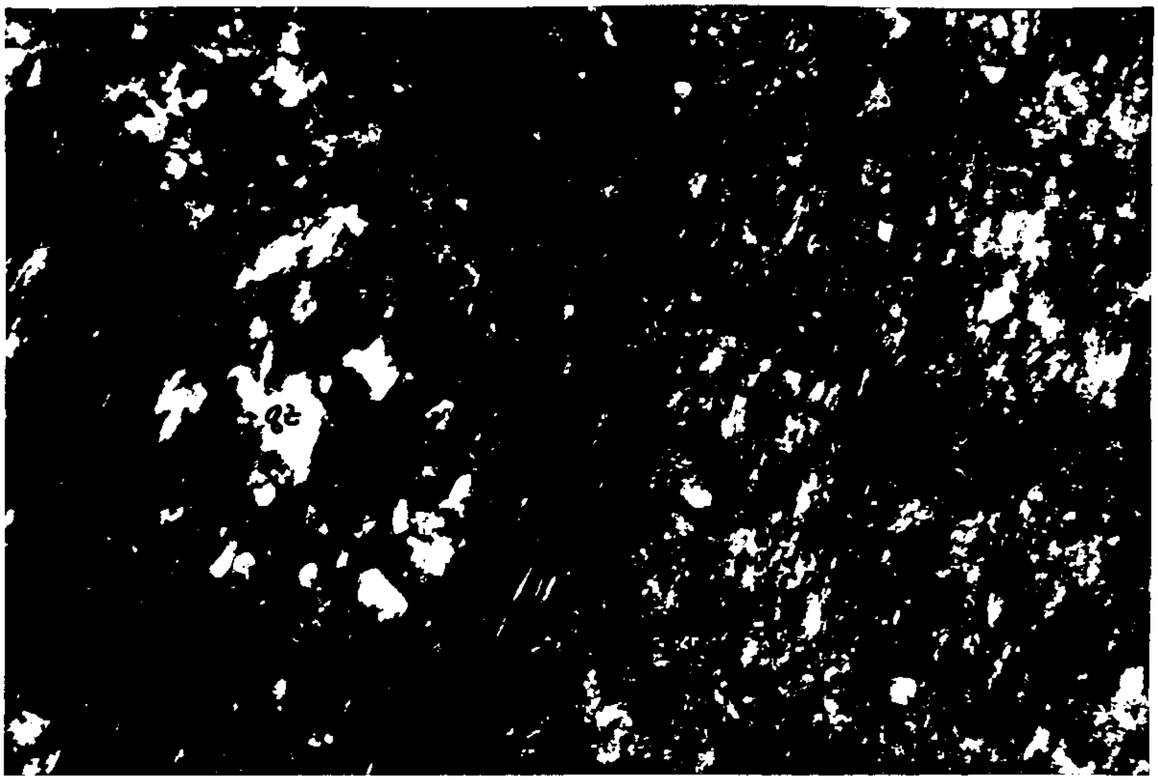
96-9-313: Secondary quartz overgrowths and K-feldspar rims, +/- minor sericite, replacing plagioclase; chloritized biotite containing opaque (?sulfide); transmitted light, crossed polars, 2.5 mm field of view.



96-10-209: Coarse, euhedral secondary quartz-sulfide-sericite-ankeritic carbonate in intensely quartz-sericite-chlorite-carbonate altered quartz diorite/monzodiorite. Transmitted light, crossed polars, 2.5 mm.



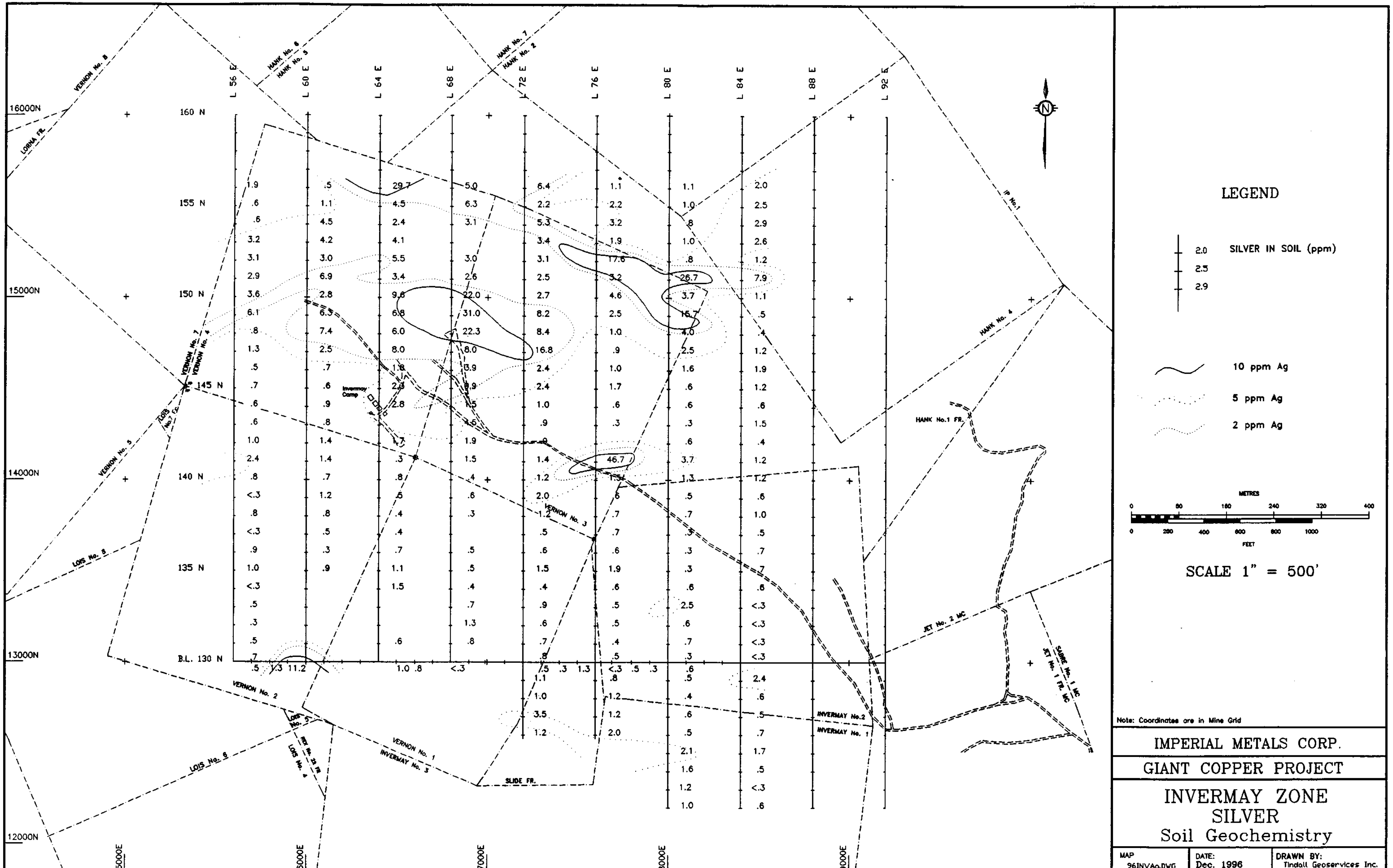
96-10-606: Chlorite-biotite-calcite-quartz+/-K-feldspar-sulfide altered gabbro/amphibolite; transmitted light, crossed polars, 2.5 mm field of view.

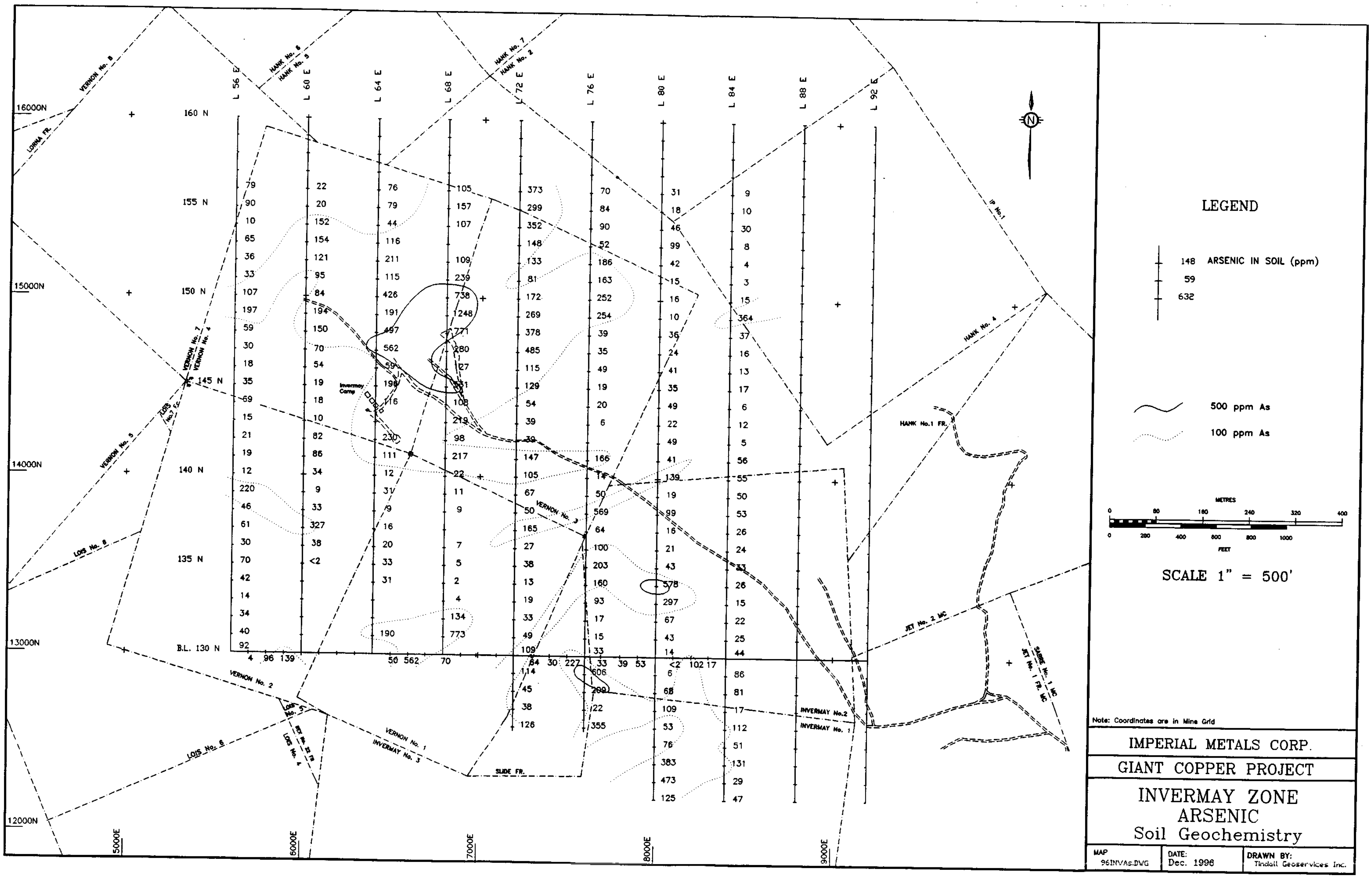


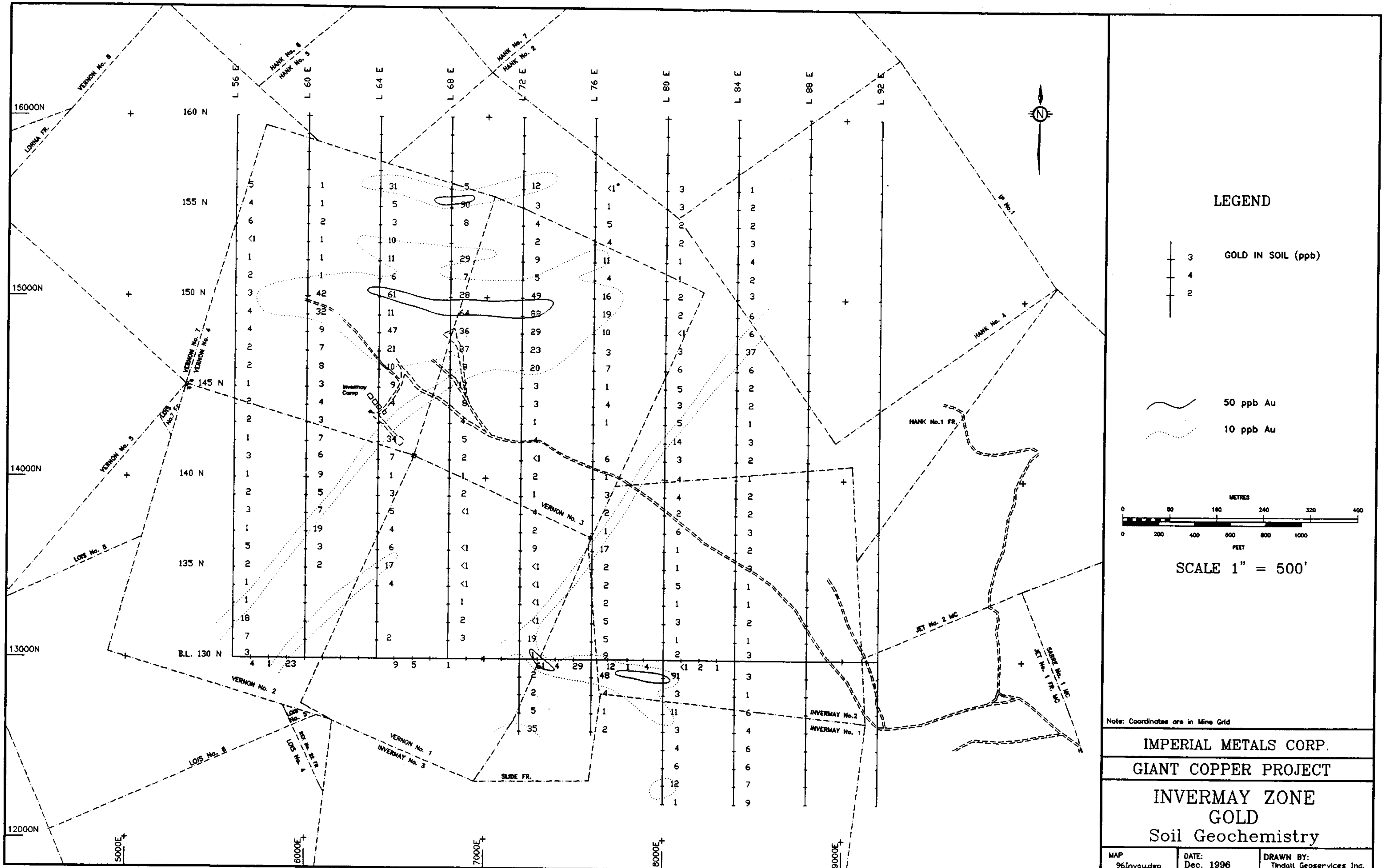
96-12-124: Intensely phyllic (quartz-sericite-carbonate-chlorite-rutile overprint on potassic (quartz-Kspar) altered, hornblende-biotite quartz diorite/quartz monzodiorite; transmitted light, crossed polars, 2.5 mm.

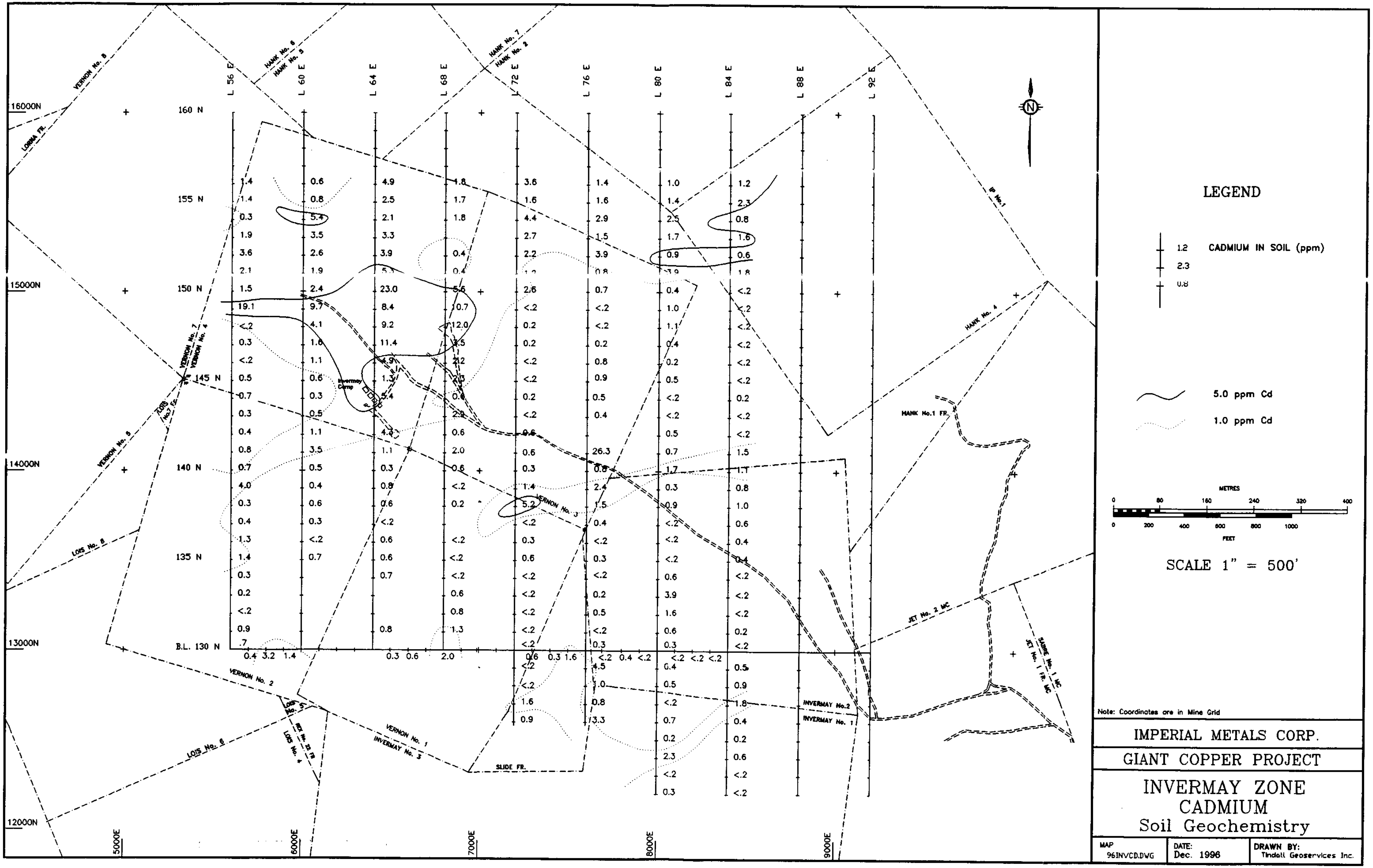
APPENDIX E

Soil Sample Maps - Invermay Zone

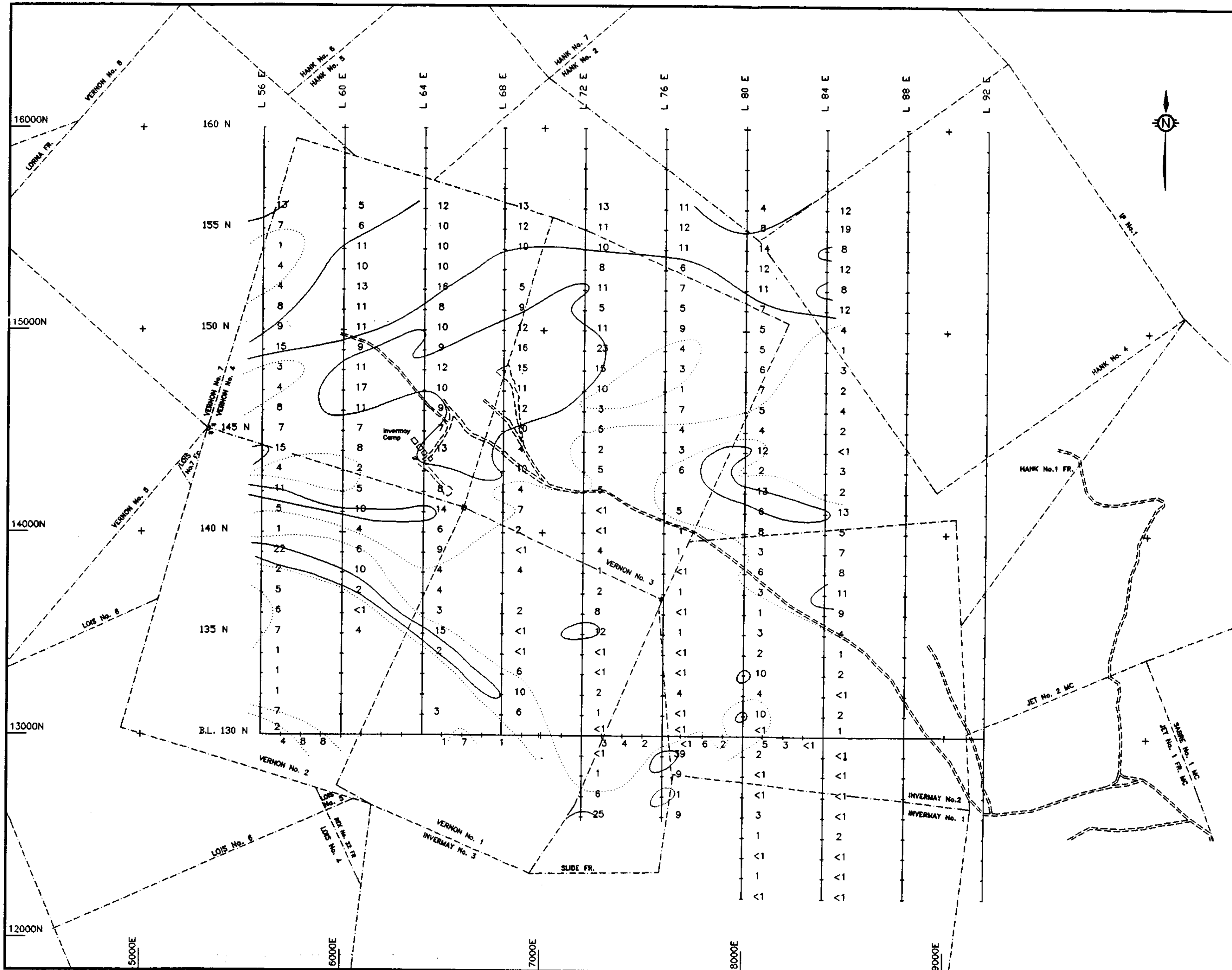

LEGEND
2.0
2.5
2.9
SILVER IN SOIL (ppm)
10 ppm Ag
5 ppm Ag
2 ppm Ag
METRES
0 80 160 240 320 400
0 200 400 600 800 1000
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
SILVER
Soil Geochemistry
MAP
96INVAg.DWG
DATE:
Dec. 1996
DRAWN BY:
Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
Invermay Camp
VERNON No. 1
VERNON No. 2
VERNON No. 3
VERNON No. 5
VERNON No. 7
VERNON No. 8
INVERMAY No. 1
INVERMAY No. 2
INVERMAY No. 3
HANK No. 1 FR.
HANK No. 2
HANK No. 4
HANK No. 5
HANK No. 6
HANK No. 7
LOIS No. 4
LOIS No. 6
LOIS No. 8
LORNA FR.
SLIDE FR.
JET No. 1 FR. MC
JET No. 2 MC
SABRE No. 1 MC
IP No. 1


LEGEND
148 ARSENIC IN SOIL (ppm)
500 ppm As
100 ppm As
METRES
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
ARSENIC
Soil Geochemistry
MAP 96INVAs.DWG
DATE: Dec. 1996
DRAWN BY: Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
VERNON No. 1
VERNON No. 2
VERNON No. 3
VERNON No. 5
VERNON No. 8
HANK No. 4
HANK No.1 FR.
INVERMAY No.2
INVERMAY No. 1
INVERMAY No. 3
JET No. 2 MC
SLIDE FR.
LOIS No. 6
LOIS No. 8
Invermay Camp


LEGEND
GOLD IN SOIL (ppb)
50 ppb Au
10 ppb Au
METRES
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
GOLD
Soil Geochemistry
MAP
96Invau.dwg
DATE:
Dec. 1996
DRAWN BY:
Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
VERNON No. 8
VERNON No. 7
VERNON No. 4
VERNON No. 5
VERNON No. 3
VERNON No. 2
VERNON No. 1
HANK No. 6
HANK No. 5
HANK No. 7
HANK No. 2
HANK No. 4
HANK No.1 FR.
LORNA FR.
LOIS No. 8
LOIS No. 6
LOIS No. 4
INVERMAY No. 1
INVERMAY No. 2
INVERMAY No. 3
SLIDE FR.
JET No. 2 MC
JET No. 1 FR. MC
SABRE No. 1 MC
IP No.1
Invermay Camp



LEGEND
1.2
2.3
0.8
CADMIUM IN SOIL (ppm)
5.0 ppm Cd
1.0 ppm Cd
METRES
0 80 160 240 320 400
0 200 400 600 800 1000
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
CADMIUM
Soil Geochemistry
MAP 96INVCD.DWG
DATE: Dec. 1996
DRAWN BY: Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
16000N
15000N
14000N
13000N
12000N
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
5000E
6000E
7000E
8000E
9000E
VERNON No. 8
LORNA FR.
HANK No. 6
HANK No. 5
HANK No. 7
HANK No. 2
IP No. 1
HANK No. 4
HANK No.1 FR.
VERNON No. 7
VERNON No. 4
LOIS No.7 Fr.
VERNON No. 5
LOIS No. 8
VERNON No. 3
VERNON No. 2
VERNON No. 1
INVERMAY No. 3
SLIDE FR.
LOIS No. 6
LOIS No. 5
LOIS No. 4
INVERMAY No.2
INVERMAY No. 1
JET No. 2 MC
JET No. 1 FR. MC
SABRE No. 1 MC
Invermay Camp



LEGEND

12 19 13 — COBALT IN SOIL (ppm)

10.0 ppm Co

5.0 ppm Co

METRES 0 80 160 240 320 400

FEET 0 200 400 600 800 1000

SCALE 1" = 500'

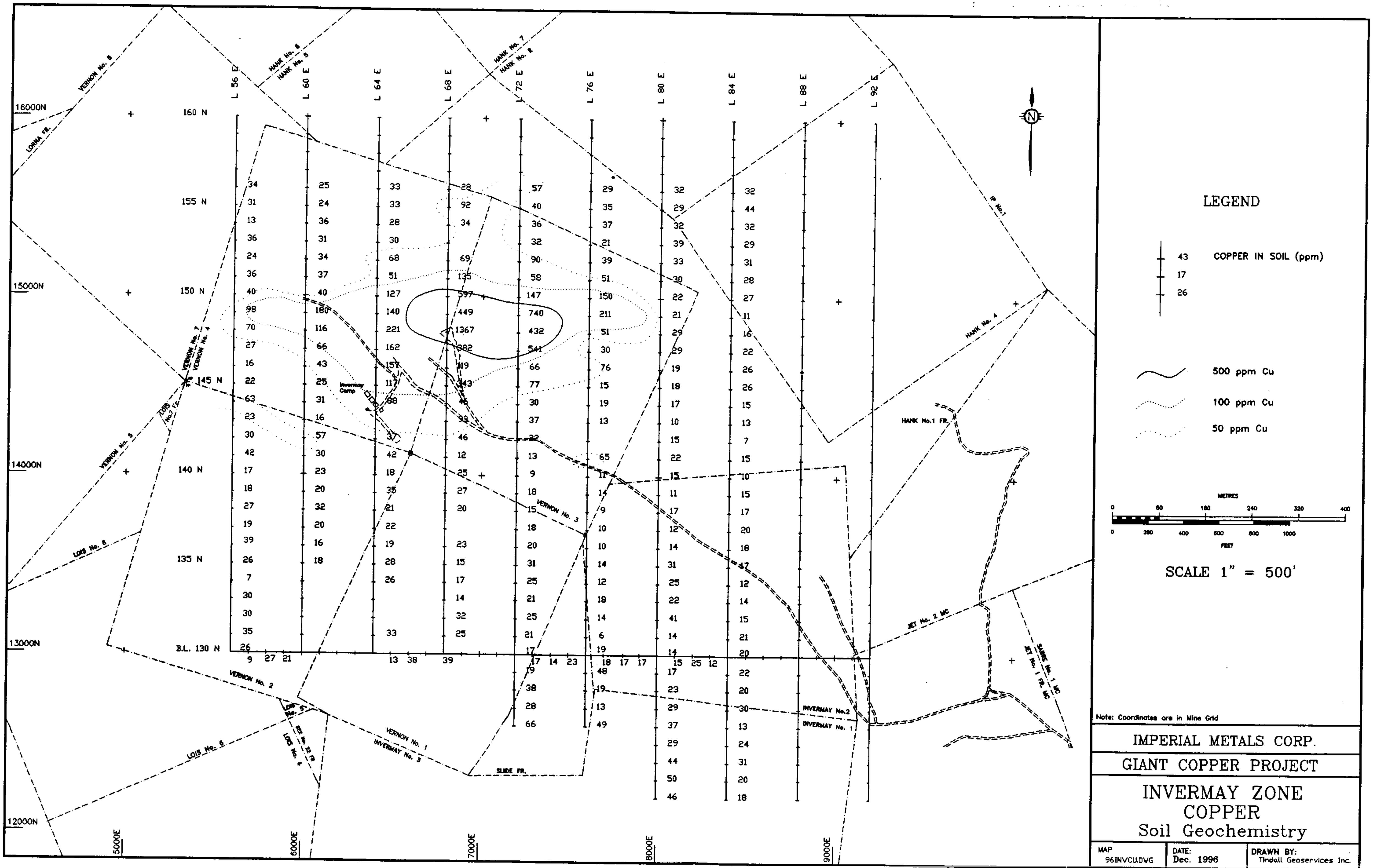
Note: Coordinates are in Mine Grid

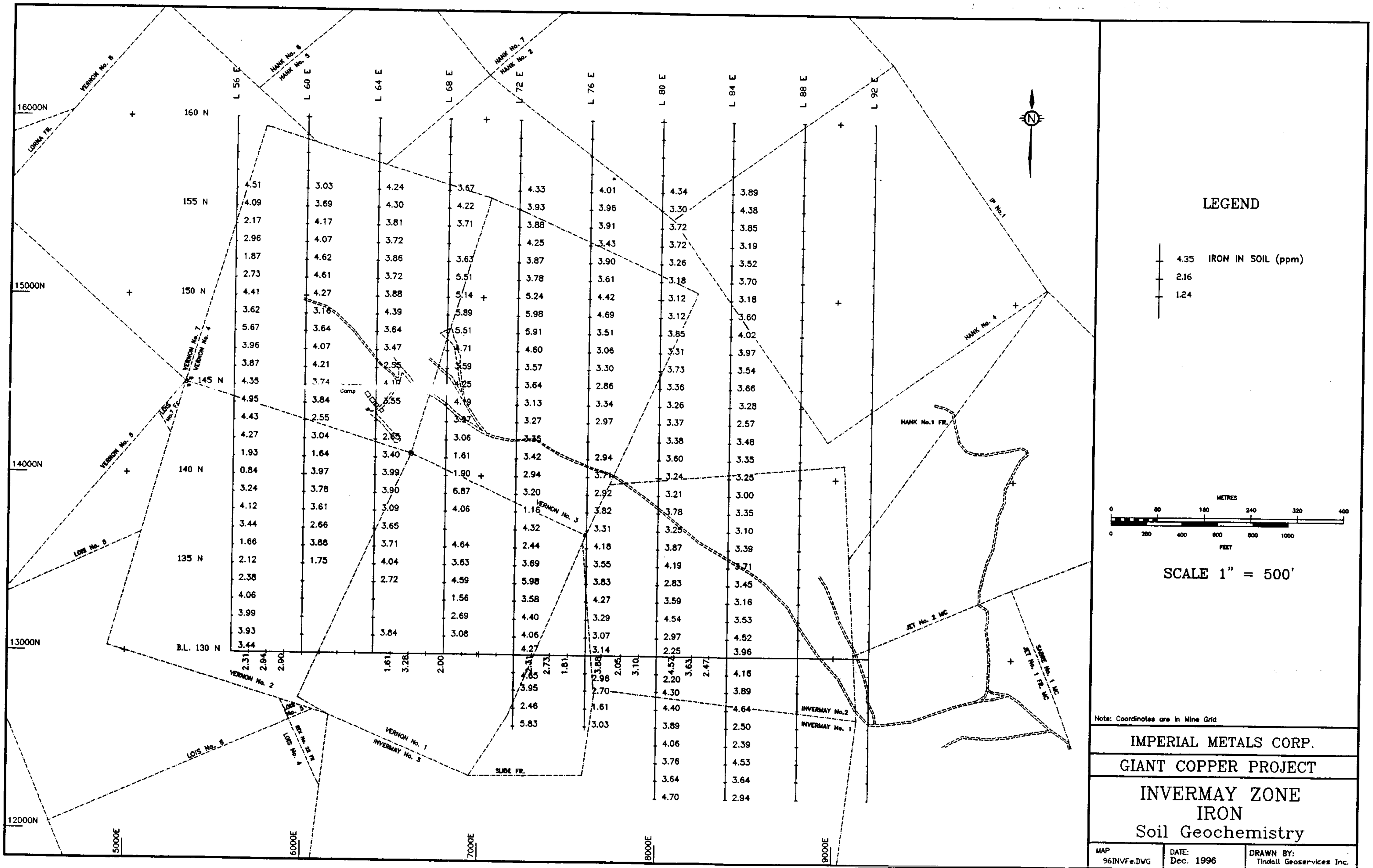
IMPERIAL METALS CORP.

GIANT COPPER PROJECT

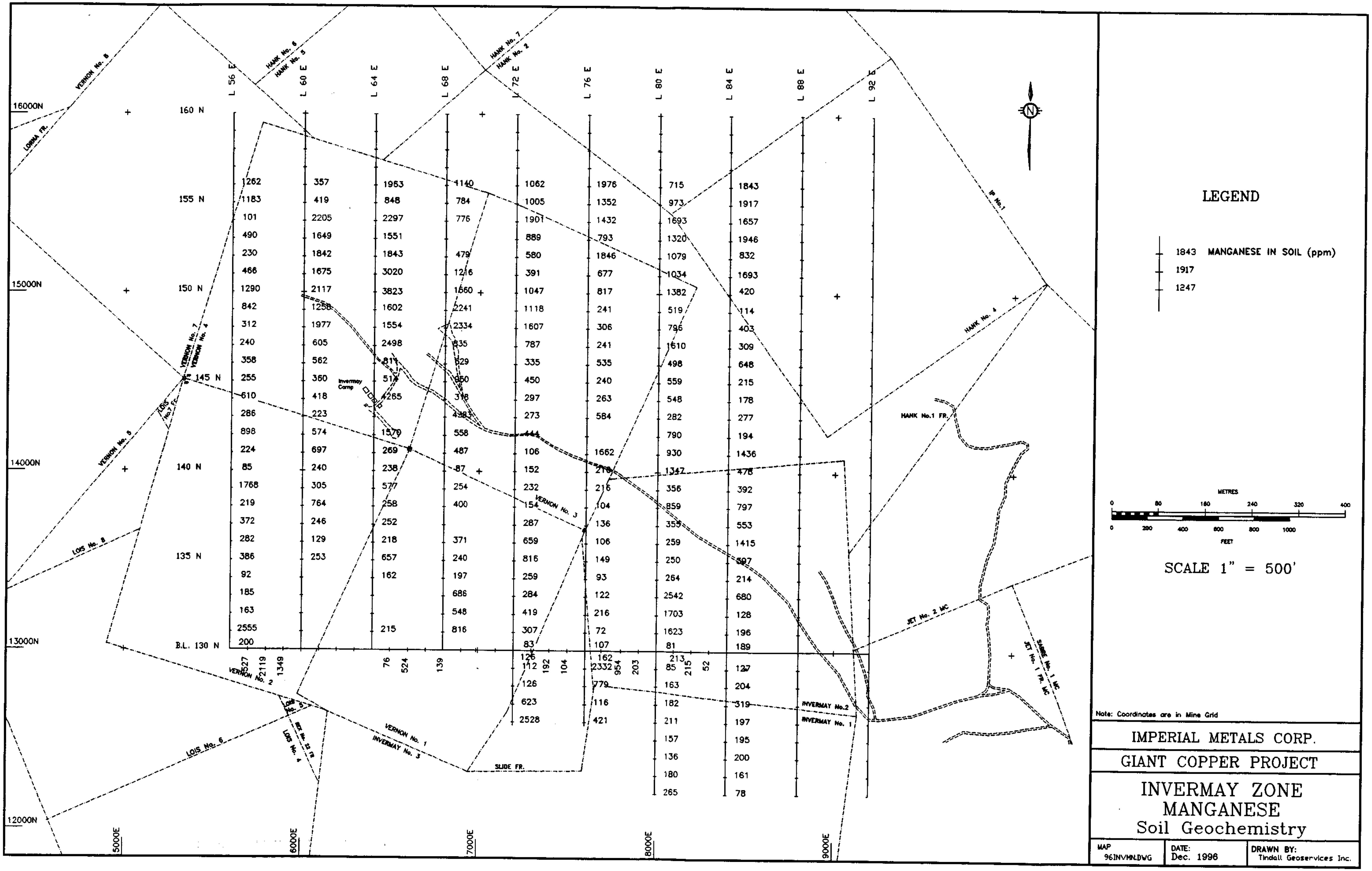
INVERMAY ZONE
COBALT
Soil Geochemistry

MAP	DATE:	DRAWN BY:
96INVCO.DWG	Dec. 1996	Tindall Geoservices Inc.

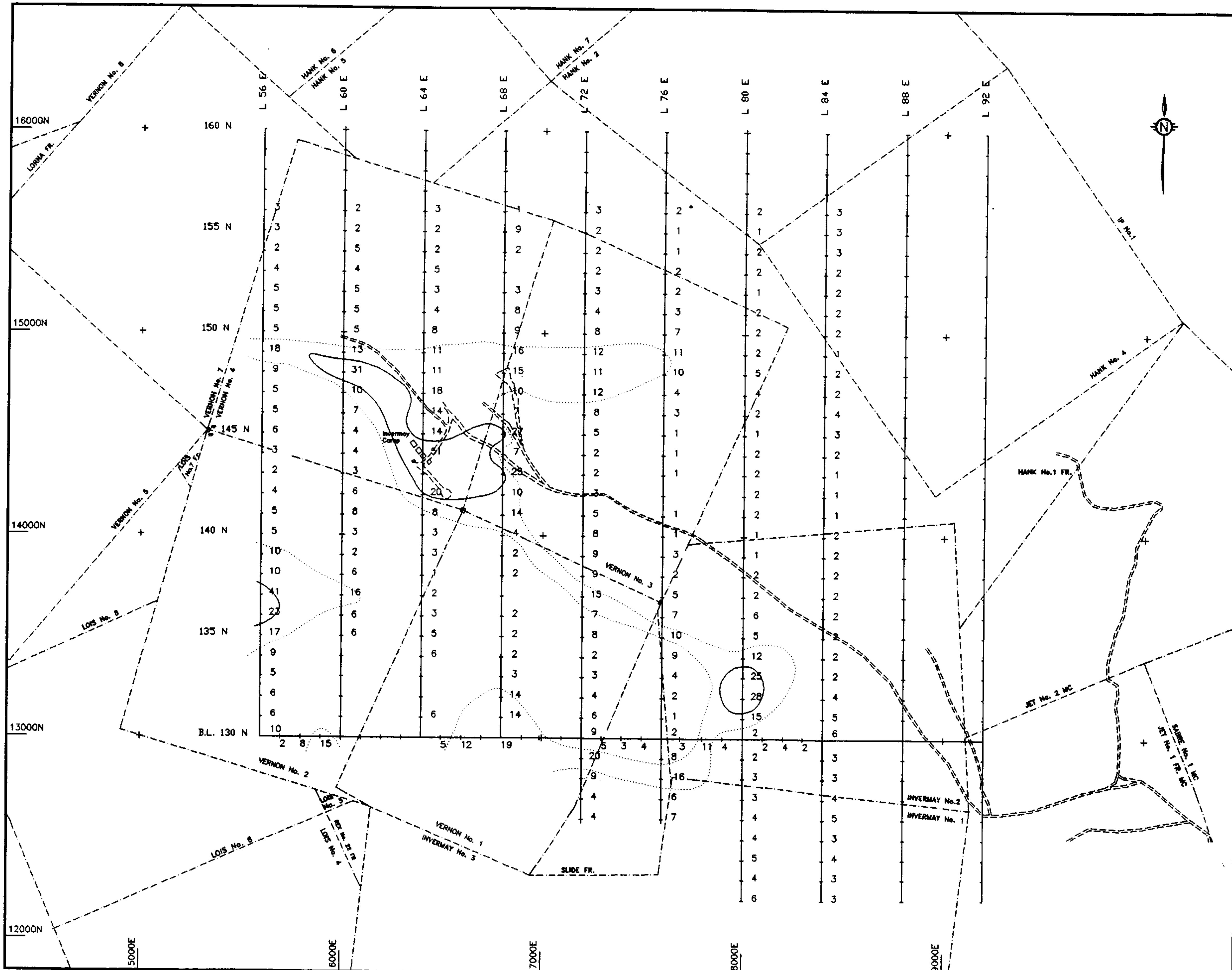

LEGEND
43
17
26
COPPER IN SOIL (ppm)
500 ppm Cu
100 ppm Cu
50 ppm Cu
METRES
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
COPPER
Soil Geochemistry
MAP
96INVCU.DWG
DATE:
Dec. 1996
DRAWN BY:
Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
VERNON No. 1
VERNON No. 2
VERNON No. 3
VERNON No. 5
VERNON No. 6
VERNON No. 7
VERNON No. 4
HANK No. 1 FR.
HANK No. 2
HANK No. 4
HANK No. 5
HANK No. 6
HANK No. 7
INVERMAY No. 1
INVERMAY No. 2
INVERMAY No. 3
LOIS No. 5
LOIS No. 6
LOIS No. 8
LORNA FR.
JET No. 2 MC
SLIDE FR.
Invermay Camp



LEGEND
4.35 IRON IN SOIL (ppm)
2.16
1.24
METRES
0 80 160 240 320 400
0 200 400 600 800 1000
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
IRON
Soil Geochemistry
MAP 96INVFe.DWG
DATE: Dec. 1996
DRAWN BY: Tindall Geoservices Inc.
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
VERNON No. 8
LORNA FR.
HANK No. 6
HANK No. 5
HANK No. 7
HANK No. 2
IP No. 1
HANK No. 4
HANK No. 1 FR.
VERNON No. 7
VERNON No. 4
VERNON No. 5
VERNON No. 3
VERNON No. 2
VERNON No. 1
INVERMAY No. 3
INVERMAY No. 2
INVERMAY No. 1
LOIS No. 8
LOIS No. 6
LOIS No. 4
SLIDE FR.
JET No. 2 MC
JET No. 1 FR. MC
SLIDE No. 1 MC
Camp
4.51 4.09 2.17 2.96 1.87 2.73 4.41 3.62 5.67 3.96 3.87 4.35 4.95 4.43 4.27 1.93 0.84 3.24 4.12 3.44 1.66 2.12 2.38 4.06 3.99 3.93 3.44 2.31 2.94 2.90
3.03 3.69 4.17 4.07 4.62 4.61 4.27 3.16 3.64 4.07 4.21 3.74 3.84 2.55 3.04 1.64 3.97 3.78 3.61 2.66 3.88 1.75
4.24 4.30 3.81 3.72 3.86 3.72 3.88 4.39 3.64 3.47 2.55 4.10 3.55 2.65 3.40 3.99 3.90 3.09 3.65 3.71 4.04 2.72 3.84 1.61 3.28
3.67 4.22 3.71 3.63 5.51 5.14 5.89 5.51 4.71 3.59 4.25 4.19 3.97 3.06 1.61 1.90 6.87 4.06 4.64 3.63 4.59 1.56 2.69 3.08 2.00
4.33 3.93 3.88 4.25 3.87 3.78 5.24 5.98 5.91 4.60 3.57 3.64 3.13 3.27 3.35 3.42 2.94 3.20 1.16 4.32 2.44 3.69 5.98 3.58 4.40 4.06 4.27 4.31 2.73 1.81 4.65 3.95 2.46 5.83
4.01 3.96 3.91 3.43 3.90 3.61 4.42 4.69 3.51 3.06 3.30 2.86 3.34 2.97 2.94 3.71 2.92 3.82 3.31 4.18 3.55 3.83 4.27 3.29 3.07 3.14 3.88 2.05 3.10 2.96 2.70 1.61 3.03
4.34 3.30 3.72 3.72 3.26 3.18 3.12 3.12 3.85 3.31 3.73 3.36 3.26 3.37 3.38 3.60 3.24 3.21 3.78 3.25 3.87 4.19 2.83 3.59 4.54 2.97 2.25 4.52 3.63 2.47 2.20 4.30 4.40 3.89 4.06 3.76 3.64 4.70
3.89 4.38 3.85 3.19 3.52 3.70 3.18 3.60 4.02 3.97 3.54 3.66 3.28 2.57 3.48 3.35 3.25 3.00 3.35 3.10 3.39 3.71 3.45 3.16 3.53 4.52 3.96 4.16 3.89 4.64 2.50 2.39 4.53 3.64 2.94



LEGEND
1843 MANGANESE IN SOIL (ppm)
1917
1247
METRES
0 80 160 240 320 400
0 200 400 600 800 1000
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
MANGANESE
Soil Geochemistry
MAP 96INVMN.DWG
DATE: Dec. 1996
DRAWN BY: Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
VERNON No. 8
LORNA FR.
HANK No. 6
HANK No. 5
HANK No. 7
HANK No. 2
IP No.1
HANK No. 4
HANK No.1 FR.
VERNON No. 7
VERNON No. 4
VERNON No. 5
VERNON No. 3
VERNON No. 2
VERNON No. 1
LOIS No.7 Fr.
LOIS No. 8
LOIS No. 6
LOIS No. 4
INVERMAY No. 3
INVERMAY No.2
INVERMAY No. 1
SLIDE FR.
JET No. 2 MC
JET No. 1 FR. MC
Invermay Camp



LEGEND

4 2 3 MOLYBDENUM IN SOIL (ppm)

20 ppm Mo

10 ppm Mo

METRES 0 80 160 240 320 400

FEET 0 200 400 600 800 1000

SCALE 1" = 500'

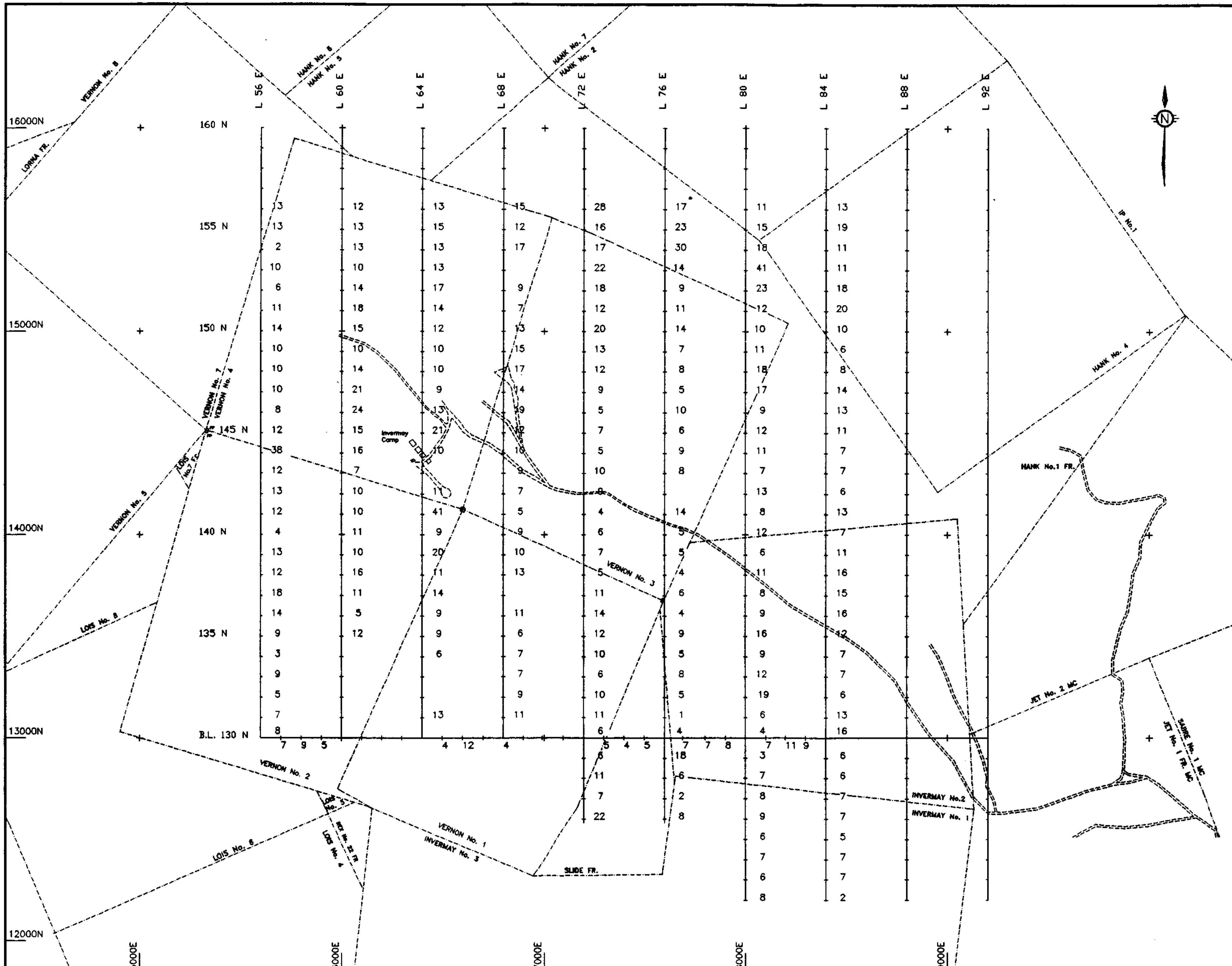
Note: Coordinates are in Mine Grid

IMPERIAL METALS CORP.

GIANT COPPER PROJECT

INVERMAY ZONE MOLYBDENUM Soil Geochemistry

MAP	DATE:	DRAWN BY:
96INVMo.DWG	Dec. 1996	Tindall Geoservices Inc.



LEGEND

13 NICKEL IN SOIL (ppm)
19
12

METRES 0 80 160 240 320 400
0 200 400 600 800 1000 FEET

SCALE 1" = 500'

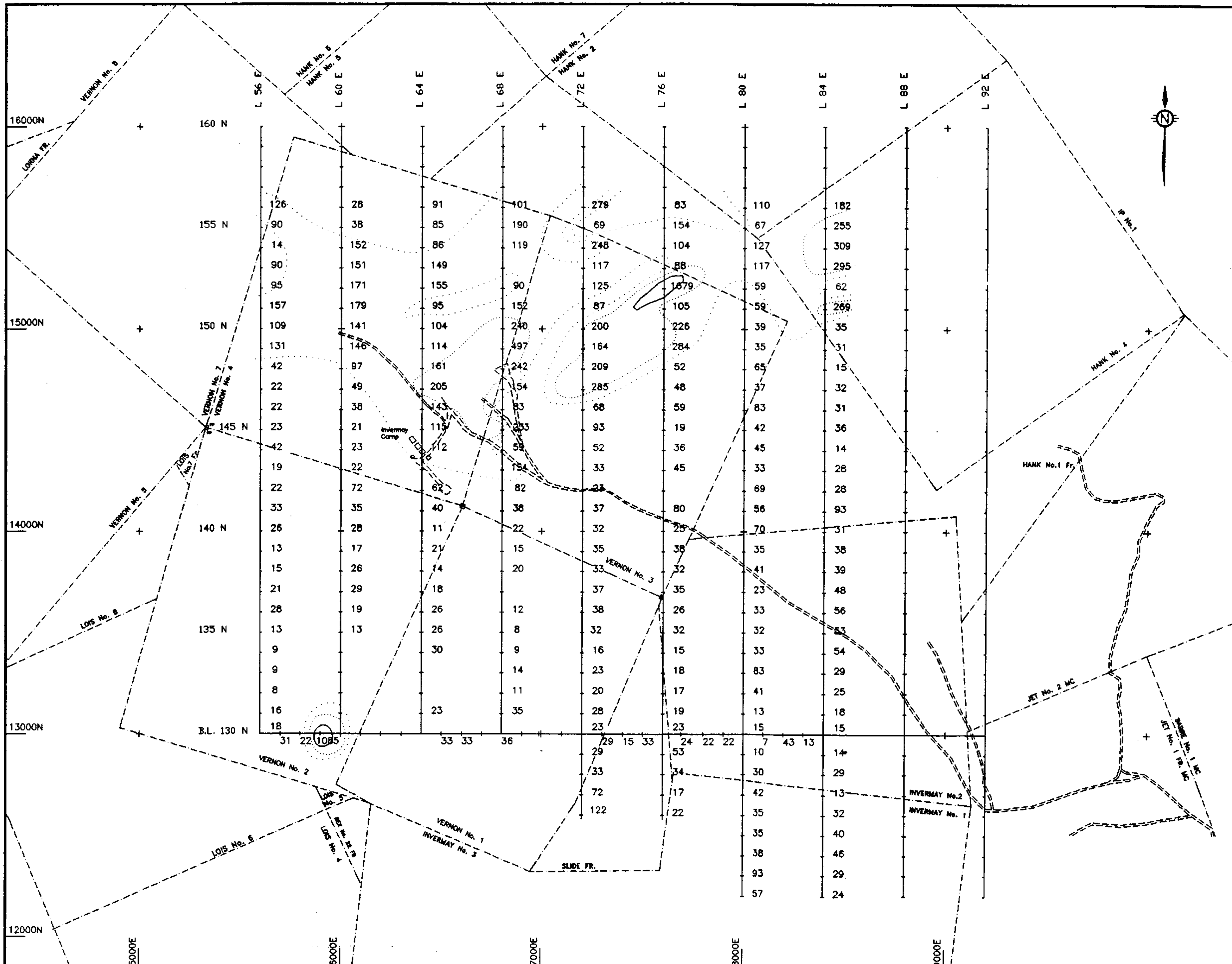
Note: Coordinates are in Mine Grid

IMPERIAL METALS CORP.

GIANT COPPER PROJECT

INVERMAY ZONE
NICKEL
Soil Geochemistry

MAP	DATE:	DRAWN BY:
96INVNI.DWG	Dec. 1996	Tindall Geoservices Inc.

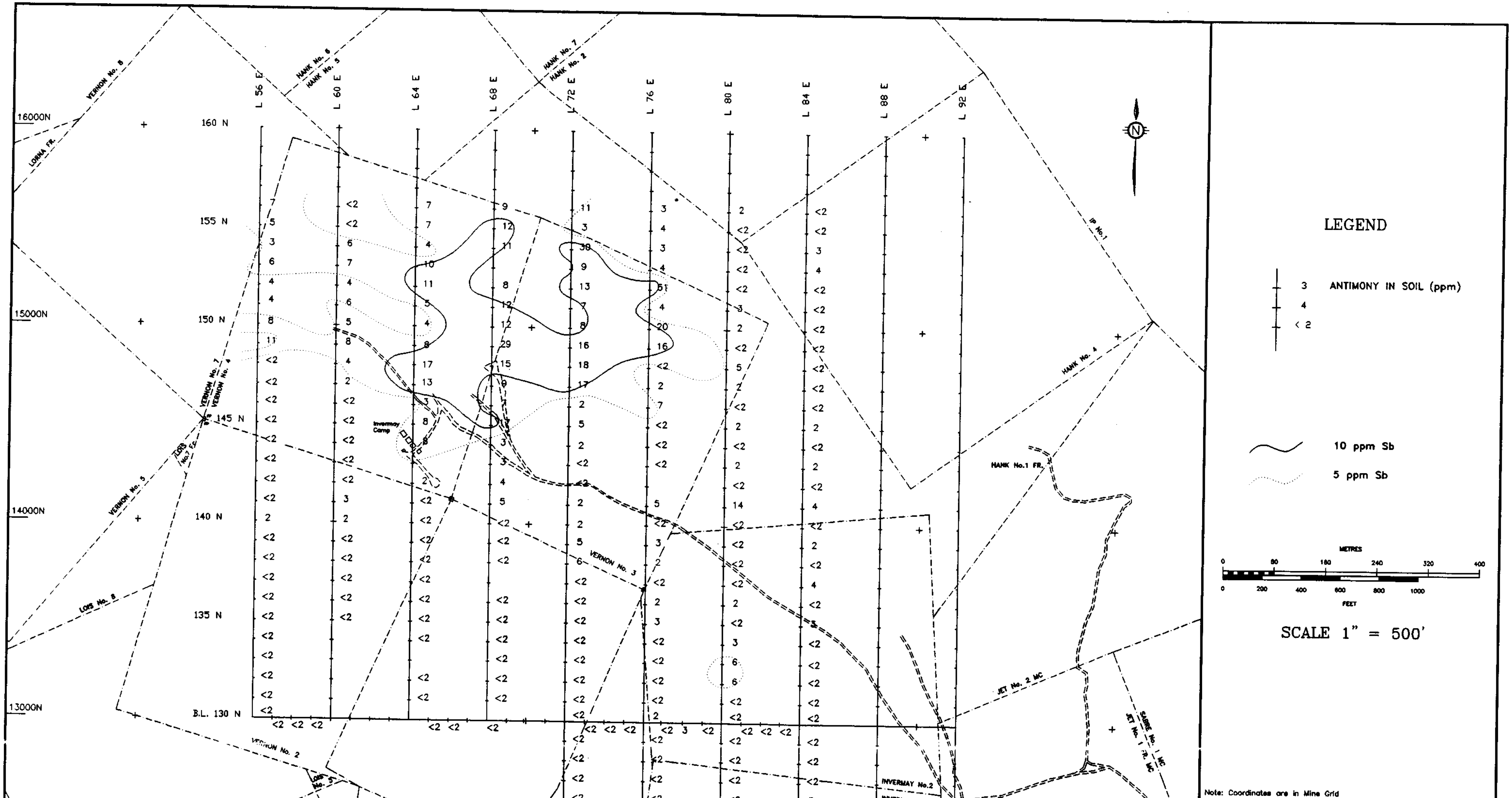


IMPERIAL METALS CORP.

GIANT COPPER PROJECT

INVERMAY ZONE
LEAD
Soil Geochemistry

MAP	DATE:	DRAWN BY:
96INVPB.DWG	Dec. 1996	Tindall Geoservices Inc.

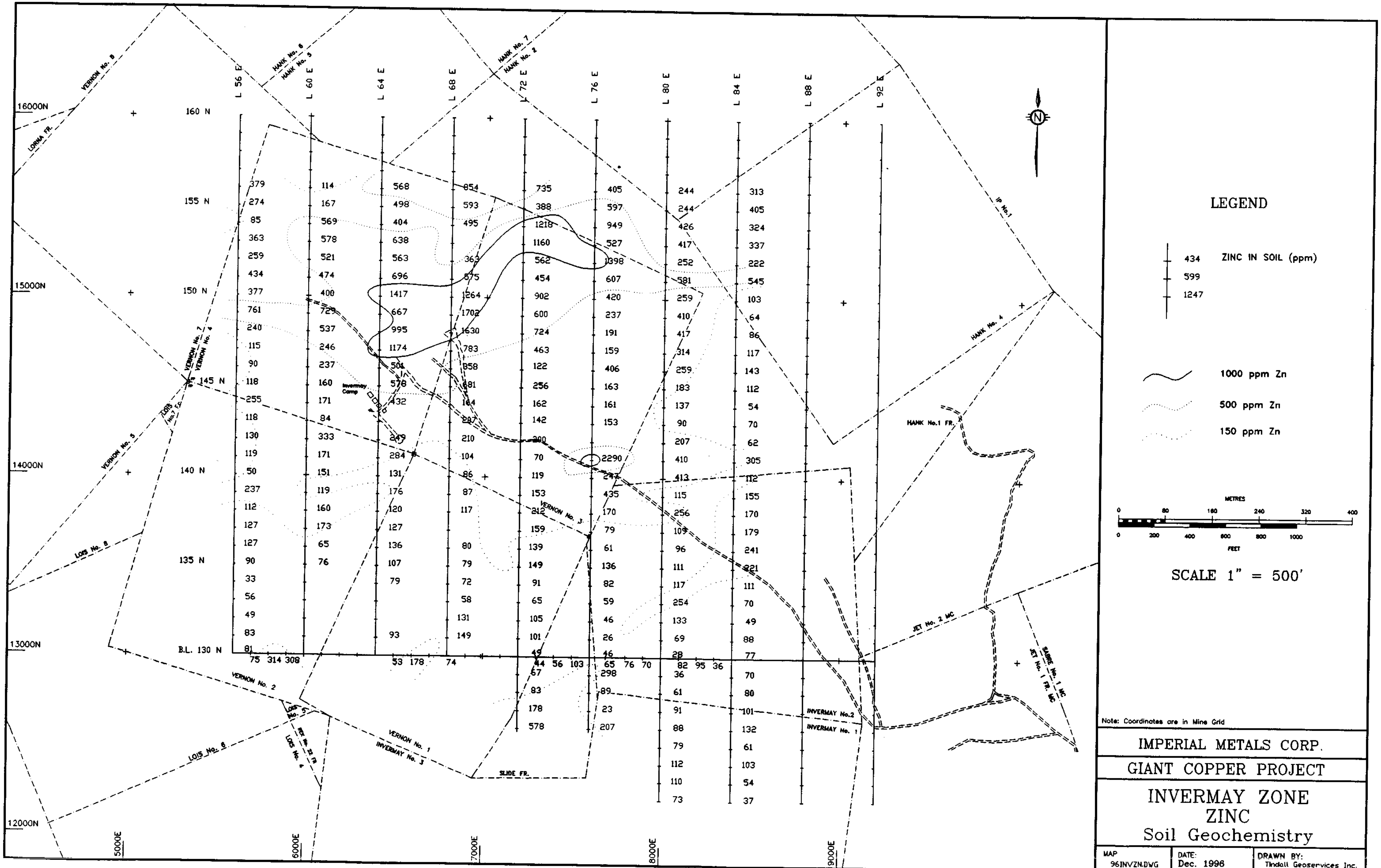


IMPERIAL METALS CORP.

GIANT COPPER PROJECT

INVERMAY ZONE ANTIMONY Soil Geochemistry

MAP	DATE:	DRAWN BY:
96INVSB.DWG	Dec. 1996	Tindall Geoservices Inc.


LEGEND
434
599
1247
ZINC IN SOIL (ppm)
1000 ppm Zn
500 ppm Zn
150 ppm Zn
METRES
0 80 160 240 320 400
0 200 400 600 800 1000
FEET
SCALE 1" = 500'
Note: Coordinates are in Mine Grid
IMPERIAL METALS CORP.
GIANT COPPER PROJECT
INVERMAY ZONE
ZINC
Soil Geochemistry
MAP
96INVZN.DWG
DATE:
Dec. 1996
DRAWN BY:
Tindall Geoservices Inc.
L 56 E
L 60 E
L 64 E
L 68 E
L 72 E
L 76 E
L 80 E
L 84 E
L 88 E
L 92 E
160 N
155 N
150 N
145 N
140 N
135 N
B.L. 130 N
16000N
15000N
14000N
13000N
12000N
5000E
6000E
7000E
8000E
9000E
Invermay Camp
VERNON No. 8
HANK No. 6
HANK No. 5
HANK No. 7
HANK No. 2
LORNA FR.
IP No.1
HANK No. 4
HANK No.1 FR.
VERNON No. 7
VERNON No. 4
LOIS No.7 FR.
VERNON No. 5
LOIS No. 8
VERNON No. 3
VERNON No. 2
VERNON No. 1
INVERMAY No. 3
LOIS No. 5
LOIS No. 6
LOIS No. 4
SLIDE FR.
INVERMAY No.2
INVERMAY No. 1
JET No. 2 MC
JET No. 1 FR. MC
SABRE No. 1 MC