

84-#483 - #12423  
7/85

SAMPLING  
RELATED TECHNICAL REPORT

CLAIMS : LODESTONE 1  
LODESTONE 2  
LODESTONE 3  
FRACTION

MINING DIVISION : SIMILKAMEEN

N.T.S. : 92H 7W

LATITUDE : 49°29'

LONGITUDE : 120°50'

OWNER : IMPERIAL METALS CORPORATION

OPERATOR : IMPERIAL METALS CORPORATION

AUTHOR : I.R. CORVALAN

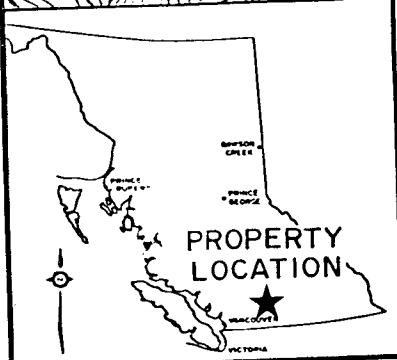
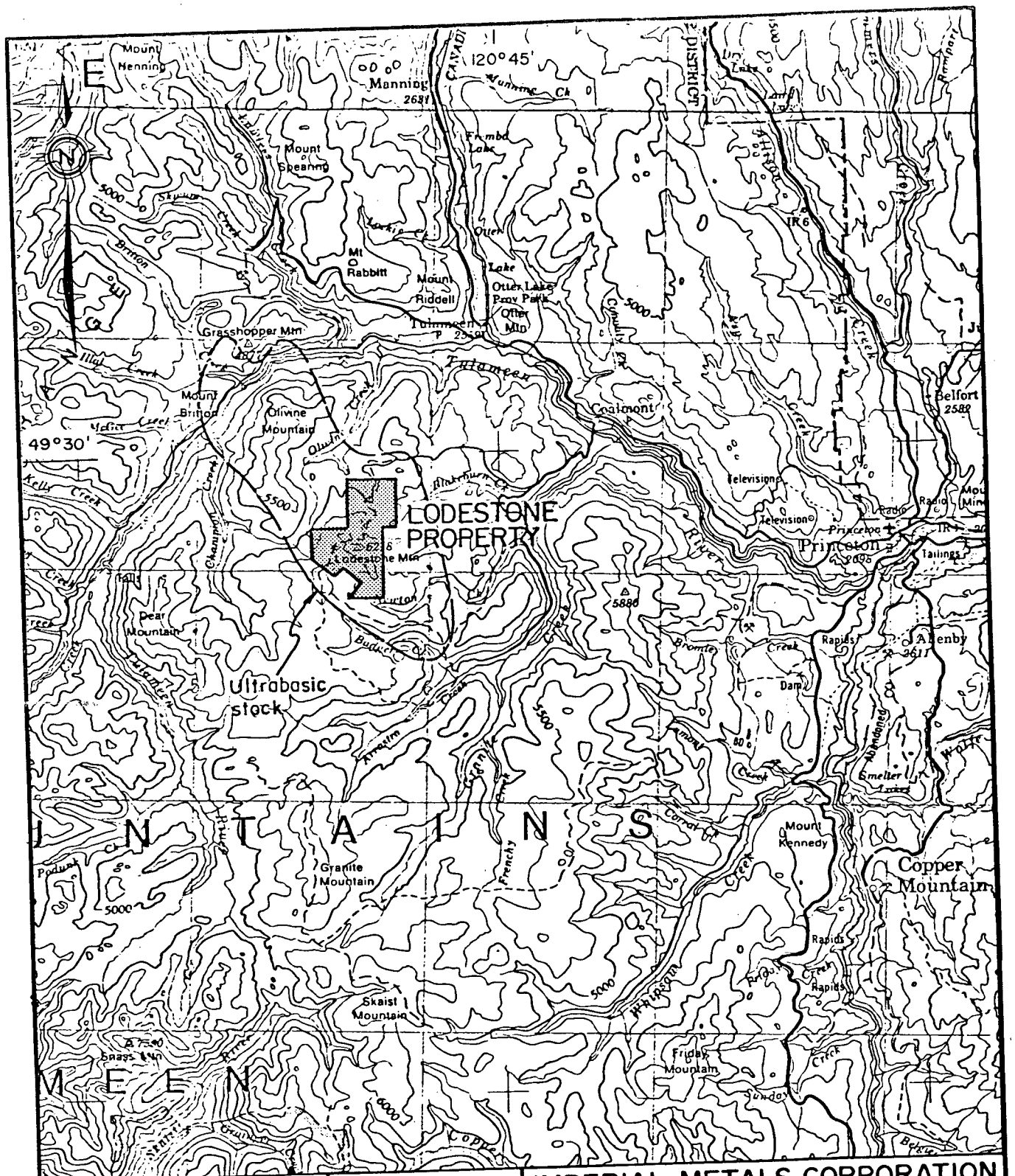
DATE : MARCH 1984

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

12,423

## TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	2
Location	2
Property	2
History	2
Geology	4
Mineralization	4
Summary of Work Done	4
LOGGING AND CORE SAMPLING	6
Description	6
INTERPRETATION	6
BIBLIOGRAPHY	8
ANNEX #1 : STATEMENT OF COST	
ANNEX #2 : AFFIDAVIT	
ANNEX #3 : STATEMENT OF QUALIFICATIONS	
ANNEX #4 : ASSAY RESULTS	
FIGURES	
Figure No. 1 : Location map	1
Figure No. 2 : Claim map	3
Figure No. 3 : Geological Map	5
Figure No. 4 : Platinum Producing Creeks	7
MAPS	
Diamond drill location map	



IMPERIAL METALS CORPORATION	
LODESTONE PROPERTY	
FIGURE 1	N.T.S. 92H
<b>LOCATION MAP</b>	
SCALE: 1: 250 000	GEOLOGIST: I. R. CORVALAN
DATE: JANUARY 1984	DRAWN BY: S. HAWORTH

INTRODUCTION

The Lodestone Iron property is underlain by an ultrabasic stock. Platinum placer has taken place in the vicinity of the property. With the objective to investigate, the possibility of platinum mineralization of 3 diamond drill hole cores were relogged and resampled by platinum chromium and iron.

Location :

The lodestone iron deposit is 20 km west of Princenton, centered on the summit of Lodestone Mt. The coordinates of the area are Latitude 49°29' north and Longitude 120°50' west. Access is by secondary road from the town of Tulameen.

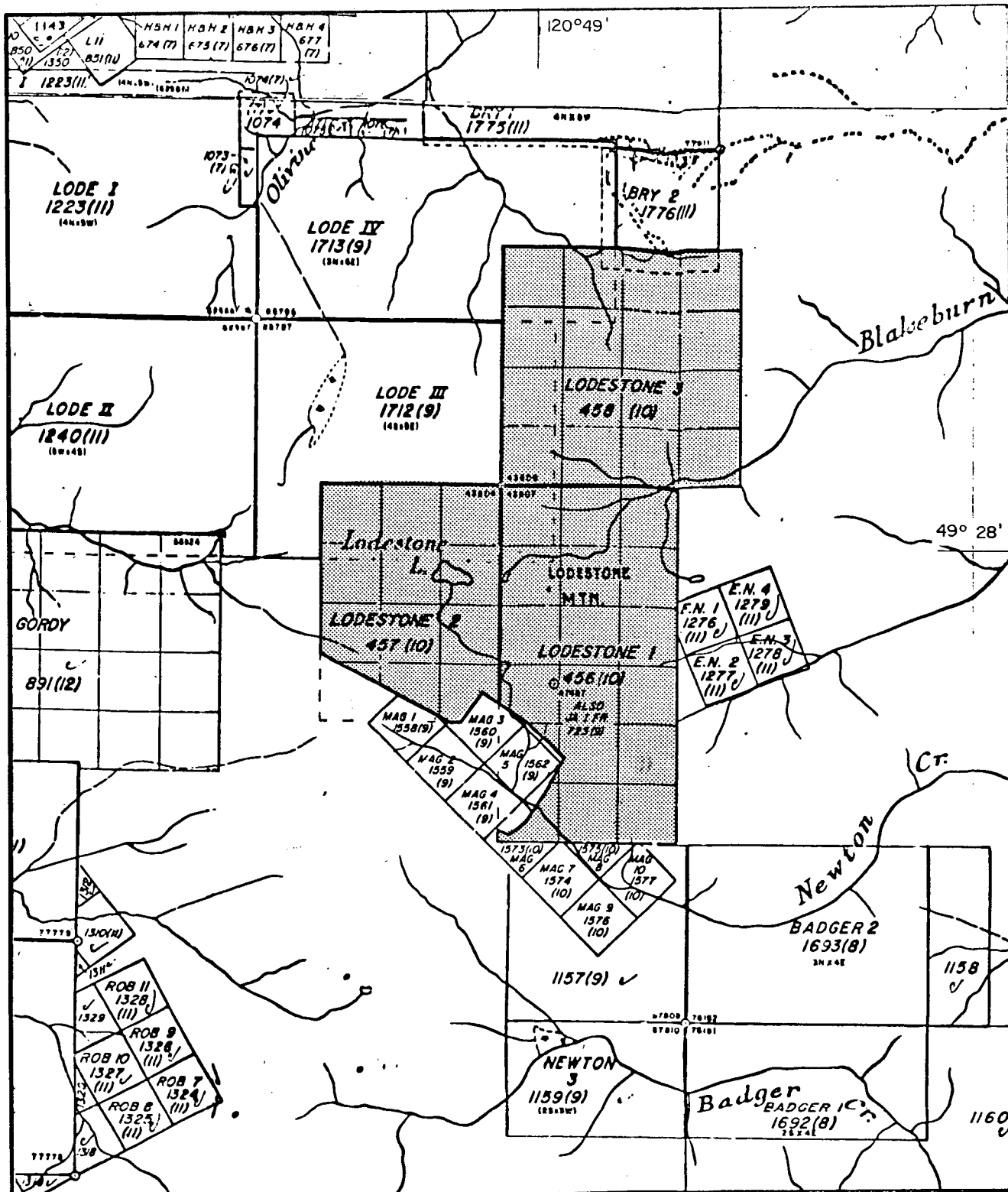
Property :

The property is covered by the following claims owned by Imperial Metals Corporation, Vancouver, B.C.

<u>Claim Name</u>	<u>Record No.</u>	<u>No. units</u>	<u>Due Date</u>
Lodestone 1	456	18	Oct. 1988
Lodestone 2	457	12	Oct. 1985
Lodestone 3	458	16	Oct. 1985
JAI Fraction	723	Fraction	Aug. 1984

History :

The Lodestone property contains the only established iron ore deposit in British Columbia. The property was extensively explored in 1960's and a feasibility study completed for Imperial Metals and Power estimated reserves as follows; proven 90 million tons, probably 116 million tons, inferred 160 million tons. The grade of 17.56% Fe was calculated for proven reserves, the recoverable grade was put at 14.5% Fe.



**LEGEND**

 IMPERIAL METALS CLAIM BLOCK

**IMPERIAL METALS CORPORATION  
LODESTONE PROPERTY**

FIGURE 2 N.T.S. 92H/ 7W

**CLAIM MAP**



SCALE: 1: 50, 000  
DATE: MAY 1984

GEOLOGIST: I. R. CORVALAN  
DRAWN BY: R. M.

Geology :

The geology of the Tulameen area was first mapped by Camsell (1910). The geology of the Princeton area, including the whole ultramafic stock was mapped by H.M.A. Rice (1944).

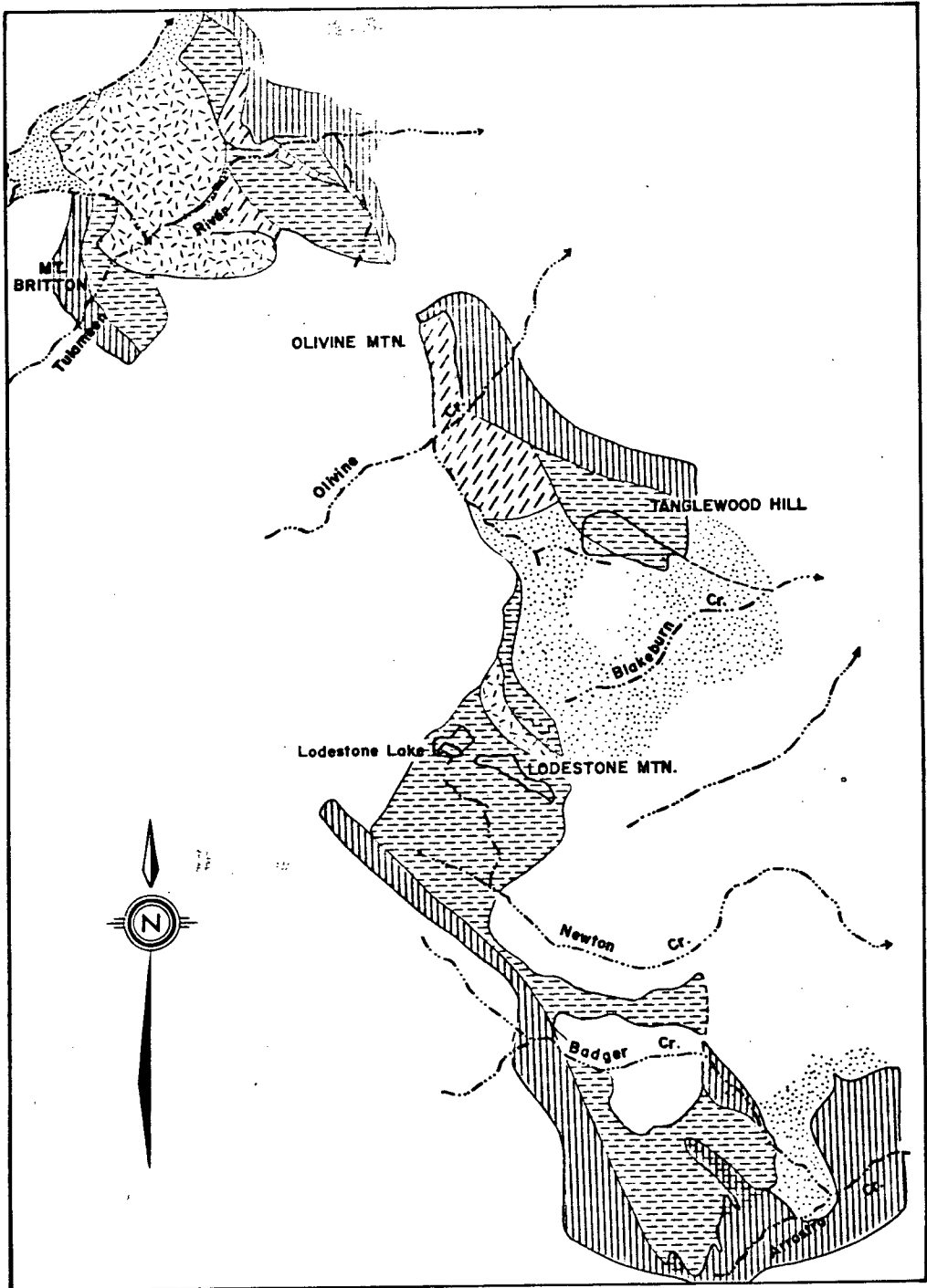
The area is underlain by an intrusive stock consisting of a large body of pyroxenite enclosing one or two bodies of peridotite-dunite. Peridotite and dunite grade to pyroxenite in some part of the stock and to be intrusive into it in other parts of the stock. The bulk of the magnetite is on the pyroxenite. This ultrabasic stock intrudes greyish-green pyroclastics and lavas intercalated with limestone and black phyllite of the Nicola formation.

Mineralization :









The general geology of Lodestone Mt. is shown in figure No. 3. Disseminated magnetite is appreciable in most outcrops on the mountain and plateau. Small lenses of almost massive magnetite are scattered through pyroxenite containing disseminated magnetite to form an ill defined zone a few hundred feet wide extending from northeast of the Lake southeast along the mountain crest. Also there are straight-walled veins. Drilling carried out in 1979 northeast from Lodestone Lake blocked out 90 million tons averaging 17.56% Fe with potential reserves of 500 million with assumed similar grade. Platinum placer deposits occur along some of the creeks that drain Lodestone mountain. The origin of these platinum deposits is unknown upto today regardless of the numerous attempts made to locate motherlodes. An alternative is that it is associated with a specific rock formation. To try to investigate this possibility the core of three diamond drill holes were relogged and resampled.

Summary of Work Done : (February 2-4, 1984)

Diamond drill core from the 1973 exploration program was inspected to determine possibility of platinum mineralization. The core of three diamond drill holes were selected to relog and resample; 73-3, 73-8, 73-9 (for location see plan No. 1) a total of 99 samples



**LEGEND**

-  PYROXENE SYENITE
-  PYROXENE DIORITE and GABBRO
-  PERIDOTITE and DUNITE
-  PERIDOTITE - PYROXENITE CONTACT ZONE
-  PYROXENITE
-  NICOLA GROUP
-  DRIFT COVERED AREA
-  AREAS OF DETAILED MAPPING

**IMPERIAL METALS CORPORATION  
LODESTONE PROPERTY**

FIGURE 3

**GEOLOGICAL MAP**

MILES 1 0 1 2 MILES



SCALE:  
DATE: MAY 1984

GEOLOGIST: R. CORVALAN  
DRAWN BY: R.M.

were assayed by 30 trace elements and 23 assayed by Fe, Cu and Pt.

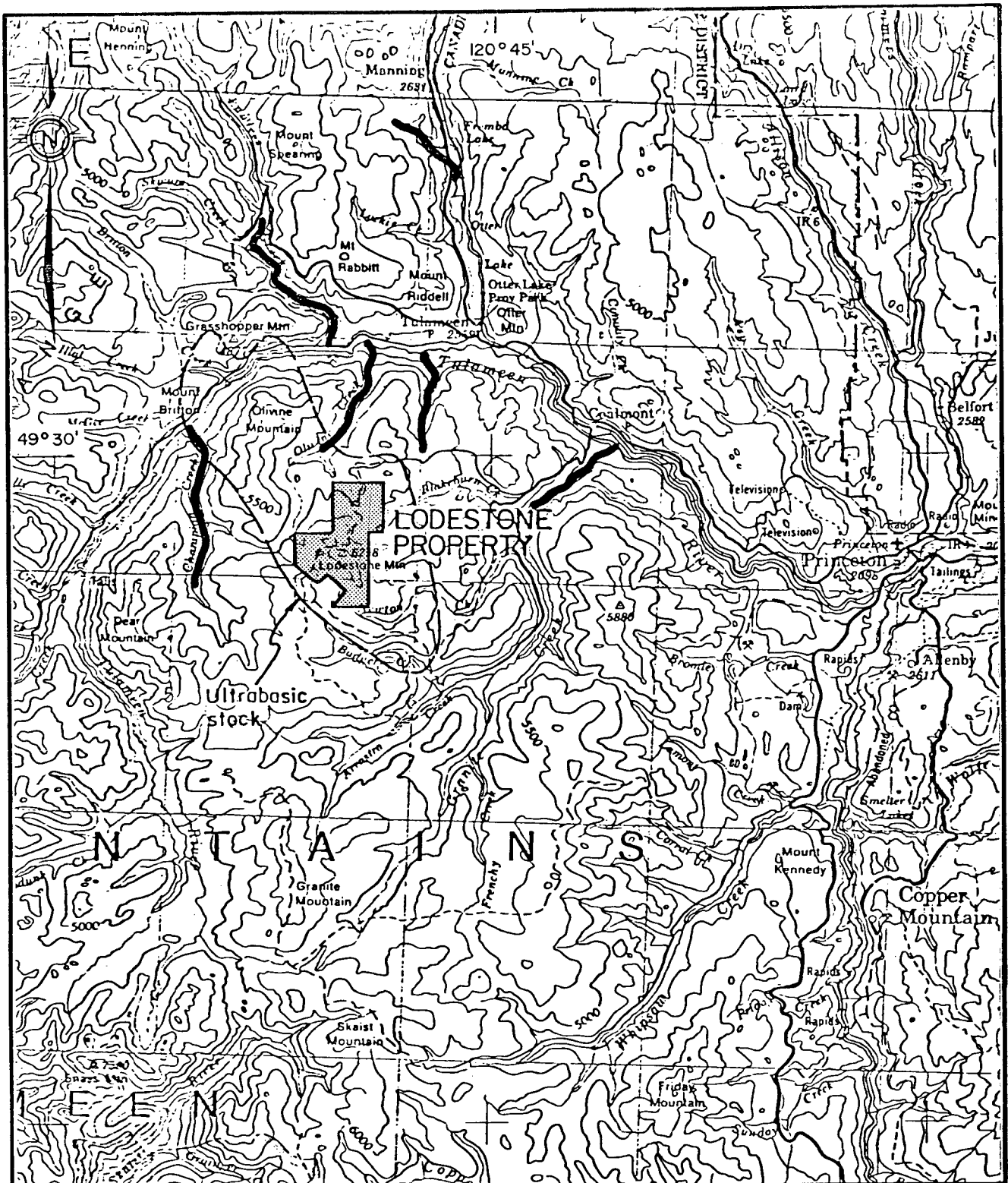
LOGGING AND CORE SAMPLING :

Description; See Annex #4.

Interpretation :

Any of the samples showed anomalous or significant values in chromium or platinum. Hydrothermal alteration associated to the pyroxenite of the lodestone claims is not related to platinum mineralization.





**Legend**

 Platinum Producing Creeks

**IMPERIAL METALS CORPORATION**

**LODESTONE PROPERTY**

FIGURE 4

N.T.S. 92H

**PLATINUM  
PRODUCING CREEKS**

Km 5 0 5 10 Km

SCALE: 1: 250 000

DATE: MAY 1984

GEOLOGIST: I. R. CORVALAN

DRAWN BY: R. M.

BIBLIOGRAPHY

- C. Camsell, 1913 "Geology and Mineral Deposits of the Tulameen District, B.C. G.S.C. Memoir No. 26.
- C.J. Coveney, 1980 'Report on the J-L Claims' Internal Report, Ricard Resources Ltd.
- D. Hart, 1982 'Prospect evaluation - mineral exploration in B.C. Canada and Arizona U.S.A. Sc. thesis, University of London.
- J.F. Kemp, 1902 "The geological relations and of platinum and associated metals" U.S.A. Geological Survey, Bulletin No. 193.
- H.M.A. Rice, 1947 "Geology and Mineral Deposits of the Princetone Map-Area British Columbia" G.S.C. Memoir 243.
- J.C. Ruchmick, 1955 "Geological examination of the Lodestone mountain Ultramafic Intrusive and Associated Magnetite deposits. Internal report.

## ANNEX #1

Statement of expenditures on the Lodestone claim group for February 2-4, 1984.

Wages and Salaries

I.R. Corvalan	3 days @ \$200/day	\$ 600.00
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Geochemical Analysis

Assays	23 @ \$34 each	782.00
Geochemical	99 @ \$ 8 each	792.00

Transportation

Truck rental	3 days @ \$40/day	120.00
Gas		13.91

Camp Supplies

Various		7.99
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Room and Board

Hotel		50.88
Meals		48.34

Report Preparation

500.00

TOTAL

\$ 2,915.12

IN MATTER OF THE  
B.C. MINERAL ACT

AND

IN MATTER OF A OUTCROP SAMPLING  
CARRIED OUT ON THE  
LODESTONE CLAIM GROUP

LOCATED IN THE SIMILKAMEEN MINING DIVISION  
OF THE PROVINCE OF BRITISH COLUMBIA  
MORE PARTICULARLY N.T.S. 92H/7W

A F F I D A V I T

I, I. RUBEN CORVALAN, P. ENG., OF THE CITY DISTRICT OF NORTH VANCOUVER  
IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY :

1. THAT I AM A "EMPLOYEE OF IMPERIAL METALS CORPORATION AND AS SUCH  
HAVE A PERSONAL KNOWLEDGE OF THE FACTS TO WHICH I HEREINAFTER  
DISPOSE;
2. THAT ANNEXED HERETO AND MARKED AS "ANNEX #1" IS A TRUE COPY OF  
EXPENDITURES ON A GEOCHEMICAL PROGRAM CARRIED OUT ON THE LODESTONE  
CLAIM GROUP;
3. THAT THE SAID EXPENDITURES WERE INCURRED THE DATE OF FEBRUARY 2-4,  
1984, FOR THE PURPOSE OF MINERAL EXPLORATION ON THE ABOVE CLAIMS.

  
I.R. CORVALAN, P. ENG.

ANNEX #3

IMPERIAL METALS CORPORATION

STATEMENT OF QUALIFICATIONS

I, I. RUBEN CORVALAN, P. ENG. OF THE CITY OF NORTH VANCOUVER,  
BRITISH COLUMBIA, HEREBY CERTIFY :

1. THAT I AM A PROFESSIONAL ENGINEER RESIDING AT #117 - 908  
BERKLEY ROAD, NORTH VANCOUVER, BRITISH COLUMBIA;
2. THAT I GRADUATED WITH A MINING ENGINEERING DEGREE FROM THE  
UNIVERSITY OF CHILE, CHILE, IN 1969;
3. THAT I HAVE PRACTICED GEOLOGY AND GEOCHEMISTRY WITH  
EMPRESA NACIONAL DE MINERIA, SANTIAGO, CHILE FROM 1966 TO  
1970, WITH CIMA RESOURCES LIMITED FROM 1980 TO SEPTEMBER 1982  
AND WITH IMPERIAL METALS CORPORATION FROM MAY 1983 TO  
PRESENT.

DATED THIS 28<sup>th</sup> DAY OF June, 1984  
AT VANCOUVER, BRITISH COLUMBIA.

SIGNED

*I. Corvalan*  
I.R. CORVALAN, P.ENG.



ANNEX #4  
DIAMOND DRILL LOGS

IMPERIAL METALS CORPORATION - 1984 -

LODESTONE

Hole #: 73-9

Core diameter: BO

Page 1 of 5

Grid: 8+00N 9+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
6.1	7.6	1.5	Pyroxenite	Medium size pyroxene crystals, dark green, hematite.	51953	.06	6.5	.001
7.6	9.8	2.2	Pyroxenite	The same, magnetite crystals.	57954	.04	4.5	.001
9.8	10.7	.9	Pyroxenite	Fine grained pyroxene & hornblende	57955			
10.7	13.1	2.4	Pyroxenite	Altered, hematite, magnetite at patches.	57956			
13.1	15.6	2.5	Pyroxenite	Altered.	57957			
15.6	17.4	1.8	Pyroxenite	Magnetite-hematite pyroxene altered	57958			
17.4	18.9	1.5	Pyroxenite	Pyroxene fine grained, altered	57959			
18.9	22.0	3.1	Pyroxenite	Pyroxene fine grained, altered	57960			
22.0	23.3	1.3	Pyroxenite	Dumite	57961			
23.3	26.5	3.2	Pyroxenite	Fine grained, serpentine, 6cm magnetite band 30° CA.	57962			
26.5	29.1	2.6	Pyroxenite	Pyroxene less altered than before, dark green, some serpentinite.	57963			
29.1	31.41	2.3	Pyroxenite	Light green altered pyroxene, serp-				

Signed: I. Corvalan

IMPERIAL METALS CORPORATION - 1984 - LODESTONE

Hole #: 73-9

Core diameter: BQ

Page 2 of 5

Grid: 8+00N 9+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
31.4	32.9	1.5	Pyroxenite	entine. Dark green medium size crystals, some quartz veining.	57965	.02	16.15	.002
32.9	35.7	2.8	Pyroxenite	Altered dark green pyroxene, mica, patches of magnetite.	57966	18.15	.01	.001
35.7	38.7	3.0	Pyroxenite	Dark green, fine grained pyroxene some serpentine.	57967			
38.7	40.6	1.9	Pyroxenite	Altered dark green pyroxene, dunite, some serpentine 20cm magnetite band 90° CA at 38.9.	57968			
40.6	43.6	3.0	Pyroxenite	Fine grained pyroxene, dark green some patches of magnetite	57969	17.75	.01	.001
43.6	46.4	2.8	Pyroxenite	Altered, dark green pyroxene, pyrite.	57970			
46.4	49.4	3.0	Pyroxenite	Seritized, totally altered pyroxene patches of magnetite	57971			
49.4	52.9	3.5	Pyroxenite	The same, no magnetite	57972			
52.9	57	4.1	Pyroxenite	The same intense quartz veining	57973			

Signed: I. Corvalan



IMPERIAL METALS CORPORATION - 1984 -

LODESTONE

Hole #: 73-9Core diameter: BQPage 3 of 5Grid: 8+00N 9+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. CorvalanInclination: 90°Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
57	62.5	5.5	Pyroxenite	Dark green pyroxene, visible olivine crystals.	57974			
62.5	68.8	6.3	Pyroxenite	Coarse crystalline pyroxene altered. 80% serpentine.	57975			
68.8	71.7	2.9	Pyroxenite	The same up to 70.15 then fine grained.	57976			
71.7	77.5	5.8	Pyroxenite	Pyroxene coarse grained; (73.2-76.3) fine grained, quartz veining all through.	57977			
77.5	82.4	4.9	Pyroxenite	Altered pyroxene-hornblende magnetite hematite patches all through.	57978			
82.4	83.3	.9	Pyroxenite	Mostly magnetite.	57979			
83.3	90	6.70	Pyroxenite	Low altered pyroxene, some quartz veining.	57980			
90.0	105.2	15.2	Pyroxenite	Low altered pyroxene, quartz bands up to 5cm width, some brenmatite-magnetite (98.2-105.2).	57981			

Signed: I. Corvalan

IMPERIAL METALS CORPORATION - 1984 -

LODESTONE

Hole #: 73-9

Core diameter: BQ

Page 4 of 5

Grid: 8+00N 9+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
105.2	113.5	8.3	Pyroxenite	Low altered dark green pyroxene some minor quartz fracture filling.	57982			
113.5	120.5	7.0	Pyroxenite	Altered pyroxene quartz veining all through.	57983			
120.5	124.4	3.9	Pyroxenite	Low alteration some magnetite.	57984			
124.4	131.2	6.8	Pyroxenite	Light green pyroxene plus dark brown hornblende.	57985			
131.5	139.7	8.2	Pyroxenite	Medium green pyroxene, low alteration minor quartz veining, fractured, serpentized magnetite.	57986	16.50	.02	.001
139.7	144.9	5.2	Pyroxenite	Hornblende, olivine (5%) pyroxene (50%) some quartz veining magnetite.	57987			
144.9	153.1	8.2	Pyroxenite	Dark green pyroxene, hornblende (black).	57988	13.50	.01	.002
153.1	156.5	3.4	Pyroxenite	Black crystals (hornblende-olivine) magnetite 60% (?) some quartz veining.	57989	24.95	.02	.002

Signed: \_\_\_\_\_

I. Corvalan

IMPERIAL METALS CORPORATION - 1984 - LODESTONE

Hole #: 73-9

Core diameter: BQ

Page 5 of 5

Grid: 8+00N 9+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: \_\_\_\_\_, I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
156.5	160.7	4.2	Altered Piroxenite	Altered rock some magnetite, quartz and calcite veining.	57990			
160.7	165.6	4.9		Altered rock calcite, magnetite	57991			
165.6	168.7	3.1	Hornblendite (?)	Equigranular hornblende, pyroxene, calcite veining.	57992			
168.7	170.2	1.5	Pyroxene	Dark green equigranular veinlets and stringer of calcite and sulphides some magnetite.	57993	11.45	.01	.001
170.2	177.8	7.6	Pyroxenite	Equigranular dark crystals, magnetite some calcite veining.	57994			
177.8	181.8	4.0		Serpentine equigranular crystals	57995			
181.8	185.4	3.6		Equigranular serpentine veining	57996	14.65	.01	.001
185.4		?		Altered calcite veining some mineralization.	57997			

Signed: I. R. Corvalan

IMPERIAL METALS CORPORATION - 1984 - LODESTONE

Hole #: 73-8

Core diameter: BQ

Page 1 of 4

Grid: 7+00N 4+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
6.1	11.3	5.2	Pyroxenite	Pyroxene, big hornblende crystals some magnetite	57998			
11.3	18.3	7.0	Pyroxenite	Heavily altered pyroxene, light green colors.	57999			
18.3	28.1	9.8		Less altered, big olivine crystals magnetite all through.	58000	12.60	.01	.001
28.1	29.9	1.8	Pyroxenite	The same magnetite in pods.	91801			
29.9	35.7	5.8	Pyroxenite	Pyroxene (clino) big crystals disseminate and in pods magnetite	91802			
35.7	39.7	4.0	Pyroxenite	Pyroxene medium size crystals dark green, magnetite and olivine crystals	91803	16.50	.01	.001
39.7	42.7	3.0	Pyroxenite	Light green pyroxene, macro crystals of olivine, some serpentine.	91804			
42.7	48.0	5.3	Pyroxenite	Altered light green pyroxenite hematite-magnetite (chlorite).	91805			

Signed: I. Corvalan

Hole #: 73-8

Core diameter: BQ

Page 2 of 4

Grid: 7+00N 4+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
48.0	54.0	6.0	Pyroxenite	Pyroxene, olivine, serpentine low in magnetite	91806			
54.0	57.0	3.0	Pyroxenite	54-56.4 equigranular-medium size crystals-56.4 altered chloritized.	91807			
57	61.1		Pyroxenite	Pyroxene, altered some hornblende, olivine some magnetite.	91808			
61.1	63.1		Pyroxenite	Low alteration olivine, serpentine chlorite, magnetite (increases)	91809			
63.1	64.8		Pyroxenite	Pyroxene, olivine, hornblende some magnetite.	91810			
64.8	68.6		Pyroxenite	Altered, chloritized pyroxene hornblende, magnetite also hematite.	91811			
68.6	72.3		Pyroxenite	Equigranular pyroxene, hornblende, olivine some magnetite.	91812	15.00	.01	.001
72.3	78.5		Pyroxenite	Pyroxene, hornblende, olivine, altered, serpentine, rock heavily fractured.	91813			

Signed: \_\_\_\_\_

I.R. Corvalan

IMPERIAL METALS CORPORATION - 1984 -

LODESTONE

Hole #: 73-8

Core diameter: BQ

Page 3 of 4

Grid: 7+00N 4+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
78.5	90.3		Pyroxenite	The same quartz veining.	91814			
90.3	90.9		Qz. vein	Some sulphides	91815	9.10	.01	.001
90.0	94.6		Pyroxenite	90.9-91.5 altered serpentine 91.5-92.4 equigranular 92.4-93.0 heavily altered.				
			Pyroxenite	93-93.6 equigranular 93.6-94.6 heavily altered.	91816			
94.6	97.9			Equigranular pyroxene-olivine hornblende some serpentine	91817			
97.9	104			The same some serpentine and quartz veining.	91818			
104	108.9			The same.	91819			
108.9	110.1			Heavily fractured.	91820			
110.1	117.4		Pyroxenite	High in magnetite, disseminated all through.	91821			
117.4	127.2		Pyroxenite	The same, serpentine-olivine	91822			

Signed: I. R. Corvalan

IMPERIAL METALS CORPORATION - 1984 - LODESTONE

Hole #: 73-8

Core diameter: BQ

Page 4 of 4

Grid: 7+00N 4+00W

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
127.2	131.8		Pyroxenite	Light green pyroxene. Low in magnetite	91823			
131.8	143.4		Pyroxenite	Equigranular. Low magnetite.	91824			
143.4	151.3		Pyroxenite	The same.	91825			
151.3	159.8		Pyroxenite	Altered hornblende crystals, some quartz veining.	91826			
159.8	173.2		Pyroxenite	Big green crystals, olivine, serpentine quartz veining.	91828			
173.2	178.3		Pyroxenite	Equigranular	91829			
				END.				

Signed: I. Corvalan

IMPERIAL METALS CORPORATION - 1984 - LODESTONE

Hole #: 73-3

Core diameter: BQ

Page 1 of 2

Grid: 16+00S 1+00E

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
2.4	5.5	3.1	Pyroxenite	Macrocrystals, light green pyroxene some Olivine, hornblende, magnetite	91829	18.40	.01	.001
5.5	9.2	3.7	Pyroxenite	The same, quartz veining	91830			
9.2	14.6	5.4	Pyroxenite	The same, some magnetite	91831			
14.6	17.7	3.1	Pyroxenite	Equigranular fine grain, fractured.	91832			
17.7	25.6	7.9	Pyroxenite	The same plus hematite-magnetite pods	91833			
25.6	28.7	3.1	Pyroxenite	Pyroxene, hornblende, hematite, magnetite.	91834			
28.7	38.1	9.4	Pyroxenite	Equigranular pyroxene, magnetite, some pyrite.	91835			
38.1	39.7	1.6	Pyroxenite	Light green crystals, heavily altered, fractured.	91836			
39.7	42.7	3.0	Pyroxenite	Equigranular medium size crystal.	91837			
42.7	49.7	7.0		Heavily altered low in magnetite.	91838			
49.7	50.6	.93		Heavily altered, serpentine.	91839			
50.6	54.9	4.3		Mostly magnetite.	91840			

Signed: *I.R. Corvalan*



IMPERIAL METALS CORPORATION - 1984 -

LODESTONE

Hole #: 73-3

Core diameter: BQ

Page 2 of 2

Grid: 16+00S 1+00E

Azimuth: \_\_\_\_\_

Logged by: I.R. Corvalan

Inclination: -90°

Date: I.R. Corvalan

DEPTH		Width	Formation	Description	Sample No.	ASSAY RESULTS		
From	To					Fe %	Cr %	Pt oz/ton
54.9	66.5	11.6	Pyroxenite	Heavily altered, core, disintegrated some magnetite.	91841			
66.5	71.1	4.6	Pyroxenite	Magnetite-altered pyroxene frequent fractures. Chlorite hornblende.	91842			
71.1	81.7	10.6	Pyroxenite	Altered pyroxene, abundant magnetites all through.	91843			
81.7	83.3	1.6	Pyroxenite	Magnetite in pods.	91844			
83.3	86.01	2.7	Pyroxenite	Hematite-magnetite in pods.	91845			
86.0	90.0	4.0	Pyroxenite	Mostly serpentine.	91846			
90.0	93.9	3.9	Pyroxenite	Equigranular, fractured.	91847			
93.9	97	3.1	Pyroxenite	Fractured, quartz veins, magnetite	91848	9.2	.04	.001

Signed: I. Corvalan

ANNEX #5  
SAMPLE RESULTS

ACME ANALYTICAL LABORATORIES LTD.  
852 E. HASTINGS, VANCOUVER B.C.  
PH:253-3158      TELEX:04-53124

DATE RECEIVED FEB 1984

DATE REPORTS MAILED *Feb 17/84*

ASSAY CERTIFICATE

SAMPLE TYPE : PULP

ASSAYER *D. Toye* DEAN TOYE, CERTIFIED B.C. ASSAYER

IMPERIAL METALS      PROJECT # TULAMEEN      FILE # 84-0143B      PAGE# 1

SAMPLE	FE %	CR %	PT OZ/TON
57953	6.50	.06	.001
57954	4.50	.04	.001
57965	16.15	.02	.002
57966	18.75	.01	.001
57969	17.75	.01	.001
57977	11.75	.01	.001
57979	15.35	.01	.001
57984	6.65	.07	.002
57986	16.50	.02	.001
57987	13.95	.03	.005
57988	13.50	.01	.001
57989	24.95	.02	.002
57993	11.45	.01	.001
57996	14.65	.01	.001
58000	12.60	.01	.001
(58001)NO.A	16.40	.01	.001
(58002)NO.B	13.25	.02	.001
(58003)NO.C	16.50	.01	.001
91812	15.00	.01	.001
91815	9.10	.01	.001
91819	16.70	.01	.001
91832	18.40	.01	.001
91848	9.20	.04	.001

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.  
 THIS LEACH IS PARTIAL FOR: Ca, P, Mg, Al, Ti, La, Na, K, W, Ba, Sr, Cr AND B. Au DETECTION 3 ppe.  
 SAMPLE TYPE - CORE

DATE RECEIVED FEB 6 1984 DATE REPORTS MAILED Feb 7/84 ASSAYER S. J. Jey DEAN TOYE, CERTIFIED B.C. ASSAYER

SAMPLE #	IMPERIAL METALS											PROJECT # TULAMEEN											FILE # 84-0143A											PAGE # 1
	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				
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	ppm	%	%	%	%	ppm					
91801	1	5	7	20	.1	43	45	389	12.63	14	2	ND	2	19	1	2	2	391	.56	.01	2	22	1.92	94	.21	2	1.07	.04	.17	2				
91802	1	4	6	19	.1	43	36	307	11.00	8	6	ND	3	25	1	2	2	343	.87	.01	2	64	1.66	81	.21	3	1.15	.06	.15	3				
91803	1	3	8	36	.1	67	39	388	10.89	13	6	ND	2	29	1	2	2	290	1.33	.02	2	44	2.19	110	.20	2	1.29	.05	.15	2				
91804	1	2	3	36	.1	93	37	347	10.86	10	2	ND	2	27	1	3	2	310	1.12	.01	2	83	1.87	48	.21	2	1.11	.05	.09	2				
91805	1	2	6	26	.1	100	40	411	11.01	9	5	ND	2	23	1	2	2	351	.81	.01	2	295	2.16	68	.20	4	1.06	.04	.14	3				
91806	1	1	6	28	.1	93	34	356	10.28	3	2	ND	2	29	1	2	2	325	1.67	.01	2	222	1.91	155	.22	2	1.16	.07	.31	2				
91807	1	1	3	19	.3	75	24	263	8.01	4	2	ND	2	25	1	4	2	260	1.07	.02	2	246	1.15	85	.17	2	.90	.09	.16	2				
91808	1	2	3	21	.1	81	29	315	8.34	6	2	ND	2	22	1	4	2	261	1.08	.01	2	192	1.57	121	.19	3	.93	.08	.21	2				
91809	1	2	4	29	.1	106	36	359	10.73	7	11	ND	2	20	1	5	2	354	.96	.01	2	80	1.52	50	.25	2	1.06	.07	.10	2				
91810	1	4	4	37	.1	89	30	351	10.39	8	2	ND	2	36	1	2	2	337	1.80	.01	2	146	1.36	84	.24	2	1.09	.10	.21	2				
91811	1	2	4	34	.1	75	30	314	9.93	7	2	ND	2	22	1	2	2	331	1.26	.01	2	102	1.07	34	.21	2	.83	.08	.07	2				
91812	1	3	2	31	.1	77	32	287	10.34	7	2	ND	2	15	1	2	2	343	.71	.01	2	124	1.08	55	.20	2	.88	.05	.09	2				
91813	1	3	4	33	.5	52	26	262	8.69	6	7	ND	2	13	1	3	2	285	1.02	.01	2	105	.77	14	.18	3	.61	.04	.02	2				
91814	1	3	2	37	.2	41	25	271	8.53	8	2	ND	2	15	1	5	2	286	1.02	.01	2	69	.82	12	.21	2	.63	.05	.02	2				
91815	1	1	6	36	.4	30	38	861	5.94	10	2	ND	2	79	1	5	2	159	8.44	.01	2	18	2.50	33	.02	8	.63	.04	.18	2				
91816	1	1	5	35	.2	32	24	427	8.42	6	2	ND	2	42	1	2	2	289	2.57	.01	2	30	1.29	21	.17	2	.84	.10	.04	2				
91817	1	1	3	30	.2	35	22	329	8.02	8	2	ND	2	26	1	2	2	287	1.74	.01	2	37	.89	16	.19	2	.70	.08	.04	2				
91818	1	2	2	37	.1	37	25	401	8.82	11	2	ND	2	28	1	6	2	302	2.04	.01	2	40	1.08	76	.20	2	.83	.06	.16	2				
91819	1	1	5	49	.1	39	32	453	10.84	11	4	ND	2	31	1	7	2	372	1.72	.01	2	39	1.14	32	.18	4	.86	.06	.09	2				
91820	1	2	6	36	.1	52	35	386	12.09	12	6	ND	2	24	1	6	2	460	.99	.02	2	226	1.22	14	.24	2	1.01	.07	.04	2				
91821	1	5	3	44	.1	47	34	458	11.36	13	2	ND	2	26	1	2	2	386	1.58	.02	2	82	1.06	48	.19	2	.94	.07	.04	2				
91822	1	2	4	39	.4	47	29	370	9.70	12	2	ND	2	26	1	5	2	363	1.40	.02	2	51	1.03	36	.21	2	.96	.10	.08	2				
91823	1	3	2	35	.2	42	26	405	7.56	13	2	ND	2	56	1	5	2	284	1.81	.02	2	47	2.17	154	.33	2	1.81	.25	.43	2				
91824	1	2	4	43	.1	48	31	321	10.35	8	2	ND	2	13	1	2	2	351	.79	.01	2	62	.92	42	.28	2	.86	.04	.10	2				
91825	1	6	6	47	.2	61	34	359	10.91	8	7	ND	2	18	1	6	2	365	.91	.01	2	131	1.31	37	.28	2	1.07	.06	.07	2				
91826	1	2	5	39	.3	48	29	516	9.44	9	2	ND	2	39	1	2	2	315	3.09	.01	2	96	1.33	230	.21	2	.99	.08	.13	2				
91827	1	2	5	47	.2	39	29	378	9.36	7	2	ND	2	25	1	2	2	316	1.36	.01	2	80	1.20	106	.23	2	.82	.05	.03	2				
91828	1	2	3	53	.1	41	30	515	10.10	12	2	ND	2	28	1	2	2	388	1.86	.01	2	66	1.20	16	.27	2	.90	.06	.04	2				
91829	1	5	5	29	.1	45	27	264	9.34	4	6	ND	2	20	1	2	2	207	.93	.02	2	6	.85	20	.17	2	.72	.06	.04	2				
91830	1	4	6	28	.4	47	25	301	9.25	7	2	ND	2	26	1	4	2	208	1.30	.02	2	28	.78	63	.16	2	.65	.04	.07	2				
91831	1	3	6	33	.1	59	30	296	10.39	10	2	ND	2	21	1	2	2	264	.94	.02	2	47	1.09	65	.18	2	.94	.05	.14	2				
91832	1	5	4	37	.1	59	32	334	10.39	9	2	ND	2	17	1	2	2	263	.78	.01	2	16	1.09	78	.17	2	.88	.04	.15	2				
91833	1	4	4	27	.1	44	28	385	8.29	7	2	ND	2	29	1	2	2	186	1.85	.01	2	131	1.50	71	.16	2	.87	.03	.05	2				
91834	1	3	4	20	.2	37	31	268	7.64	6	4	ND	2	13	1	7	2	171	.71	.01	2	207	1.81	59	.14	2	.80	.02	.12	2				
91835	1	5	4	37	.1	34	38	292	12.23	8	3	ND	2	16	1	2	2	405	.96	.01	2	26	1.00	30	.23	2	.86	.03	.08	2				
91836	1	5	4	36	.2	31	26	817	8.08	6	2	ND	2	68	1	2	2	190	4.14	.01	2	17	2.23	75	.06	3	.88	.02	.46	2				
91837	1	2	4	30	.1	57	28	309	9.79	10	2	ND	2	20	1	2	2	271	1.46	.01	2	163	1.22	30	.23	2	.86	.02	.07	2				
91838	1	15	5	49	.1	73	46	532	14.70	5	2	ND	2	34	1	2	2	477	1.86	.02	2	116	1.60	97	.21	2	1.20	.03	.14	2				
91839	1	2	6	42	.1	36	30	577	10.31	10	2	ND	2	58	1	2	2	329	5.14	.01	2	10	2.45	34	.20	2	.82	.03	.06	2				
STD A-1	1	29	38	179	.3	36	11	990	2.84	9	2	ND	2	35	1	2	2	57	.61	.10	8	74	.70	285	.09	8	2.06	.02	.21	2				

IMPERIAL METALS - PROJECT # TULAMEEN FILE # 84-0143A

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 %	M ppm
91840	1	2	7	63	.1	61	44	553	14.04	17	2	ND	2	31	1	2	2	511	2.03	.01	2	51	1.50	39	.24	2	1.20	.02	.04	2
91841	1	4	2	43	.1	50	35	486	11.11	7	2	ND	2	54	1	2	2	357	2.79	.02	2	110	1.97	42	.16	2	1.15	.04	.03	2
91842	1	1	2	34	.1	77	30	379	10.56	3	2	ND	2	36	1	5	2	305	2.29	.01	2	117	1.69	35	.17	2	.91	.04	.06	2
91843	1	11	2	36	.1	64	26	339	8.76	5	2	ND	2	43	1	2	2	287	1.70	.06	2	255	1.55	91	.14	2	1.10	.09	.23	2
91844	1	26	1	30	.1	71	22	276	6.99	4	2	ND	2	31	1	2	2	218	1.36	.02	2	575	1.37	90	.14	2	.98	.08	.25	2
91845	1	19	3	34	.1	54	25	356	8.08	4	2	ND	2	44	1	2	2	287	1.73	.02	2	241	1.62	137	.14	3	1.12	.06	.27	2
91846	1	71	2	26	.1	30	17	380	3.93	4	2	ND	2	73	1	2	2	117	1.96	.08	2	144	1.37	153	.15	2	1.23	.10	.46	2
91847	1	1	5	32	.1	32	28	422	10.63	10	2	ND	2	41	1	4	2	251	2.72	.01	2	20	1.17	42	.15	2	.86	.05	.04	2
91848	1	3	4	25	.1	129	43	468	6.13	7	2	ND	2	13	1	6	2	108	.58	.01	2	320	3.86	47	.06	18	.62	.02	.10	2
57953	1	4	5	24	.1	122	41	430	5.64	6	2	ND	2	11	1	4	2	98	.45	.01	2	292	3.58	46	.05	19	.58	.02	.11	2
57954	1	1	2	34	.1	160	49	638	5.30	2	2	ND	2	9	1	8	2	47	.22	.01	2	270	5.68	43	.04	67	.46	.01	.09	2
57955	1	1	5	29	.1	140	44	525	5.68	2	5	ND	2	12	1	9	2	80	.30	.01	2	354	4.35	69	.05	45	.66	.02	.20	2
57956	1	2	2	16	.1	58	16	212	4.11	2	2	ND	2	9	1	2	2	110	.59	.01	2	663	1.58	39	.08	6	.56	.02	.11	2
57957	1	1	6	19	.1	70	20	287	4.59	2	2	ND	2	12	1	4	2	118	.58	.01	2	658	2.39	110	.10	13	.71	.03	.26	2
57958	1	8	1	22	.1	58	21	274	5.35	2	2	ND	2	25	1	2	2	143	.96	.02	2	375	1.99	37	.10	7	.82	.07	.10	2
57959	1	1	3	24	.1	69	32	240	11.66	7	2	ND	2	12	1	3	2	365	.59	.01	2	143	1.05	19	.16	2	.85	.03	.03	2
57960	1	2	5	31	.1	89	41	285	13.57	3	2	ND	2	20	1	2	2	383	.90	.01	2	98	1.36	38	.17	2	.98	.05	.06	2
57961	1	4	3	23	.1	85	42	269	14.39	6	2	ND	2	16	1	10	2	363	.87	.01	2	20	1.12	12	.18	2	.97	.04	.01	3
57962	1	3	4	24	.1	93	42	272	14.92	6	2	ND	2	12	1	2	2	390	.65	.01	2	52	1.01	14	.17	2	.91	.03	.01	3
57963	1	4	3	22	.1	54	41	274	14.30	4	2	ND	2	15	1	2	2	377	.71	.01	2	37	1.06	15	.14	2	.92	.04	.02	2
57964	1	3	2	29	.1	87	40	355	13.78	10	2	ND	2	31	1	2	3	461	1.69	.01	2	105	1.37	43	.18	2	1.12	.05	.09	3
57965	1	3	7	45	.1	64	45	639	12.95	309	2	ND	2	75	1	9	2	411	4.92	.03	2	64	1.63	66	.06	4	1.20	.06	.05	3
57966	1	4	2	18	.1	66	40	279	15.04	3	2	ND	2	14	1	2	2	494	.66	.01	2	82	1.06	22	.16	2	.94	.04	.03	3
57967	1	4	7	17	.1	74	46	307	17.73	9	2	ND	2	14	1	2	2	556	.71	.01	2	136	1.23	13	.19	2	1.10	.03	.02	4
57968	1	4	5	21	.1	79	54	395	19.79	4	2	ND	2	10	1	3	2	624	.64	.01	2	201	.97	24	.20	2	.87	.02	.04	5
57969	1	5	5	21	.1	52	42	306	14.11	2	2	ND	2	14	1	2	2	448	.90	.01	2	62	1.09	20	.18	2	.86	.03	.02	2
57970	1	4	3	29	.1	34	36	303	12.71	5	2	ND	2	14	1	2	2	414	.83	.01	2	12	.99	13	.17	3	.81	.04	.01	2
57971	1	4	3	35	.1	30	39	358	13.28	5	2	ND	2	22	1	2	2	478	1.32	.02	2	15	1.28	14	.20	2	1.01	.05	.01	2
57972	1	5	6	28	.1	35	38	373	11.90	7	2	ND	2	21	1	2	2	397	1.31	.01	2	5	1.62	27	.19	2	1.06	.04	.04	2
57973	1	5	4	41	.1	36	37	520	12.12	5	2	ND	2	76	1	2	2	394	4.14	.02	2	39	1.59	50	.16	2	1.29	.11	.11	2
57974	1	3	4	25	.1	36	37	353	12.91	8	2	ND	2	24	1	2	2	422	1.51	.01	2	29	1.39	37	.22	2	1.08	.06	.07	2
57975	1	4	3	30	.1	77	34	327	10.19	6	2	ND	2	32	1	2	2	371	1.17	.01	2	71	2.40	419	.23	2	1.68	.10	.76	2
57976	1	5	3	25	.1	65	38	336	12.46	2	2	ND	2	27	1	2	2	432	1.13	.02	2	40	1.58	182	.19	2	1.30	.07	.33	2
57977	1	3	7	34	.1	44	40	641	10.58	4	2	ND	2	79	1	2	2	324	4.29	.01	2	44	2.36	145	.11	9	1.11	.05	.28	2
57978	1	2	8	20	.1	98	39	537	9.00	3	2	ND	2	23	1	6	2	230	1.64	.01	2	139	3.08	63	.08	10	.90	.03	.10	2
57979	1	2	6	37	.1	101	66	628	12.93	4	2	ND	2	35	1	4	2	279	1.48	.01	2	28	3.94	121	.10	18	1.10	.03	.26	2
57980	1	1	7	27	.1	51	38	446	12.28	5	2	ND	2	31	1	2	2	373	2.21	.01	2	19	1.49	44	.18	2	.97	.04	.09	2
57981	1	2	5	20	.1	83	33	377	11.10	4	2	ND	2	32	1	2	2	264	1.56	.01	2	101	1.36	47	.08	4	.78	.04	.08	2
STD A-1	1	29	38	181	.3	36	11	1000	2.85	9	2	ND	2	34	1	2	2	57	.60	.09	8	74	.71	282	.09	9	2.06	.01	.20	2

*Assay results to coal.*

IMPERIAL METALS - PROJECT # TULAMEEN FILE # 84-0143A

PAGE # 3

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 %	M ppm
57982	1	4	6	26	.1	76	33	331	10.62	2	2	ND	2	25	1	4	2	240	1.31	.01	2	65	1.02	20	.12	2	.77	.04	.03	2
57983	1	1	4	26	.2	61	19	431	5.45	2	2	ND	2	31	1	2	2	153	2.45	.01	2	558	1.65	42	.08	4	.66	.06	.07	2
57984	1	5	5	24	.1	59	18	349	5.02	2	2	ND	2	30	1	3	2	143	1.72	.01	2	466	1.64	66	.07	6	.77	.07	.13	2
57985	1	1	6	24	.1	50	17	419	4.79	7	2	ND	2	41	1	2	2	122	2.88	.01	2	458	1.87	133	.07	3	.76	.06	.14	2
57986	1	4	5	57	.1	83	42	452	14.16	6	2	ND	2	26	1	4	2	457	1.62	.01	2	224	1.57	28	.23	2	1.31	.06	.05	2
57987	1	1	2	41	.1	64	31	329	10.19	2	2	ND	2	27	1	6	2	327	1.13	.01	2	204	1.80	44	.20	2	1.02	.06	.07	2
57988	1	2	7	40	.1	59	30	428	9.61	4	2	ND	2	31	1	2	2	337	1.88	.01	2	121	1.50	28	.19	2	.96	.06	.03	2
57989	1	2	4	40	.1	85	42	349	14.35	3	2	ND	2	22	1	2	2	501	.99	.01	2	181	1.59	46	.20	2	1.20	.04	.08	2
57990	1	1	4	41	.1	74	29	613	9.17	2	2	ND	2	55	1	2	2	316	4.69	.01	2	173	1.77	40	.14	2	1.03	.05	.09	2
57991	1	2	5	39	.1	57	27	525	9.23	2	2	ND	2	47	1	5	2	324	3.89	.01	2	153	1.80	85	.15	2	.96	.06	.10	2
57992	1	1	8	49	.1	39	31	494	9.85	7	2	ND	2	51	1	2	2	329	3.31	.01	2	47	2.33	27	.19	2	1.03	.07	.03	2
57993	1	6	5	40	.1	43	27	475	8.26	5	2	ND	2	46	1	4	2	268	2.75	.02	2	87	1.85	61	.15	2	1.08	.08	.10	2
57994	1	1	4	49	.1	39	33	390	10.59	4	2	ND	2	23	1	2	2	343	1.32	.01	2	33	1.31	15	.21	2	1.00	.04	.03	2
57995	1	2	5	52	.1	36	34	402	10.77	2	2	ND	2	26	1	2	3	374	1.15	.01	2	23	1.35	27	.25	2	1.02	.06	.01	2
57996	1	2	6	48	.1	31	34	400	10.88	7	2	ND	2	23	1	2	2	363	1.50	.01	2	28	1.04	11	.23	2	.94	.05	.01	2
57997	1	3	5	44	.1	27	31	475	9.79	8	2	ND	2	36	1	2	2	330	2.86	.01	2	26	1.16	11	.22	2	.90	.06	.01	2
57998	1	3	3	20	.1	31	36	265	12.20	4	2	ND	2	14	1	3	2	354	.79	.01	2	39	.87	31	.17	2	.85	.04	.05	3
57999	1	2	8	25	.1	60	33	285	10.45	4	2	ND	2	20	1	2	2	339	1.27	.01	2	96	1.46	199	.19	2	1.13	.06	.35	2
58000	1	3	5	21	.1	44	37	283	11.67	2	2	ND	2	20	1	2	2	360	.77	.01	2	34	1.58	120	.17	2	1.10	.04	.27	2
ND# A	1	2	5	34	.1	67	36	504	11.44	5	2	ND	2	47	1	4	2	268	2.59	.01	2	21	1.75	383	.09	4	.95	.05	.07	2
ND# B	1	2	4	48	.1	37	29	455	9.65	7	2	ND	2	30	1	2	2	332	1.75	.01	2	66	1.31	22	.21	2	.88	.06	.03	2
ND# C	1	3	5	54	.1	43	36	394	11.81	2	2	ND	2	11	1	5	2	367	.75	.01	2	71	.99	45	.25	2	.91	.03	.08	2
STD A-1	1	29	41	186	.3	35	11	1030	2.86	10	2	ND	2	36	1	2	2	57	.61	.10	8	74	.70	282	.08	9	2.06	.02	.21	2

