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**DRILLING REPORT ON THE WHIPSAW PROSPECT  
PRINCETON AREA, B.C.  
SIMILKAMEEN MINING DIVISION  
NTS 92H7**

by

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**VANCOUVER, B.C.**

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February 10, 1992

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**22,147**

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## SUMMARY

This report summarizes the 1991 work program conducted on the Whipsaw copper-molybdenum-gold porphyry prospect located near Princeton, B.C. The purpose of the program was to test coincident induced polarization and geochemical soil anomalies associated with a number of porphyry-style targets.

The Whipsaw property consists of four mineralized zones near and peripheral to the Whipsaw porphyry, a small quartz porphyry stock about two kilometres in diameter. These zones comprise the North, South, Mike and BZ, all of which are hosted within quartz porphyry dykes and variably altered and mineralized schistose metasediments of the Triassic-Jurassic age Nicola volcanics that underlie the eastern part of the property. Massive and foliated rocks of the Eagle granodiorite pluton lie to the west. Intrusive rocks associated with the porphyry zones comprise a series of quartz porphyry dykes that lie within a linear suture zone of regional extent. The Whipsaw stock separates the southern mineralized zones from those to the north. The Whipsaw Porphyry itself is barren, clay-altered and is probably post-mineral in age. Hydrothermal alteration and mineralization of the four zones are variable but generally consist of fine grained secondary biotite, sericite and quartz together with aggregates of chalcopyrite, molybdenite and pyrite disseminated in the rock matrix between stockworks of sulphide-bearing quartz veinlets.

The 1991 field work was performed in two phases, diamond drilling conducted between July 3 and August 3, 1991, and a percussion drilling program completed between October 8 and October 18, 1991. The diamond drilling work consisted of 1221 metres of NQ size core in ten holes on the South Porphyry, the Mike zone and westerly portions of the North Porphyry. The percussion program totalled 693 metres in eleven holes, all located on northerly extensions of the North Porphyry zone north of 47 Mile Creek.

Six widely-spaced diamond drill holes (DDH 1 to 4, 6, 10) were drilled on the South Porphyry to test a 200-metre by 700-metre soil anomaly lying south of the Whipsaw stock. The best hole, DDH-2, returned .2% copper over 99 metres. Two holes, DDH-5 and 8, were drilled on the nearby Mike zone. Hole DDH-5 returned 0.09% copper over 146 metres and hole DDH-8 100 metres east cored a barren dyke. On the North zone, hole DDH-7 penetrated a barren breccia over its length of 53 metres and hole DDH-9 100 metres north near 47 Mile Creek returned 0.16% copper over 25 metres from a pyritic intrusive breccia.

Molybdenum concentrations were in the 150 ppm range in both drill programs. Gold concentrations are low, generally less than 20 ppb gold.

## **INTRODUCTION**

The report summarizes the 1991 drill program conducted on the Whipsaw property, Similkameen Mining Division, near Princeton, B.C.

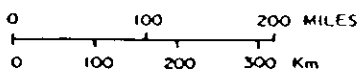
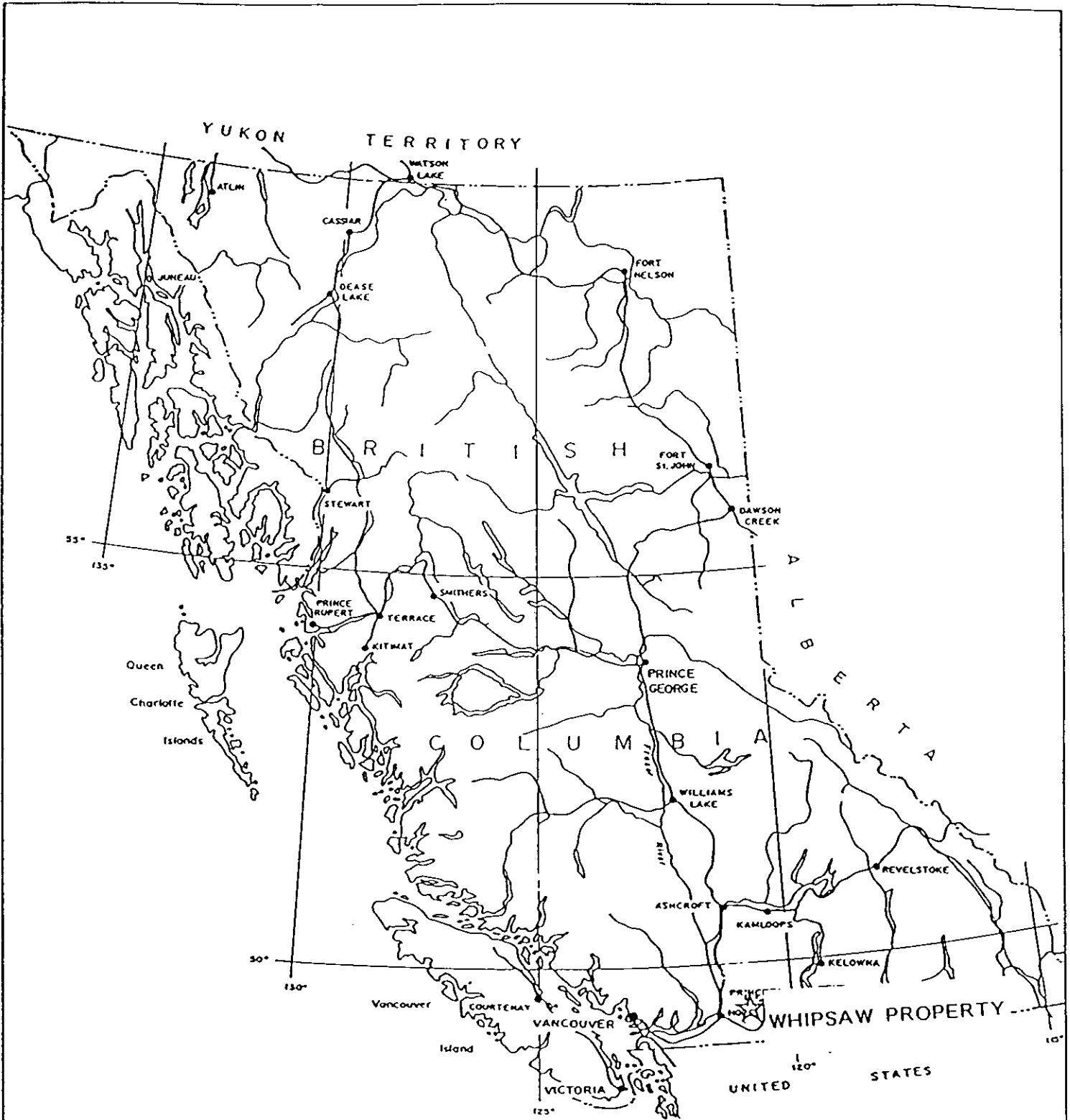
The program consisted of 1220.9 metres of diamond drilling in ten holes to test geochemical and geophysical targets outlined by previous operators. All core was logged, split and sampled on the property. The core is stored in a building located at Kilometre 20 on the Whipsaw Creek Road. Accommodations were in Princeton, B.C. J. T. Thomas Diamond Drilling of Smithers, B.C. was the diamond drill contractor. Results are reported herein together with recommendations for 1992.

## **LOCATION AND ACCESS**

The Whipsaw property is in the Similkameen Mining Division, British Columbia, at latitude 49°16'N, longitude 120°45'W on NTS mapsheet 92H/7 (Figure 1). The property is 170 kilometres east of Vancouver and 26 kilometres southwest of Princeton. The Similco/Princeton Mining Co. porphyry copper deposit (20,000 tpd, 0.4% Cu plus Au) lies 15 kilometres east of the property.

Access from Vancouver is by paved road via Highway 401 and Highway 3 to Princeton. A logging road 13 kilometres south of Princeton leaves Highway 3 at Whipsaw Creek and follows the north bank of the creek to the property, a distance of 18 kilometres. Other logging roads and local mining trails provide access to most parts of the property.

Local topography is moderate, elevations range from 1,385 to 1,660 metres. The property is covered by large stands of commercial timber although considerable areas have already been logged. Outcrop is sparse and bedrock is generally covered by a widespread mantle of overburden about one to five metres thick. The area lies in the rain shadow of the Coast Mountains hence precipitation is generally light, some 40 inches per year.



Phelps Dodge Canada			
PROPERTY LOCATION PLAN			
WHIPSAW PROSPECT			
FOX GEOLOGICAL CONSULTANTS LTD.			
DATE		N.T.S.	Dwg. No.
			4

## CLAIMS

The Whipsaw property consists of several mineral claims and a mining lease and is under option from World Wide Minerals (Figure 2). The claims under option are listed below.

Name	Record No.	No. of Units
MET 5	3066	15
MET 6	3067	9
MET 7	3068	20
MET 8	3106	8
MET 9	3107	20
MET 10	3108	20
Silvertip No. 1	18218	1
Silvertip No. 2	18219	1
OK #1	11979	1
OK #2	11980	1
OK #8	33825	1
OK #6 Fr.	33749	1
OK #7 Fr.	33750	1
Porph 1	301858	12
North Hill 1	302359	9
Mining Lease #336	Lots 172, 1549-1552	-

## HISTORY

Although placer deposits in the Tulameen and Similkameen rivers and their tributaries have been known and exploited since the 1860's, it was not until 1895 that rich placer showings of gold and platinum were discovered near Tulameen just to the north of Whipsaw Creek. During this period, gold and platinum placer deposits were also discovered in Whipsaw Creek downstream just to the east of the property. Prospecting



IR III  
18 2712

PDC OPTION

PT III  
18 2736  
55244 ✓

MET 9  
18 3107  
54824

MET 10  
18 3108  
54824

MET 8  
18 3106  
25244

MET 8  
18 3106  
25244 428334

Hudson Bay  
Meadows

MET 7  
18 3068  
44852

Mining Lease #336

MARRGO  
18 3696  
34854

MET 5  
18 3066  
54834

MET 6

MIKE  
18 411

Corral

18 3067  
35244

18 3067  
35244

OK #2  
18 11980  
2 50066  
18 15768

M.J.  
18 245  
24852

WILMAC #2  
18 2607  
439504  
WILMAC #1  
18 2806  
439504  
WILMAC #4  
18 2209  
439504  
WILMAC #3  
18 2808  
439504  
MET 1

PHELPS DODGE CANADA

PROJECT NO: 140

CLAIM MAP  
WHIPSAW CREEK

SCALE	DATE	FILE NO	N.T.S. No	DWG. No:
			92H7	2

BY:

led to the staking of gold- and silver-bearing veins in the central part of the property in 1908. These veins were explored by trenching and underground work. Additional adits were driven in the period 1927 to 1930.

Reconnaissance stream sediment sampling by Texas Gulf Sulphur in 1959 led to the discovery of stream sediment anomalies in tributaries of Whipsaw Creek. Follow-up work outlined soil geochemical and induced polarization anomalies near the headwaters of 47 Mile Creek. The anomalies here were caused by weathering of porphyry copper-molybdenum mineralization in the northern part of the property. This area was worked on by Texas Gulf, Dome Exploration (Canada) Ltd., Moneta Porcupine Mines Limited, Amax Exploration Ltd. and Newmont Mining where large tonnages of 0.1% to 0.3% copper were indicated. From 1961 on, Whipsaw Mines Ltd. explored the ground near Whipsaw Creek where early prospects were located. This work involved several geochemical surveys and drilling programs, including, in 1968, two diamond drill holes under the old Metestoffer showing south of Whipsaw Creek.

In 1970-73, geological and geochemical surveying was completed by Stokes Exploration Management Co. Ltd. for Whipsaw Mines and Skaist Minerals within the Eagle pluton west of the area of interest. In 1974, Newconex Canadian Exploration Ltd. collected 45 soil and rock samples near the known showings and near anomalies discovered by the 1970 survey.

In 1982 and 1983, R. R. Culbert and J. R. Poloni compiled available data on part of the property, and completed trenching and drilling programs at the Metestoffer and BZ prospects.

In 1985, World Wide Minerals Ltd. (WW) completed soil sampling in the area of the BZ trenches. In 1986, WW extended the trenches and collected rock samples assaying as high as 0.339 oz/ton Au and 5.40 oz/ton Ag across 0.61 metres.

Also in 1985, Lone Jack Resources conducted a soil sampling program on their claims, which are now part of the Whipsaw property, and drilled eight diamond drill holes near the Spencer showing across Whipsaw Creek from the Metestoffer prospect.

In 1987, WW completed a soil sampling program over the central part of the property collecting a total of 5,580 soil samples which were analyzed for gold and for 31 elements



using ICP. In late 1987 and January, 1988, WW drilled 30 holes totalling 3,049.1 metres on the BZ prospect near Whipsaw Creek. WW drilled six holes in the "north porphyry" area in 1990 (683 metres).

Much of this early work was hampered, and largely made impossible, by Mining Lease #336. WW finally acquired this lease by purchase in 1987. Hence the "south porphyry" and Mike zones have never been tested, in fact, some of the early work was done on ground not owned by the operators of the day. It is only recently that WW has acquired ownership to all of the key claims comprising the north, south and Mike zones. WW has spent at least one million dollars since 1985.

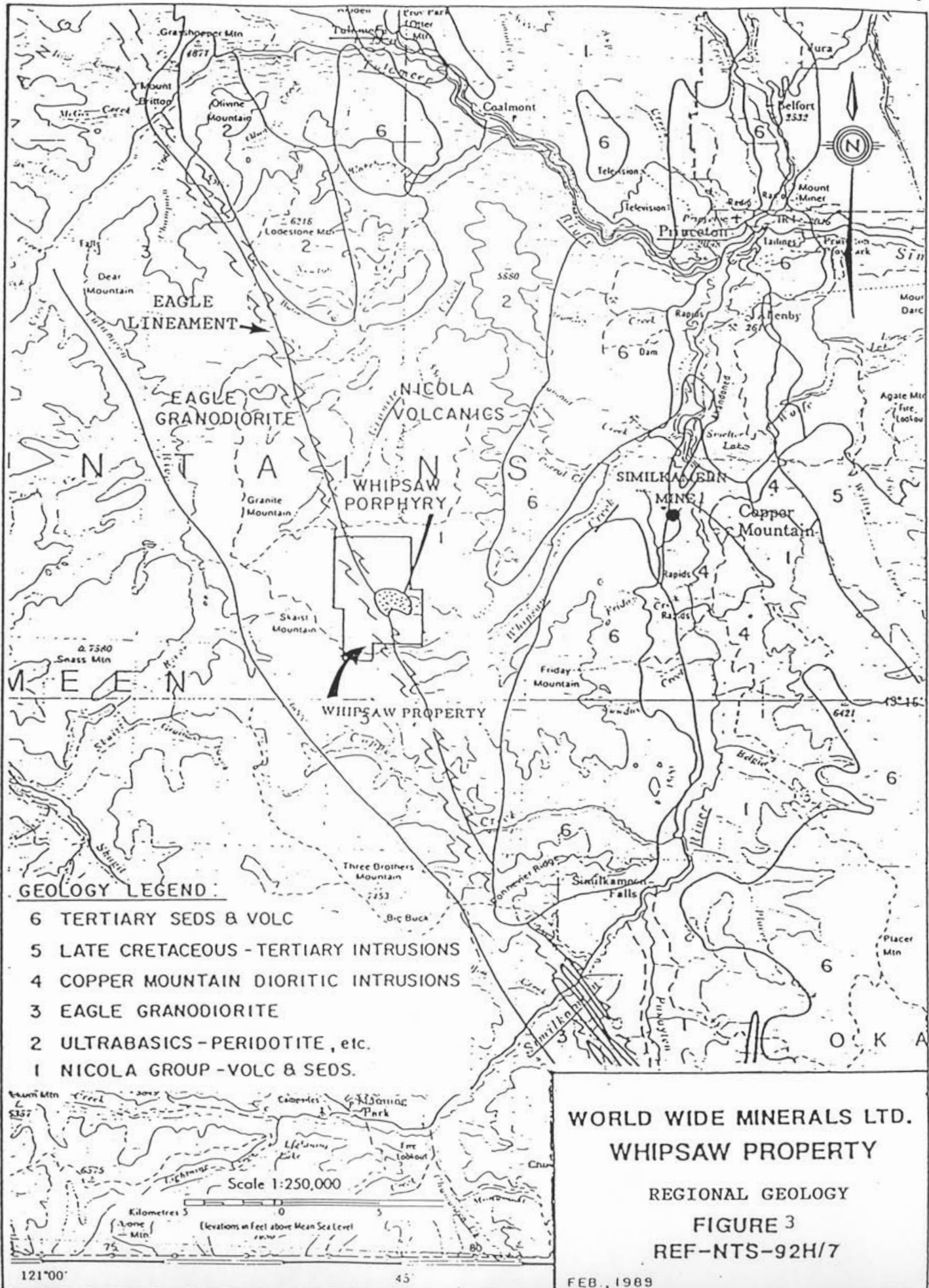
Phelps Dodge optioned the property from WW on May 1, 1991 and conducted 1220 metres of diamond drilling and 693 metres of percussion drilling between July 3 and October 18, 1991.

## **REGIONAL GEOLOGY**

The Whipsaw prospect lies along a regional lineament (the Eagle lineament) of sheared and foliated rocks separating the Eagle pluton to the west and volcanic rocks of the Nicola Group to the east (Figure 3). The various prospects are associated with a small stock and satellite dykes of quartz porphyry exposed at the headwaters of Whipsaw Creek. The Nicola rocks, host for the copper deposits at Copper Mountain now being exploited by Princeton Mining (Similkameen Mine, Figure 3) here comprise a sequence of westerly-dipping foliated tuffs and metasediments. The adjoining Eagle pluton consists largely of granodiorite, intensely sheared and foliated along its east margin, of Mesozoic age. The Eagle lineament is a major suture zone that forms the west boundary of the Quesnellia Terrane. It hosts the Tulameen ultramafic complex to the immediate north and numerous other copper porphyry and precious metal showings to the north and south of Whipsaw Creek.

## **LOCAL GEOLOGY**

The main geological elements of the Whipsaw prospect are given in Figure 4. The porphyry style mineralized zones are associated with a complex of porphyritic intrusions exposed as dykes and a small arcuate-shaped stock at the headwaters of 47 Mile Creek. Unit 1 comprises variably altered and mineralized schistose metasediments of the Triassic



Nicola Group. This is the host rock for virtually all of the zones of interest. Unit 2 comprises massive and foliated rocks of the Eagle pluton, a large batholith of granodiorite underlying the western half of the property. Intrusive rocks linked to the disseminated porphyry deposits are a group of northwesterly quartz porphyry dykes (Unit 3) that lie along the Eagle lineament. Both pre-mineral and post-mineral dykes have been reorganized. The Whipsaw porphyry (Unit 4) is a small stock of quartz porphyry some 500 metres by 1,500 metres that separates the southern mineralized zones from the north porphyry (North zone, Figure 4). The Whipsaw porphyry mass is largely barren, locally clay-altered and is thought to be in part post-mineral in age. It probably underlies the south porphyry and Mike zones leaving the dykes of Unit 3 and surrounding Nicola rocks as a cupola of variably mineralized and altered rocks.

## **MINERALIZED ZONES**

There are three porphyry-style targets on the property, the North Porphyry, the South Porphyry and the Mike zone (Figure 4). Each is marked by copper-enriched soils and a fringing IP anomaly.

### North Zone

The North zone, some 1000 metres by 1500 metres in size, has received most of the past exploration work due in large part to adverse land claims concerning Mining Lease #336. Nine diamond drill holes by previous operators and two diamond drill holes and eleven percussion holes this year by Phelps Dodge were collared north of the Whipsaw stock to test a +30ms IP anomaly and a zone of copper-rich soils at the headwaters of Forty-Seven Mile Creek. All holes returned pyritic Nicola rocks variably altered to fine grained secondary biotite containing 5% disseminated pyrite and 1% to 2% disseminated chalcopyrite. The rock is laced with 2 cm. thick stockworks of "B"-style veinlets and less developed "D" veins rich in pyrite and chalcopyrite commonly having thin (.5 cm.) selvages of chlorite +/- epidote. The "B" veins are sharp-walled fracture fillings typically with well developed drusy quartz and discontinuous layers of pyrite, chalcopyrite and molybdenite. Most are parallel to the foliation of the host Nicola schists producing a distinct banded appearance to the porphyry zone. Cross-cutting veinlets are also common.

### South Zone

The South zone (200 metres by 700 metres) has not received the same degree of testing as the North zone. The South zone lies against an embayment in the Whipsaw porphyry stock (Unit 4) between it and a large quartz porphyry dyke. Mineralization here is much like that seen in the North Porphyry. The zone is marked by a low contrast IP response and large soil geochemical anomaly containing +500 ppm copper. Pyritic rocks west of the zone comprise Nicola schists and local porphyry dykes that range in grade from .05% to 0.1% copper. Elsewhere, holes drilled here in 1969 together with this year's holes returned grades of .1% to .2% copper over the entire length of the holes over an average length of some 75 metres.

### Mike Zone

The Mike zone is a geochemical anomaly some 150 metres by 700 metres lying along Forty-Five Mile Creek, an accurate feature concave to the west. Two holes were drilled on the Mike zone this year.

### BZ Zone

The BZ zone is the southernmost porphyry target. World Wide Minerals Ltd. drilled 15 vertical holes in this zone in 1987 to test several narrow gold zones exposed by previous trenching work. Copper grades here are <0.05% copper with trace amounts of gold.

## **1991 WORK PROGRAM**

The 1991 work program on the Whipsaw property was conducted between July 3 and August 3, 1991. Ten NQ size diamond drill holes were completed for a total of 1220.9 metres. The drill program concentrated on geochemical and geophysical anomalies outlined by previous operators on the North and South Porphyry zones.

Following is a brief summary of each hole. Complete drill logs are provided in Appendix I and geochemical analysis in Appendix II. Drill core is stored in a small cabin at Kilometre 20 on the Whipsaw Road. The work was paid for Phelps Dodge Corporation of Canada, Limited.

180-1

0 to 18.2m

Casing in overburden.

18.2 to 20.4

Feldspar Porphyry Dyke.

Trace to 2% fine grained pyrite on fracture surfaces.

20.4 to 78.6

Chloritic Basalt.

2% to 5% disseminated pyrite, trace to 1% chalcopyrite and molybdenite in local quartz carbonate veins. Local gouge zones and high chlorite content resulted in poor recovery.

180-2

0 to 39.6m

Casing in overburden.

39.6 to 138.7

Feldspar Porphyry Dyke.

1% to 3% fine grained pyrite, disseminated and in quartz veinlets, 1% to 2% chalcopyrite and trace to 1% molybdenite in quartz carbonate veinlets.

Feldspar porphyry dyke with trace amount chalcopyrite at 80.5m to 89.2m, and 117.8m to 121.0m.

180-3

0 to 12.2m

Casing in overburden.

12.2 to 134.1

Biotite Chlorite Basalt.

Moderately schistose, fine grained pyrite 1% to 3%, trace to 1% molybdenite and chalcopyrite in quartz carbonate veinlets.

Feldspar porphyry dyke at 16.5m to 17.7m, 74.9m to 77.4m and 128.4m to 134.1m

180-4

0 to 36.6m

Casing in overburden.

36.6 to 107.9

Biotite Hornblende Basalt.

3% to 7% fine grained pyrite, trace to 2% chalcopyrite and trace molybdenite in quartz carbonate veinlets. Numerous quartz veins with medium grained molybdenite to 5% throughout interval.

107.9 to 133.2

Feldspar porphyry dyke with local veinlets of quartz +/- pyrite and molybdenite.

180-5

0 to 6.1m

Casing in overburden.

6.1 to 151.8

Hornblende Basalt.

Weakly schistose, locally silicified, 1% to 4% fine grained pyrite, trace to 2% fine grained chalcopyrite in quartz carbonate veinlets, trace molybdenite.

Feldspar porphyry dyke at 74.5m to 84.7m, 90.8m to 100.4m and 133.5m to 138.0m.

180-6

0 to 6.1m

Casing in overburden.

6.1 to 21.3

Feldspar Porphyry Dyke.

3% to 7% disseminated fine grained pyrite, trace disseminated chalcopyrite, trace molybdenite in veinlets.

21.3 to 140.2

Biotite Hornblende Basalt.

Weak to moderately schistose, weakly chloritic. 3% to 5% pyrite disseminated in veinlets. Trace to 1% chalcopyrite and molybdenite in veinlets. Feldspar porphyry dyke at 39.0m to 43.1m and 71.5m to 76.2m.

180-7

0 to 3.0m

Casing in overburden.

3.0 to 45.7

Intrusive Breccia.

Angular fragments of granodiorite in a feldspar porphyry matrix. 2% to 3% fine grained pyrite, trace chalcopyrite disseminated in matrix.

45.7 to 52.7

Feldspar Porphyry Dyke.

180-8

0 to 3.0m

Casing in overburden.

3.0 to 78.9

Feldspar Porphyry Dyke.

2% to 7% disseminated fine grained pyrite, trace chalcopyrite, trace molybdenite.

180-9

0 to 9.1m

Casing in overburden.

9.1 to 138.3

Biotite Hornblende Schist with Granodiorite

2% to 5% disseminated fine grained pyrite.

1% to 2% chalcopyrite, trace to 3% molybdenite in quartz carbonate veinlets.

138.3 to 154.8

Biotite Hornblende Basalt.

3% to 7% disseminated pyrite, 1% to 2% chalcopyrite and trace to 2% molybdenite in quartz-calcite-epidote veinlets.

180-10

0 to 6.1m

Casing in overburden.

6.1 to 85.0

Hornblende Basalt.

1% to 5% pyrite disseminated in matrix, along foliation and within calcite-epidote +/- quartz veinlets, trace to 2% chalcopyrite, disseminated and in quartz-carbonate veinlets.

85.0 to 88.1

Feldspar Porphyry Dyke.

Trace to 3% pyrite.

88.1 to 157.9

Metasediments.

Trace to 5% pyrite, 1% chalcopyrite in quartz and calcite veinlets. feet.

**EXPENDITURES**

J. T. Thomas Diamond Drilling Ltd. By Contract -

- 1221 metres of NQWI @ \$69/metre

\$ 84,400**RESULTS**

Results of the 1991 drill programs on the Whipsaw property are moderately encouraging. Several of the holes returned weak to anomalous concentrations of copper over significant intervals. Gold and molybdenum concentrations, however, are generally low. Results are summarized below.

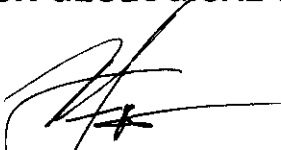
Drill Hole	Intersection (m)	Copper (ppm)	Molybdenum (ppm)
DDH-1	58.2	2407	-
DDH-2	99.1	2011	-
DDH-3	nil	-	-
DDH-4	96.6	1281	-
DDH-5	16.4	1620	-
DDH-6	15.0	1410	-
DDH-7	nil	-	-
DDH-8	nil	-	-
DDH-9	24.8	1558	-
DDH-10	151.8	1020	-

In the South Porphyry zone, hole DDH-1, located within Nicola volcanics near the centre of the concentric-shaped Whipsaw Porphyry, returned 58.2 metres grading 2407 ppm copper (0.25% copper) including 5.8 metres of 3727 ppm copper, and 184 ppm molybdenum. Hole DDH-2, located 170 metres south of DDH-1 in the centre of 1000 ppm copper geochemical anomaly, returned 99.1 metres grading 2011 ppm copper. Hole DDH-10, 600 metres southeast of 180-1 and near the contact with the Whipsaw Porphyry, returned 151.8 metres grading 1020 including 48.0 metres of 1623 ppm copper.

In the Mike zone, hole DDH-5 returned 16.4 metres grading 1620 ppm copper. Hole DDH-8, located 100 metres to the northeast did not return any significant results.

Prepared by:

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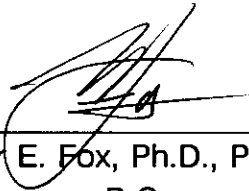
**P. E. Fox, Ph.D., P. Eng.**  
February 10, 1992



**CERTIFICATE**

I, Peter Edward Fox, certify to the following:

1. I am a consulting geologist residing at 890 Farmleigh Road, West Vancouver, B.C.
2. I am a Professional Engineer registered in the Association of Professional Engineers and Geoscientists of British Columbia.
3. My academic qualifications are:  
  
B.Sc. and M.Sc., Queens University, Kingston, Ontario  
Ph.D., Carleton University, Ottawa, Ontario
4. I have been engaged in geological work since graduation in 1966.



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Peter E. Fox, Ph.D., P. Eng.  
Vancouver, B.C.  
February 10, 1992

**A P P E N D I X I**

**Drill Logs**









LOCATION 11324 9124                      LENGTH(m) 138.7  
 AZIMUTH 45                                  CORE SIZE NQw1  
 DIP -60.0                                    DATE STARTED 07/12/91  
 ELEVATION 1615.0                          DATE COMPLETED 07/13/91

LOGGED BY MACDONALD  
 DATE LOGGED 07/15/91

PROJECT 180  
 PROPERTY WHIPSAW  
 HOLE NO 180-3

FROM	TO	DESCRIPTION	SAMPLE	TO	B	D	Py	Cp	Mo	Mo	Cu	Pb	Zn	Ag	Fe	As	Sb	Au
0	12.2	CASING		12.2														
12.2	74.9	VOLCANICS (BIOTITE-CHLORITE SCHIST)	229046	15.0	0	5	3	0	1	8	312	3	94	0.6	3.87	22	2	3.0
		Dark green, schistosity at 70 to 80	229047	18.0	0	5	3	0	1	2	454	5	83	0.7	3.06	27	4	3.0
		degrees to core axis defined by biotite,	229048	21.0	1	7	3	0	1	12	1181	3	81	1.9	3.81	25	4	10.0
		chlorite and hornblende. Fine grained	229049	24.0	1	4	3	0	1	6	627	2	60	1.0	4.21	15	2	11.0
		pyrite to 3% occurs as disseminations,	229050	27.0	2	5	3	1	1	1	681	3	66	1.4	4.59	7	2	19.0
		blebs, and as irregular masses within	229051	30.0	2	5	3	2	1	1	721	2	69	1.1	4.53	9	3	19.0
		calcite epidote +/- quartz veinlets	229052	33.0	3	5	3	2	1	3	653	3	63	1.2	5.48	17	5	4.0
		to 3-4mm. Trace to 1% molybdenite in	229053	36.0	2	7	3	1	1	1	202	3	80	0.5	5.07	15	3	1.0
		quartz-carbonate veinlets to 1mm with	229054	39.0	3	6	3	3	1	1	264	2	78	0.5	3.37	9	7	3.0
		trace chalcopyrite.	229055	42.0	2	7	3	3	1	1	704	3	51	1.3	3.79	15	2	28.0
		16.5m to 17.7m - feldspar porphyry dyke.	229056	45.0	2	7	3	3	1	1	1378	2	69	3.0	5.18	11	2	12.0
		10% to 15% anhedral siliceous groundmass.	229057	48.0	2	7	3	3	1	1	359	3	56	0.8	3.24	8	2	1.0
		1% disseminated fine grained pyrite.	229058	51.0	1	7	2	2	1	1	608	3	65	1.3	4.32	12	2	2.0
		Local epidote blebs.	229059	54.0	2	5	3	3	0	1	956	2	87	2.6	5.38	19	3	1.0
		19.0m - 10cm foliated chlorite gouge.	229060	57.0	2	10	3	3	1	1	891	2	74	1.8	4.73	13	2	1.0
		27.3m to 30.5m - coarse grained	229061	60.0	2	8	3	3	1	1	796	2	72	1.6	4.29	8	2	5.0
		chalcopyrite blebs in quartz carbonate	229062	63.0	2	8	3	3	1	1	726	3	58	1.6	3.29	10	2	12.0
		pyritic veins to 4mm. Local pink patches	229063	66.0	4	5	3	3	1	1	525	2	63	1.3	3.56	9	2	9.0
		of k-spar?	229064	69.0	4	5	3	3	1	1	169	2	78	0.3	4.20	6	2	16.0
		37.5m to 47.5m - coarse grained	229065	72.0	4	6	3	3	1	1	420	3	68	1.1	3.40	4	211	2.0
		chalcopyrite to 3% in calcite epidote	229066	74.9	5	4	3	3	1	1	542	5	97	1.5	3.89	3	2	2.0
		pyrite veinlets to 4-5mm.	229067	77.4	0	1	2	0	0	1	16	3	39	0.1	1.95	2	2	3.0
		43.1m - 10cm white quartz vein with 30%	229068	81.0	4	4	3	1	1	2	537	3	59	1.1	2.90	4	2	5.0
		coarse grained pyrite and 5% coarse	229069	84.0	5	4	3	1	2	1	356	5	62	0.8	2.89	7	3	3.0
		grained chalcopyrite.	229070	87.0	4	6	2	1	1	1	380	3	64	1.0	3.44	5	2	3.0
		47.5m to 54.6m - siliceous. Quartz,	229071	90.0	2	6	2	1	1	1	520	3	83	1.2	4.07	4	2	1.0
		pyrite, chlorite on schistosity.	229072	93.0	5	6	2	2	1	1	543	5	92	1.5	4.06	8	2	1.0
		51.4m to 52.4m - 5cm quartz vein with	229073	96.0	2	2	2	2	1	1	414	4	72	0.9	3.72	10	4	1.0
		coarse grained pyrite to 20% and coarse	229074	99.0	2	6	2	1	1	1	571	5	87	1.3	4.12	11	5	3.0
		grained chalcopyrite to 5%.	229075	102.0	1	2	1	2	1	1	383	3	88	0.7	3.57	6	3	5.0
		60.8m to 64.4m - pyrite, quartz veins to	229076	105.0	0	1	1	1	0	1	159	3	85	0.4	3.02	6	2	2.0
		5mm with 5% coarse grained chalcopyrite.	229077	108.0	1	2	2	1	1	1	365	4	84	0.7	3.83	4	2	2.0











LOCATION 11020 9214                      LENGTH(m) 151.8  
 AZIMUTH 45                                  CORE SIZE NQWL  
 DIP -60.0                                    DATE STARTED 07/14/91  
 ELEVATION 1635.0                          DATE COMPLETED 07/15/91

LOGGED BY MACDONALD  
 DATE LOGGED 07/17/91

PROJECT 180  
 PROPERTY WHIPSAW  
 HOLE NO 180-5

FROM	TO	DESCRIPTION	SAMPLE	TO	B	D	Py	Cp	Mo	Mo	Cu	Pb	Zn	Ag	Fe	As	Sb	Au
0	6.1	CASING.		6.1														
6.1	74.5	VOLCANICS (HORNBLLENDE SCHIST)	229087	9.0	1	4	2	1	1	8	583	2	140	1.1	2.39	6	2	13.0
		Dark green, schistosity 75 to 80 degrees	229088	12.0	3	2	2	1	2	16	416	2	82	0.8	2.37	8	2	13.0
		to core axis defined by hornblende and	229089	15.0	3	4	2	1	1	28	703	2	176	1.1	2.70	12	5	11.0
		quartz. Unaligned hornblende aggregates	229090	18.0	3	4	3	1	2	40	653	3	189	1.1	4.23	14	4	17.0
		common. Locally silicified, over 1-5m.	229091	21.0	2	5	3	1	1	34	875	2	78	1.3	3.83	9	2	11.0
		1% to 4% fine grained pyrite occurs as	229092	24.0	2	4	3	1	1	31	683	2	77	1.0	3.42	17	4	7.0
		disseminations on schistosity in	229093	27.0	1	4	3	0	1	13	875	2	427	1.3	3.71	17	9	12.0
		stringers less than 1mm and in quartz	229094	30.0	2	4	3	1	2	22	559	3	80	1.0	3.02	14	3	10.0
		carbonate veins to 5-7mm. Trace to 2%	229095	33.0	4	6	3	1	2	88	1023	265	468	2.3	4.09	28	3	11.0
		fine grained chalcopyrite occurs in	229096	36.0	3	6	3	1	2	15	734	4	177	1.3	2.96	14	3	15.0
		quartz carbonate veinlets to .5mm with	229097	39.0	2	4	3	1	1	40	905	2	70	1.2	3.41	12	3	7.0
		trace molybdenite and in quartz veins	229098	42.0	2	6	2	1	1	34	805	2	88	1.2	3.61	12	2	7.0
		to 5mm within silicified zones. Weak	229099	45.0	2	3	2	1	1	15	822	3	86	1.3	3.00	13	7	4.0
		pervasive chlorite.	229100	48.0	2	2	3	1	2	40	874	7	188	1.8	3.44	18	4	10.0
		26.8m to 27.0m - chlorite gouge foliated	229101	51.0	2	2	2	1	1	26	1334	2	99	1.8	3.15	18	4	10.0
		at 80 degrees to core axis.	229102	54.0	1	2	3	1	1	6	605	3	62	1.0	2.14	10	3	2.0
		29.3m - coarse grained chalcopyrite in	229103	57.0	1	3	3	0	1	4	725	3	75	1.2	3.03	10	2	4.0
		irregular 3mm quartz carbonate vein.	229104	60.0	1	3	3	0	1	9	826	2	57	1.6	2.76	7	2	7.0
		30.7m - coarse grained chalcopyrite in	229105	63.0	2	4	3	1	1	13	1543	3	67	3.9	3.01	17	2	22.0
		shear over 2cm.	229106	66.0	1	4	3	1	1	9	944	3	77	2.4	2.75	16	2	9.0
		32.8m - well developed molybdenite	229107	69.0	2	4	3	2	1	14	987	361	1399	4.7	3.18	9	2	67.0
		crystals in vug with quartz and calcite.	229108	72.0	2	5	3	1	1	35	1213	5	95	2.6	3.23	21	3	11.0
		39.8m - 5mm quartz calcite vein with 10%	229109	75.0	2	2	3	1	2	24	1264	3	81	2.5	3.64	20	2	10.0
		fine grained molybdenite aggregates to	229110	78.0	2	2	3	1	2	17	746	5	65	1.4	2.57	22	2	3.0
		1-2mm and 1% to 2% chalcopyrite.	229111	81.0	2	4	3	1	1	43	730	2	73	1.3	2.80	22	3	9.0
		45.7m - 5% molybdenite, 2% chalcopyrite	229112	84.0	3	4	3	2	2	8	620	3	65	1.1	2.57	16	4	9.0
		in quartz epidote, calcite, +/- ankerite	229113	87.0	2	4	3	1	2	16	1032	7	60	1.7	2.97	17	5	10.0
		vein to 10mm over 15cm.	229114	90.0	4	4	3	2	2	18	1305	2	99	2.0	4.10	14	4	12.0
		46.1m - gouge over 5cm.	229115	93.0	2	3	3	1	1	25	548	2	86	0.9	2.25	16	2	4.0
		46.5m - gouge over 5cm.	229116	96.0	2	3	3	1	1	8	867	4	73	1.4	2.49	37	5	2.0
		48.8m - vein as at 45.9m to 5mm.	229117	100.0	3	4	2	1	1	6	875	4	77	1.2	2.67	33	2	5.0
		60.0m to 68.4m - 1% to 2% fine grained	229118	103.0	2	6	3	1	1	21	886	2	98	1.6	3.39	12	5	8.0





LOCATION 11440 8490 LENGTH(m) 140.2  
 AZIMUTH 45 CORE SIZE NQwL  
 DIP -60.0 DATE STARTED 07/19/91  
 ELEVATION 1720.0 DATE COMPLETED 07/21/91

LOGGED BY MACDONALD  
 DATE LOGGED 07/24/91

PROJECT 180  
 PROPERTY WHIPSAW  
 HOLE NO 180-6

FROM	TO	DESCRIPTION	SAMPLE	TO	B	D	Py	Cp	Mo	Mo	Cu	Pb	Zn	Ag	Fe	As	Sb	Au
0	6.1	CASING.		6.1														
6.1	21.3	FELDSPAR PORPHYRY DYKE	229168	9.0	0	0	2	1	1	2	65	9	27	0.1	1.45	4	2	11.0
		40% subhedral equant white feldspar	229169	12.0	0	1	2	1	1	1	21	3	24	0.1	1.36	3	2	1.0
		phenocrysts to 3-4mm in a grey	229170	15.0	0	0	1	1	0	1	34	5	28	0.1	1.55	3	2	2.0
		aphanitic groundmass. Siliceous 3% to	229171	18.0	0	1	2	1	0	2	37	6	28	0.2	1.65	2	2	3.0
		5% chloritic hornblende phenocrysts to	229172	21.0	0	1	2	1	0	3	83	4	29	0.2	1.66	4	2	6.0
		7mm. 3% to 7% fine grained pyrite	229173	24.0	1	4	3	1	1	43	643	5	73	0.9	5.80	10	6	1.0
		disseminated in groundmass. Locally	229174	27.0	1	4	3	1	2	67	1188	8	97	1.4	9.73	28	3	1.0
		maroon, trace disseminated chalcopryrite	229175	30.0	1	6	3	1	1	34	1618	5	121	1.6	8.86	13	3	18.0
		trace fine grained molybdenite in	229176	33.0	1	6	3	1	1	73	1954	5	123	2.2	8.37	6	4	2.0
		veinlets to 1mm.	229177	36.0	1	6	3	1	1	29	1128	6	96	1.4	6.58	5	2	7.0
21.3	39.0	VOLCANICS. BIOTITE-HORNBLENDE SCHIST	229178	39.0	2	6	4	1	1	47	1163	7	129	1.4	6.53	6	4	16.0
		Dark brown, schistosity at 70 to 75	229179	42.0	0	1	3	1	1	15	431	3	61	0.7	3.36	4	2	17.0
		degrees to core axis defined by	229180	45.0	1	6	3	1	1	15	774	3	127	1.2	5.78	5	3	11.0
		hornblende, quartz and biotite. Weakly	229181	48.0	1	4	3	1	1	22	629	4	154	1.0	3.98	5	2	3.0
		chloritic. Pyrite 3% to 5% as	229182	51.0	2	5	3	1	2	37	829	6	240	1.3	6.64	43	4	1.0
		disseminations and in veinlets to 2 to	229183	54.0	1	4	2	1	1	49	724	6	82	1.1	5.94	17	5	13.0
		3mm with calcite and chlorite. Local	229184	57.0	1	6	3	1	1	14	954	6	159	1.1	6.70	16	3	3.0
		biotite rich zones have brown cast.	229185	60.0	1	4	3	1	1	49	773	6	68	0.8	6.99	6	4	1.0
		26.6m to 28.3m - highly sheared. Gouge	229186	64.0	1	5	3	1	1	43	1003	6	84	0.9	8.16	6	5	6.0
		over 10cm.	229187	70.0	1	4	3	1	1	46	1383	5	71	1.2	8.05	5	4	17.0
39.0	43.1	FELDSPAR PORPHYRY DYKE	229188	73.0	0	3	3	1	0	35	1164	5	105	1.1	5.66	7	3	14.0
		As above. Disseminated pyrite to 3% to	229189	81.0	1	3	2	1	1	43	1325	7	115	0.9	6.20	5	6	1.0
		5%.	229190	88.0	2	6	3	1	1	105	1178	7	125	1.1	7.74	5	4	13.0
43.1	71.5	VOLCANICS. BIOTITE HORNBLENDE SCHIST	229191	100.0	2	6	3	2	1	81	1320	6	110	1.3	7.78	4	4	3.0
		As above.	229192	105.0	2	6	3	2	1	16	1098	4	86	0.9	7.20	5	3	4.0
		45.4m to 47.5m - feldspar porphyry dyke	229193	109.0	2	4	3	1	1	31	1125	9	113	1.0	7.41	3	3	2.0
		as above.	229194	122.0	3	5	3	2	2	91	1170	5	86	0.9	4.65	4	3	1.0
		49.2m to 49.6m - highly sheared. Gouge	229195	137.0	1	5	3	2	1	79	1423	7	220	1.2	6.31	3	5	2.0
		over 10cm at 49.4m.	229196	140.2	2	5	3	2	1	40	1234	5	82	1.0	5.92	4	5	4.0











LOCATION 12340 7740 LENGTH(m) 157.8  
 AZIMUTH 45 CORE SIZE NQwL  
 DIP -60.0 DATE STARTED 07/23/91  
 ELEVATION 1700.0 DATE COMPLETED 07/25/91

LOGGED BY MACDONALD  
 DATE LOGGED 07/26/91

PROJECT 180  
 PROPERTY WHIPSAW  
 HOLE NO 180-9

FROM	TO	DESCRIPTION	SAMPLE	TO	B	D	Py	Cp	Mo	Mo	Cu	Pb	Zn	Ag	Fe	As	Sb	Au
0	9.1	CASING		9.1														
9.1	138.3	CONTACT ZONE (BETWEEN EAGLE	229210	12.0	1	1	2	1	1	59	307	2	21	0.2	2.22	4	2	6.0
		GRANODIORITE AND NICOLA VOLCANICS	229211	15.0	1	0	2	1	1	51	483	2	19	0.4	2.11	14	2	5.0
		AND SEDIMENTS)	229212	18.0	1	1	3	2	1	78	811	5	29	0.5	3.07	48	2	8.0
		Dominantly quartz biotite schist	229213	21.0	1	1	2	1	2	153	195	4	14	0.2	1.67	23	2	2.0
		comprising 30% to 50% fine grained	229214	24.0	1	2	3	2	2	107	601	2	39	0.4	3.41	20	2	7.0
		biotite defining schistosity at 40 to	229215	27.0	0	1	2	1	1	52	480	2	49	0.4	4.17	20	2	6.0
		45 degrees to core axis, 20% to 30%	229216	31.0	1	1	2	1	1	126	455	2	42	0.2	3.16	91	2	6.0
		fine to medium grained quartz and 20%	229217	34.0	0	1	2	1	1	85	432	5	65	0.3	4.09	103	2	4.0
		to 30% fine grained plagioclase	229218	37.0	0	1	3	1	1	47	181	3	24	0.7	2.20	18	2	2.0
		feldspar. Schist is cut by numerous	229219	40.0	0	1	3	1	1	62	296	2	31	0.3	3.01	26	2	5.0
		dykes from 10cm to 2.5m of quartz	229220	43.0	1	2	3	1	1	36	374	2	23	0.2	2.60	21	2	3.0
		feldspar porphyry comprising 60% coarse	229221	46.0	0	3	3	1	1	122	517	2	38	0.4	3.45	4	2	2.0
		grained quartz, 20% coarse grained	229222	49.0	0	3	3	1	1	64	562	2	67	0.5	5.40	3	2	5.0
		plagioclase feldspar and 20% white	229223	52.0	0	2	3	1	1	50	482	2	41	0.4	4.10	6	2	9.0
		potassium? feldspar and feldspar	229224	55.0	1	2	3	1	1	72	844	2	68	0.9	4.81	24	2	5.0
		porphyry comprising 50% white fine	229225	58.0	1	3	3	1	1	53	1209	3	121	1.2	5.48	14	2	6.0
		grained feldspar plagioclase, 35% fine	229226	61.0	0	0	2	0	1	62	622	2	44	0.4	2.93	3	2	2.0
		grained quartz, 10% fine grained k-	229227	64.0	0	1	2	1	1	89	306	2	25	0.2	2.21	2	2	1.0
		feldspar and 5% fine grained biotite and	229228	67.0	1	2	3	1	1	97	1269	2	75	0.9	6.53	2	2	23.0
		hornblende. Quartz veins from 2mm to 3mm	229229	70.0	1	3	3	1	1	97	901	2	42	0.7	3.33	2	2	9.0
		to 15 to 20cm. 2% to 5% fine grained	229230	73.0	1	3	3	1	1	74	571	2	48	0.4	2.77	3	2	9.0
		pyrite disseminated throughout. 1% to 2%	229231	76.0	1	2	3	1	1	95	1702	2	191	1.7	6.06	76	2	128.0
		fine grained chalcopyrite occurs in	229232	79.0	1	3	3	1	1	62	1020	2	79	0.8	5.50	5	2	10.0
		quartz calcite veins to 5mm with fine	229233	82.0	1	2	3	1	1	75	302	2	50	0.1	3.03	2	2	9.0
		grained molybdenite to 3%.	229234	85.0	0	3	3	1	2	98	1092	2	97	5.0	6.13	2	2	11.0
		10.6m - gouge over 5cm.	229235	88.0	1	4	3	1	2	197	985	2	194	0.7	5.10	3	2	4.0
		16.9m - 15mm wide quartz vein with	229236	91.0	0	2	2	1	1	70	764	2	58	0.5	4.14	4	2	10.0
		coarse grained chalcopyrite to 20% and	229237	94.0	0	1	2	1	1	96	230	2	24	0.3	2.15	2	2	3.0
		fine grained molybdenite to 5%.	229238	97.0	1	1	3	2	1	82	473	2	40	0.5	3.29	3	2	5.0
		18.2m - fine grained molybdenite in	229239	100.0	1	3	3	1	1	65	1246	2	60	0.8	4.51	3	2	12.0
		3mm vein to 50%.	229240	103.0	1	3	3	1	1	74	331	2	29	0.2	2.67	2	2	1.0
		29.4m - 5mm wide quartz vein with 30%	229241	106.0	1	1	3	1	1	41	660	2	53	0.5	4.16	3	2	3.0



FROM	TO	DESCRIPTION	SAMPLE	TO	Py	Po	Cp	Sph	Gn	Qtz	Mo	Cu	Pb	Zn	Ag	Fe	As	Sb	Au
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with 1% to 2% medium to coarse grained chalcopyrite and trace to 2% fine grained molybdenite. 2% to 3% fine grained magnetite with pyrite in quartz epidote veinlets.

154.1m - vuggy quartz vein with 2% to 3% fine grained molybdenite and 1% to 2% medium grained chalcopyrite.

End of hole 180-9 at 154.8m.

LOCATION 11086 9265                      LENGTH(m) 157.9  
 AZIMUTH 45                                  CORE SIZE NQWL  
 DIP -60.0                                    DATE STARTED 07/25/91  
 ELEVATION 1600.0                          DATE COMPLETED 07/26/91

LOGGED BY GOODALL  
 DATE LOGGED 07/30/91

PROJECT 180  
 PROPERTY WHIPSAW  
 HOLE NO 180-10

FROM	TO	DESCRIPTION	SAMPLE	TO	B	D	Py	Cp	Mo	Mo	Cu	Pb	Zn	Ag	Fe	As	Sb	Au
0	6.1	CASING		6.1														
6.1	85.0	MAFIC VOLCANICS	229283	9.0	0	2	1	0	0	38	889	4	89	1.7	2.98	23	3	11.0
		Dark green, fine grained, weakly	229284	12.0	0	3	1	0	0	11	799	2	117	1.7	3.47	16	2	10.0
		calcareous matrix, highly foliated	229285	15.0	0	3	1	0	0	20	1140	3	89	2.4	3.76	27	3	11.0
		90 degrees to core axis, dark green	229286	18.0	0	3	1	0	0	8	805	3	73	1.7	2.95	15	2	10.0
		amphibole phenocrysts to 15% lengthened	229287	21.0	0	3	1	0	0	41	1522	3	187	3.1	3.78	22	2	26.0
		along foliation, calcite veinlets along	229288	24.0	0	2	1	0	0	22	666	2	88	1.4	2.35	13	2	8.0
		foliation and infilling fractures, trace	229289	27.0	0	3	1	0	0	32	881	2	70	1.3	2.85	8	2	6.0
		epidote along fractures.	229290	30.0	0	3	1	0	0	14	830	4	52	1.3	2.44	11	4	5.0
		Pyrite 1% to 5% disseminated in matrix,	229291	33.0	0	4	1	1	0	30	319	2	52	0.7	2.23	7	2	4.0
		along foliation and within calcite	229292	36.0	0	3	1	0	0	4	326	2	61	0.7	2.30	10	2	10.0
		epidote +/- quartz veinlets.	229293	39.0	0	3	1	0	0	8	724	4	98	2.1	3.50	1832	33	143.0
		Quartz veins 2mm to 15mm wide with	229294	42.0	1	2	1	0	0	16	466	3	88	1.8	3.31	2389	43	200.0
		pyrite on selvages and fractures,	229295	45.0	1	2	1	0	0	5	421	4	77	1.7	2.99	2366	43	400.0
		dominantly 70 to 90 degrees to core	229296	48.0	1	2	1	0	0	4	468	3	58	1.0	2.88	67	3	22.0
		axis.	229297	51.0	1	2	1	0	0	6	779	2	69	1.5	2.83	16	2	12.0
		Calcite veinlets 1mm to 5mm wide	229298	54.0	1	2	1	0	0	8	333	2	50	0.9	2.68	12	2	4.0
		dominantly 10 to 20 degrees to core	229299	57.0	1	3	1	0	0	12	509	2	43	1.0	1.94	13	4	3.0
		axis, +/- epidote, pyrite.	229300	60.0	1	2	1	1	0	7	769	2	36	1.5	2.54	14	2	6.0
		9.8m - chloritic gouge over 15cm.	229301	63.0	1	2	2	0	0	4	735	2	65	1.7	2.72	13	2	11.0
		Unit varies from fine grained to medium	229302	66.0	1	3	2	0	0	3	938	2	50	1.8	3.05	14	2	12.0
		grained hornblende phenocrysts, could	229303	69.0	1	3	3	1	0	9	1349	2	65	2.4	3.72	15	2	11.0
		possibly represent interbedded siltstone,	229304	72.0	0	2	2	0	0	4	892	2	51	1.7	3.38	19	2	6.0
		basalt units, foliation obscures	229305	75.0	0	1	1	1	0	10	616	2	67	1.4	3.37	24	2	5.0
		contacts and primary textures.	229306	78.0	0	2	2	0	0	4	470	3	57	1.2	2.92	18	3	4.0
		56.8m to 57.2m - disseminated chalco-	229307	81.0	1	2	2	0	0	2	839	3	67	1.9	3.70	22	2	12.0
		pyrite in veinlets to 2%.	229308	84.0	0	2	2	0	0	6	901	3	66	1.9	3.35	16	2	8.0
		72.1m - coarse grained chalcopryrite to	229309	87.0	0	1	1	2	0	8	948	2	71	2.0	2.64	16	2	4.0
		3% in matrix and on selvage of quartz	229310	90.0	1	1	1	0	0	5	1361	3	204	2.4	3.39	20	2	8.0
		carbonate vein, epidote to 5%.	229311	93.0	1	2	2	0	0	7	1960	2	177	3.5	3.93	11	2	12.0
		57.0m to 79.2m - dark grey-green and	229312	96.0	1	2	2	2	0	5	2680	3	114	4.9	4.72	13	2	14.0
		pale grey-green mottled banding, bands	229313	99.0	0	2	2	2	0	5	1612	2	93	2.8	4.44	14	2	11.0
		are 1cm to 5cm wide, generally 90	229314	102.0	1	3	2	0	0	7	1472	2	111	3.0	4.96	15	2	10.0







**A P P E N D I X II**

**Assay Certificates**



GEOCHEMICAL ANALYSIS CERTIFICATE

Phelps Dodge Corp. PROJECT 180 File # 91-3165 Page 1  
 1409 - 409 Granville St., Vancouver BC V6T 1T2



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
229323	7	989	2	503	3.9	24	15	640	3.92	15	5	ND	1	32	2.1	2	2	94	1.43	.045	4	40	1.41	95	.21	2	1.54	.05	.54	2	48
229324	13	1199	6	722	4.0	23	14	569	3.54	20	5	ND	2	32	3.4	2	3	64	1.53	.033	5	32	1.12	57	.11	3	1.40	.04	.24	2	52
229325	11	1311	2	768	4.9	22	22	561	4.75	16	5	ND	1	47	3.4	2	4	113	1.28	.044	3	30	1.47	53	.23	5	2.11	.13	.94	2	57
229326	8	837	5	287	3.4	24	14	576	3.61	9	5	ND	2	39	1.1	2	4	76	1.25	.030	4	32	1.21	99	.17	5	1.57	.06	.51	1	39
229327	10	955	2	217	3.3	29	13	491	3.20	12	5	ND	1	58	1.0	2	4	65	.98	.027	4	41	1.19	104	.18	3	1.60	.08	.53	1	30
229328	8	434	7	293	1.4	22	12	481	3.65	12	5	ND	1	55	1.3	2	2	87	1.13	.055	4	37	1.56	99	.22	3	1.95	.13	.75	1	7
229329	20	704	9	131	2.4	40	18	431	3.80	12	5	ND	1	45	.5	2	2	93	1.09	.041	4	55	1.42	87	.22	4	1.89	.13	.61	1	10
229330	7	430	3	171	2.0	26	15	605	4.40	12	5	ND	1	33	.5	2	2	103	.89	.040	6	43	1.38	98	.24	4	1.88	.11	.70	1	10
229331	2	168	2	109	1.0	13	9	454	2.28	4	5	ND	1	75	.3	2	2	39	1.67	.062	6	21	.78	49	.10	4	1.03	.05	.17	1	19
229332 -	17	498	12	273	2.6	36	14	624	4.00	15	5	ND	1	79	.8	2	3	96	1.55	.041	4	60	1.41	112	.20	2	2.20	.15	.74	1	17
229333	10	689	10	974	3.6	26	16	676	4.52	32	5	ND	1	62	4.6	3	2	104	1.54	.039	4	37	1.35	85	.19	2	2.22	.13	.61	4	29
STANDARD C/AU-R	18	58	41	129	6.9	69	32	1026	3.93	40	18	8	36	47	17.0	16	20	56	.48	.088	37	57	.84	176	.09	34	1.85	.06	.15	11	470

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

DATE RECEIVED: AUG 5 1991 DATE REPORT MAILED: *Aug 12/91* SIGNED BY: *C. Leung* 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
229037	83	1719	2	95	1.4	87	30	270	4.92	2	5	ND	1	56	.3	2	2	112	1.00	.044	2	210	2.76	59	.22	2	2.93	.22	1.21	1	12
229038	53	1101	2	84	.9	61	22	265	3.92	3	5	ND	1	47	.3	2	2	94	.99	.063	2	149	2.30	60	.17	2	1.94	.13	.68	1	14
229039	38	862	3	77	.8	44	16	211	3.29	5	5	ND	1	70	.2	2	4	72	.89	.080	3	125	1.83	72	.16	2	1.95	.21	.58	3	6
229040	55	2782	2	1562	2.8	153	42	347	5.52	2	9	ND	1	103	8.1	2	2	79	2.05	.039	2	341	2.49	38	.13	2	2.71	.18	.52	1	21
229041	43	1452	2	146	1.4	90	32	301	4.80	2	5	ND	2	39	.4	2	2	118	.90	.044	2	249	3.27	66	.21	2	2.92	.20	1.26	3	8
229042	99	1774	2	65	1.4	32	19	137	3.39	3	5	ND	2	43	.2	2	2	100	.62	.040	2	89	1.62	71	.17	2	2.10	.23	.84	3	7
229043	87	2565	2	110	2.1	63	29	233	5.03	4	5	ND	1	38	.6	2	2	133	.58	.048	2	122	2.66	63	.26	2	2.70	.20	1.46	1	14
229044	55	1875	2	101	1.8	32	26	225	4.80	2	5	ND	1	58	.7	2	4	106	.71	.043	2	68	2.06	67	.21	2	2.34	.21	1.04	1	14
229045	81	1364	2	93	1.1	38	26	216	4.94	5	5	ND	1	51	.2	2	2	117	.87	.047	2	100	2.18	62	.21	2	2.46	.24	1.14	2	12
STANDARD_C/AU-R	18	61	40	132	7.5	71	32	1105	3.98	42	18	6	39	53	18.8	16	22	57	.49	.088	41	59	.89	178	.09	34	1.94	.06	.14	13	450



GEOCHEMICAL ANALYSIS CERTIFICATE



Phelps Dodge Corp. PROJECT 180 File # 91-5064

1409 - 409 Granville St., Vancouver BC V6T 1T2 Submitted by: GREG KULLA

Table with columns: SAMPLE#, Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Au\*. Rows contain sample numbers and corresponding element concentrations in ppm and %.

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

DATE RECEIVED: OCT 14 1991 DATE REPORT MAILED: Oct 21/91 SIGNED BY: D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE

Phelps Dodge Corp. PROJECT 180 File # 91-2725 Page 1
1409 - 409 Granville St., Vancouver BC V6T 1T2

Table with columns: SAMPLE#, Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Au\*, SAMPLE lb. Rows include sample IDs like 229087, 229088, 229089, 229090, 229091, 229092, 229093, 229094, 229095, 229096, 229097, 229098, 229099, 229100, 229101, 229102, 229103, 229104, 229105, 229106, 229107, 229108, 229109, 229110, 229111, 229112, 229113, 229114, 229115, 229116, 229117, 229118, 229119, 229120, 229121, 229122, STANDARD C/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 AU AU DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: CORE AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 22 1991 DATE REPORT MAILED: July 27/91 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	SAMPLE lb
229123	42	662	2	46	1.2	37	17	335	2.95	13	5	ND	1 175	1.0	2	2	60	3.22	.069	2	57	.67	14	.14	2	3.35	.30	.07	1	7	18	
229124	14	561	3	47	1.0	36	19	328	3.12	7	5	ND	1 187	.7	2	2	66	3.26	.073	2	45	.62	13	.15	2	3.30	.31	.06	1	8	17	
229125	8	726	2	66	1.2	41	24	420	3.55	9	5	ND	1 168	.3	2	2	78	2.76	.086	2	62	1.03	25	.17	2	2.92	.27	.13	1	11	17	
229126	10	469	2	74	.8	56	23	420	3.24	10	5	ND	1 176	.5	2	2	89	2.28	.077	2	93	1.81	89	.22	2	3.69	.28	.69	1	6	17	
229127	24	845	3	67	1.4	58	20	390	3.12	12	5	ND	1 166	.5	2	2	81	2.65	.072	2	129	1.18	39	.20	2	3.10	.26	.21	1	10	18	
229128	17	611	4	88	1.0	43	22	493	4.18	10	5	ND	1 58	.8	2	2	125	1.42	.079	2	89	2.16	97	.22	2	2.20	.13	.98	1	14	18	
229129	5	1292	3	76	1.9	9	12	310	3.16	33	5	ND	1 70	.2	2	2	49	1.76	.142	5	14	1.07	17	.10	2	1.25	.08	.13	1	8	11	
229130	6	1454	4	65	1.6	10	10	223	2.48	26	5	ND	1 115	.2	2	2	48	1.28	.123	4	13	.99	23	.11	2	1.28	.09	.11	1	8	11	
229131	27	3279	4	112	3.1	40	26	382	4.54	30	5	ND	1 302	.9	2	2	106	2.02	.144	2	79	1.66	65	.18	2	2.98	.21	.59	1	19	16	
229132	6	1041	4	111	1.6	50	21	639	4.12	14	5	ND	1 86	.4	2	2	123	2.11	.080	2	116	2.21	82	.21	2	2.32	.13	.60	1	13	15	
229133	8	1034	3	89	1.4	39	17	486	4.10	10	5	ND	1 157	.3	2	3	138	1.75	.082	2	87	1.66	63	.21	2	2.18	.18	.33	1	9	16	
229134	2	1032	2	72	1.4	20	14	468	3.87	9	5	ND	1 170	.5	2	2	143	1.99	.112	4	32	1.17	46	.21	2	2.33	.25	.23	1	13	15	
229135	9	2207	2	106	2.6	92	24	419	3.48	12	5	ND	1 137	.6	2	2	93	1.61	.112	2	269	2.24	113	.19	2	2.87	.19	1.16	1	17	8	
STANDARD C/AU-R	19	61	36	133	7.5	70	32	1044	3.97	41	17	7	40	53	18.0	16	21	57	.48	.089	38	58	.91	178	.09	33	1.90	.07	.15	13	480	-







GEOCHEMICAL ANALYSIS CERTIFICATE



Phelps Dodge Corp. PROJECT 180 File # 91-2901 Page 1

1409 - 409 Granville St., Vancouver BC V6T 1T2

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb
229168	2	65	9	27	.1	8	6	228	1.45	4	5	ND	1	62	.2	2	2	16	2.15	.057	13	8	.34	74	.01	3	.36	.04	.18	1	11
229169	1	21	3	24	.1	6	6	209	1.36	3	5	ND	1	59	.2	2	2	20	1.95	.064	10	8	.43	28	.01	4	.56	.03	.15	1	1
229170	1	34	5	28	.1	6	3	213	1.55	3	5	ND	1	64	.2	2	2	27	1.83	.066	10	7	.54	106	.01	2	.81	.04	.15	1	2
229171	2	37	6	28	.2	8	4	212	1.65	2	5	ND	1	56	.2	2	2	27	1.55	.068	7	12	.63	49	.02	2	.89	.04	.11	1	3
229172	3	83	4	29	.2	7	8	256	1.66	4	5	ND	1	77	.2	2	2	25	2.03	.074	9	11	.64	57	.01	3	.92	.04	.18	1	6
229173	43	643	5	73	.9	16	21	272	5.80	10	5	ND	1	45	.2	6	5	130	1.40	.045	3	37	1.98	61	.19	2	2.78	.18	1.65	1	1
229174	67	1188	8	97	1.4	26	50	270	9.73	28	5	ND	1	35	.2	3	7	132	2.57	.037	3	37	1.90	52	.12	3	2.53	.11	1.70	1	1
229175	34	1618	5	121	1.6	28	42	292	8.86	13	5	ND	1	51	.2	3	8	172	1.62	.041	2	67	2.54	47	.17	2	3.37	.21	2.02	1	18
229176	73	1954	5	123	2.2	23	57	282	8.37	6	5	ND	1	39	.3	4	10	132	.91	.039	2	40	1.85	30	.17	2	2.53	.19	1.31	1	2
229177	29	1128	6	96	1.4	16	31	272	6.58	5	5	ND	1	46	.2	2	6	149	1.01	.040	2	32	1.86	41	.18	3	2.71	.23	1.38	1	7
229178	47	1163	7	129	1.4	19	30	368	6.53	6	5	ND	1	44	.2	4	8	161	1.22	.040	2	32	1.93	52	.19	2	2.64	.20	1.31	1	16
229179	15	431	3	61	.7	8	10	192	3.36	4	5	ND	1	35	.2	2	3	58	1.02	.098	7	15	1.01	45	.05	2	1.22	.07	.45	1	17
229180	15	774	3	127	1.2	17	23	279	5.78	5	5	ND	1	42	.5	3	5	120	1.04	.061	4	32	1.68	57	.18	2	2.48	.19	1.25	1	11
229181	22	629	4	154	1.0	15	15	255	3.98	5	5	ND	1	35	.4	2	5	87	1.27	.075	7	35	1.42	71	.11	2	1.78	.09	.93	1	3
229182	37	829	6	240	1.3	18	28	428	6.64	43	5	ND	1	55	.6	4	5	122	4.35	.038	4	33	1.47	61	.09	2	2.28	.13	1.25	1	1
229183	49	724	6	82	1.1	16	23	266	5.94	17	5	ND	1	40	.2	5	4	132	1.97	.038	4	28	1.47	64	.20	2	2.50	.18	1.30	1	13
229184	14	954	6	159	1.1	17	22	278	6.70	16	5	ND	1	51	.3	3	6	188	1.28	.051	3	26	1.59	45	.27	2	3.16	.29	1.41	1	3
229185	49	773	6	68	.8	13	22	238	6.99	6	5	ND	1	62	.2	4	6	170	1.11	.043	2	20	1.34	39	.23	2	3.03	.31	1.24	1	1
229186	43	1003	6	84	.9	20	35	259	8.16	6	5	ND	1	36	.2	5	6	175	.73	.053	3	33	1.57	36	.26	2	2.53	.17	1.39	1	6
229187	46	1383	5	71	1.2	15	30	243	8.05	5	5	ND	1	37	.2	4	9	161	.89	.053	3	26	1.38	38	.22	2	2.53	.21	1.21	1	17
229188	35	1164	5	105	1.1	19	20	217	5.66	7	5	ND	1	37	.3	3	8	128	.66	.080	3	46	1.79	48	.22	3	2.23	.16	1.36	1	14
229189	43	1325	7	115	.9	19	27	232	6.20	5	5	ND	1	51	.5	6	10	117	.82	.067	3	28	1.77	48	.16	2	2.60	.22	1.29	1	1
229190	105	1178	7	125	1.1	16	26	293	7.74	5	5	ND	1	47	.3	4	8	154	.87	.042	2	24	1.75	34	.20	2	3.12	.29	1.60	1	13
229191	81	1320	6	110	1.3	20	29	272	7.78	4	5	ND	1	45	.3	4	8	162	.77	.045	3	28	1.56	30	.21	2	2.70	.24	1.31	1	3
229192	16	1098	4	86	.9	22	24	279	7.20	5	5	ND	1	71	.3	3	6	199	1.04	.054	3	30	1.65	37	.25	2	3.32	.32	1.81	1	4
229193	31	1125	9	113	1.0	26	30	267	7.41	3	5	ND	1	82	.5	3	7	186	1.06	.050	2	51	1.80	35	.24	2	3.41	.32	1.83	1	2
229194	91	1170	5	86	.9	20	16	211	4.65	4	5	ND	1	84	.5	3	9	107	1.40	.042	2	43	1.25	73	.18	2	3.13	.37	.80	1	1
229195	79	1423	7	220	1.2	20	22	254	6.31	3	5	ND	1	67	.8	5	10	141	1.19	.043	2	33	1.59	56	.20	5	3.08	.31	1.30	1	2
229196	40	1234	5	82	1.0	28	20	280	5.92	4	5	ND	1	61	.4	5	8	148	1.10	.056	2	62	1.73	78	.22	2	3.03	.33	1.24	1	4
STANDARD C/AU-R	18	57	38	125	6.8	67	30	1015	3.88	39	17	7	36	48	17.4	15	18	55	.43	.084	36	55	.77	166	.08	34	1.78	.05	.14	11	480

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 ASSAY RECOMMENDED FOR CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB.  
 - SAMPLE TYPE: CORE AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 26 1991    DATE REPORT MAILED: *Aug 1/91*    SIGNED BY: *C. Leong* D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



Phelps Dodge Corp. PROJECT 180 File # 91-2941 Page 1

1409 - 409 Granville St., Vancouver BC V6T 1T2

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
229197	1	429	6	46	.6	6	7	173	2.96	2	5	ND	1	94	.2	2	2	57	.52	.069	2	11	1.02	121	.15	2	2.04	.17	.32	1	57
229198	11	1165	2	33	.9	5	12	165	3.07	5	5	ND	1	96	.2	2	3	44	.45	.064	2	12	.80	88	.14	2	1.92	.15	.56	1	41
229199	12	757	2	32	.6	6	10	132	2.93	2	5	ND	1	109	.2	2	2	53	.49	.068	2	10	.94	95	.16	2	2.11	.14	.54	1	15
229200	50	718	4	50	.9	9	11	170	3.37	2	5	ND	1	134	.2	2	2	60	.39	.055	3	14	1.02	106	.16	2	2.25	.11	.37	2	18
229201	13	663	2	43	.5	6	9	147	2.88	2	5	ND	1	121	.2	2	2	45	.56	.058	2	8	.80	90	.14	3	1.96	.15	.47	1	10
229202	23	643	2	35	.3	6	5	124	2.29	2	5	ND	1	115	.2	2	4	41	.48	.067	3	10	.65	64	.14	2	1.49	.13	.27	1	5
229203	37	894	4	49	1.0	7	5	142	2.15	2	5	ND	1	178	.2	2	3	43	.53	.074	4	11	.70	79	.16	2	1.21	.12	.26	1	7
229204	35	786	4	44	1.1	8	3	128	2.31	2	5	ND	1	71	.2	2	2	40	.58	.071	4	15	.71	33	.16	2	1.22	.14	.24	1	9
229205	67	463	2	30	.6	4	7	112	2.24	2	5	ND	1	77	.2	2	2	33	.60	.069	4	8	.67	38	.13	2	1.19	.16	.23	1	6
229206	62	892	2	41	1.1	6	4	118	2.11	2	5	ND	1	64	.2	2	2	39	.52	.061	4	11	.72	36	.15	2	1.04	.14	.23	2	21
229207	59	1352	3	57	1.6	7	5	146	1.98	5	5	ND	1	56	.6	2	4	40	.79	.064	6	12	.73	27	.11	4	1.10	.11	.19	1	6
229208	3	635	4	39	.9	6	6	167	1.82	2	5	ND	1	55	.2	2	3	37	.93	.083	7	13	.76	20	.09	2	1.01	.09	.11	1	3
229209	1	415	3	31	.6	6	4	157	1.86	2	5	ND	1	64	.2	2	2	41	1.17	.089	7	12	.76	37	.10	3	1.02	.10	.12	1	2
STANDARD C/AU-R	18	57	39	130	6.8	69	31	1019	3.93	41	20	7	36	54	18.5	16	18	55	.49	.088	38	57	.86	173	.09	31	1.85	.06	.15	11	470

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
 THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.  
 ASSAY RECOMMENDED FOR CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB.  
 - SAMPLE TYPE: CORE AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: JUL 28 1991

DATE REPORT MAILED:

*July 31/91.*

SIGNED BY.....TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS



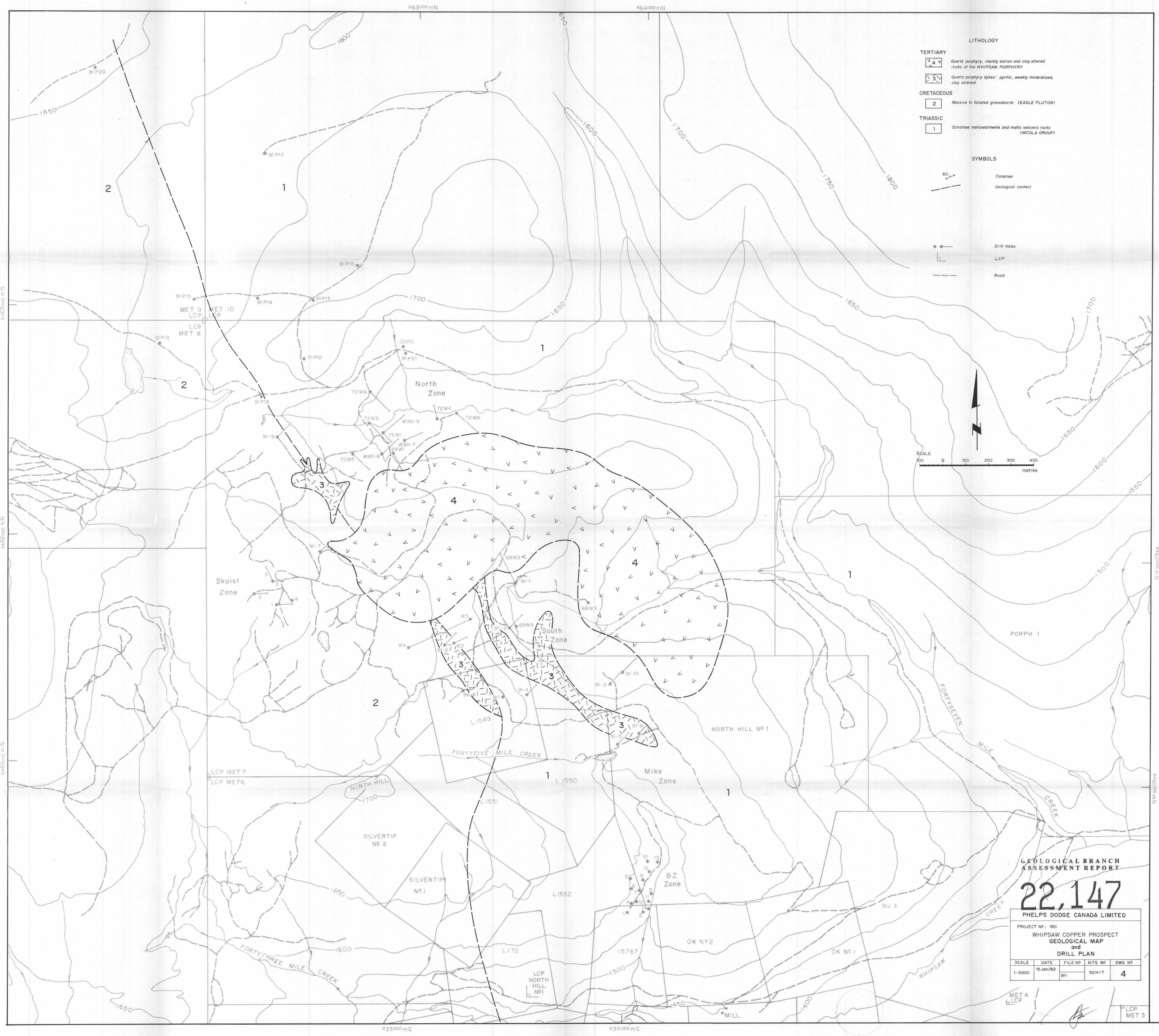


SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	AU* ppb
229246	71	477	2	28	.1	4	12	104	2.78	2	5	ND	1	50	.2	2	3	56	.50	.035	2	9	.92	48	.11	3	1.09	.09	.54	1	3
229247	50	95	2	17	.1	4	4	75	1.37	2	5	ND	1	71	.2	2	2	34	.56	.034	2	9	.70	36	.07	2	.83	.07	.24	1	2
229248	49	870	3	52	.6	7	14	172	4.15	3	5	ND	1	103	.2	2	4	101	1.83	.041	2	14	1.58	81	.17	4	3.03	.22	1.35	1	8
229249	59	40	2	19	.1	5	3	93	1.06	2	5	ND	1	53	.2	2	2	33	.57	.036	3	8	.63	32	.06	2	.81	.08	.26	1	1
229250	132	1148	3	53	.7	8	18	161	4.27	2	5	ND	1	73	.2	2	6	114	.48	.036	2	13	1.72	60	.22	2	1.88	.10	1.37	1	4
229251	48	1937	3	70	1.4	13	27	168	5.93	4	5	ND	1	51	.3	2	9	147	.76	.042	2	14	1.28	45	.21	2	1.73	.14	.98	1	16
229252	20	1179	2	69	1.2	11	23	191	4.72	2	5	ND	1	55	.2	2	6	94	1.12	.046	2	20	.91	25	.16	2	1.46	.13	.25	1	5
229253	43	1545	6	91	.9	13	35	257	6.68	2	5	ND	1	105	.4	2	9	141	1.37	.053	2	14	1.20	35	.22	2	1.82	.14	.57	1	7
229254	45	1465	3	89	.9	10	31	277	6.89	2	5	ND	1	110	.4	2	9	165	.97	.052	2	12	1.55	51	.27	2	1.82	.11	1.05	1	1
229255	28	1743	8	96	1.1	9	31	261	7.45	2	5	ND	1	56	.4	2	9	154	1.26	.055	3	10	1.33	45	.22	3	2.11	.17	.72	1	6
229256	86	1745	6	116	1.1	8	32	277	6.63	2	5	ND	1	49	.3	2	10	142	1.19	.063	2	11	1.35	55	.24	2	1.77	.10	.74	1	4
229257	153	1705	4	107	1.1	13	28	281	6.50	2	5	ND	1	56	.4	2	9	148	1.31	.042	2	12	1.23	45	.23	2	1.90	.16	.68	1	9
STANDARD C/AU-R	19	57	43	134	7.0	71	32	1058	4.02	42	16	6	38	52	18.8	16	18	56	.50	.092	39	59	.88	179	.09	33	1.92	.06	.15	11	490





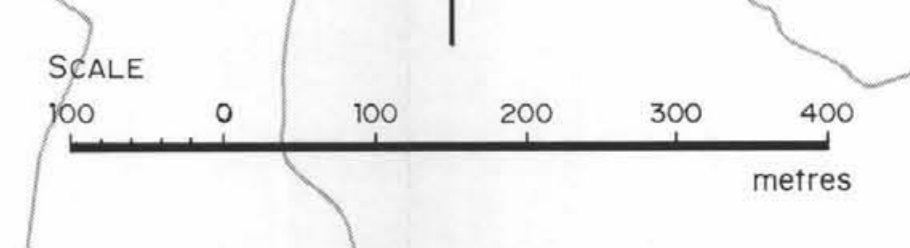
SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb	SAMPLE lb
229319	3	1109	5	111	2.2	38	18	580	4.13	13	5	ND	1	41	.2	2	10	101	1.22	.041	4	74	1.62	111	.20	2	1.90	.12	.65	1	10	19
229320	6	1243	5	91	1.4	28	19	499	4.09	8	5	ND	1	24	.3	2	12	98	.95	.051	5	44	1.32	139	.22	2	1.65	.14	.52	1	10	18
229321	12	1202	2	109	1.4	28	18	460	3.80	10	5	ND	1	20	.3	2	11	92	.87	.053	5	44	1.19	121	.21	2	1.40	.12	.35	1	2	17
229322	7	1077	2	125	2.5	24	17	466	3.63	9	5	ND	1	21	.5	2	6	83	.96	.058	4	39	1.12	107	.20	3	1.33	.12	.34	1	30	19



- LITHOLOGY**
- TERTIARY**
- 4 Quartz porphyry, mainly barren and clay altered rocks of the WHIPSAW PORPHYRY
  - 3 Quartz porphyry dykes: pyritic, weakly mineralized, clay altered.
- CRETACEOUS**
- 2 Massive to foliated granodiorite (EAGLE PLUTON)
- TRIASSIC**
- 1 Schistose metasediments and mafic volcanic rocks (NICOLA GROUP)

- SYMBOLS**
- 60° Foilation
  - Geological contact

- Drill holes
- LCP
- Road



**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**22,147**

PHELPS DODGE CANADA LIMITED

PROJECT NO: 180  
WHIPSAW COPPER PROSPECT  
GEOLOGICAL MAP  
and  
DRILL PLAN

SCALE	DATE	FILE NO	NTS NO	DWG NO
1:5000	15 Jan/92		92H/7	4
			BY:	

MET 4 LCP

LCP MET 3