87-460-15952 H/88

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# CHARLEMAGNE RESOURCES LTD.

#### DIAMOND DRILLING REPORT

#### PHILLIPS ARM PROPERTY

Vancouver Mining Division FILMED NTS 92K 6, 11  $50^{\circ}30'N$ ,  $125^{\circ}24'W$ GEOLOGICAL BRANCH ASSESSMENT REPORT

b١ Max Holtby, B.S. Jenna Hardy, M.Sc., F.G.A.C.

# NIMBUS MANAGEMENT LTD.

July 1987

#### CLAIMS WORKED

Name	Туре	Record	Anniversary
Cog	M.Grid	1546	August
Owner: Operator:	Charlema Nimbus N	igne Resou Managemer	urces Ltd. It Ltd. on behalf of

Charlemagne Resources Ltd.

#### DISCUSSION AND SUMMARY

The Phillips Arm property is part of a series of gold occurrences and deposits that form a 7 km northwest-trending belt, termed the Phillips Arm Gold Belt. Originally this belt consisted of properties between Phillips Arm and Loughborough Inlet but actually extends southeastward to Sonora and Channel Islands for a total length of some 1.5 km. The most important properties in this belt are the two previous producers: the **Doratha Morton Mine** and the **Alexandria Mine**. The Doratha Morton is currently held by **New Signet Resources Ltd.** and lies east of the area of drilling known as the **Champion-Commonwealth**. Past production for the Doratha Morton Mine was 10,385 tons grading 0.46 oz. Au/ton and 1.4 oz. Ag/ton with current reserves reportedly 10,000 tors grading 0.42 oz. Au/ton.

The present report describes drilling in two holes on a VLF-EM anomaly in the Commonwealth-Champion. Hole CHG.86.1 (100.60 m,  $0^{\circ}/-50^{\circ}$ ) penetrated quartz veined granodiorite with five auriferous zones and a best intersection of 0.235 oz/t Au over 0.07 m. Hole CHG.86.2 (52.12 m,  $0^{\circ}/-70^{\circ}$ ) traversed a basalt dyke for most of its length.

The results of the two initial diamond drillholes clearly warranted additional follow-up drilling. This was completed, but is not described in this assessment report.

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#### 1. INTRODUCTION

This report describes a 2-hole drilling program part of an exploration program carried out from October 12, 1986 to February 13, 1987 by Nimbus Management Ltd. on behalf of Charlemagne Resources Ltd., 615 - 800 West Pender Street, Vancouver, B.C., V6C 2V6, on the Phillips Arm property. Hole CHG.86.1 was completed from November 27 to December 6, 1986. Hole CHG.86.2 was completed over the period December 6 to 7, 1986. A total of 152.72 m of BQ Core was drilled.

#### 1.1 LOCATION, ACCESS, PHYSIOGRAPHY AND CLIMATE

The Phillips Arm property is located 55 kilometres north of Campbell River in the Pembroke range of the Coast Mountains, southwestern British Columbia, as shown in **Figure 1**. The claims lie within NTS 92 K6 and K11 (see **Figure 2**) and are centred at latitude-longitude  $50^{\circ}30$ 'N -  $125^{\circ}24$ 'W.

The property can be reached from Campbell River by way of boat, float plane or helicopter service. Landing craft style barges and tugs operate between Campbell River and nearby logging camps on regular scheduled or chartered basis. The nearest settlements are Shoal Bay, 5 km to the southeast on East Thurlow Island, and Fanny Bay, approximately 5 km to the northwest. Blind Channel, located 12 km southwest, is the nearest post office.

The northern portion of the property can be reached from the G.W. Cox and Sons logging camp in Fanny Bay. A well maintained logging road provides good access to the northwest end of the property.

The southern access route extends from Picton Point at the mouth of Phillips Arm to as far north as the Doratha-Morton with various subsidiary roads. While road conditions are generally poor, they are accessible with 4-wheel drive vehicles or motorcycles. This road does not connect with the northern access route.

For the 1986 program, equipment was barged from Campbell River to Fanny Bay and then via logging roads or by helicopter to the campsite on the Cog claim in the Champion-Commonwealth area of interest. A helicopter was used for all moves of the diamond drill equipment.

The property covers approximately 4750 Ha of rugged terrain rising precipitously from sea level to 1125 m. Away from the shoreline slopes are less demanding but they are thickly overgrown with immature second growth. Slide alder and devil's club infest most creek channels. Outcrops are abundant within the steeper stream cuts but gradually lessen with a decreased gradient.

A variably thick layer of glacial till covers some portions of the property and, being an effective barrier to movement of groundwater between bedrock and upper soil horizons, causes variable geochemical responses in soils.

The climate is generally wet B.C. coastal, with snow persisting at upper levels until mid-June and beginning as early as late October.



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# 1.2 CLAIM OWNERSHIP AND STATUS

The property comprises 16 reverted crown grants, 1 crown grant and 180 units in 15 mineral claims.

Claim locations are shown in Figures 2 and 86.1, with ownership and expiry shown in Tables 1, 2, and 3. Expiry dates do not include assessment credits resulting from this program.

Claim	Lot No.	Record No.	Area (Ha)	Date of Record/ Expiry	Ownership by Charlemagne
Alexandria	225	40	17.9	Nov. 6/87	100%
Enid	280	47	18.7	11	11
Comox	296	49	20.7	11	97
Empress	279	50	18.2	11	11
Julie	233	51	15.7	11	11
Duchess	231	52	20.9	11	17
Jubilee Fr.	230	53	6.6	11	
Duke	229	54	18.4	88	"
Highland Laddie	228	55	18.6	88	11
Emperor	227	335	18.7	Nov. 7/87	11
Stella	281	336	10.4	11	11
Jennie B.	278	337	17.2	11	11
Mary Rose	1667	338	20.6	**	11
Gold Dust Fr	1663	339	17.3	**	11
Premier Fr.	1667	340	4.6	11	11
Waterloo Fr.	226		2.3	**	11
Premier	1665	341	16.1	\$1	11

# Table 1 - REVERTED CROWN GRANTS

Claim	Record No.	Units	Date of Record/Expiry	Ownership by Charlemagne
Pict	1492	20	June 15/90	100%
Pem	1495	9	11	H
Bull	1496	8	11	11
Broke	1497	15	11	11
Cor	1505	6	June 24/90	11
JB	1507	18	11	11
Alex	1508	18	11	11
Cog	1546	20	Aug. 31/90	11
Fog 1	1771	20	Mar. 8/90	11
Fog 2	1772	15	11	11
Fog 3	1773	15	11	ม
Fog 4	1774	8	H .	**
Chinook	1826	3	July 17/90	**
Coho	1827	3	11	11
Heather	1828	2	- <b>11</b>	11

# Table 2 - MODIFIED GRID CLAIMS

Table 3 - CROWN GRANTS

Claim	Record No.	Charlemagne
Champion	L276	×

\* After transfer from Falconbridge Ltd., 100% by Charlemagne.

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#### **1.3 HISTORY OF THE PROPERTY**

Gold mineralization was first discovered on the property in 1893 with intermittent exploration since that time. The main workings on the claim block are on the Alexandria claim. Between 1896 and 1910 five adits were driven on the gold-bearing veins exposed on the shoreline of Phillips Arm. In 1932, Premier Gold Mining Co. optioned the Alexandria and extended the workings, driving the 100 and 200 levels beneath the No. 1 adit. Alex Mining optioned the property in 1939 and shipped 1867 tons grading 0.383 oz. Au/ton and 0.701 oz. Ag/ton.

In the mid-1920's, the adit on the Enid claim and the shaft on the Julie claim were driven. No production is recorded.

The two adits on the Champion-Commonwealth claims were driven in 1899 with no recorded production.

In the late 1970's and early 1980's, Corpac Minerals conducted geochemical sampling programs on the present claim blocks. Other companies were active in the area in the late 1970's and early 1980's, but carried out only limited work on the property.

In 1983, Charlemagne Resources Ltd. optioned the 16 reverted crown grants from M.P. Warshowski and J.W. McLeod. Five additional claims were staked that year to increase the property to 114 units. Charlemagne's 1983 program of underground mapping, sampling and diamond drilling sought extensions to the known mineralization in the Alexandria workings. Northward extensions were considered limited but, most significantly, extensions were found between the No. 1 and 100 level. Reserves on the Alexandria are estimated at 27,300 tons grading 0.291 oz. Au/ton. In 1985, Falconbridge Ltd. optioned the claims from Charlemagne Resources. Additional claims were staked to bring the property to its present size. Falconbridge personnel mapped the property at a scale of 1:10,000 with sections at 1:2500, carried out rock sampling, soil sampling and ground VLF-EM over selected areas, diamond drilled in the Alexandria workings and completed an airborne VLF-EM survey over the whole claim block. Despite encouraging results, the property reverted to Charlemagne Resources Ltd. in 1986.

#### 1.4 1986 WORK PROGRAMME

Work in 1986 concentrated in three main areas: The Fog North and South, the Commonwealth-Champion and the Enid area as shown in Figure 86.1. A total of 1063.46 m was completed in 13 holes over the interval November 26, 1986 to February 5, 1987. However, this assessment report is limited to holes CHG.86.1 and CHG.86.2 completed between November 27 to December 7, 1986 for a total footage of 152.72 m of BQ core. Drilling was carried out by Jempland Construction Ltd. of Prince George. A JKS 300 was operated by three persons on a one long shift-per-day basis. Drill moves were completed using a 206B helicopter based in Campbell River. All core is stored on site at locations shown on the individual drill logs.

#### 2. REGIONAL GEOLOGY

The regional geology of the property, as described in Geological Survey of Canada OF 480 (Roddick, 1977), is shown in **Figure 3.** Most of the area is underlain by plutonic rocks, ranging from gabbro to quartz monzonite. Regionally, the area is dominated by granodiorite in a broad northwesterly elongate belt of 50 km width, flanked by belts of mainly quartz diorite with lessor granodiorite and diorite. The Phillips Arm property lies in such a flanking belt on the south side of the central granodiorite belt.

Steeply dipping metasedimentary and metavolcanic rocks of Paleozoic and/or Triassic age or Lower Cretaceous age form long narrow belts or pendants that accentuate this northwesterly striking pattern. Bounding shear zones are visible in some areas, but synplutonic recrystallization has commonly reduced them to foliations or obliterated them entirely. In other areas, pendant boundaries are gradational over 1 km to 2 km.

The pendant shown extending northward from Fanny Bay (on the north side of the claim block) consists chiefly of Paleozoic and/or Triassic quartz-biotite schist with some marble and skarn. Quartzite, chlorite and biotite schists with interbedded massive greenstones are locally abundant. Similar rocks are found on the property south of Fanny Bay.

9.



	STRATIFIED BOCKS		
UDATERNAS	r		<b>,</b>
Q	Alluvial and glacial deposits		Ľ
CRETACION	5		ſ
	GARBIES GROUP		į_
IKg	Greenstone, volcanic breccia, argillite, ainor congloserate, lisestone, and schist		 ۲
JUBLSSIC	10212272		ĺ.
·	BORANZA GROUP		
I IIP	Andesitic flows and pyroclastics	•	i
,,	NARBIEDONE FORMATION		i
114	Foldspath1C vacke, silicous argitling, phylisse, quartists and minar timestone		5
<b>6</b>			
TRIASSIC UPPER	TETASSIC		•
	PARSON DAY FORMATION Dack ling shale, calcatemite, wacke		
RP j			
	QUATSING LINESTONE Animly thick-bedded, light grey		
RQ	bioclastic linestone		
	BARRUTSES FORMATION		
UTKp	Pillow lawa withim Quatsing Limestone		
	UPPER KANNOTSEN Basalt flows: singe limestone, shale.		
URK	pillow lava, and pillow braccia		
	ALODLE KARAUTSEN	•	
URKm	Pillow breccia and aquagene tuff		
·	LOVER FARNUTSEN		
URKI	Closely packed pillow lava		
·			
* 11 80101C	AND/OR TRIASSIC		
РЪ	Asphibolite, schist, quartzite; sinor		
·	CIJATELIIRO LIBOSTORO, SIBANSIANA		
AL 202014	OB OLDER		
an	Gramitoid gaoiss, asphibolite, and achist		
	HIPLBISSL BOCKS		
	Felsite		
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	boundary (defined, approximate or security		
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Attitude -	of foliation, queissosity finclined. particula	702 - 10	
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	isereis: chalcopyrite = []; garmet = [0]; sagnet	ite - 🛈 ;	
	malachite . U; molybdemite . @; pyrit	• • *;	
	pyrrhotite = $\bigvee$ ; sillimanite = (3; sphe	• • 🛋 .	

Quartz monzonite Granodiorite Quartz diorite

PLUTOBIC BOCKS

qd di Diorite

Gabbro gЬ

#### fossil locality Ð

Geology by J. L. Soddick, W. W. Mutchison and G. J. Moodsworth, 1970-76. Vancouver Island and part of Quadra Island by D. Carlisle, 1960-71. at. Baleigh area by G. J. Woodsworth, 1971-73.

## 3. PROPERTY GEOLOGY

The property geology is described in Hicks (1986). During 1985, much of the property was mapped at 1:10,000 scale with the Champion-Commonwealth area being mapped at 1:2500 scale and the Alexandria adit at 1:250 scale. Heavy snowfall during the 1986 program limited surface work; descriptions in the property geology section are **therefore** taken from Hicks (1986).

#### 3.1 LITHOLOGIES

The property geology is dominated by a variety of granite to granodiorite intrusives of Late Jurassic to Cretaceous age. Medium-grained biotite hornblende granodiorite makes up about 70% of the exposures. Gradational contacts are common between different intrusive units. In areas of strong and extreme shearing original compositions are difficult to determine.

Medium to dark green fine-grained andesite-dacite tuffs and possible flows approximate 20% of mapped lithologies. Exposures of this unit are found most abundantly near to, and northwest of the Alexandria workings. Narrow ribbons or slivers of andesite-dacite parallel the regional northwest trend.

Dark to grey to black biotite-hornblende schist/gneiss and amphibolite generally occur close to intrusive-volcanic contacts. This proximity suggests that these units could be contact metamorphic equivalents of the andesite-dacite volcanics. Foliation within the schist parallels the general northwest trend of the intrusive contact as well as the foliation within the intrusive. Argillaceous sediments are found in a narrow band extending northwest from Bullveke Creek to the Doratha-Morton workings.

Disseminated pyrite up to 2% gives a rusty weathered appearance. Minor bull quartz veins (less than 5 cm) are possibly quartz segregations.

Three types of dykes are known on the property. Two different compositions of intermediate dykes are cut by later mafic dykes. Intermediate composition dykes tend to generally parallel larger quartz veins while mafic dykes crosscut them at an oblique angle. Mafic dykes have not undergone shearing and silicification as have other dykes indicating that they are of a later age.

#### 3.2 STRUCTURE

The property can be divided into two obvious zones of differing structural "grain". North of Bullveke Creek a strong northeast-southwest trend is evident in topographic lineaments, while south of Bullveke Creek the structural trends are subtle and not as easy to classify.

In the **Champion-Commonwealth** area, a zone with a strong degree of shearing is evident in rocks approximately 75 m either side of the main creek drainage. Quartz veins run parallel to foliation in this zone.

The Alexandria Mine is characterized by a northwest trending sheared zone at least 30 m wide with narrow discrete zones of silicification and quartz veins within the boundaries. The heavily silicified wall rocks of the No. 1 adit are characterized by a strong platy fabric in the quartz which resembles fabrics observed in the Commonwealth-Champion grid area and is thought to be related to shearing.

# 3.3 ALTERATION

The most intense alteration observed on the property is in sheared zones that host the auriferous quartz veins.

The zones are characterized by a strong silicification and bleaching and retain little of their original fabric. Sericitization is also common within sheared zones.

Weak potassic alteration is related to fracturing and carbonate fracture filling, but the relationship of this to the auriferous event is unknown.

#### 4. 1986 DIAMOND DRILLING

The Champion-Commonwealth area is centred on two crown grants, lots 276 and 277, respectively. It extends from the northwestern end of the Doratha Morton property of New Signet Resources Inc. westward across the Cog claim on to the Koop claim of Bow Valley Resources Ltd.

Drillholes CHG.86.1 and 2 were collared from a single site to test anomalous VLF-EM and soil geochemistry, as well as surface gold showings of 0.2 oz. gold per ton to 0.84 oz. gold per ton found in 1985.

Hole CHG.86.1 (Figure CC86.4) was sited to test downdip extensions of the high gold values in samples collected from a roadcut at grid co-ordinates 9+65E-9+65N. The hole intersected five auriferous zones. The uppermost or first zone of 0.046 oz. Au/ton over 1.28 m (15.7 to 16.98 m) is associated with quartz veining in foliated granodiorite. The shear zone with which VLF anomaly A is considered associated was intersected at 29.15 m and the next auriferous quartz vein system (185 ppb Au over 1.6 m) extended from 29.15 to 30.75 m. This zone most likely correlates with the roadcut samples, giving an approximate  $45^{\circ}S$  dip to the auriferous zone and possibly to the shear zone. The third zone is (43.5 to 50.2 m) is similar to the second zone, but it has a high assay of 0.106 oz. Au/ton over 0.88 m, associated with an apparent fault. The final two zones are associated with silicification rather than quartz veining; the interval 58.2 to 60.53 m (2.33 m) averaged 260 ppb Au and 74.68 to 78.61 m (3.93 m) averaged 365 ppb.

Hole 86.2 (Figure CC86.4) was drilled as a further downdip test to the surface mineralization and to test beneath the first zone found in Hole 86.1. Unfortunately, Hole 86.2 traversed a basalt dyke for almost its total length.

In the Champion-Commonwealth workings, the quartz veining and mineralization are hosted solely by granodiorite and do not extend into the diorite or calc-silicate exposed north and south of the vein system. In holes CHG.86.1 and 2, the mineralization is hosted both by granodiorite and diorite.

The auriferous shear zone cut by these drill holes is considered to be the western extension of the zone exposed in the Champion-Commonwealth workings.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

A strong VLF-EM conductor with coincident anomalous gold values in soils was tested by holes CHG.86.1 and 86.2.

This conductor passes through the old Champion-Commonwealth workings. It would appear to be on strike from the nearby Doratha Morton Mine, where past production of 10,385 tons grading 0.46 oz. Au/ton and 1.4 oz. Ag/ton is recorded, and current reserves of 10,000 tons grading 0.42 oz. Au/ton are reported.

Diamond drilling on the VLF-EM conductor at a site 550 m west of the Champion-Commonwealth adits has demonstrated that the auriferous shear zone extends at least that distance.

Most of the length of the coincident conductor and geochemical anomaly remains untested. An additional diamond drilling with holes to initially test higher geochemical values, and beneath exposures in the Champion-Commonwealth workings is strongly recommended.

Respectfully submitted.

Max Holtby, B.Sc., F.G.A.C.

Jenna Hardy, M.Sc., F.G.A.C.

#### 6. **BIBLIOGRAPHY**

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- Roddick, J.A. 1977. Notes on the Stratified Rocks of Bute Inlet Map Area, GSC Open File 480.

## 7. STATEMENT OF QUALIFICATIONS

I, Max H. Holtby, residing at 103 - 1026 Queens Avenue, New Westminster, B.C., hereby certify that:

- I graduated from the University of British Columbia in 1972 with a B.Sc. in Honours Geology.
- 2. I am a Geological Association of Canada Fellow and Geological Society of Malaysia Member in good standing.
- 3. The field work described herein was done under my direct supervision.
- 4. I have worked full time since 1971 as an exploration geologist and in mine management in Canada, Malaysia, and Liberia, West Africa.

Respectfully submitted,

Max H. Holtby, B.Sc., F.G.A.C.

July 1, 1987

## 7. STATEMENT OF QUALIFICATIONS

I, Jenna Hardy, of 535 East Tenth Street, North Vancouver, B.C. V7L 2E7, state that:

- 1. I am a geologist with address above, who graduated from the University of Toronto with a B.Sc. (Specialist in Geology) in 1974 and an M.Sc. in 1980.
- 2. I have practised my profession continuously since 1974 and have worked in the Cordillera since 1976.
- 3. I have been employed as a full-time project geologist by various companies in Vancouver since 1978.
- 4. I am a Fellow of the Geological Association of Canada, with membership number F2640.
- 5. I was the project geologist for Falconbridge Ltd. during and before the period of its option of the Phillips Arm property from Charlemagne Resources Ltd., and personally supervised all work described by Hicks (1986).
- 6. I was the project co-ordinator for the 1986 program at Phillips Arm and supervised all work carried out to date.
- 7. I have no direct or indirect legal or financial interest in the Phillips Arm property of Charlemagne Resources Ltd. or any claims within a 10 km radius of the property.

Respectfully submitted, Jenna Hardy, M.Sc., F.G.A.C.

July 1, 1987

# 1. PHILLIPS ARM PROJECT COST STATEMENT (October 12, 1986 to March 6, 1987)

# GENERAL

Food & Accommodation:	
5 persons, 550 mandays @ \$29.63 (rounding)	\$ 16,296.75
Supplies:	20,541.70
Transport:       Barge       \$ 3,376.00         Fixed Wing - (various types/rates)       1,708.00         Helicopter - 108.86 hours @ \$400/hour       43,544.00         Truck - 4 months @ \$1048.58/month       4,194.32         Miscellaneous       1,475.76	54,298.08
Communications:	3,519.77
Personnel:         Project Co-ordinator         -         65 days @ \$325         \$21,125.00           Project Geologist         -         137 days @ \$230         31,510.00           Field Geologists         -         90 days @ \$160         14,400.00           Field Assistants         -         244 days @ \$110         26,840.00	93,875.00
Equipment Rental:         VLF-EM         - 57 days @ \$21.88/day         \$ 1,247.26           Punjari         - 1.5 months @ \$6071.87/month         911.80           Chainsaws (2)         - 3.5 months @ \$642/month         2,247.00	4,406.06
Report Writing:	1,703.78
Management Fee: Nimbus Management Ltd.	41,005.36
Total	\$235,646.50

# DIAMOND DRILLING

Total invoiced costs including: drill mobilization, drill supplies, footage, cooking charges for 1063.46 m

Of this total, 152.72 or 14.36% was drilled in holes CHG.86.1 and 2 on the Cog claims. (Commonwealth-Champion Area). Both general and drilling costs are apportioned accordingly.

# \$126,817.61

# AREAS OF INTEREST

# Fog North and South

t

VLF Rental	– 25.27 x 12 days	\$ 303.24
Contract Soil Sampling	- 10,575 x 882/1592	5,858.76
Soil Analyses	- Au(faa), Cu, Ag @ \$10.25	9,040.50
Helicopter	- 10.47 hours @ \$400	4,188.00
Field Assistant	- 5 days @ \$110	550.00
	Total	\$ 19,940.50

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#### COMMONWEALTH-CHAMPION AREA (COG CLAIM) 2.

General Costs: 46% of \$235,646.50	\$108,397.39
Diamond Drilling: Direct Costs - 46% of \$126,817.61 Analyses - 550 @ \$14.76 (faa Au,	Ag, Cu) 58,336.10 8,118.00
<b>Geophysics:</b> VLF-EM Rental - \$25.27 x 60 days Field Assistant - 25 x \$110.00	1,516.20 2,750.00
Soil Sampling: Contract Soil Sampling - 10, Soil Analyses (faa Au, Ag, Cu) - 710	575 x 710/15924,716.24@ \$10.257,277.50
	Total \$191,111.43

HOLES CHG.86.1 and 2 3.

.

General Costs: 14.36% of \$235,646.50

# Diamond Drilling:

Direct Costs	- 14.36% of \$126,817.61	18,211.01
Analyses	- 102 @ \$14.76 (faa Au, Ag, Cu)	1,505.52
	Total	\$ 53,555.37
		==========

\$ 33,838.84

# 4. ENID AREA

General Costs: 54% of \$235,646.50	\$127,249.11
Diamond Drilling: Direct Costs - 54% of \$126,817.61 Analyses - 203 @ \$14.76 (faa Au, Ag, Cu)	68,481.51 2,996.28
Rock Chip Sampling:Analyses (faa Au, Ag, Cu) - 78 @ #14.7bField GeologistField GeologistField Assistant- 16 days @ \$110	1,151.28 960.00 1,760.00
Total	\$202, <i>5</i> 98.18 =========

Geological and Geochemical	\$286,832.50
Diamond Drilling	126,817.61
Total	\$413,650.11
	222222222

Appendix 1

# DIAMOND DRILL HOLE LOGS AND RESULTS

# NIMBUS MANAGEMENT LTD.

# DRILL HOLE LOG

HOLE NO. CHG 36-1

SHEET 1 OF 9

PROPERTY: PHILLIPS FIRM	LENGTH: 100.6 m		CORE SIZE: <u>BQ</u>	
LOCATION: BRITISH COLUMBIA	BEARING	INCLINATION	CÖMMENCED:Nov. 27, 1986	
ELEVATION:610 m	COLLAR 0 0	- <sub>50</sub> °	COMPLETED:	
COORDINATES: CC GRID			LOGGED BY: <u>M. Holtby</u>	
950N - 955E			SAMPLED BY: <u>J. Bacon</u>	

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CORE STORED AT: \_\_\_\_On the property at the drillsite

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FROM	TO	DESCRIPTION	RECO	VERY		SAMPL	ES				ASSAYS		
m	m		RUN	*	NO.	FROM	TO	LENGTH	Au	Au	Ag	Cu	Zn
0	3.66	No core - casing	0	т0		m	m	m	oz/ton	ppb	ppm	ppm	ppm
3.66	9.75	Basalt dyke	3.66	0	10001	3.66	5.79	2.13		2	0.8	59	80
		very dark grey	5.79	46	02	5.79	7.75	1.96		4	0.6	30	83
		py - trace, disseminated	9.14	45	03	7.75	9.75	2.00		3	0.7	54	92
		3% subhedral plagioclase, up to 4 mm	9.75	43									
		5.29 - 5.32 m - (approx. depths due to poor core recovery)	11.89	30									
		- granodiorite, 3% disseminated magnetite	12.19	63									
		1% disseminated py, foliated 30° to C.A.	13.26	59									
		6.0 - 6.1 m - granodiorite, no magnetite or pyrite	13.72	98									
		(could be cave - has been ground)	14.78	88									
9.75	14.78	Granodiorite	15.70	71	10004	9.75	11.4	1.65		5	0.2	8	41
		- medium grey; very fresh appearance	16.15	100	05	11.4	13.26	1.86		5	0.2	29	46
		biotite 20%, weakly chloritized	17.07	72	06	13.26	14.78	1.52		3	0.2	40	49
		py - trace disseminated; magnetite - trace to 1/4% dissem-	18.90	77							, in the second		
		inated	19.20	130		1							T
·		occasional andesitic xenoliths	19.81	56							1		1
		11.3 - 11.4 - moderately foliated 20° to 30° to C.A.	20.73	77									
		- very siliceous; py - trace disseminated	21.34	59		1				<b> </b>		1	1
14.78	16.98	Granodiorite	22.10	49	10007	14.78	15.7	.92		56	0.4	12	74

# NIMBUS MANAGEMENT LTD.

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# DRILL HOLE LOG

# HULE NO. CHG 86-1

SHEET 2 OF 9

			RECOV	ERY		SAMPLES           FROM         TO           3         15.7         16.           9         16.15         16.		-:		A	SSAYS		
rKUM	10	UESUKIFIIUK	RUN	%	NO.	FROM	TO	LENGTH	Au	Au	Ag	Cu	Zn
		- same unit as previous interval but	22.25	130	08	15.7	16.15	.45		1050	4.0	132	161
		strongly foliated 40° to 50° to C.A.	22.56	90	09	16.15	16.98	.83		1850	6.8	335	245
		- dark grey; moderately magnetic	22.85	72									·
		- py - traces, disseminated	23.47	61									
		14.78 - 14.82 - siliceous envelopes about 3 mm	24.08	69									
		quartz vein; 75° to C.A.; 1% pyrite	25.91	78									
		disseminated	28.35	86									
		15.7 - 16.98 m - stronger foliation, contorted;	30.18	76									
		5% quartz veining; pyrite 1/2% disseminated;	31.70	64	•								
		foliation 55° - 60° to C.A.	33.22	72									
16.98	21.6	Granodiorite	34.14	88	10010	16.98	17.62	.64		126	0.4	57	53
		light grey to white	34.44	77	11	17.62	19.20	. 58		17	0.1	10	44
		pyrite - trace to 0.1% disseminated	35.05	75	12	19.20	20.73	1.53		7	0.1	2	35
		very siliceous	35.66	100	13	20.73	21.60	.87		6	0.4	23	47
		after 17.62 m - medium grey	38.10	86									
		- very fine grained to aphanitic matrix	38.71	57									
		0.1% blue to purple quartz eyes, up	39.32	100									
		to 2 mm	42.37	76									
		- weakly magnetic, trace magnetite	43.59	88									
		biotite 1%-2%; 1/2% light green	45.42	100									
		sericite (fine grained)	46.02	77				1					
		21.6 m contact - 70° to C.A., sharp but irregular	46.48	37									
21.6	22.1	Basalt dyke	47.24	70	10014	21.60	22.10	.50		10	1.2	56	140
·		- black, very fine grained; moderately magnetic	48.46	74									
22.1	22.17	Pebbles - probably cave of granodiorite	50.29	86	10015	22.10	22.17	.07	235	4700	18.5	235	163

DRILL HOLE LOG

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NIMBUS MANAGEMENT LTD.

# SHEET 3 OF 9

FROM	то	DESCRIPTION	RECO	/ERY	·	SAMPLE	S				ASSAYS		
PRUM	10	DESCRIFILON	RUN	%	NO.	FROM	TO	LENGTH	Au	Au	Ag	Cu	Zn
		from 16.15 - 16.98 m	51.51	68									
22.17	22.93	Granodiorite - same as 17.62 - 21.6 m	52.73	54	10016	22.17	22.93	.76		17	.6	98	52
		2% chloritized biotite; trace disseminated pyrite;	54.56	88									
		very weakly magnetic	55.47	37									
22.93	23.34	Basalt dyke - same as 21.6 - 22.1 m	56.69	88	10017	22.93	23.34	.41		9	1.2	52	94
		22.93 m contact - 35° to C.A.	57.91	102									
		23.34 m contact - 85° to C.A.	59.44	75									
23.34	27.0	Granodiorite - same as 22.17 - 22.93 m	60.66	80	10018	23.34	25.00	1.66		7	.4	32	54
			62.18	92	19	25.00	27.00	2.00		10	.5	37	59
27.0	27.35	Basalt dyke – same as 21.6 – 22.1 m	63.09	68	10020	27.00	27.35	.35		2	1.3	38	103
27.35	29.15	Granodiorite - same as 22.17 - 22.93 m	63.70	85	10021	27.35	28.35	1.00		5	.3	27	51
		after 27.55 m - 0.1% epidote fracture fillings	66.75	96	22	28.35	29.15	.80		3	.4	18	53
29.15	31.8	The Shear Zone - Granodiorite	68.28	92	10023	29.15	30.18	1.03		140	.5	24	30
		light yellow stain (limonite)	69.80	89	24	30.18	30.5	.32		340	.7	40	35
		- silicified - bands of clear and milky quartz,	70.56	63	25	30.50	30.75	.25		170	1.4	136	142
		contorted at start of section, usually	72.85	99	26	30.75	31.80	1.05		24	.5	39	43
		about 40° to C.A.	74.68	96		Τ							
		- 5% clear quartz veins, majority with foliation	75.90	93		1							
		but also cutting foliation	76.96	100									
		py - about 0.1% disseminated	78.03	100								[	
		30.5 - 30.75 m - py 1% in black, fine grained	80.47	103									
		material mixed with quartz, strongly	81.49	88									
		foliated	82.60	100		1							
31.8	34.09	Basalt dyke - same as 21.6 - 22.1 m	83.52	105	10027	31.80	32.90	1.10		14	1.3	48	76
		· · ·	83.82	50	. 28	32.90	34.09	1,19		10	1 2.	57	67

DRILL HOLE LOG

# HULE NO. CHG 86-1

NIMBUS MANAGEMENT LTD.

# SHEET 4 OF 9

FROM	то	DESCRIPTION	RECOV	/ERY		SAMPL	S			1	ASSAYS		
			RUN	%	NO.	FROM	TO	LENGTH	Au	Au	Ag	Cu	Zn
34.09	37.5	Granodiorite (Shear Zone) - same as 29.15 - 31.8 m	84.12	80	10029	34.09	35.05	.96		45	.3	24	21
		- almost all quartz veining parallel to foliation	86.87	93	30	35.05	36.00	. 95		97	.3	27	<u>2</u> 1
		- py, trace fracture filling	87.17	87	31	36.00	37.00	1.00		115	.4	37	29
		foliation 70° to C.A.	90.22	96	32	37.00	37.50	.50		31	.6	89	35
		sericite - 1/2% to 1%, very light green to clear	91.14	84									
37.5	41.45	Basalt dyke - same as 21.6 - 22.1 m	93.88	97	10033	37.5	41.45	3.95		15	1.6	56	78
		37.5 m contact - 30° to C.A sharp	95.40	77									
		41.45 m contact - 80° to C.A sharp but irregular	96.32	80									
41.45	51.5	Granodiorite (Shear Zone) - same as 29.15 - 31.8 m	96.77	84	10034	41.45	42.37	.92		67	.9	83	79
		42.46 - 42.47 - quartz vein, milky colour, contacts,	97.08	97	35	42.37	43.31	.94		33	.3	20	36
		sharp and 60° to C.A.	97.23	93	36	43.50	44.50	1.00		230	.8	16	58
		43.31 - 43.5 m - basalt dyke	99.97	93	37	44.50	45.42	.92		154	.7	17	70
		46.59 - 47.0 m - 20% granodiorite, 80% highly chloritized	00.28	100	38	45.42	46.48	1.06		130	.6	25	71
		mafic material	00.60	120	39	46.48	47.24	.76		19	.5	22	93
		after 43.7 m - pinkish (potassic alteration) near	THE	END	40	47.24	48.12	.88	.106	3000	4.2	65	310
		fractures - spotty			41	48.12	49.12	1.00		43	.4	27	91
		47.24 - 48.12 m - probably fault, soft, very pale			42	49.12	50.20	1.08		150	.7	26	110
		green colour, sericitized			43	50.20	51.50	1.30		21	.3	16	57
L		48.12 m - beginning of weaker foliation											
		quartz veins-decrease to 2%-3%	-										
L		48.75 - 48.83 - mylonite zone, 60° to C.A.											
		50.2 - 51.5 m - gradual decrease in foliation											
51.5	55.53	Granodiorite - similar to 17.62 - 21.6 m but			10044	51.50	52.73	1.23		10	.4	33	39
		less silicified			45	52 73	53 73	10		18	.5	71	94
		blue quartz eves, pyrite trace to 0.1%			46	53.73	54.56	-83	, a.,	12.	.4.	22	55

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# NIMBUS MANAGEMENT LTD.

# DRILL HULE LOG

# HULE NO. CGH 86-1

SHEET 5 OF 9.

EDUM	то		RECO	VERY		SAMPLE	S				ASSAYS		
RUM		UCOUKIFILUN	RUN	%	NO.	FROM	TO	LENGTH	An	Au	Aq	Cu	20
		15% to 20% of interval is broken up and			47	54.56	55.53	.97		20	.6	35	60
		soft with potassic alteration (pink colour)						~					
55.53	56.3	Basalt dyke			10048	55.53	56.30	.77		21	1.3	88	230
		very dark grey, massive, soft, pyrite 0.2%											
		as fracture fillings and disseminations											
		56.3 m contact - 40° to C.A.											
56.3	62.97	Granodiorite											
		medium grey; potassic alteration (pink colour)			10049	56.30	57.20	.90		135	.7	39	108
		near fractures			50	57.20	58.20	1.00		87	.8	66	1140
		moderately foliation; siliceous alteration			51	58.20	59.44	1.24		244	.8	21	147
		pyrite trace to 0.1%; sericite 1%-2%			52	59.44	60.53	1.09		279	1.9	60	205
		58.2 - 60.53 m - whitish grey, highly foliated			53	60.53	61.40	.87		13	.9	17	112
		and pulverized			54	61.40	62.15	.75		15	1.0	44	98
		60.53 - 62.15 m - pale grey, soft, brecciated			55	62.15	62.97	.82		29	1.2	115	170
		62.15 - 62.97 m - foliation 50% to C.A., gradual											
		change from brecciated to massive								1			
		grandiorite											
62.97	71.52	Granodiorite			10056	62.97	64.00	1.03		10	.8	83	102
		dark grey, massive			57	64.00	66.00	2.00		12	.6	80	81
		feldspar - subhedral, 1 to 2.5 mm, 35+%			58	66.00	68.00	2.00		8	.7	64	83
		pyrite - trace fracture filling and disseminated		[	59	68.00	69.00	1.00		4	.9	47	
		moderately magnetic - disseminated magnetite			60	69.00	69.90	.90		4	.8	60	
		biotite - chloritized; starts at about 1% but			61	69.90	70.40	.50		5	1.2	86	1
		increases to 5% down section			62	70.40	71.52	1.12		6	1.3	124	1
		68.75 m - 6 mm quartz vein: 25° to C.A.:				1		<b> </b>		1	1	1	1

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# DRILL HOLE LOG

# HULE NO. CGH 86-1

SHEET 6 OF 9-

FDOM	τo	DESCRIPTION	RECO	VERY		SAMPLE	ES .			ASSAYS		
r KUM	10	DESCRIPTION	RUN	%	NO.	FROM	TO	LENGTH	Au	Ag	Cu	
		- with one selvage of 0.2% pyrite										•
		and potassic alteration envelope on										
		side with pyrite selvage										
		69.9 - 70.4 m - light green and pink areas of										
		epidote and potassic alteration										
		pyrite 0.2%										
		70.4 - 71.52 m - pyrite 0.1% fracture filling										
71.52	73.35	Basalt dyke - same as 55.53 - 56.3 m			10063	71.52	72.5	.98	3	1.2	48	
		pyrite trace fracture filling and disseminated			64	72.50	73.35	.85	2	.8	21	
		highly chloritized								-		
73.25	74.68	Granodiorite			10065	73.35	74.68	1.33	83	.9	57	
		- sheared - part of the shear zone										
		light grey; foliation 70° to 80° to C.A.; pyrite										
		trace to 0.1% disseminated										
		silicified - pervasively (5%-10%)										
74.68	78.61	Granodiorite -			10066	74.68	75.70	1.02	335	1.3	155	
		- sheared but has a different appearance			67	75.70	76.70	1.00	400	1.1	123	
		from last interval - brownish grey			68	76.70	77.70	1.00	375	1.4	152	
		pyrite 0.2%-0.5% fracture fillings and disseminated			69	77.70	78.61	.91	350	1.0	64	
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# DRILL HULE LOG

# HULE NO. CGH 86-1

SHEET 7 OF 9

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ED OM	то	DESCRIPTION	RECO	VERY		SAMPLI	ES		1	ASSAYS		
PRUM	Ū	DESCRIPTION	RUN	%	NO.	FROM	TO	LENGTH	Au	Ag	Cu	
		with chlorite and epidote in fracture fillings										
		- total chlorite 2%; total epidote 4%										
		- pervasive silicification decrease to about 5%										
		or less						i				
78.61	80.65	Granodiorite			10070	78.61	79.65	1.04	 30	7	43	
		- sheared but with a different appearance			71	79.65	80.65	1.00	 _2	.6	21	
		- augen-like texture; foliation 70° to C.A.							 			
		biotite 10% to 20%										
		pyrite 0.1% to 0.2% (spotty); decreases down section										
80.65	81.1	Basalt dyke			10072	80.65	81.10	.45	 3	1.1	46	
		dark greyish green										
		plagioclase - 10%, subhedral, 1 to 2 mm										
		moderately magnetic; pyrite - rare trace										
		80.65 m contact - 30° to C.A., sharp but irregular										
		81.10 m contact - 10° to C.A. sharp										
B1.1	83.8	Granodiorite - same as 78.61 - 80.65 m but			10073	81.10	82.40	1.30	2	.7	12	
		a little less sheared			74	82.40	83.80	1.40	3	.6	15	
83.8	86.53	Basalt dyke - same as:80.16 - 81.1 m			10075	83.80	86.53	2.73	2	1.3	82	
2		83.8 m contact - 80° to C.A.										
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# NIMBUS MANAGEMENT LTD.

# DRILL HOLE LOG

HULE NO. CGH 86-1

SHEET 8 OF 9

FROM	то	DESCRIPTION	RECO	VERY		SAMPL	ES			ASSAYS		
I KUM	10	DESCRIPTION	RUN	%	NO.	FROM	то	LENGTH	 Au	Aq	Cu	ļ.
86.53	94.03	Granodiorite			10076	86.53	87.50	.97	1	1.1	25	
		- dark grey			77	87.50	88.50	1.00	 2	1.2	54	
		less foliated but still part of shear zone			78	88.50	89.50	1.00	 3	1.1	116	
		biotite 20%, moderately chloritized			79	89.50	90.5	1.00	1	.9	73	
		pyrite - trace disseminated and fracture fillings			80	90.50	91.5	1.00	2	1.2	84	
		quartz fracture fillings about 1/2%, usually			81	91.50	92.5	1.00	2	.8	63	
		with pyrite (0.2%)			82	92.50	93.5	1.00	1	.8	59	
					83	93.50	94.03	.53	2	.7	32	
94.03	95.66	Granodiorite			10084	94.03	95.66	1.63	 23	.6	22	
		- at beginning of interval is quite										
		leucocratic but looks more granodiorite							 			
		down section										
		light grey, massive, very hard,										
		only weakly foliated										
		weakly magnetic										
		biotite - 1% to 2% at start then increases to 10%							 			
95.66	96.0	Basalt dyke										
		pyrite - 0.1% on dry fractures			10095	95 66	96.00	24	2		20	
		weakly magnetic, 96.0 m contact 35° to C.A.			10005	55.00	50.00			0		[
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# DRILL HOLE LOG

# HULE NO. CGH 86-1

# NIMBUS MANAGEMENT LTD.

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SHEET 9 OF 9

EDOM	TO	DESCRIPTION	RECOV	OVERY SAMPLES		•4	NGTH A		ASSAYS				
I KUM			RUN	%	NO.	FROM	то	LENGTH		Au	Ag	Cu	
96.0	98.27	Granodiorite - same as 94.03 - 95.66 m			10086	96.00	97.23	1.23		13	.4	17	
					87	97.23	98.27	1.04		2	.3	12	
98.27	99.07	Basalt dyke			10088	98.27	99.07	.80		1	1.4	58	
		dark greenish grey											
		massive											
		contacts 40° to C.A sharp											
99.07	100.6	Granodiorite - same as 94.03 - 95.66 m			10089	99.07	99.97	.90		37	.4	18	
					90	99.97	100.6	0.63		36	.4	32	
L		after 100.05 m - 0.1% pyrrhotite with less											
		pyrite in fracture fillings											
		100.54 m - 1 cm quartz vein, 50° to C.A.,											
L	<u> </u>	with pyrrhotite selvages.											
													<u> </u>
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# DRILL HOLE LOG

# HOLE NO. CHG 86-2

SHEET 1 OF 2

PROPERTY:	PHILLIPS ARM	LENGTH:5	52.12 m		CORE SIZE:	BQ	
LOCATION:	BRITISH COLUMBIA	_ 1	BEARING	INCLINATION	COMMENCED:	December 6, 1986	
ELEVATION:	610 m	COLLAR	0 0	<u> </u>	COMPLETED: _	December 7, 1986	
COORDINATES	CC GRID				LOGGED BY: _	M. Holtby	
	950N - 955E				SAMPLED BY:	J. Bacon	
CORE STORED	AT: On the property				•		

FROM TO				RECOVERY		SAMPLES				ASSAYS			
FROM m	m	DESCRIPTION	RUN	×	NO.	FROM	TO	LENGTH	Au	Au	Ag	Cu	
. 0	2.13	No core - casing	0	то		m	m	m	oz/ton	ppb	ppm	ррт	
2.13	42.07	Basalt dyke	2.13	0	10091	2.13	10	7.87		1	1.1	31	
		dark greenish grey; massive; weakly magnetic	3.05	63	10092	10.00	20	10.00		2	1.2	61	
		py - trace disseminated		100	10093	20.00	30	10.00		3	.8	38	
		41.07 - 42.07 m - brecciated, quartz filling between	5.79	95	10094	30.00	41.07	11.07		2	1.1	57	
	a few breccia fragments (especially from		8.84	88	10095	41.07	42.07	1.00		٦	1.6	43	
		41.2 - 41.5 m)	10.36	71		1							
		42.07 m contact - 70° to C.A.	11.13	57								1	
42.07	42.07 42.21	Granodiorite		100	10096	42.07	42.21	1.14		1	.8	107	
		purplish grey, aphanitic matrix - strongly silicified	13.41	70									
			14.94	97								1	1
		py 0.1% disseminated greater than fracture fillings	16.46	100		1							
,		epidote - 0.2% fracture filling	17.53	103									
		42.21 m contact - 40° to C.A., sharp but irregular	19.05	105		1						1	
42.21	43.00	Basalt dyke - same as 2.13 - 42.07 m	20.73	94						[			
43.00	43.15	Granodiorite - same as 42.07 - 42.21 m	22.25	103	10097	43.00	43.15	.15		1	.9	36	1
		biotite 2% - moderately chloritized	23.77	86		1	<u> </u>				1	1	1
43.15	43.39	Basalt dyke - same as 2.13 - 42.07 m	25.30	100		1					1	1	1
43.39	43.59	Granodiorite - same as 42.07 - 42.21 m	26.97	99	10098	43.39	43.59	.20	<b> </b>	2	.5	19	<u> </u>

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## HULE NO. CHG 86-2

SHEET 2 OF 2

50.04	TO	DESCRIPTION	RECOV	ERY		SAMPLE	S		 	ASSAYS		
rkum	10		RUN	%	NO.	FROM	TO	LENGTH	Au	Ag	Cu	
		43.39 m contact - 70° to C.A., irregular	28.65	87								
		43.59 m contact - 50° to C.A.	30.18	100								
43.59	44.25	Basalt dyke - same as 21.3 - 42.07 m	31.70	93								
44.25	46.34	Granodiorite - same as 42.07 - 42.21 m	33.22	104	10099	44.25	45.30	1.05	1	.7	50	
		- occasional blue quartz grains	34.75	96	10100	45.30	46.34	1.04	4	.5	35	
		46.34 m contact - 10° to C.A.	36.27	100								
46.34	47.97	Basalt dyke - same as 2.13 - 42.07 m	37.80	90								
		47.97 contact - 10° to C.A.	39.32	100								
47.97	48.55	Granodiorite - same as 42.07 - 42.21 m	40.84	95	10101	49.97	48.55	.58	2	.8	44	
48.55	50.71	Basalt dyke - same as 2.13 - 42.07 m	42.37	93								
		48.55 m contact - 10° to C.A.	43.89	95								
50.71	52.12	Granodiorite	45.42	64	10102	50.71	52.12	1.41	18	.7	76	
		medium grey to salmon pink - pink tends to	46.94	65								
		be near fractures	48.46	100								
		weak to moderate silicification (usually weak)	49.68	82								
		py - 0.1% disseminated	51.21	97								
		Weakly foliated - 60° to C.A.	51.82	50								
		biotite - 2%, chloritized and obscured by	52.12	34								
		silicification	THE	END								
52.12		END OF HOLE										
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Appendix 2

# ANALYTICAL RESULTS AND PROCEDURES

# MIN-EN Laboratories Ltd.

Specialists in Mineral Environments Corner 15th Street and Bewicke 705 WEST 15TH STREET NORTH VANCOUVER, B.C.

CANADA V7M 1T2

# FIRE GOLD GEOCHEMICAL ANALYSIS BY MIN-EN LABORATORIES LTD.

Geochemical samples for Fire Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 15.00 or 30.00 grams are fire assay preconcentrated.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 1 ppb.

# MIN-EN Laboratories Ltd.

Specialists in Mineral Environments Corner 15th Street and Bewicke 705 WEST 15th STREET NORTH VANCOUVER, B.C. CANADA

# ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORK

#### PROCEDURES FOR Mo, Cu, Cd, Pb, Mn, Ni, Ag, Zn, As, F

Samples are processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with  $HNO_3$  and  $HC1O_4$  mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by Atomic Absorption Spectrophotometers.

Copper, Lead, Zinc, Silver, Cadmium, Cobalt, Nickel and Manganese are analysed using the  $CH_2H_2$ -Air flame combination but the Molybdenum determination is carried out by  $C_2H_2$ -N<sub>2</sub>O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

For Arsenic analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzit method using Ag  $CS_2N$   $(C_2H_5)_2$ as a reagent. The detection limit obtained is 1. ppm.

<u>Fluorine analysis</u> is carried out on a 200 milligram sample. After fusion and suitable dilutions the fluoride ion concentration in rocks or soil samples are measured quantitatively by using fluorine specific ion electrode. Detection limit of this test is 10 ppm F.

# Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

2: (604) 980-5814 OR (604) 988-4524

TELEX: VIA USA 7601067 UE

# Certificate of GEOCHEM

\*\*\*\*\*

Company:NIMEUS MANAGEMENT Project:CHG PHILLIPS ARM .Attention:JENNA HARDY File:6-1247 Date:DEC 6/86 Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU-FIRE FPB	
10001	59	22	80	0.8	2	
10002	30	17	83	0.6	4	
10003	54	20	92	0.7	.3	
10004	8	<u> </u>	41	0.2	55	
10005	29	14	46	0.2	5	
10004	 40	16	49	0.2		
10007	12	14	74	0.4	56	
10008	132	19	161	4.0	1050	
10009		22	245	6.8	1850	
10010	57	8	53	0 . 4	126	
10011	10	8	44	0.1	17	
10000	2	8	35	0.1	7	

Certified by .....

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments 705 Vest 15th Street North Vencouver, B.C. Canada V7M 172

#### \_\_(604)980-5814 OR (604)988-4524

#### TELEX: VIA UEA 7501067 UC

#### <u>Certificate of GEOCHEM</u>

Company:NIMBUS MANAGEMENT • Project:CHG PHILLIPS ARM Attention:J.HARDM

1

File:6-1258 Date:DEC 10/86 Type:ROCK SECCHEM

We beneby centily the following results for samples submitted.

Sample Number	ř	CU PPM	PB PEM	ZN PPM	AG PPM	AU-FIRE PPB	
10013 10014 10015 10015 10015		23 56 275 78 52	4 17 14 8 20	47 140 163 52 94	0.4 1.2 18.5 0.4 1.2	6 10 4700 17 9	· · · · · · · · · · · · · · · · · · ·
10018 10019 10020 10021 10022		32 37 38 27 18	7 9 21 5 6	54 59 103 51 53	0.4 0.5 1.3 0.3 0.4	7 10 2 5 3	
19023 10024 10025 10025 10025 10027		24 40 136 39 48	3 3 42 4 23	30 35 142 43 76	0.5 0.7 1.4 0.5 1.3	140 340 170 24 14	
10028		57	1.6	67	1.2	19	

Certified by

MIN-ER LABORATORIES LTD.

Ż	MIIN-EN LA Specialists in 705 West 15th Street N	BORATO <i>Mineral En</i> orth Vanceaver, B.O	DRIES L vironments 1. Canada V7M 1T2	TD.	
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Company:NIMBUS M Project:CHG PHIL Attention:J.HARD	ANAGEMENT LIFE ARM Y			File:6-1258 Date:DEC 10/ Type:ROCK AS	86 SAY
<u>No hereby certif</u>	🗴 the following r	eculta for	samples submi	tted.	
Sample Number	AU* AU G/TONNE OZ/T	* ON			
10015	8.05 0.2	35			
	* 1 ASSAY	TON			·
• • •			Jan.	mad	
	Cer	rtified by_	MIN-EN LAB	ORATORIES LTD	

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Specialists in Mineral Environments 705 West 15th Street North Vancouver, B.C. Canada V7M 172

IC (604)980-5814 OR (604)988-4524

TELEX: VIA USA 7601067 UC

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# Certificate of GEOCHEM

Company:NIMBUS MANAGEMENT • Project:CHG-FHILLIPS ARM Attention:J.HARDY File:6-1261 Date:DEC 10/86 Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	*	CU PPM	P8 PFM	ZN PPM	AG PPM	AU PPB	AU GZTONNE	AU OZ/TON	
10029		24	6	21	0.3	45			
10030		27	3	24	0.3	97			
10031		37	3	29	0.4	115			
10032		89	23	35	0.6	31			
10033		56	22	78	1.6	15			
10034		83	50	79	0.9	67			
10035		20	4	36	0.3	33			
10036		16	3	58	0.8	230			
10037		17	3	70	O.7	154			
10038		25	2	71	0.6	130			
1		22	7	93	0.5	19			
10040		65	12	310	4.2.	3000	3.62	0.106	
10041		27	4	91	0.4	43			
10042		26	5	110	0.7	150			
10043		16	. 2	57	0.3	21			
10044		33	8	39	0.4	10			
10045		71	5	94	0.5	18			
10046		22	3	55	0.4	12			
10047		35	6	60	0.6	20			
10048		88	20	230	1.3	21			
10049		39	7	108	0,7	135			
10050		66	5	1140	0.8	87			
10051		21	4	147	0.8	244			
10052		60	13	205	1.9	279			
10053		17	.15	112	0,9	13			
10054		44	14	98	1.0	15			
10055		115	13	170	1.2	29			
10056		83	6	102	0.8	10			
10057		80	8	81	0.6	12			
10058		64	cy.	83	0.7	8			

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TELEX: VIA USA 7601067 UC

# Certificate of GEOCHEM

Company:NIMBUS MANAGEMENT Project:CHG PHILLIPS ARM Attention:JENNA HARDY File:6-1276 Date:DEC 12/86 Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample		CU	AG	AU-FIRE	
Number	Ť	E-E-M	PPM	PPB	
10059		47	0,9	4	
10060		60	0.8	4	
10061		86	1.2	5	
10062		124	1.3	රා	
10063		48	1.2	Ĩ.	
10064	******	21	o, 8	2	
10065		57	0.9	83	
10066		1 66	1.3		
10067		123	1. 1.	400	
10068		152	1.4	375	
1		64	1.0	350	
10070		43	0.7	30	
10071		21	். க	2	
10072		46	1.1	3	
10073		12	o.7	2	
10074	*********	15	0.6		***************************************
10075		82	1.3	2	
10076		25	1.1	1	
10077		54	1.2	2	
10078		116	1.1	2	
10079		73	0,9		
10080	•	84	1.2	2	
10081		63	0.8	2	
10082		59	0.8	1.	
10083		32	0.7	2	
10084	ann dan dan dan dan dag dag dar kan dan dan dan dan dar dan dar dan dan dan dar	22	0.6	23	
10085		28	0.8	2	
10086		17	0.4	13	
10087		12	0.3	22	
10088		58	1.4	1.	

Certified by

MIN-EN LABORATORIES LTD.

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TELEX: VIA USA 7601067 UC

## Certificate of GEOCHEM

Company:NIMBUS MANAGEMENT • Project:CHG PHILLIPS ARM Attention:JENNA HARDY

File:6-1276/P2 Date:DEC 12/86 Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample	7	CI.) CCM	АЭ	AU-FIRE	
		) } } }	F. 5. 1.3	£" £" £3	
10089		18	0.4	37	
10090		32	0.4	36	
10091		31	1.1	1	
10092		61	1.2	2	
10093		38	0.8		
10094		57	1.1	2	
10095		43	1.6	1	
10096		107	0.8	1	
10097		36	0.9	1	
10098		19	0.5	2	
10009	······································	50	o.7	i	
10100		35	0.5	4	
10101		44	0.8	2	
10102		76	0.7	18	

Certified by Richnaut

MIN-EN LABORATORIES LTD.

FAME REPORT (E191) 15763 VICTORIA Province of Ministry of ASSESSMENT REPORT Smish Columbia Energy, Mines and Petroleum Resources TITLE PAGE AND SUMMARY TYPE OF REPORT/SURVEYIS TOTAL COST DRILLING; GEOPHY FICAL; GEOCHEMICAL 352, 787.62 J. Hardy AUTHOR(S) SIGNATURE(S) DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED ... Feb. 11/87 YEAR OF WORK 1986-87 PROFERTY NAMES PHILLIPS ARM COMMODITIES PRESENT . A9, AU, CU . . . . . . . . . . . . . NTS 92 K/11 W Vancouver MILLING DIVISION 50°31'21 125 25 50 LONGITUDE LATITUDE NAMES and NUMBERS of all mineral terures in good standing (when work was done) that form the property. (Examples - TAX-1-4, FIPE 2 (12 Units): PHOENIX (Lot 1706), Mineral Lease M 123; Mining or Certified Mining Lease M1, 12 Idlaims involved - . COG, Lot's 276, 277 OWNER(S) Charlemagne Resources Ltd. 12 MAILING ADDRESS . . . . . . . . . . . . . . . . . . OPERATORIS! (that is, Company paying for the work) as above 111 MAILING ADDRESS . SUMMARY GEOLOGY (http://og/, age, structure, alteration, mineralization, size, and ettitude) Steeply dipping metasedimentary and metavolcanic rocks form narrow bands engulfed in the main mass of the Coast Plutonic Complex. These bands are thought to represent fault slices. Gold occurs in narrow quartz vins. REFERENCES TO PREVIOUS WORK . A.R. 15952, 12577, 6108, 8287, 11839, 10399, 12577, 13864, 14466 (014-1

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