86-844-15423

LITHOGEOCHEMICAL SURVEY

OF

THE KAEL #2 MINERAL CLAIM

OMINECA MINING DIVISION

NTS: 93N/2W, 2E, 7W, 7E

[Lat 55° ~~25'~~ 14.8' North, 124° 45.2' West]

| | |
|---|---|
| Owner | Colin Campbell |
| Operator | Colin Campbell |
| Author: Colin Campbell | December, 1986 |

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## 1.0 SUMMARY

The Kael #2 mineral claim, consisting of 20 units, is located five kilometres north of the west end of Chuchi Lake in the Omineca Mining Division. The claims were grouped as the Col Goup and cover high grade copper mineralization found by Colin Campbell in 1969. Diamond drilling by Falconbridge Nickel, in 1970, 1971 and 1972, indicates two million tons of 0.6% copper in Zone "A".
Sampling of Zone "A" in 1985 found up to 1.68 ppm gold across ten feet associated with the higher grade copper mineralization. Further work, including sampling of the remaining core and soil sampling for gold, is recommended.

## 2.0 INTRODUCTION

The Col Group, consisting of the Kael #2 Mineral Claim [20 units], is located five kilometres north of the west end of Chuchi Lake in the Omineca Mining Division. Access to the property is by helicopter from Ft. St. James or by logging road to within five miles then by boat and trail. A "cat" tote road, now cut out as a trail, provides access from the west end of Chuchi Lake.

During October of 1985 sixty ten foot sections of drill core were sampled to check the potential for economic gold mineralization associated with previously known copper zones. Three thin sections from a bornite quartz vein were also examined.

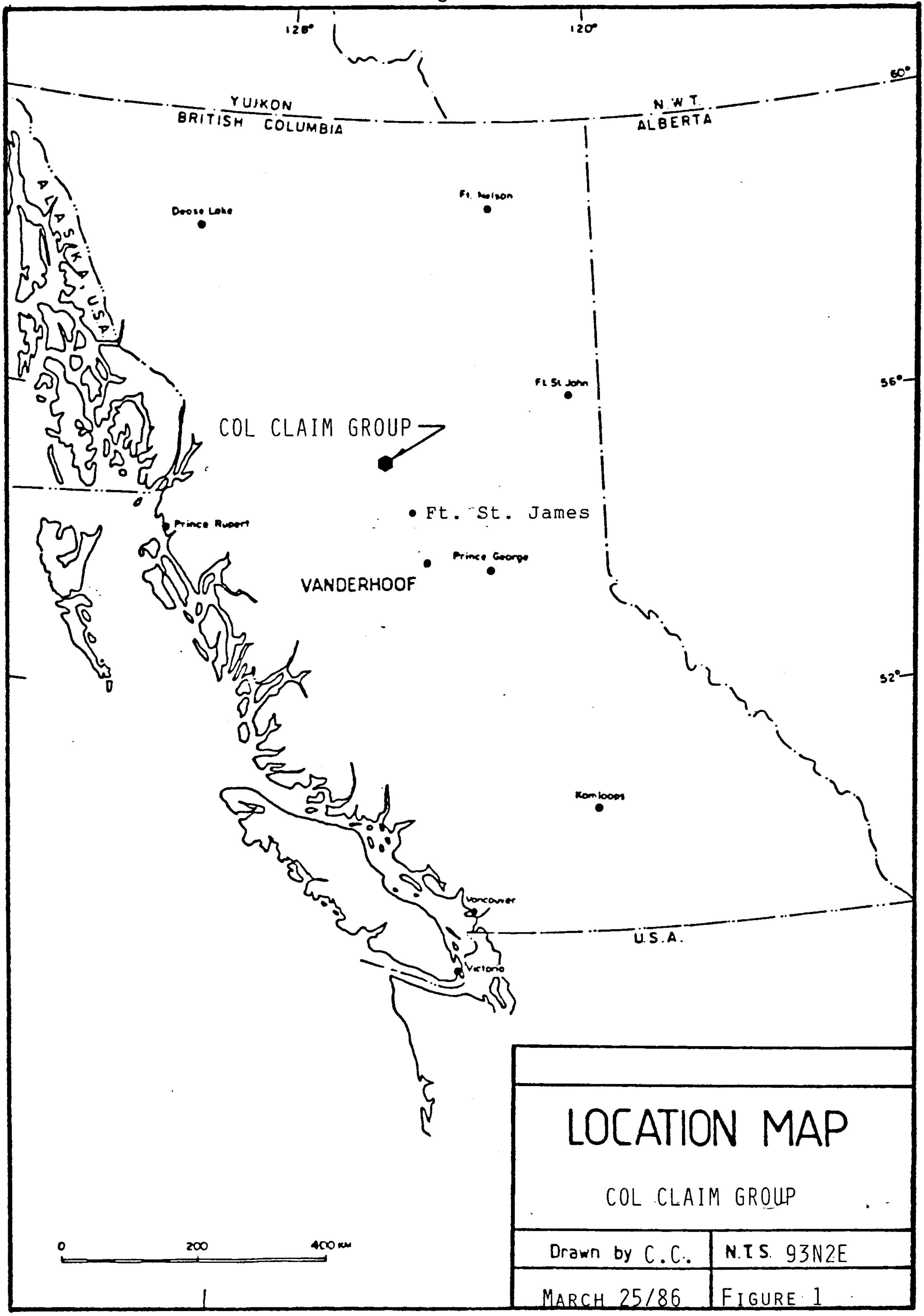
## 2.1 CLAIM STATUS

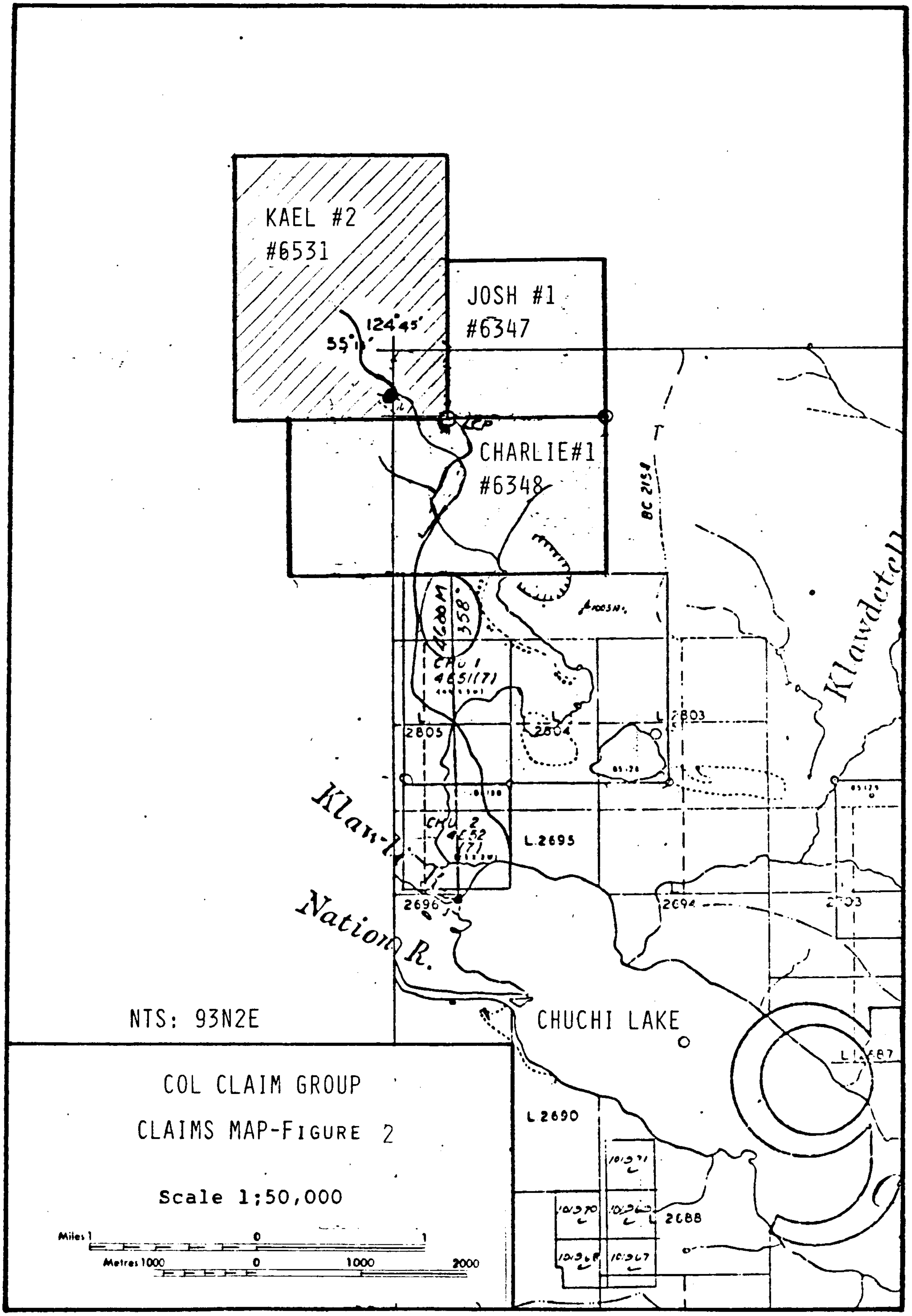
| Claim Name | Record No. | No. of Units | Expiry Date |
|---|---|---|---|
| Kael #2 | 6531 | 20 | Sept.28,1988 |

The Kael #2 Mineral Claim was grouped as the Col Group on July 5,1985 and is owned and operated by Colin Campbell.

## 2.2 TOPOGRAPHY AND VEGETATION

The Col Group covers a south slope with elevations ranging from 1000 to 1300 metres. Vegetation consists of an open growth of older pine and spruce with balsam at higher elevations and "burned" areas of dense alder and young pine.


128°
120°
60°
56°
52°
YUKON
BRITISH COLUMBIA
N.W.T.
ALBERTA
ALASKA, USA
Ft. Nelson
Ft St John
COL CLAIM GROUP
Ft. St. James
Prince Rupert
Prince George
VANDERHOOF
Kamloops
Vancouver
Victoria
U.S.A.
0
200
400 KM
LOCATION MAP
COL CLAIM GROUP
Drawn by C.C.
N.T.S. 93N2E
MARCH 25/86
FIGURE 1


KAEL #2
#6531
JOSH #1
#6347
CHARLIE#1
#6348
124°45'
55°1'
BC 2158
Klawdetell
L.2803
2805
2804
L.2695
2696
2694
2703
Klaw-li
Nation R.
CHUCHI LAKE
L.2690
2688
NTS: 93N2E
COL CLAIM GROUP
CLAIMS MAP-FIGURE 2
Scale 1;50,000
Miles 1
0
1
Metres 1000
0
1000
2000

## 2.3 GEOLOGY

The Col Group covers a contact between syenite and monzonite of the Hogen Batholith and Takla Group volcanic rocks. Mineralization consists of quartz lenses with locally abundant bornite and as bornite and lesser chalcopyrite disseminated in altered potash feldspathized mesocratic monzonite [Garnett,1971].

## 2.4 PREVIOUS WORK

The Col Group was found by Colin and Heather Campbell, in 1969, following a silt geochemical survey. In 1970 it was optioned to Falconbridge Nickel. Falconbridge fron 1970 to 1972 cut lines ran I.P., E.M.16, magnetometer, soil geochemical and geologocal surveys over the Group.

Diamond drilling by Falconbridge consisted of 541' XRPS, 4,694' AQ, and 2,506' BQ, indicating by my calculations, 2.72 million tons of 0.54% in zone "A". An independant calculation by Canex Placer Limited states "We find that 2,000,000 tons of 0.6% Cu are indicated by diamond drill holes in the anomaly area" [Smith, 1973].

From 1974 to 1984 the property was been maintained on a standby basis by Colin Campbell. Assessment work was carried out by line and trail cutting and by drilling and blasting several trenches.

Sampling by Campbell in 1984 found up to 2.175 ppm Au with 1% Cu across ten feet and prompted the current program.

## 3.0 LITOGEOCHEMICAL SURVEY

Sixty ten foot sections of drill core were sampled to check for gold mineralization associated with the higher grade bornite quartz mineralization and to check areas of silicification or "quartz-alteration" and pyrite zones noted in Falconbridge drill logs. The relationship of gold to copper and arsenic on the property is of secondary importance. The results of the survey are plotted on Figures COL 86-4,-5,-6,-7,-8.

Falconbridge did a general transit survey of grid lines and drill holes on the Col Group; the Kael #2 legal corner post was tied into these grid lines by chain and compass; all other locations were taken from Falconbridge maps and drill logs. The drill hole locations for the present sampling are plotted on Figure COL 86-3. Location, bearing, dip and purpose of each hole sampled is included in Appendix D.

### 3.1 FIELD METHODS

The core sampled, stored in a core shack on the property, was in relatively good condition; it had been split and one half assayed for copper by Falconbridge. One half of the remainder was selected [not quartered] resulting in two to two and one-half kilograms of material per ten foot section. The samples were placed in polyethylene bags and sent to Vangeochem Laboratory in North Vancouver for analyses. Hand specemens were kept for each sample interval.

### 3.2 ANALYTICAL METHODS

All samples were analyzed by Vangeochem Laboratory Ltd. Analyses for gold was by atomic absorption and for other elements by I.C.P.; detailed procedures are included with the analytical certificates in Appendix C.

## 3.3 RESULTS AND INTERPRETATION OF THE LITHOGEOCHEMICAL SURVEY

Gold occurs associated with copper mineralization on the Col Group. Up to 1.68 ppm gold across ten feet was found in Zone "A". Anomalous arsenic values, up to 251 ppm, are found in fringe zones to high grade copper mineralization but drop to less than 10 ppm in the zone itself.

No gold was found in the pyrite fringe zones nor has any been found in silicified or "quartz alteration" zones sampled.

## 3.4 RECOMMENDATIONS

The remaining core from Zone "A" should be sampled and analyzed for gold. The large copper soil anomalies [Band 1970] should be resampled and analyzed for gold.

Colin Campbell

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BIBLIOGRAPHY

Band, 1970. GEOCHEMICAL REPORT - COL CLAIMS, FALCONBRIDGE NICKEL MINES. Feb. 10,1971.

Garnett, 1971. GEOLOGY, EXPLORATION AND MINING IN BRITISH COLUMBIA, B.C. Dept. of Mines p.196.

Smith, 1973. PERSONAL LETTER, September 24,1973.

APPENDIX A

## STATEMENT OF QUALIFICATION

I, Colin Campbell, of the Town of Courtenay, in the Province of British Columbia, do hereby state that:

1. I am a geologist.
2. I graduated from the University of British Columbia in 1966 with a B.Sc. Degree in Honours Geology.
3. I have worked steadily in mining exploration in British Columbia and Yukon Territory from 1966 to 1973; intermittently from 1974 to 1983 and steadily from January 1984 to the present.
4. I personally carried out, or supervised, the Lithogeochemical Survey on the Kael #2 Mineral Claim.
5. I own the Kael #2 Mineral Claim.

Colin J. Campbell.

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APPENDIX B

## STATEMENT OF EXPENDITURES - KAEL #2

| | | | |
|---|---|---|---|
| 1. | WAGES Colin Campbell | | |
| | Field Oct. 24,25,26,27,28,29,1985 | | |
| | Petrographic work June 17,1986 | | |
| | Report Dec. 17,19,June 18,1986 | | |
| | Ten days at 240.00 per day | 2400.00 | 2400.00 |
| 2. | TRANSPORT | | |
| | Aircraft 2.4 hours at 100.00 | 240.00 | |
| | Courtenay to Vanderhoof rtn. | | |
| | 0.5 trip | 314.00 | |
| | | 554.00 | 554.00 |
| 3. | GEOCHEMICAL ANALYSIS | | |
| | 60 rock preparation at 3.00 | 180.00 | |
| | Au analyses at 6.50 | 390.00 | |
| | I.C.P. at 6.50 | 390.00 | |
| | Cu assays at 5.00 | 10.00 | |
| | | 970.00 | 970.00 |
| 4. | FOOD AND LODGING | | |
| | 6 days at 50.00 | 300.00 | 300.00 |
| 5. | DRAFTING PRINTING AND COPIES | 264.00 | 264.00 |
| | | TOTAL | $4488.00 |

Colin Campbell

## 5.2 ANALYTICAL PROCEDURE FOR GOLD IN ROCK SAMPLES

Analytical procedure used to determine gold by fire-assay method and detected by atomic absorption spec. in goelogical samples.

### Method of Sample Preparation

(a) Geochemical soil, silt or rock samples were received in the laboratory in wet-strength 4" x 6" Kraft paper bags or rock samples sometimes in 8" x 12" plastic bags.

(b) The dried soil and silt samples were sifted by hand using a 8" diameter 80-mesh stainles steel sieve. The plus 80-mesh fraction was rejected and the minus 80-mesh fraciton was transferred into a new bag for analysis later.

(c) The dried rock samples were crushed by using a jaw crusher and pulverized to 100-mesh for finer by using a disc mill. The pulverized samples were then put in a new bag for later analysis.

### Method of Extraction

(a) 20.0 - 30.0 grams of the pulp samples were used. Samples were weighed out by using a top-loading balance into fusion pot.

(b) A Flux of litharge, soda ash, silica, borax, flour, or potassium nitrite is added, then fused at 1900 degrees F and a lead button is formed.

(c) The gold is extract by cupellation and part with diluted nitric acid.

(d) The gold bead is saved for measurement later.

### Method of Detection

(a) The gold bead is disolved by boiling with sodium cyanide, hydrogen peroxide and ammonium hydroxide.

(b) The gold analyses were detected by using a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values in parts per billion were calculated by comparing them with a set of gold standards.

The analyses were supervised or determined by Mr. Conway Chun or Mr. David Chiu and his laboratory staff.

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VANGEOCHEM LAB LIMITED

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VANCOUVER, B.C. V5L 1L6
(604) 251-5656

REPORT NUMBER: 85-25-016 JOB NUMBER: 85555 MR. COLIN CAMPBELL 

| SAMPLE # | D.D.H.# | FOOTAGE | Cu % | Au ppb | |
|---|---|---|---|---|---|
| 09231 | 19 | 166-180 | -- | <5 | |
| 09232 | 19 | 190-200 | -- | 40 | |
| 09233 | 19 | 200-210 | -- | <5 | |
| 09234 | 15 | 110-120 | -- | <5 | |
| 09235 | 15 | 120-130 | -- | 100 | |
| 09236 | 15 | 130-140 | -- | 70 | |
| 09237 | 15 | 370-380 | -- | 170 | |
| 09238 | 15 | 440-450 | -- | <5 | |
| 09239 | 12 | 80-125 | -- | 10 | |
| 09240 | 12 | 210-220 | -- | <5 | |
| 09241 | 12 | 220-230 | -- | 20 | |
| 09242 | 12 | 230-240 | -- | 40 | |
| 09243 | 12 | 390-400 | -- | 55 | |
| 09244 | 9 | 50-60 | -- | 750 | .022 |
| 09245 | 9 | 80-90 | -- | 480 | .014 |
| 09246 | 9 | 130-140 | -- | 120 | |
| 09247 | 10 | 140-150 | -- | 25 | |
| 09248 | 10 | 210-220 | -- | 15 | |
| 09249 | 10 | 220-230 | -- | <5 | |
| 09250 | 11 | 80-90 | -- | 110 | |
| DETECTION LIMIT | | | .01 | 5 | |

1 Troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million < = less than

signed: ______________________

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(604) 251-5656

REPORT NUMBER: 85-25-016 JOB NUMBER: 85555 MR. COLIN CAMPBELL 

| SAMPLE # | D.D.H.# | FOOTAGE | Cu % | Au ppb |
|---|---|---|---|---|
| 09211 | 21 | 470-480 | -- | 680 |
| 09212 | 31 | 340-350 | -- | <5 |
| 09213 | 22 | 0-27 | -- | 30 |
| 09214 | 25 | 0-19 | -- | 200 |
| 09215 | 13 | 110-120 | -- | 30 |
| 09216 | 13 | 130-140 | -- | 100 |
| 09217 | 13 | 150-160 | -- | 580 |
| 09218 | 13 | 200-210 | 1.87 | 1680 |
| 09219 | 13 | 210-220 | 1.46 | 990 |
| 09220 | 13 | 410-420 | -- | 60 |
| 09221 | 13 | 420-430 | -- | 40 |
| 09222 | 16 | 160-170 | -- | <5 |
| 09223 | 16 | 300-310 | -- | 5 |
| 09224 | 16 | 420-430 | -- | 20 |
| 09225 | 16 | 430-440 | -- | 5 |
| 09226 | 16 | 440-450 | -- | 35 |
| 09227 | 16 | 450-462 | -- | <5 |
| 09228 | 18 | 100-110 | -- | 40 |
| 09229 | 18 | 110-120 | -- | 30 |
| 09230 | 18 | 120-130 | -- | 30 |
| DETECTION LIMIT | | | .01 | 5 |

1 Troy oz/short ton = 34.28 ppm 1 ppm = 0.0001% ppm = parts per million < = less than

signed: ______________________

14.



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REPORT NUMBER: 85-25-016 JOB NUMBER: 85555 MR. COLIN CAMPBELL 

| SAMPLE # | D.D.H.# | FOOTAGE | Cu % | Au ppb |
|---|---|---|---|---|
| 09026 | 21 | 190-200 | -- | <5 |
| 09076 | 11 | 150-160 | -- | <5 |
| 09077 | 27 | 290-300 | -- | <5 |
| 09078 | 28 | 340-350 | -- | <5 |
| 09079 | 28 | 350-360 | -- | 10 |
| 09080 | 29 | 90-100 | -- | 10 |
| 09081 | 29 | 88-89 | -- | <5 |
| 09082 | 29 | 110-120 | -- | 20 |
| 09083 | 30 | 160-170 | -- | <5 |
| 09084 | 31 | 220-230 | -- | 5 |
| 09085 | 31 | 350-360 | -- | <5 |
| 09201 | 21 | 140-150 | -- | <5 |
| 09202 | 21 | 150-160 | -- | 20 |
| 09203 | 21 | 160-170 | -- | <5 |
| 09204 | 21 | 170-180 | -- | <5 |
| 09205 | 21 | 180-190 | -- | 15 |
| 09207 | 21 | 220-230 | -- | 10 |
| 09208 | 21 | 410-420 | -- | 510 |
| 09209 | 21 | 420-430 | -- | 540 |
| 09210 | 21 | 440-450 | -- | 720 |
| DETECTION LIMIT | | | .01 | 5 |

1 Troy oz/short ton = 34.28 ppm   1 ppm = 0.0001%   ppm = parts per million   < = less than

signed: ______________________

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## ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H2O AT 95 DEG. C FOR 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR SN,MN,FE,CA,P,CR,MG,BA,PD,AL,NA,K,W,PT AND SR. AU AND PD DETECTION IS 3 PPM.
IS= INSUFFICIENT SAMPLE, ND= NOT DETECTED, -= NOT ANALYZED

COMPANY: COLIN CAMPBELL
ATTENTION: COLIN CAMPBELL
PROJECT: --

REPORT#: 85-25-016
JOB#: 85555
INVOICE#: 9151

DATE RECEIVED: 85/11/08
DATE COMPLETED: 85/11/15
COPY SENT TO: COLIN CAMPBELL

ANALYST W. Ramos



| SAMPLE NAME | AG PPM | AL % | AS PPM | AU PPM | BA PPM | BI PPM | CA % | CD PPM | CO PPM | CR PPM | CU PPM | FE % | K % | MG % | MN PPM | MO PPM | NA % | NI PPM | P % | PB PPM | PD PPM | PT PPM | SB PPM | SN PPM | SR PPM | U PPM | W PPM | ZN PPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09076 | .5 | .27 | 17 | ND | 35 | ND | .23 | .5 | 4 | 12 | 3590 | 1.02 | .07 | .20 | 89 | 22 | .01 | 3 | .02 | 15 | ND | ND | 3 | ND | 19 | ND | ND | 26 |
| 09077 | .3 | .86 | ND | ND | 82 | ND | 2.28 | .3 | 7 | 31 | 92 | 2.74 | .15 | .55 | 744 | 2 | .01 | 5 | .12 | 15 | ND | ND | ND | ND | 144 | 8 | ND | 29 |
| 09078 | .2 | .13 | ND | ND | 12 | ND | 1.31 | .3 | 1 | 9 | 45 | .60 | .11 | .24 | 410 | 1 | .13 | 1 | .01 | 11 | ND | ND | ND | ND | 66 | 7 | ND | 8 |
| 09079 | .1 | .98 | ND | ND | 50 | ND | .98 | .4 | 6 | 44 | 51 | 1.98 | .12 | .54 | 362 | 2 | .01 | 4 | .07 | 18 | ND | ND | ND | ND | 141 | 4 | ND | 22 |
| 09080 | .4 | .17 | 3 | ND | 23 | ND | .96 | .6 | 2 | 8 | 11 | .98 | .11 | .28 | 422 | 1 | .01 | 1 | .02 | 16 | ND | ND | ND | ND | 53 | 4 | ND | 27 |
| 09081 | .7 | .45 | 7 | ND | 27 | ND | 4.25 | 1.1 | 12 | 17 | 23 | 2.73 | .14 | 1.30 | 964 | 20 | .01 | 12 | .12 | 48 | ND | ND | ND | ND | 188 | 6 | ND | 35 |
| 09082 | 1.8 | .61 | 22 | ND | 40 | ND | 4.00 | 1.3 | 12 | 58 | 32 | 3.06 | .14 | 1.46 | 965 | 6 | .01 | 19 | .15 | 40 | ND | ND | ND | ND | 233 | 8 | ND | 54 |
| 09083 | ND | .60 | ND | ND | 45 | ND | 1.01 | .1 | 5 | 10 | 16 | 1.93 | .10 | .32 | 702 | 1 | .01 | 2 | .06 | 15 | ND | ND | ND | ND | 165 | 4 | ND | 18 |
| 09084 | .2 | 1.03 | ND | ND | 64 | ND | 1.97 | .6 | 8 | 18 | 24 | 2.37 | .14 | .90 | 678 | 2 | .01 | 5 | .10 | 15 | ND | ND | ND | ND | 141 | 6 | ND | 25 |
| 09085 | .1 | .77 | ND | ND | 75 | ND | .80 | .4 | 5 | 9 | 840 | 1.82 | .11 | .43 | 340 | 13 | .01 | 2 | .07 | 14 | ND | ND | ND | ND | 268 | 4 | ND | 25 |
| 09201 | .1 | 1.32 | ND | ND | 52 | ND | 3.47 | 1.1 | 17 | 80 | 63 | 3.80 | .14 | 2.44 | 746 | 2 | .01 | 40 | .16 | 18 | ND | ND | ND | ND | 114 | 5 | 5 | 44 |
| 09207 | .1 | .27 | 21 | ND | 682 | ND | 3.45 | .9 | 16 | 10 | 950 | 4.19 | .16 | 2.09 | 908 | 13 | .01 | 24 | .18 | 23 | ND | ND | 4 | ND | 120 | 6 | ND | 56 |
| 09208 | 2.8 | 1.07 | 7 | ND | 43 | ND | 1.63 | 1.2 | 16 | 69 | 9895 | 2.94 | .13 | 1.19 | 372 | 4 | .01 | 28 | .19 | 21 | ND | ND | ND | 2 | 54 | 6 | ND | 36 |
| 09209 | 2.6 | .84 | 163 | ND | 39 | ND | 1.22 | .7 | 13 | 53 | 7541 | 2.74 | .12 | 1.02 | 285 | 5 | .01 | 22 | .20 | 18 | ND | ND | 3 | 1 | 50 | 5 | ND | 32 |
| 09211 | 2.8 | 1.20 | ND | ND | 30 | ND | 1.65 | .8 | 13 | 54 | 7016 | 2.73 | .12 | 1.27 | 512 | 3 | .01 | 22 | .19 | 21 | ND | ND | ND | ND | 44 | 7 | ND | 42 |
| 09212 | .2 | .93 | ND | ND | 77 | ND | .76 | .2 | 5 | 9 | 255 | 1.94 | .11 | .41 | 310 | 23 | .01 | 2 | .07 | 11 | ND | ND | ND | ND | 267 | 5 | ND | 17 |
| 09213 | 1.6 | .77 | ND | ND | 89 | ND | .90 | 1.0 | 11 | 68 | 2686 | 2.50 | .15 | .79 | 239 | 3 | .01 | 21 | .25 | 16 | ND | ND | ND | 1 | 35 | ND | ND | 26 |
| 09217 | 3.8 | .97 | 347 | ND | 35 | ND | 2.42 | .8 | 15 | 112 | 10098 | 2.94 | .13 | 1.21 | 446 | 16 | .01 | 32 | .16 | 21 | ND | ND | 48 | 1 | 77 | 5 | ND | 31 |
| 09218 | 8.2 | .76 | 8 | ND | 28 | ND | .74 | 1.1 | 11 | 72 | 18455 | 2.08 | .10 | 1.05 | 196 | 6 | .01 | 25 | .14 | 18 | ND | ND | 3 | 1 | 38 | ND | ND | 7 |
| 09219 | 6.8 | .85 | 6 | ND | 30 | ND | .83 | 1.0 | 13 | 93 | 14514 | 2.39 | .10 | 1.07 | 210 | 10 | .01 | 30 | .17 | 19 | ND | ND | 3 | 1 | 38 | ND | ND | 23 |
| 09220 | 1.5 | 1.60 | 5 | ND | 16 | ND | 3.35 | .5 | 12 | 50 | 2379 | 3.79 | .14 | 1.43 | 1122 | 14 | .01 | 30 | .18 | 84 | ND | ND | ND | ND | 94 | 8 | ND | 71 |
| 09221 | .9 | .86 | ND | ND | 45 | ND | 1.05 | .6 | 12 | 40 | 880 | 3.43 | .13 | .89 | 317 | 14 | .01 | 18 | .22 | 17 | ND | ND | 3 | 2 | 27 | 5 | ND | 33 |
| 09222 | 2.2 | .82 | ND | ND | 74 | ND | 1.92 | .5 | 11 | 54 | 2110 | 2.52 | .16 | 1.00 | 428 | 3 | .01 | 27 | .18 | 21 | ND | ND | ND | ND | 61 | 6 | ND | 29 |
| 09223 | .3 | .66 | 4 | ND | 113 | ND | 2.30 | .7 | 12 | 48 | 187 | 3.66 | .15 | 1.46 | 709 | 10 | .01 | 23 | .18 | 17 | ND | ND | 6 | ND | 137 | 6 | ND | 35 |
| 09225 | .3 | .55 | 9 | ND | 220 | ND | 2.72 | .7 | 11 | 36 | 255 | 3.14 | .14 | 1.54 | 747 | 4 | .01 | 19 | .16 | 18 | ND | ND | ND | ND | 121 | 5 | ND | 43 |
| 09227 | .4 | .40 | 10 | ND | 510 | 3 | 4.03 | .7 | 19 | 42 | 1139 | 4.29 | .16 | 2.53 | 1136 | 2 | .01 | 32 | .23 | 21 | ND | ND | 5 | ND | 202 | 7 | 3 | 62 |
| 09228 | 1.1 | 1.20 | 143 | ND | 32 | ND | 2.67 | .7 | 17 | 100 | 2456 | 3.42 | .14 | 1.78 | 515 | 30 | .01 | 39 | .17 | 23 | ND | ND | 4 | 2 | 101 | 10 | 6 | 42 |
| 09229 | 1.2 | .84 | 17 | ND | 31 | ND | 1.08 | .7 | 11 | 114 | 5014 | 2.10 | .12 | .96 | 235 | 115 | .01 | 25 | .11 | 19 | ND | ND | 5 | 1 | 37 | 4 | ND | 23 |
| 09231 | .3 | 1.18 | ND | ND | 54 | ND | 1.59 | .5 | 9 | 20 | 684 | 2.91 | .14 | 1.00 | 672 | 12 | .01 | 5 | .11 | 17 | ND | ND | ND | ND | 87 | 6 | ND | 37 |
| 09232 | 2.3 | .45 | 12 | ND | 11 | ND | .97 | .7 | 10 | 4 | 3149 | 1.63 | .20 | .27 | 371 | 67 | .01 | 3 | .06 | 24 | ND | ND | 7 | ND | 45 | 39 | ND | 32 |
| 09237 | .8 | .28 | ND | ND | 32 | ND | 1.27 | .5 | 3 | 25 | 2257 | .90 | .11 | .28 | 217 | 2 | .01 | 5 | .03 | 17 | ND | ND | ND | ND | 39 | 3 | ND | 16 |
| 09238 | .8 | 1.02 | ND | ND | 76 | 5 | 2.41 | .4 | 11 | 50 | 193 | 2.57 | .15 | 1.26 | 503 | 3 | .01 | 20 | .21 | 18 | ND | ND | ND | 2 | 91 | 6 | ND | 29 |
| 09239 | .5 | .54 | 5 | ND | 59 | ND | .72 | .4 | 7 | 23 | 793 | 2.37 | .12 | .51 | 295 | 8 | .01 | 4 | .15 | 18 | ND | ND | ND | ND | 39 | ND | ND | 32 |
| 09240 | .9 | .54 | 251 | ND | 21 | ND | 3.65 | .5 | 10 | 25 | 2057 | 2.45 | .14 | .73 | 758 | 7 | .01 | 12 | .28 | 18 | ND | ND | 5 | ND | 92 | 8 | ND | 32 |
| 09244 | 5.6 | .86 | 5 | ND | 50 | ND | .83 | 1.3 | 15 | 101 | 13583 | 2.54 | .15 | 1.20 | 225 | 26 | .01 | 32 | .16 | 18 | ND | ND | 4 | 2 | 44 | ND | ND | 20 |
| 09245 | 4.4 | .69 | 146 | ND | 35 | ND | 1.37 | 1.0 | 11 | 67 | 10353 | 2.18 | .14 | 1.00 | 277 | 6 | .01 | 25 | .17 | 22 | ND | ND | 4 | 1 | 57 | ND | ND | 20 |
| 09246 | 1.4 | .77 | 20 | ND | 28 | ND | 1.66 | .7 | 12 | 84 | 2493 | 2.30 | .13 | 1.18 | 382 | 5 | .01 | 25 | .12 | 21 | ND | ND | 4 | ND | 78 | 6 | ND | 27 |
| 09247 | .8 | .49 | 39 | ND | 50 | ND | 2.54 | .3 | 7 | 19 | 2792 | 1.79 | .13 | .49 | 466 | 3 | .01 | 9 | .07 | 18 | ND | ND | ND | ND | 82 | 6 | ND | 31 |
| 09248 | .7 | .67 | 19 | ND | 31 | ND | 3.33 | .7 | 12 | 50 | 1929 | 3.03 | .12 | 1.36 | 671 | 9 | .01 | 24 | .16 | 23 | ND | ND | 4 | ND | 82 | 3 | ND | 42 |
| DETECTION LIMIT | .1 | .01 | 3 | 3 | 1 | 3 | .01 | .1 | 1 | 1 | 1 | .01 | .01 | .01 | 1 | 1 | .01 | 1 | .01 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

CLIENT: COLIN CAMPBELL JOB#: 85555 PROJECT: -- REPORT: 85-25-016 DATE: 85/11/15 

| SAMPLE NAME | AG PPM | AL % | AS PPM | AU PPM | BA PPM | BI PPM | CA % | CD PPM | CO PPM | CR PPM | CU PPM | FE % | K % | MG % | MN PPM | MO PPM | NA % | NI PPM | P % | PB PPM | PD PPM | PT PPM | SB PPM | SN PPM | SR PPM | U PPM | W PPM | ZN PPM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09249 | .6 | .83 | 4 | ND | 30 | ND | .99 | .3 | 10 | 35 | 517 | 2.28 | .09 | 1.17 | 334 | 2 | .01 | 14 | .14 | 15 | ND | ND | ND | 2 | 52 | 5 | ND | 38 |
| 09250 | .1 | .08 | ND | ND | 13 | ND | .36 | .1 | 1 | 10 | 355 | .47 | .05 | .09 | 116 | ND | .01 | 2 | .01 | 5 | ND | ND | ND | ND | 14 | ND | ND | 7 |
| 09202 | .3 | .40 | 102 | ND | 80 | ND | 2.58 | .3 | 10 | 28 | 705 | 3.09 | .15 | 1.34 | 741 | 3 | .01 | 14 | .18 | 10 | ND | ND | ND | ND | 71 | 7 | ND | 41 |
| 09203 | .2 | .72 | 40 | ND | 359 | ND | 3.27 | .4 | 13 | 65 | 332 | 3.82 | .13 | 2.13 | 1000 | 2 | .01 | 32 | .16 | 13 | ND | ND | ND | ND | 104 | 6 | 7 | 52 |
| 09204 | .3 | .88 | 7 | ND | 173 | 3 | 2.72 | .5 | 14 | 74 | 302 | 3.76 | .13 | 2.24 | 966 | 3 | .01 | 33 | .14 | 16 | ND | ND | ND | ND | 76 | 10 | 7 | 69 |
| 09205 | .2 | .33 | 55 | ND | 479 | ND | 3.04 | .6 | 14 | 24 | 685 | 4.35 | .14 | 1.93 | 964 | 5 | .01 | 27 | .17 | 15 | ND | ND | ND | ND | 98 | 5 | ND | 63 |
| 09206 | .2 | .49 | 12 | ND | 207 | ND | 2.96 | .4 | 15 | 46 | 450 | 4.13 | .15 | 1.96 | 957 | 3 | .01 | 29 | .19 | 14 | ND | ND | ND | ND | 129 | 5 | ND | 56 |
| 09210 | 4.3 | .83 | 8 | ND | 53 | ND | 1.12 | .5 | 11 | 41 | 8754 | 2.51 | .10 | .87 | 249 | 3 | .01 | 18 | .19 | 13 | ND | ND | ND | 3 | 43 | ND | ND | 28 |
| 09214 | 1.2 | .44 | 3 | ND | 29 | ND | .60 | .1 | 8 | 15 | 1937 | 2.72 | .12 | .45 | 184 | 2 | .01 | 7 | .22 | 13 | ND | ND | ND | 2 | 14 | ND | ND | 31 |
| 09215 | .9 | 1.03 | 101 | ND | 23 | ND | 1.51 | .5 | 12 | 120 | 2151 | 2.61 | .10 | 1.23 | 307 | 3 | .01 | 29 | .15 | 11 | ND | ND | ND | 3 | 61 | 4 | ND | 31 |
| 09216 | 1.6 | .54 | 76 | ND | 16 | ND | 1.39 | .4 | 8 | 66 | 4960 | 1.37 | .10 | .78 | 230 | 8 | .01 | 17 | .15 | 9 | ND | ND | 3 | 2 | 60 | 7 | ND | 19 |
| 09224 | .3 | .44 | ND | ND | 297 | 5 | 3.22 | .4 | 15 | 45 | 357 | 3.64 | .15 | 1.94 | 909 | 2 | .01 | 26 | .19 | 11 | ND | ND | ND | ND | 164 | 8 | ND | 50 |
| 09226 | .3 | .36 | 8 | ND | 285 | ND | 2.94 | .4 | 15 | 29 | 620 | 3.60 | .15 | 2.00 | 839 | 17 | .01 | 30 | .19 | 12 | ND | ND | ND | ND | 152 | 4 | ND | 49 |
| 09230 | 1.2 | 1.06 | 7 | ND | 26 | ND | 1.29 | .5 | 14 | 146 | 5046 | 2.52 | .10 | 1.32 | 292 | 128 | .01 | 30 | .10 | 12 | ND | ND | 4 | 5 | 43 | 3 | ND | 33 |
| 09233 | .6 | .46 | ND | ND | 15 | ND | 1.54 | .1 | 4 | 49 | 1599 | 1.16 | .13 | .17 | 506 | 49 | .10 | 3 | .05 | 8 | ND | ND | ND | ND | 57 | 7 | ND | 28 |
| 09234 | .8 | .46 | ND | ND | 27 | ND | 1.08 | .2 | 6 | 33 | 1567 | 1.64 | .09 | .51 | 226 | 7 | .01 | 10 | .12 | 12 | ND | ND | ND | 2 | 39 | 5 | ND | 17 |
| 09235 | 1.0 | .61 | 18 | ND | 30 | ND | 1.23 | .3 | 8 | 54 | 2125 | 2.63 | .11 | .68 | 237 | 14 | .01 | 14 | .18 | 12 | ND | ND | ND | 2 | 47 | 4 | ND | 21 |
| 09236 | .7 | .44 | 108 | ND | 31 | ND | 3.76 | .3 | 6 | 35 | 2161 | 1.49 | .10 | .57 | 586 | 23 | .01 | 10 | .08 | 12 | ND | ND | ND | ND | 102 | 7 | ND | 19 |
| 09241 | .8 | .63 | 192 | ND | 57 | ND | 3.32 | .2 | 9 | 43 | 1833 | 2.35 | .13 | .68 | 642 | 10 | .01 | 12 | .16 | 11 | ND | ND | 3 | 2 | 91 | 7 | ND | 30 |
| 09242 | .8 | .57 | 64 | ND | 38 | ND | 5.38 | .3 | 8 | 8 | 3346 | 1.69 | .09 | .59 | 951 | 17 | .01 | 7 | .10 | 10 | ND | ND | ND | 2 | 117 | 4 | ND | 23 |
| 09243 | .8 | .79 | 28 | ND | 67 | ND | .67 | .3 | 10 | 38 | 3416 | 1.84 | .09 | .47 | 150 | 9 | .01 | 12 | .07 | 9 | ND | ND | ND | 1 | 48 | ND | ND | 28 |
| DETECTION LIMIT | .1 | .01 | 3 | 3 | 1 | 3 | .01 | .1 | 1 | 1 | 1 | .01 | .01 | .01 | 1 | 1 | .01 | 1 | .01 | 2 | 3 | 5 | 2 | 2 | 1 | 5 | 3 | 1 |

## FALCONBRIDGE
### DIAMOND DRILL RECORD

PROPERTY: CHUCHI LAKE OPTION
P.N. 161

NORTH 89,801.60 | STARTED July 29, 1971
EAST 51,926.97 | COMPLETED August 6, 1971
ELEV. 3528.44 ft. | LENGTH 587 ft.
BEARING 227°12'
DIP Collar = -59°19'; 300'= -60°; 587'= -61° (Acid Test)

PURPOSE Geology
Test deeper extent of zone intersected in DDH #13.
LOGGED BY G. Harper
Drilled by S & H - AQ

HOLE No. 21
CLAIM Col. #7
SECTION 20E; 0-10S & 10-20S
OFFSET
PLOTTED

## FALCONBRIDGE
### DIAMOND DRILL RECORD

PROPERTY: CHUCHI LAKE OPTION
P.N. 161

NORTH 92,8,8.82 | STARTED July 1, 1971
EAST 50,268.67 | COMPLETED July 3, 1971
ELEV. | LENGTH 350 ft.
BEARING 051°36'
DIP Collar -46°20'; 350' = -47° (Acid Test)

PURPOSE Check IP and EM 16 anomalies. Determine geology and grade under Campbell's trenches
LOGGED BY ~~G. Harper~~
Drilled by S & H - AQ

HOLE No. 17
CLAIM Col #3 and 4
SECTION 13W; 0-10N
OFFSET
PLOTTED

## FALCONBRIDGE
### DIAMOND DRILL RECORD

PROPERTY: CHUCHI LAKE OPTION
P.N. 161

NORTH 89,686.60 ft | STARTED June 6, 1971
EAST 51,797.97 ft. | COMPLETED June 10, 1971
ELEV. 3508.15 ft. | LENGTH 438 ft.
Dip ~~BEARING~~ Collar -60°16'; 250'-61°; 438'-60°
~~DIP~~ Bearing 223°44'

PURPOSE Intersect sulphide zone extension. Check IP anomaly. Geology
LOGGED BY G. Harper
Drilled by S & H - AQ

HOLE No. 13
CLAIM Col 7
SECTION 20E, 10-20S
OFFSET
PLOTTED

## FALCONBRIDGE
### DIAMOND DRILL RECORD

PROPERTY: CHUCHI LAKE OPTION
P.N. 161

NORTH 89,852.58 | STARTED May 30, 1971
EAST 51,711.80 | COMPLETED June 4, 1971
ELEV. 3528.10 ft. | LENGTH 540 ft.
BEARING 233°19'
DIP Collar -56°36'; 250'-53°; 540'-50°

PURPOSE Intersect Cu ore extension, Check I.P. anomaly Geological Info
LOGGED BY G. Harper
Drilled by S & H - AQ

HOLE No. 12
CLAIM Col 7
SECTION 18E, 10-20S
OFFSET
PLOTTED

# FALCONBRIDGE

## DIAMOND DRILL RECORD

PROPERTY

CHUCHI LAKE OPTION
P.N. 161

| | | | |
|---|---|---|---|
| RTH | 89,860.23 | STARTED | May 18, 1971 |
| T | 51,394.00 | COMPLETED | May 22, 1971 |
| V. | 3520.27 ft | LENGTH | 256' |
| RING | 228°00' | | |

-62°02' 256' = -63° - Acid Test

| | | | |
|---|---|---|---|
| PURPOSE | Geological Information & Cu grade détermination | HOLE No. | 9 |
| | | CLAIM | Col 7 |
| | | SECTION | 16E, 10-20S |
| LOGGED BY | G. Harper | OFFSET | |
| | | PLOTTED | |

Appendix E

## 17-178 ALTERED QUARTZ MONZONITE WITH QUARTZ CARBONATE BORNITE VEIN

Although fresh looking in hand specimen this sample is a sheared and strongly altered intrusive rock, especially near the 2 to 3 mm wide quartz carbonate bornite veins.

| | |
|---|---|
| K-spar | 40% |
| Plagioclase | 20% |
| Biotite | 10-12% |
| Quartz | 6-10% |
| Carbonate | 6-8% |
| Bornite | 5-6% |
| Chlorite | 5% |
| Sericite | 5% |
| Fe oxide | 1-2% |
| Actinolite | 1% |

The K-spar is patchily altered to carbonate and kaolinized. Plagioclase is sericitized some with dusty red [exsolved hematite?]. All are fractured and cut by the late quartz veins. Biotite is fresh [after horneblende?] and seems concentrated near quartz veins. Actinolite occurs as several 1mm felted needle like masses.

Sequence of deposition in the veins is quartz, carbonate then bornite. Bornite also occurs with biotite disseminated throughout the wall rock.

Appendix E

17-168 BRECCIATED QUARTZ CARBONATE VEIN

This sample consists of fragments of older quartz veins, ground up monzonite all cemented and replaced by by carbonate; some of the carbonate is dark colored and has high relief and is likely siderite. Voids lined with drusy carbonate crystals,along with 0.5mm to 3mm veins of calcite are the last minerals deposited.

| | |
|---|---|
| Carbonate | 75% |
| Quartz | 18% |
| Feldspar | 5% |
| Hematite | 1% |
| Apatite[?] | 1% |
| Voids | 1% |

Quartz fragments up to 2mm by 6mm are not rotated but cut f.g. carbonate. The fragments consist of .05 to .25mm grains of quartz [from grinding?]and contain no alteration. Other quartz fragments contain 90% dark carbonate with high relief.

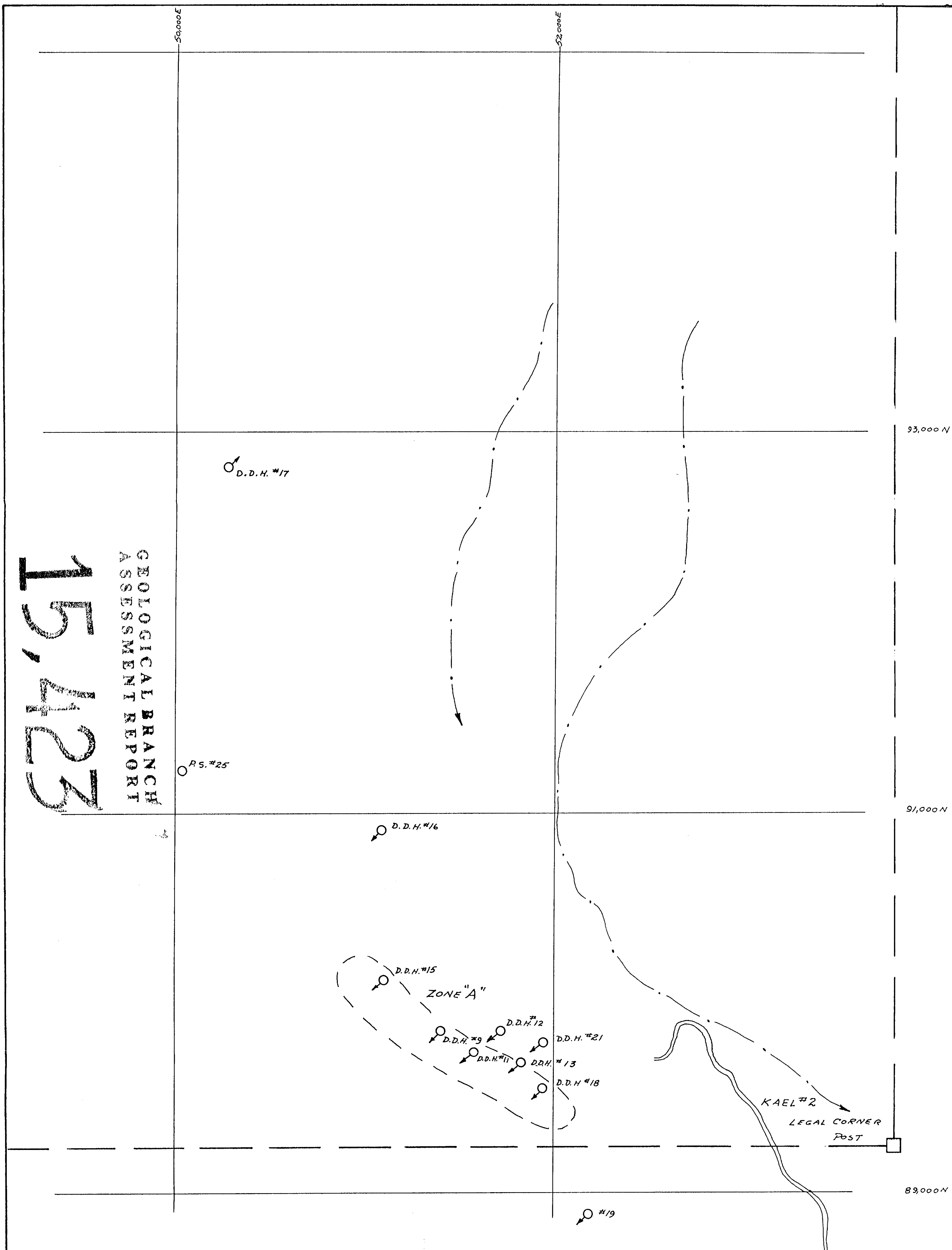
Late veins are calcite.

17-180 QUARTZ VEINS

This sample consists of two 1 cm wide quartz veins with a slice of brecciated and highly altered quartz monzonite sandwiched between the veins.

| | |
|---|---|
| Quartz | 50-60% |
| Carbonate | 20-25% |
| K-spar | 8-10% |
| Plagioclase | 5-6% |
| Chlorite | 3-5% |
| Sericite | 3-5% |
| Apatite | 1% |
| Hematite | 1% |

The quartz veins are layered [sheared?] with extremely fine grained to 1 mm grains of quartz patchily replaced by carbonate; they contain no sulfides. The wall rock is strongly altered to quartz [20%], the K-spar is patchily altered to carbonate and clay with the plagioclase being sericitized. Chlorite exists as fine grained areas in the wall rock. The feldspars are partly mermakitic.
Late quartz- carbonate veins to 0.5 mm cut older quartz veins and wall rock.




COL GROUP - LITHOGEOCHEMICAL SURVEY

DIAMOND DRILL HOLE LOCATIONS

TO ACCOMPANY REPORT BY C.CAMPBELL

DIAMOND DRILL HOLE WITH BEARING
CLAIM BOUNDARY
LEGAL CORNER POST
STREAM
CAT "TOTE" ROAD

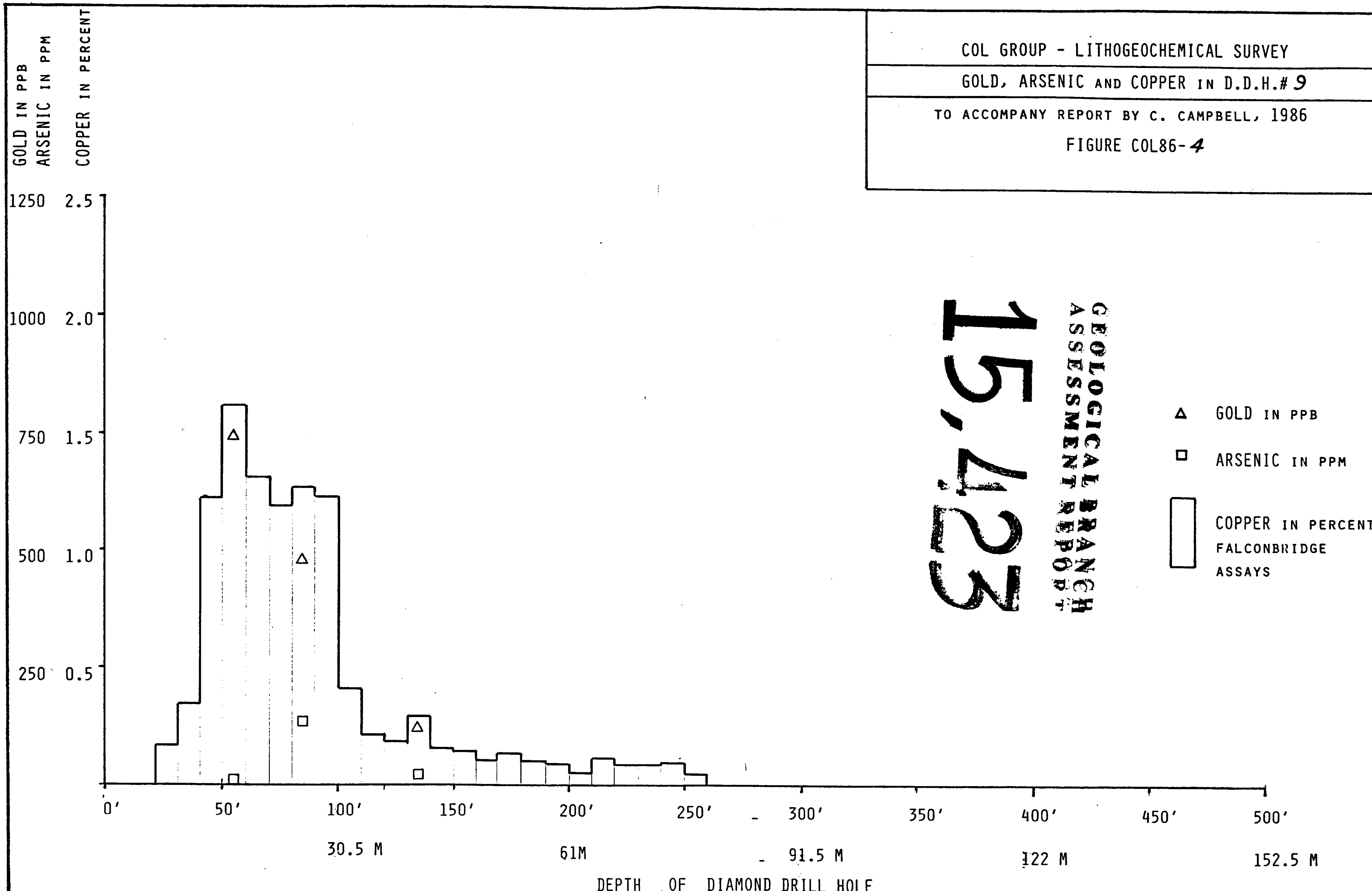
FIG. COL 86-3

COL GROUP - LITHOGEOCHEMICAL SURVEY

GOLD, ARSENIC AND COPPER IN D.D.H.# 9

TO ACCOMPANY REPORT BY C. CAMPBELL, 1986

FIGURE COL86-4

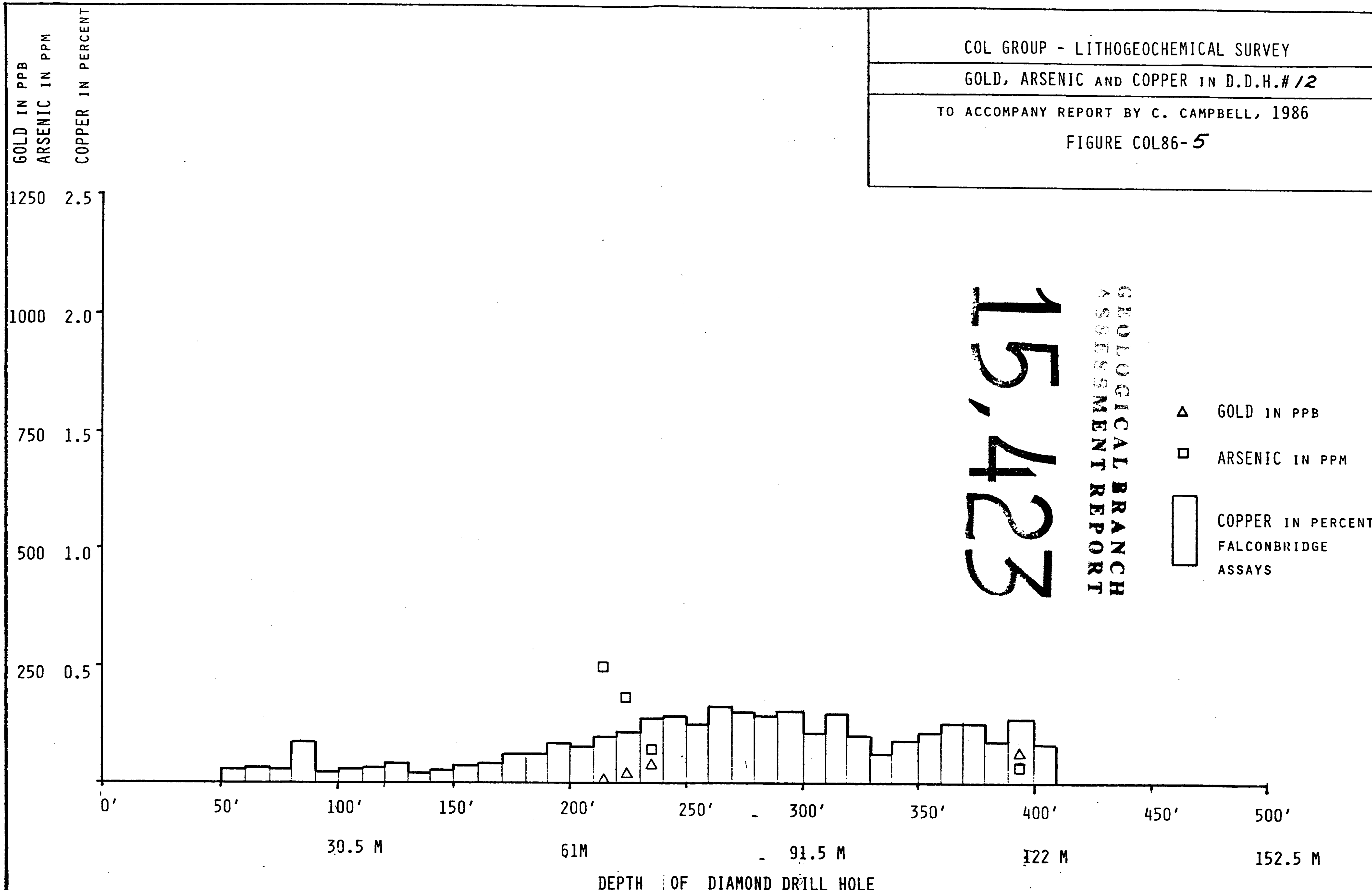


COL GROUP - LITHOGEOCHEMICAL SURVEY

GOLD, ARSENIC AND COPPER IN D.D.H.# 12

TO ACCOMPANY REPORT BY C. CAMPBELL, 1986

FIGURE COL86-5

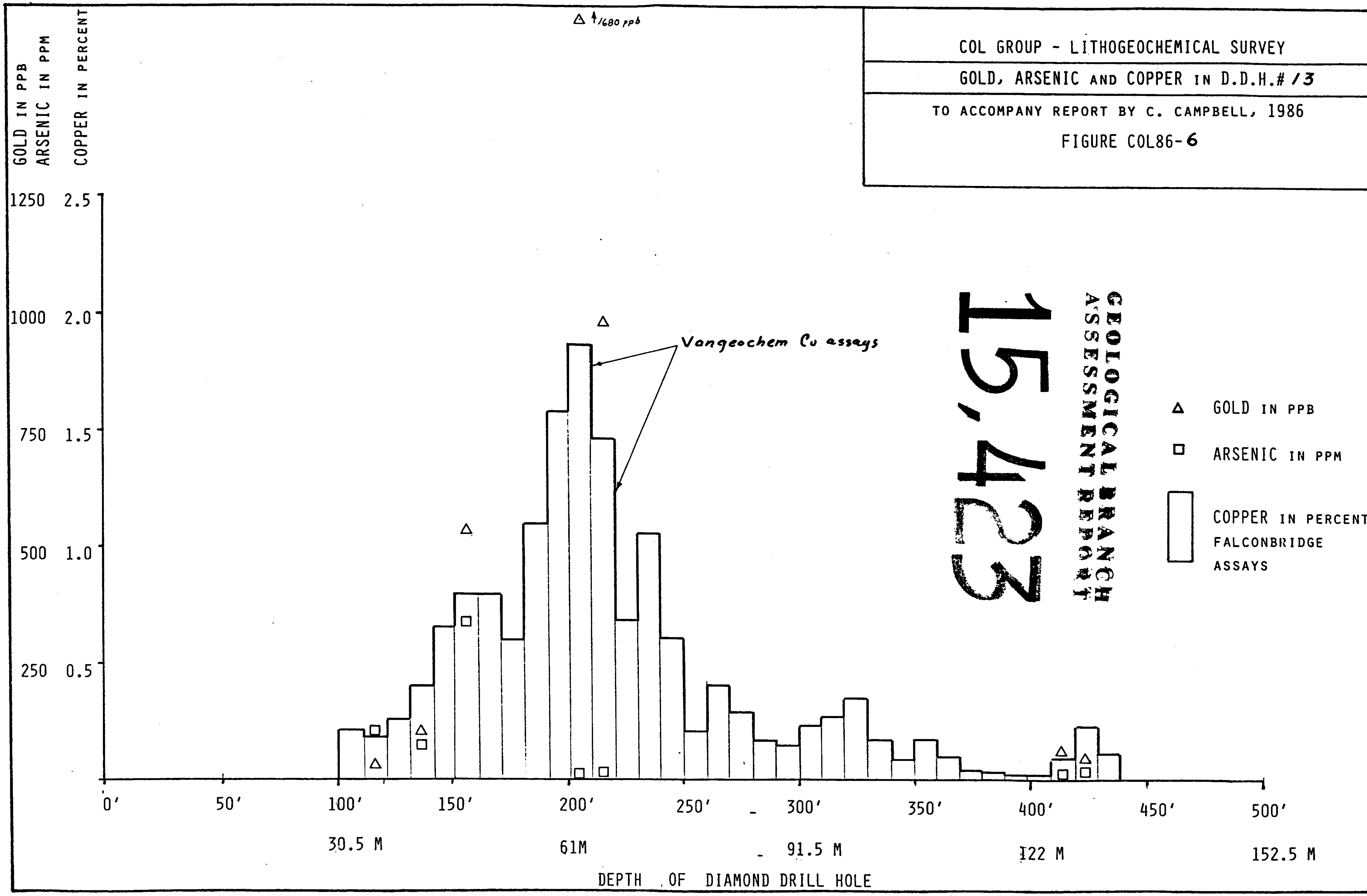


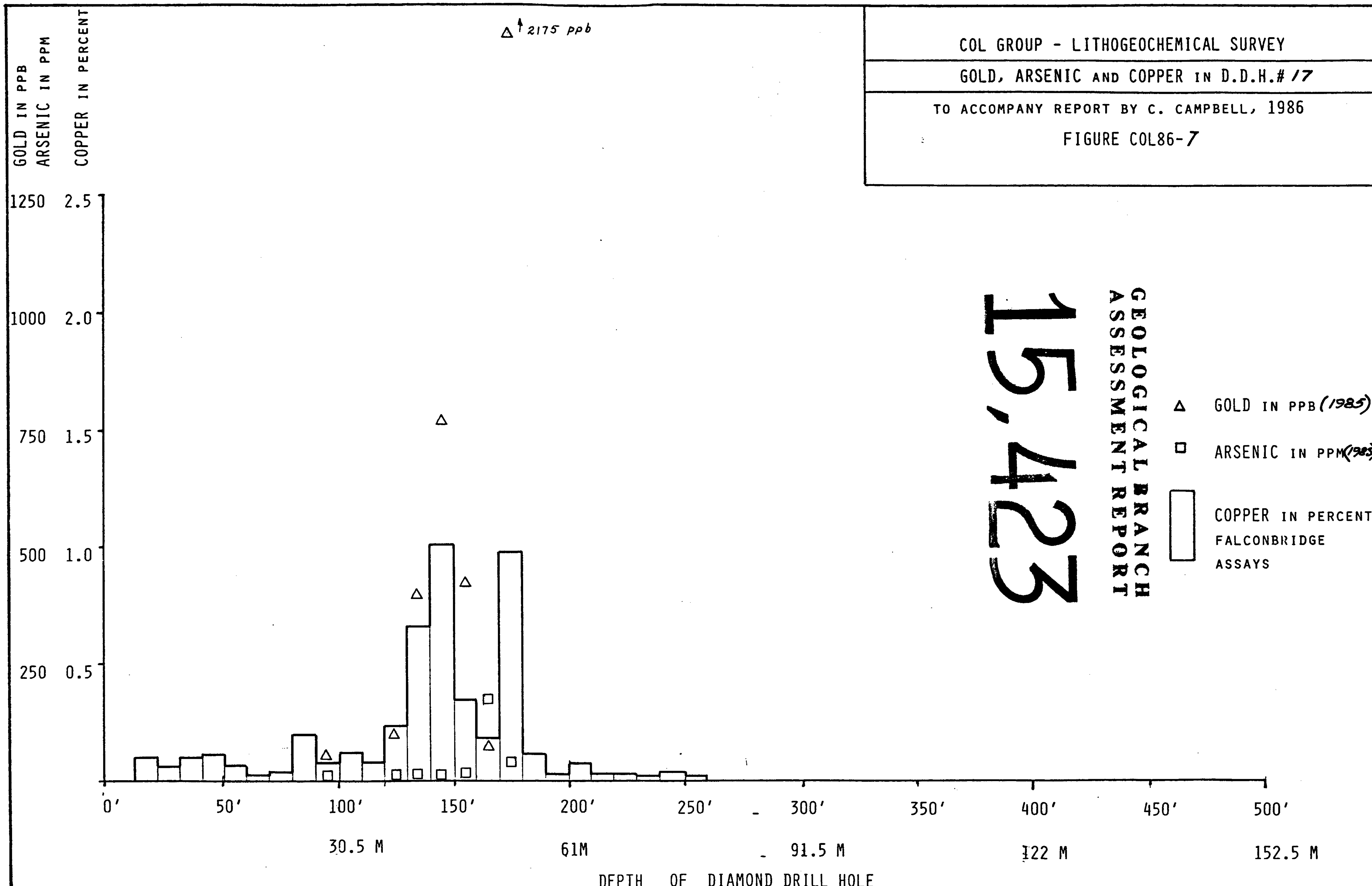
COL GROUP - LITHOGEOCHEMICAL SURVEY

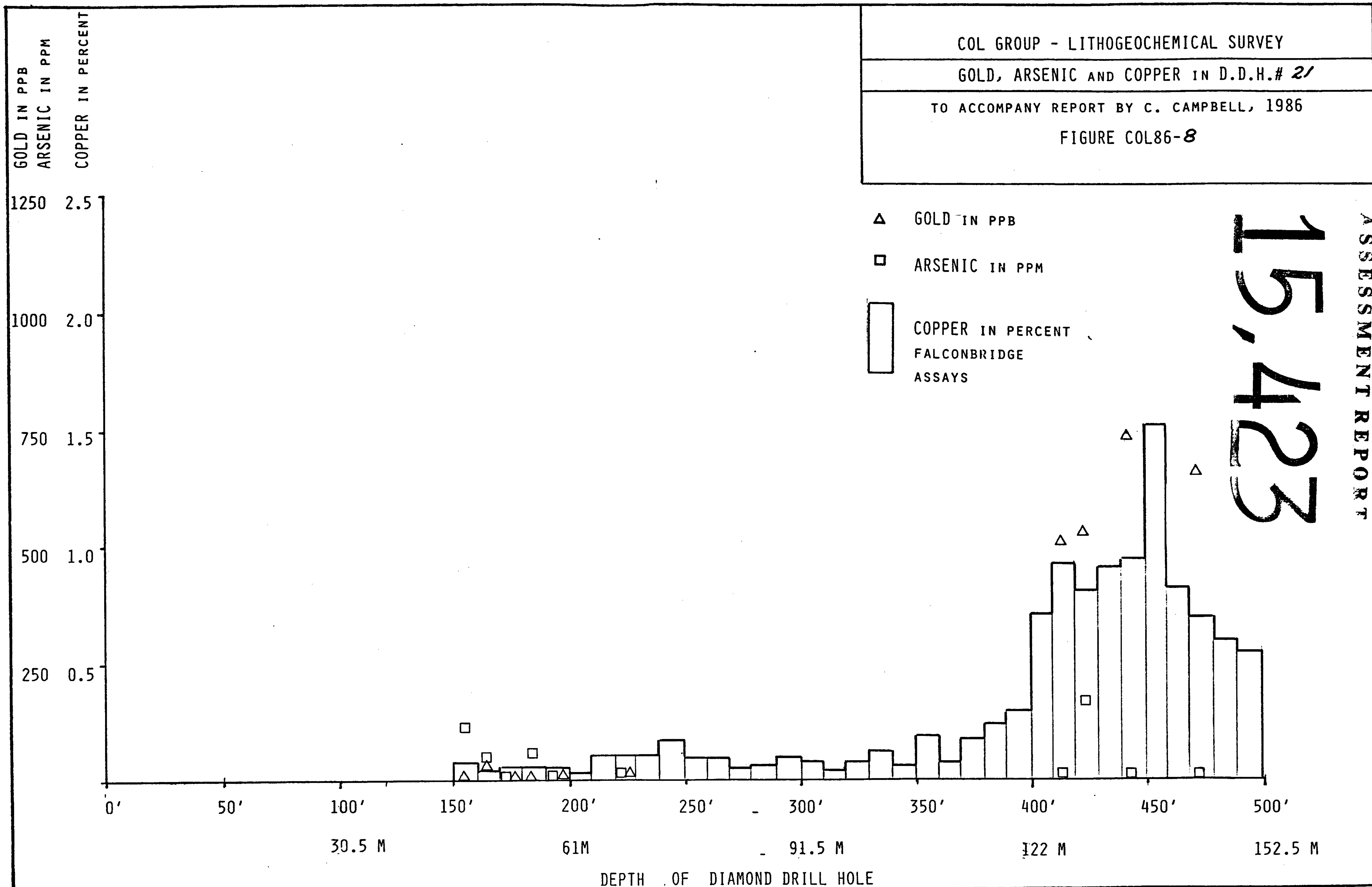
GOLD, ARSENIC AND COPPER IN D.D.H.# 13

TO ACCOMPANY REPORT BY C. CAMPBELL, 1986

FIGURE COL86-6




COL GROUP - LITHOGEOCHEMICAL SURVEY
GOLD, ARSENIC AND COPPER IN D.D.H.# 17
TO ACCOMPANY REPORT BY C. CAMPBELL, 1986
FIGURE COL86-7
GOLD IN PPB
ARSENIC IN PPM
COPPER IN PERCENT
2175 ppb
1250 2.5
1000 2.0
750 1.5
500 1.0
250 0.5
0' 50' 100' 150' 200' 250' 300' 350' 400' 450' 500'
30.5 M 61M 91.5 M 122 M 152.5 M
DEPTH OF DIAMOND DRILL HOLE
GOLD IN PPB (1985)
ARSENIC IN PPM (1985)
COPPER IN PERCENT FALCONBRIDGE ASSAYS
GEOLOGICAL BRANCH ASSESSMENT REPORT
15,423


COL GROUP - LITHOGEOCHEMICAL SURVEY
GOLD, ARSENIC AND COPPER IN D.D.H.# 21
TO ACCOMPANY REPORT BY C. CAMPBELL, 1986
FIGURE COL86-8
GOLD IN PPB
ARSENIC IN PPM
COPPER IN PERCENT
1250 2.5
1000 2.0
750 1.5
500 1.0
250 0.5
GOLD IN PPB
ARSENIC IN PPM
COPPER IN PERCENT
FALCONBRIDGE
ASSAYS
0' 50' 100' 150' 200' 250' 300' 350' 400' 450' 500'
30.5 M 61M 91.5 M 122 M 152.5 M
DEPTH OF DIAMOND DRILL HOLE