

Houston Metals Corporation

Houston Metals Corporation

Corporate Directory

Corporate Offices

#910 – 800 West Pender Street Vancouver, B.C. V6C 2V6 Phone (604) 683-4245 Fax (604) 683-8366

Transfer Agent

Guaranty Trust Company of Canada 800 West Pender Street Vancouver, B.C. V6C 2V7

Guaranty Trust Company of Canada 88 University Avenue Toronto, Ontario M5J 1T8

Shares Listed

Vancouver Stock Exchange Trading Symbol "HML.V" O.T.C. – U.S.A.

Cover Photograph: Thin section of mineral sample from the Camp Vein, Silver Queen Mine, B.C. This mineral is pyrargyrite, also known as ruby silver, [Ag₃ Sb S₃]

Observations: Silver is concentrated in the rhodochrosite-rich and carbonaceous zones of the Camp Vein. There it occurs in acanthite, pyrargyrite, Ag-rich tetrahedrite (as much as 20% Ag), and tennantite (0.1% Ag). These silver-rich zones appear to be fairly late in the paragenetic sequence. Acanthite and particularly pyrargyrite (ruby silver) generally indicate moderate to low temperature conditions (175 – 225°C) in epithermal deposits.

HOUSTON METALS CORPORATION

Suite 910 - 800 West Pender Street Vancouver, B.C., Canada V6C 2V6 Telephone: (604) 683-4245

Facsimile: (604) 683-8366

February 2, 1988

Dear Sir/Madam:

Re: Silver Queen Mine, B.C.

The enclosed material provides a brief summary of the progress made by Houston Metals Corporation (Houston) at the Silver Queen Mine over the last 18 months.

Currently an active exploration program is being carried out which should expand the proven and probable reserves and improve the gold and silver grades over the figures shown in the attached material.

The attached material consists of:

- A) Corporate fact sheet and property map;
- B) Synopsis of base production case as developed by James Wade Engineering Ltd. and Houston's staff;
- C) Complete analyses of Cu-Pb-Zn concentrates as developed by Lakefield Research and letter from Dowa indicating saleability of copper concentrate.
- D) Abstract Lakefield Research Progress Report No.1;
- E) Mill flow-sheet base production case;
- F) Circuit and comparative analysis of pyrite scavenging (being tested);
- G) A breakdown of proven and probable ore by vein structures;
- H) Graph depicting difference in recovery at current prices;

I) Recent news releases.

Yours truly,

HOUSTON METALS CORPORATION

Per:

President

AAP/dc encls.

HOUSTON METALS CORPORATION CORPORATE FACT SHEET

Shares Listed

Vancouver Stock Exchange Trading Symbol "HML.V" OTC - USA

Capitalization

Authorized capitalization - 50,000,000 common shares

<u>Issued and outstanding</u> - 8,987,339 common shares 315,565 shares of the company are escrowed subject to release pursuant to the regulations of the Vancouver Stock Exchange.

Approximately 3,000,000 shares have been issued to First Exploration Fund 1986/87, National Exploration Fund 1987 and Vanguard Mining Exploration Limited Partnership, for flow-through funds provided. An additional 1,486,710 flow-through shares will be issued for monies committed by the Funds and to be expended by Houston before month end February 1988.

Directors

Adolf A. Petancic - President/Director J. Michael Mackey - Secretary/Director Hugh G. Farris - Director John Petancic - Director George O. M. Stewart - Director

Financial Information

Approximately \$7,200,000 (Cdn.) has been raised by Houston for exploration and development of the Silver Queen Mine since Houston's shares were listed on the Vancouver Stock Exchange in late October 1986. The majority of the funds have been provided by flow-through financings from First Exploration Fund (sponsored by Merrill Lynch/Dominion Securities Inc.), National Exploration Fund and Vanguard Mining Exploration Fund; the balance of the funds were raised by a public financing on the Vancouver Stock Exchange and private placements, \$1,300,000 is currently on hand.

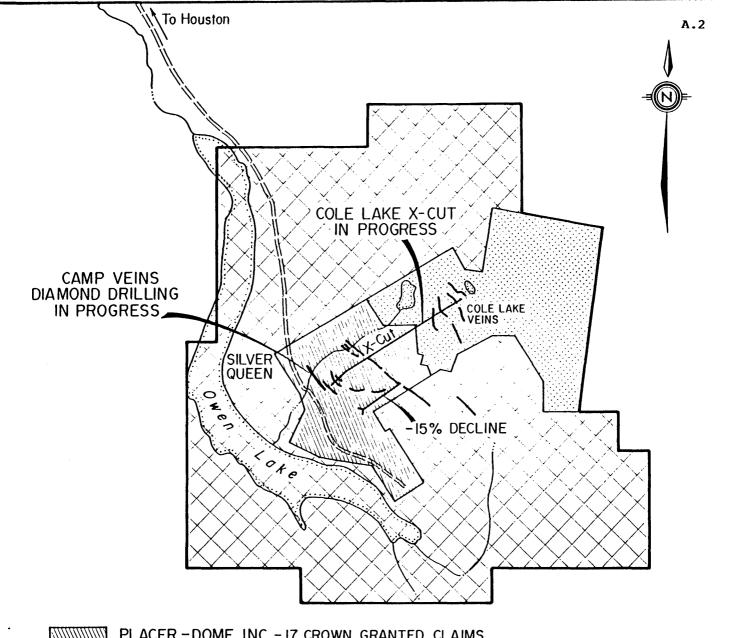
Silver Queen Mine

Houston is the operator of the Silver Queen Mine and has a 60% interest. Upon completion of the feasibility study (expected by June, 1988) New Nadina will have to contribute 40% of the development costs to retain its 40% interest. If New Nadina participate, Houston will receive 80% of all production until 2.5 times of Houston's exploration expenditures are repaid.

If New Nadina does not participate in the development, its interest will be reduced to a 10% or 20% net profit interest depending on the location of production.

Registrar and Transfer Agent

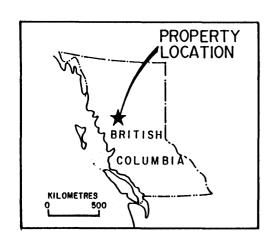
Guaranty Trust Company of Canada 800 West Pender Street Vancouver, B.C. V6C 2V7 Guaranty Trust Company of Canada 88 University Avenue Toronto, Ontario M5J 1T8



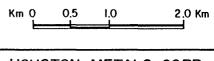
PLACER - DOME INC. - 17 CROWN GRANTED CLAIMS - OPTIONED TO NEW NADINA AND HOUSTON METALS

PETROMAC ENERGY INC. - 23 CLAIMS
- OPTIONED TO HOUSTON METALS

NEW NADINA EXPLORATION LTD. - 9 CLAIMS (94 UNITS)
-AGREEMENT WITH HOUSTON METALS







HOUSTON METALS CORP.

PROPERTY MAP
SILVER QUEEN
MINE

Scale. 1:50,000 Date. Jan. 1988

HOUSTON METALS CORPORATION

Suite 910 - 800 West Pender Street Vancouver, B.C., Canada V6C 2V6

Telephone: (604) 683-4245 Facsimile: (604) 683-8366

SILVER QUEEN MINE B.C.

SYNOPSIS OF BASE PRODUCTION CASE

All monetary amounts are stated in Canadian Dollars unless otherwise indicated.

Reserves

Diluted proven & probable Possible

765,165 tons 833,075 tons

Total:

1,598,240 tons

Grade

| Au (| Ag oz/ton | <u>In</u>) | <u>Cu %</u> | <u>Pb %</u> | <u>Zn %</u> | Ge ppm |
|---------|--------------|-------------|-------------|-------------|-------------|--------|
| 0.093 | 9.920 | 0.5 | .625 | 1.410 | 6.490 | 50 |

Mining

Rate:

700 tons/day, 5 days/week, 250 days/yr.

Method: cut and fill, recycle tailings plus crushed rock and gravel into mine.

Production: 175,000 tons/year.

Milling

Rate:

500 tons/day, 7 days/week, 350 days/year

· Production:

| Concentrate | Copper | Lead | Zine |
|----------------|--------|-------|--------|
| Weight tons/yr | 4,100 | 3,800 | 18,000 |

Metals

| Base Case | Cu lb/yr | Pb, lb/yr | Zn lb/yr | Au oz/yr | Ag oz/yr | Ge kg/yr | ln oz/yr |
|--|-----------|-----------|------------|-----------------|----------------------|----------|----------|
| | 2,132,000 | 3,952,000 | 21,600,000 | 9,800 | 1,093,000 | 1,800 | 78,000 |
| *Pyrite scavenging pre- aeration with lime + Pb(No ₃) ₂ followed by cyanidation | | | | 9,800 19,600 | 137,000 1,230,000 | | |
| | | | | | | | |

^{*}Addition of pyrite scavenging circuit will require further capital costs entails more operating costs than shown in the base case but will recover more gold and silver in addition to the base case. This process is working at the Equity Silver Mine and will be tested at the Silver Queen Mine.

2,000,000

2,486,000

25,000,000

Metals by value are distributed in the ore as follows, assuming enhanced recovery but no values given for Ge and In:

| | | Copper | Lead | Zine | Gold | Silver | | | | |
|------|--|--|---------------|--|----------------|---------------------|--|--|--|--|
| % of | f Total | 9.13 | 4.68 | 30.83 | 29.46 | 25.89 | | | | |
| | | | | | | | | | | |
| Dire | et Mining & Mil | lling Cost Es | timates | | | | | | | |
| a) | Mining Exploration co Deferred deve Stope prepara Stope producti | lopment cos tion cost/tor ion cost/ton | | \$ 5.87 \$ 4.80 \$10.32 \$36.40 | | | | | | |
| | Total direct m | ining cost/t | on | | | <u>\$57.39</u> | | | | |
| b) | Milling cost/to | on | | | \$21.35 | | | | | |
| | Total direct M | lining and M | illing cost p | per ton | <u>\$78.74</u> | | | | | |
| | | | | | | Base <u>Case</u> | Pyrite Scavenging | | | |
| | s metal value a | | | | | | | | | |
| | ing cycle per to ges, penalties a | | | | | \$194.61 | \$236.20 | | | |
| Tota | ıl/yr 175,000 x | | | <u>\$34,053,715</u> | | | | | | |
| Cap | ital Cost Estima | ite | | | | | | | | |
| | Mill & Building Mining Equipm B.C. Hydro Po | ient | | | | | \$15,514,000 4,000,000 1,000,000 | | | |

CAPITAL CONTRIBUTION

Case A - New Nadina contributes to capital cost.

Upgrading of Tailings Pond

Contingency

Total Capital Cost

Houston receives cash flow from 80% of all production until approximately \$15,000,000 is repaid and then its interest is reduced to 60%

Case B - New Nadina does not contribute to capital cost.

Houston receives between 70% - 91.5% of all production during the life of the mine.

file:1223BE

HOUSTON METALS CORPORATION

Schedule of Copper, Zinc and Lead Concentrate Analyses,
(dry basis)

January 20, 1988

| ,* | | Copper | Zinc | Lead |
|-----------------|-------------|---------------|---------------|---------------|
| | | Concentrate | Concentrate | Concentrate |
| | | (unroasted) | | |
| ANNUAL QUANTITY | - approx. | 4.100 ast | 18.000 dst | 3,800 dst |
| ELEMENT | | | | |
| Copper | C u % | 26.0000 | 0.5000 | 0.9000 |
| Lead | Pb % | 1.9000 | 0.5000 | 52.0000 |
| Zinc | Zn % | 6.0000 | 60.0000 | 7.3000 |
| Iron | Fe % | 17.8000 | 2.4000 | 6.0500 |
| Nickel | N i % | < 0 . 0 0 2 0 | < 0 . 0 0 2 0 | < 0 . 0 0 2 0 |
| Bismuth | Bi % | 0.2000 | 0.0080 | 1.0600 |
| Cadmium | Ca % | 0.0600 | 0.3400 | 0.0430 |
| Indium | In ppm | 40.0000 | 140.0000 | < 20.0000 |
| Manganese | Mn % | 0.5400 | 0.7000 | 0.8800 |
| Mercury | Hg % | 0.0017 | 0.0050 | 0.0015 |
| Arsenic | A s % | 5.6500 | 0.1300 | 0.3300 |
| Antimony | S b % | 3.0200 | 0.0650 | 0.2800 |
| Tin | Sn % | < 0 . 0 0 2 0 | 0.0000 | < 0 . 0 0 2 0 |
| Selenium | S e % | 0.0020 | < 0 . 0 0 3 0 | 0.0030 |
| Tellurium | T e % | 0.0008 | < 0 . 0 0 0 3 | 0.0030 |
| Fluorine | F % | 0.0630 | 0.0400 | 0.0190 |
| Chlorine | C 1 % | 0.0040 | 0.0090 | 0.0100 |
| Sulphur | S % | 32.3000 | 31.7000 | 19.2000 |
| Carbon | C % | 0.0460 | 0.0240 | 0.0050 |
| Phosphorus | P2 05 % | 0.4000 | 0.4800 | 0.5400 |
| Silica | Si 02 % | 2.4300 | 3.1900 | 2.3100 |
| Alumina | A 1 2 O 3 % | 0.1200 | 0.0680 | 0.1600 |
| Lime | Ca O % | 0.0830 | 0.0680 | 0.1600 |
| Magnesia | Mg 0 % | 0.0600 | 0.0800 | 0.0600 |
| Sodium | Na2 0 % | < 0 . 0 0 2 0 | < 0 . 0 0 2 0 | < 0 . 0 0 2 0 |
| Platinum | Pt % | < 0 . 1 0 0 0 | < 0.1000 | < 0 . 1 0 0 0 |
| Palladium | P1 % | < 0.0500 | < 0.0500 | < 0 . 0 5 0 0 |
| Gold | Au oz/ton | 0.6800 | 0.0800 | 1.4800 |
| Silver | Ag oz/ton | 166.7000 | 6.0000 | 79.5000 |
| Germanium | Ge ppm | 80.0000 | 92.0000 | |
| Gallium | Ga ppm | 2.0000 | 19.0000 | |

2. /



DOWA MINING COMPANY LTD. VANCOUVER OFFICE

SUITE 1470, 1176 WEST GEORGIA STREET VANCOUVER, B.C., CANADA V6E 4A2 TELEPHONE: (604) 688-8228 FACSIMILE: (604) 688-8368 TELEX: 04-507886

January 8, 1988

Mr. A. W. Easton Suite 308 251 Queen's Quay West Toronto, Ontario M5J 2N6

Dear Mr. Easton,

Thank you for your letter dated December 23, 1987. The new data were forwarded to our head office for their review. Followings are our comments.

1. Penalty caused by fluorine in copper concentrate

We found in your schedule of concentrates analysis that fluorine content in the copper concentrate exceeded a certain level and submit herewith an additional term concerning penalties for the concentrate, as below:

Fluorine

Up to 0.01 PCT/DMT no penalty. If over 0.01 PCT/DMT, the excess shall be penalized US¢20 per each 0.01 PCT/DMT.

2. Acceptable arsenic level in copper concentrate

It would be difficult to specify the upper limit of acceptable arsenic percentage on respective concentrates, since the limit depends on the total arsenic content in whole copper concentrates supplied to our smelter. We, however, advise you that our smelter could treat your whole product, i.e., 5000T/year of copper concentrates containing approximately 10 PCT of arsenic.

. **.** / 2

Mr. A. W. Easton Toronto, Ontario January 8, 1988

3. Crude ore purchase

Although we are generally interested in purchasing crude ore, so far as Owen Lake ores are concerned the grade does not seem high enough to discuss crude ore purchase. We, therefore, would like to proceed further discussion only on concentrates purchasing.

4. Correction of our letter dated December 11, 1987.

Please delete words "Accumulative basis" in the article, "Price Participation", on page 2.

At the beginning of the year, we hope to keep friendly relations with you through 1988 and thereafter.

Very truly yours,

H. Inoue

Chief Representative in Canada and N.A.

HI/sh

A Laboratory Investigation of

THE RECOVERY OF COPPER, LEAD, ZINC, GOLD AND SILVER

from Silver Queen Mine Ore Samples

submitted by

HOUSTON METALS CORPORATION

Progress Report No. 1

Project No. L.R. 3373

NOTE:

This report refers to the samples as received.

The practice of this Company in issuing reports of this nature is to require the recipient not to publish the report or any part thereof without the written consent of Lakefield Research.

LAKEFIELD RESEARCH A DIVISION OF FALCONBRIDGE LIMITED January 18, 1988

ABSTRACT

In this report, the results of the laboratory testwork on Silver Queen Mine ore samples are presented. The major development work was carried out on two composite samples (i.e. Composite 1 and Composite 3), assaying 1.2% - 1.56% Cu, 7.75% - 10.6% Zn, 0.96% - 1.28% Pb, 576 g/t to 428 g/t Ag and 2.16 g/t to 1.89 g/t Au, respectively. Composite samples were prepared from individual vein samples submitted by Houston Metals Corporation. The developed laboratory procedure was incorporated into locked cycle tests yielding the following results:

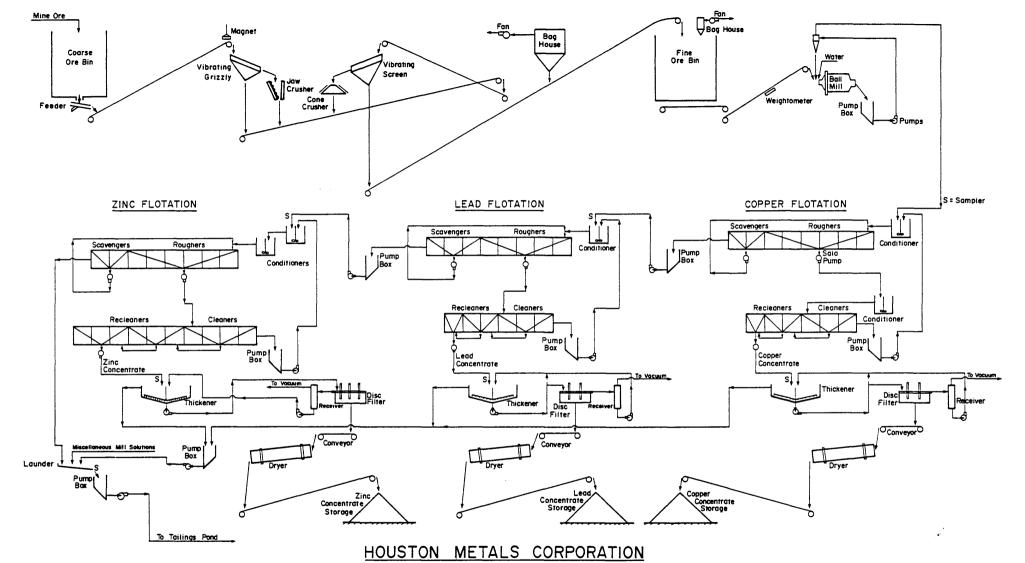
Table No. 1 - Comparison of Locked Cycle Test Results

| Test | Comp | Product | Wgt | Assays,%,g/t % Distribution | | | | | | | | | |
|------|------|---------------|-------|-----------------------------|------|------|------|------|-------|-------|-------|-------|-------|
| No. | | | % | Cu | Рb | Zn | Au | Āg | Cu | Рb | Zn | Au | Ag |
| | | Cu Cl Conc | 6.3 | 21.8 | 3.30 | 6.97 | 9.60 | 6277 | 83.4 | 21.9 | 5.3 | 25.8 | 70.0 |
| | | Pb Cl Conc | 1.0 | 1.58 | 46.1 | 8.31 | 14.4 | 2000 | 1.0 | 48.8 | 1.0 | 6.2 | 3.6 |
| 47 | 1 | Zn Cl Conc | 12.0 | 0.56 | 0.49 | 61.6 | 1.65 | 333 | 4.1 | 6.2 | 90.3 | 8.5 | 7.1 |
| | | Au Ag Cl Conc | 3.2 | 3.03 | 1.61 | 4.23 | 8.50 | 1369 | 5.9 | 5.5 | 1.7 | 11.7 | 7.8 |
| | | Pyrite Conc | 38.8 | 0.20 | 0.25 | 0.18 | 2.71 | 157 | 4.7 | 10.3 | 0.9 | 45.1 | 10.8 |
| | | Pyrite Tail | 38.7 | 0.037 | 0.18 | 0.18 | 0.16 | 10.6 | 0.9 | 7.4 | 0.8 | 2.7 | 0.7 |
| | | Head(calc) | 100.0 | 1.64 | 0.95 | 8.21 | 2.33 | 563 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| i | | Cu Cl Conc | 3.5 | 27.7 | 1.91 | 5.93 | 7.58 | 6271 | 82.8 | 5.7 | 2.0 | 15.5 | 52.1 |
| | | Pb Cl Conc | 1.7 | 0.94 | 51.7 | 7.31 | 33.1 | 5675 | 1.4 | 73.6 | 1.2 | 32.5 | 22.7 |
| 51 | 3 | Zn Cl Conc | 16.1 | 0.46 | 0.44 | 60.2 | 0.89 | 232 | 6.3 | 5.9 | 93,1 | 8.3 | 8.8 |
| | | Au Ag Cl Conc | 1.8 | 2.67 | 2.32 | 5.12 | 8.32 | 1186 | 4.2 | 3.6 | 0.9 | 8.9 | 5.2 |
| | | Pyrite Conc | 21.9 | 0.22 | 0.36 | 0.67 | 2.37 | 169 | 4.1 | 6.6 | 1.4 | 30.1 | 8.8 |
| | | Pyrite Tail | 55.0 | 0.028 | 0.10 | 0.26 | 0.15 | 18.7 | 1.3 | 4.6 | 1.4 | 4.8 | 2.4 |
| | | Head(calc) | 100.0 | 1.18 | 1.19 | 10.4 | 1.72 | 423 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

The results obtained on Composite No. 3, "the average orebody composite", were excellent and high grade concentrates with satisfactory recovery were obtained. The lower copper and lead concentrate grades obtained from Composite No. 1 were a result of heavy oxidation of the pyrite in several veins (i.e. V-5, FW 2750L) which were part of Composite 1.

For treatment of the ore, a sequential Cu-Pb and zinc flowsheet was developed with an effective reagent scheme. This flowsheet incorporated a gold recovery stage from the pyrite concentrate. Note that a portion of the precious metals are disseminated in the pyrite and therefore a regrind of pyrite is required to liberate that portion of the gold and silver.

In this report, the development work and problems associated with processing of the ore are described.



MILL FLOWSHEET (BASE CASE)

500 TONS/DAY POLYMETALLIC ORE CONCENTRATOR (AU, AG, ZN, PB AND CU) SEQUENTIAL SEPARATION INTO COPPER, LEAD AND ZINC CONCENTRATES

DESIGNED BY LAKEFIELD RESEARCH AND JAMES WADE ENGINEERING LTD.

| Equity Silver | Houston Metals | | | | | | |
|---|---|--------------------|--|--|--|--|--|
| Source of Feed Concentrate tailings from Main Zone | Source of Feed Concentrate tailings from sequential Cu-Pb- Zn separation. Au 60%, Ag 20% of head grade | | | | | | |
| Process Tailings pre-aerated with lime + Pb(No ₃) ₂ followed by carbon -in-leach cyanidation | Processes - Alternative a) Tailings pre-aerated with lime +Pb(No ₃) ₂ followed by carbon- in-leach cyanidation b) Bioleach | | | | | | |
| | (both systems to be tested) Assume (a) | | | | | | |
| Rate +9000 tpd | $\frac{\mathrm{Rate}}{\mathrm{425}}$ tpd; 80.8% at mill rate of 500 t | .pd | | | | | |
| Head Grade Ore ? | Head Grade Ore 2.33 g Au/t 563 g Ag/t | | | | | | |
| Tailings Grade 0.5 g Au/t ? Ag/t (0.0161 oz Au/t ? Ag/t) | Tailings Grade 1.39 g Au/t 109 g Ag/t (0.045 oz Au/t 3.50 oz Ag/t) |) | | | | | |
| Value \$ (Cdn.)/t | Value \$ (Cdn.)/t | | | | | | |
| \$9.95 + \$? = \$9.95 | 27.81 + 30.45 = | \$58.26 | | | | | |
| | $\frac{\text{Recovery}}{\text{x 75\%}} + \text{x 84\%} =$ | \$46.44 | | | | | |
| Capital Cost \$12,500,000 operating cost/ton \$.69 | Capital Cost \$1,200,000 10% of Equity cost | \$ 1.00 | | | | | |
| Operating Cost operating cost/ton ? | Operating Cost \$/t Assume | \$10.00 | | | | | |
| | Net: \$/ton | <u>\$35.44</u> | | | | | |
| Profit/Loss ? | Total Additional Revenue: 425 x 350 x 35.44 | <u>\$5,507,376</u> | | | | | |

NB

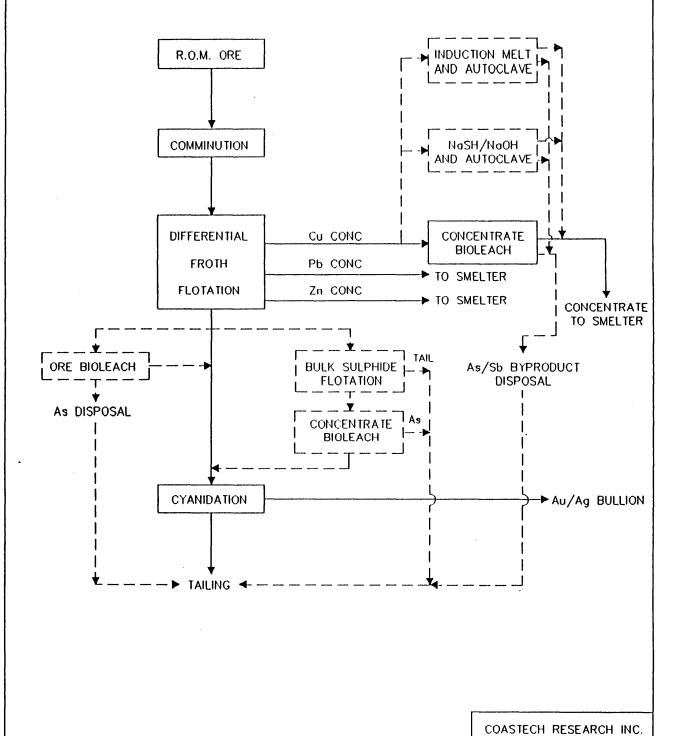
Equity Silver breaks even at 0.10 g/tonne; Silver Queen tailings have 10 times higher Au grade.

Compare minerals from Southern Tail, Main Zone, and Silver Queen (see attached sheets).

The most important mineral absence from Main Zone and Silver Queen compared to the Southern Tail is arsenopyrite (Fe As S).

It is therefore possible that the Equity scavenger system could work on the Silver Queen ore.

HOUȘTON METALS CORPORATION - SILVER QUEEN MINES PROCESS ALTERNATIVES



06 JANUARY 1988

1 of 1

No: Arsenopyrit Fo DSF

Table 1. Summary of minerals observed in samples from the Silver Queen Mine.

| Vein: Sample No.: | M3 1 | 3 | 1 2 | #3 3 | 8 Ext | tens: 5 | ion 6 | 12 | #3 8 | 9 | Foct- wall 7 | #2 ! 10 | #5 13 | |
|---|----------------------|---------------|---------------|---------|-------------|-------------|-------------|--------|------------------|---|----------------------|-------------|-------------|----------|
| Chalcocite Cu ₂ S Chalcopyrite CuFeS ₂ Calena PbS Ayrite FaS ₂ Sphalerite ZnS wurbsite ZnS | X X X | <u>X</u> X | X - X X | X X | X X | X X X | X X X | XXX | X X X X | X | X X X | X X X | X | |
| Alkinite PbCuBiS3 Saligmannite PbCuAsS3 VIshnantite (Cu,Zn,Fe,Ag) ₁ (As,Sb) ₄ S ₃ Tetraneantte (Cu,Zn,Fe,Ag) ₁ (Sb,As) ₄ S ₃ | X | X | | X | X | | Х | X | X X X | | | X X | X X X | As Sb |
| Hamasisa fa ₂ 0 ₃ | | | | | | | | | | X | | | | |
| daluite CaCO ₃ Raccourceute MadO ₃ Sidenite FaCO ₃ | X | Х | X | X | K | | | X | X X | X | X | | X X | |
| uarite BaSO4 | | X | X | X | X | K | X | ~ · | X | X | | X | X | |
| -inadalisa (Pb,Sr)Al ₃ (PO ₄)(SO ₄)(OH) ₆ Namberrine (Sc,Ca)Al ₃ (PO ₄)(SO ₄)(OH) ₆ | \mathbf{X}_{\perp} | X X | | X | | Х | X | X X | | | | X | X | |
| llitte K(Al.Mg,Fe) ₁ (St,Al) ₄ 9 ₁₀ E(OH) ₂ ,H ₂ Ol lancence Al ₂ Si ₂ O ₅ (OH) ₄ | Х | | X X | X X | X X X | X X X | X X X | X X | | | | | | |
| Juantz SiO ₁ | X | Х | X | X | X | X | X | X | X | X | X | K | X | |
| Carbonaceous matter | X | | | | | | | | | | | | X | |

TABLE 1
Relative mineral abundance at Equity Silver Mines Limited

| MINERAL | MAIN ZONE | SOUTHERN TAIL |
|----------------|--------------------|---------------|
| / Pyrite | XXXXX | XXXXX |
| Rutile | × | × |
| Ilmenite | x | × |
| Magnetite | xxxx | XXX |
| Pyrrhotite | XXXX | |
| Molybdenite | | × |
| √Hematite | XXXX | XX |
| Arsenopyrite | -XX ₋ - | XXXXX |
| / Sphalerite | xxx | XXX |
| ✓ Chalcopyrite | XXXXX | XXXX |
| √ Tetrahedrite | XXXX | ххххх |
| Gold | хх | хx |
| √Galena | ХX | xx |
| y Sulphosalts | ХX | XX |
| Marcasite | XXX | |
| ✓ Chalcocite | x | x |
| Covellite | x | x |
| Wolframite | | x |
| Stibnite | × | |
| Tourmaline | XXXX | × |

xxxxx = very abundant

xxxx = abundant

xxx = moderate

xx = minor

x = trace

Direct cyanidation of flotation tailing revealed:

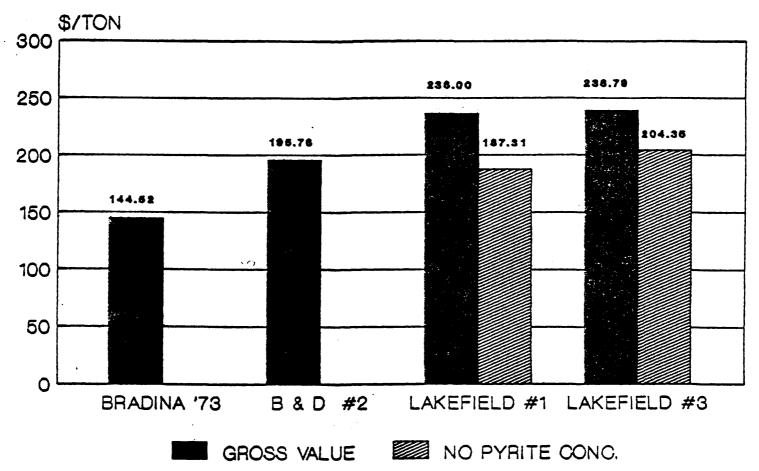
| Ore Type | Flotation Tailing g Au/t g Ag/t | Cyanidation Extraction % Au % Ag |
|---------------|------------------------------------|----------------------------------|
| Main Zone | 0.50 30-40 | 50-70 10-30 |
| Southern Tail | 0.90 20 | 10-20 10-20 |

Favourable cyanidation response of Main Zone flotation tailing precipitated a detailed feasibility study (ref 4,5) and consequently a 5,300 tpd carbon-in-leach scavenger cyanidation circuit was constructed and commissioned in 1984 to treat Main Zone flotation tailing. Details of the CIL circuit have been discussed (ref 3).

Southern Tail flotation tailing, presently impounded in the tailing pond, did not respond economically to direct cyanidation due to gold associations with refractory pyritic gangue, notably arsenopyrite. Bulk sulphide flotation from Southern Tail tailing returned 80-85% gold and 50-60% silver recovery in a concentrate grading 5.5-6.0 g Au/t and 75-100 g Ag/t. The concentrate is not readily marketable as produced and various attempts to produce an arsenopyrite rich concentrate were unsuccessful (ref 3).

Direct cyanidation of the bulk sulphide concentrate indicated 10-20% Au and Ag recovery. A number of hydro/pyrometallurgical alternatives to enhance cyanidation response were tested and some, such as roasting and pressure oxidation, were





Cu @ 1.77 \$/lb Au @ 618.00 \$/oz

Pb • 0.49 \$/lb Ag • 8.70 \$/oz

Zn @ 0.59 \$/ib

AS OF JAN 14, 1988.



SILVER QUEEN HINE

ORE RESERVES --- PROVEN AND PROBABLE

| ! VEIN | IPROVEN /or/ | : BLOCK | TONS | ! | 6 | RADES | | |
|--------------------------|--------------------------------|--------------------------------|------------|--------------|--------------------|-------------------|-------------------|--------------------|
| ! ! | !PROBABLE | (SECTION) | . | !AU oz/ton | IAG oz/ton | ! Cu % | Pb X | ? Zn % |
| No. 3 | PROVEN | 24500-24300 ABOVE 2600' | 132570 | 0.084 | 5.580 | 0.840 | 2.400 | 6.360 |
| No. 3 | ; PROVEN | : 26400-27600 : ABOVE 2600' | 114280 | 0.109 | 6.410 | 0.290 | 1.720 | 6.440 |
| No. 3 | PROVEN | : 27800-28700 : ABOVE 2600' | 74280 | ! 0.096 ! | 10.850 | 0.560 | 1.290 | 4.880 |
| No. 3 | I PROVEN | BELOW 2600 | 256460 | 0.122 | 8.040 | : 0.390 : | 0.970 | 7.380 |
| i INO. 3 EXTENSION | : PROVEN N:DILUTED TO 4' | 28950-29150 | 8200 1 | 0.080 | 17.870 | : : 0.770 : | : 0.750 | ! ! 1.920 ! |
| , INo. 3 Extension | PROBABLE | 28900-29200 | 12000 | 0.080 | ; ; 7.870 ; | ; ; 0.770 ; | : 0.750 | : : 1.920 : |
| FOOTWALL VEIN | PROBABLE | 27200-27400 | 47500 | ! ! | 6.530 | i | | 6.670 |
| FOOTWALL Vein | PROBABLE | 27850-28000 | 13500 | 0.086 | 6.190 | 1.470 | 0.490 | 9.790 |
| FOOTWALL VEIN | PROBABLE | 28400-28600 | 25875 | 0.037 | 15.620 | 1.680 | 0.570 | 3.320 |
| FOOTWALL VEIN | PROBABLE | #3 EXTENSION AREA | 7000 | 0.050 | 7.480 | 2.060 | 0.720 | : : 5.390 : |
| No. 2 | PROVEN | 24550-24700 SUBDRIFT RAISE | 23500 | 0.068 | 2.210 | . 0.130 | : : 4.130 : | : ! 10.890 ! |
| No. 5 | PROBABLE | 80' ADIT | 25000 | 0.030 | 8.750 | 1.020 | 0.360 | 10.000 |
| CAMP VEIN | | !9 DDH CAMP #1 !DILUTED | 25000 ! | 0.030 | ; ; 71.050 ; | i 0.230 | 1.010 1.010 | i ! 2.980 ! |
| TONNAGE TOTAL | | : | 765165 | : 0.093 | . 9.920 | ! 0.625 | 1.410 | : 6.490 : |

NOTE: TONNAGES BASED ON ORIGINAL CALCULATIONS BY W.W. CUMMINGS.

Founded 1915

Houston expects production decision by late spring

VANCOUVER — A production decision is expected by late spring on the Silver Queen polymetallic property near Houston, B.C., owned 60% by Houston Metals Corp. and 40% by New Nadina Exploration.

mys all against shall

A feasibility report based on a 500-ton-per-day operation is in the preliminary stages and will be finished early May. Work has also started on the Stage 1 permitting process.

Houston spent \$2.25 million in 1987 on 4,418 ft of drifting, 5,700 ft of underground drilling, 94.00. It of surface drilling, metallurgical testing and rehabilitation of old mine workings. An additional \$3

million has been raised in two flow through financing agreements.

A 2,800-ft decline at the south end of the mine is in progress and a 4,300-ft crosscut from west to east will intersect a number of vein structures at the 2,600-ft level. Underground drilling and drifting is also continuing.

The exploration work is expected to increase reserves from the 1.5 million proven, probable and inferred tons. In the proven and probable category are 577,590 tons averaging 0.108 oz gold, 7.51 oz silver, 0.49% copper, 1.49% lead and 6.53% zinc, as well as germanium, indium, cadmium and gallium values.

The mine was put into production with a 500-ton concentrator in 1972 but closed in 1973 because of problems in the mining method, mill design and low metal prices. Extensive metallurgical tests are under way and Houston is negotiating with smelters to take the ore. The complex orebody is similar to Equity Silver Mines and contains some arsenic.

Houston is entitled to a 2.5-times return of its exploration money from 80% of cash flow, before New Nadina gets its full 40% interest.

HOUSTON METALS CORPORATION

FOR IMMEDIATE RELEASE

Suite 910 - 800 West Pender Street Vancouver, B.C., Canada V6C 2V6 Telephone: (604) 683-4245

February 3, 1988

Facsimile: (604) 683-8366

Continued Progress

Camp Vein System

An extensive drill program is being carried on to delineate the Camp Vein System which consists of perhaps 5 veins striking north-west south-east under heavy overburden in the area immediately west of the camp buildings. This system was discovered last fall and most of the tonnage derived from this system is not included in any previous calculation.

To date probable (drill indicated) tonnage may be 155,000 tons grading (weighted average):

| Au(oz/ton) | Ag(oz/ton) | <u>Cu(%)</u> | <u>Pb(%)</u> | <u>Zn(%)</u> |
|------------|------------|--------------|--------------|--------------|
| 0.04 | 13.91 | 0.07 | 1.23 | 5.16 |

Attached is a plan view and a section (101) indicating the extent and position of the Camp Vein system. Drilling is continuing.

Cole Lake Crosscut

The Cole Lake Crosscut intersected the "Jack Vein", the first of an anticipated series of veins at 3,500 ft. from the portal, grades over 3 ft. are as follows:

| Au(oz/ton) | Ag(oz/ton) | <u>Cu(%)</u> | <u>Pb(%)</u> | <u>Zn(%)</u> | <u>Ge(ppm)</u> |
|------------|------------|--------------|--------------|--------------|----------------|
| 0.042 | 3.91 | 1.55 | 0.66 | 0.32 | 25 |

The intersect is about 600 ft, below the surface.

Drifting on three headings, the 15% decline, the Cole Lake crosscut, drift toward the No. 1, and diamond drilling is continuing.

HOUSTON METALS CORPORATION

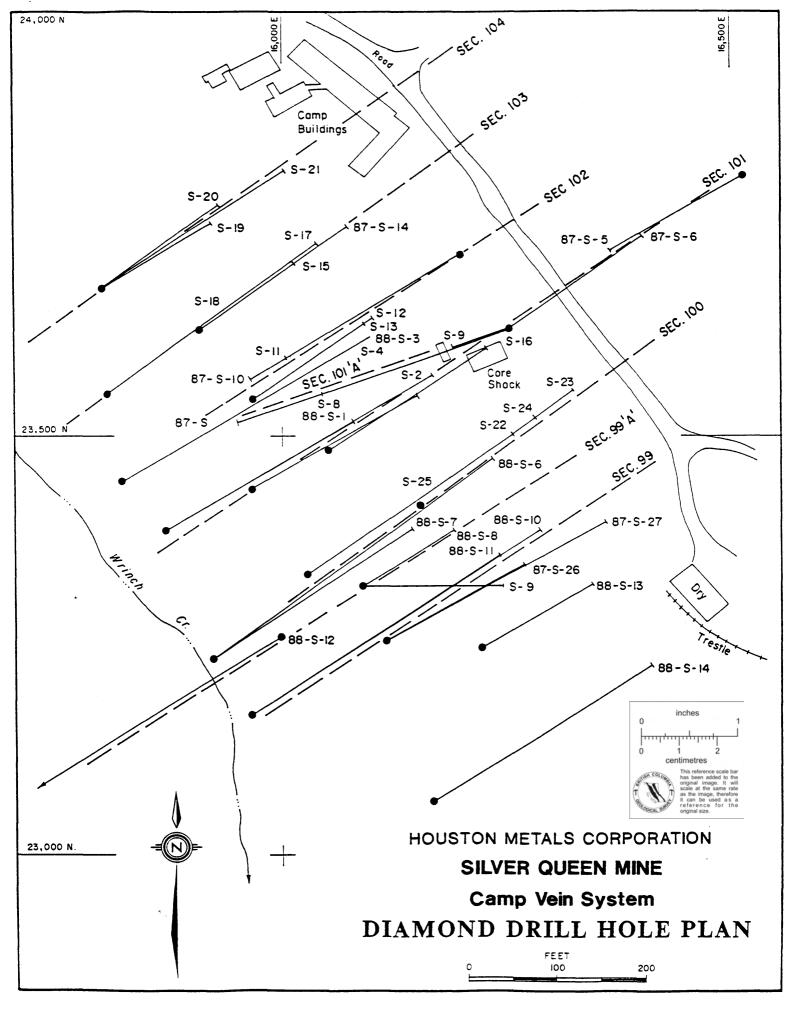
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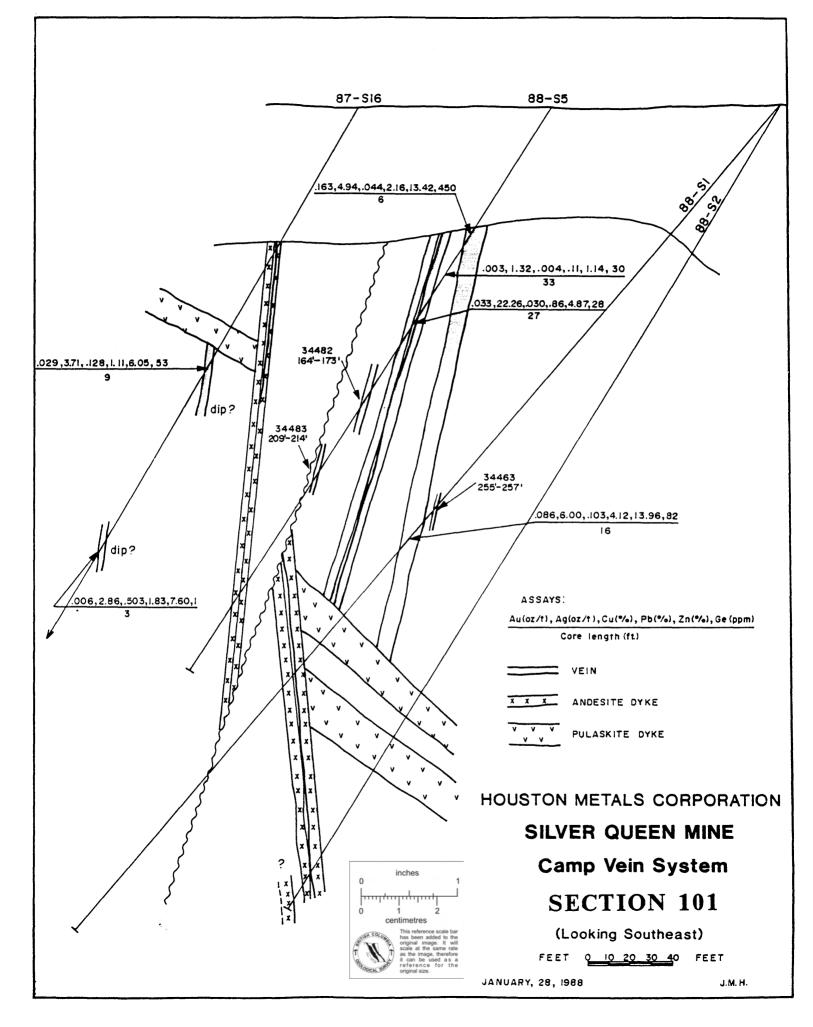
Adolf A. Petancic

Président

This news release has been prepared and approved by the board of directors of Houston Metals Corporation, who accept full responsibilities of its contents.

The Vancouver Stock Exchange has neither approved nor disapproved of the information contained herein.





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683-7265 (AREA CODE 604)

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REPRINTED FROM: NO.20(1988) JANUARY 29, 1988

WESTERN CANADIAN INVESTMENTS

HOUSTON METALS CORPORATION (HML-V)

CURRENT 30 MAN WORK TO SPEND \$2,200,000 BY FEB. 29, 1988
CURRENT 30 MAN WORK TO SPEND \$5,200,000 BY JUNE 30, 1988
FEASIBILITY STUDY TO BE COMPLETED BY MAY 30, 1988
POLYMETALLIC RESERVES TO SUPPORT 500 TONS DAY PRODUCTION
ERECTION DECISION & FUNDING TO BE COMPLETED JUNE 30,1988
FIRST CONCENTRATE PRODUCTION SCHEDULED FOR MID 1989
MINING - ENVIRONMENTAL PERMITTING NOW UNDERWAY

30-35 man crew, working 24 hours a day, 7 days a week, are driving a 3100-foot long ramp decline, to develop proved reserves and are also driving a 4300-foot exploration crosscut to test 7 partially drilled veins as well as running one diamond drill rig testing the high grade Camp vein. Houston Metals has arranged \$2,200,000 of flow-through financing to be spent by 29Feb88 and additional funds are being arranged to complete a feasibility study by May 1988 on a 500 ton per day sequential flotation concentrator plant to process 175,000 mined tons per year.

Houston was listed on the Vancouver Stock Exchange Oct.29,1986 and has raised \$5,006,948 since, made up of \$3,252,608 flow-through, \$889,200 private placement, \$705,000 underwriting and \$160,140 through option exercises. A further \$2,200,000 flow-through funding has been committed and on Jan.21,1988 the company received approval for a private placement of 400,000 shares at \$1.05 each with warrants to purchase 400,000 shares at \$1.30 for one year with Andpher Trust Company. The company currently has 7,600,000 shares issued and 4,569,124 shares reserved for options, warrants and flow-through issued which indicates a fully diluted 12,170,000 shares issued.

The Silver Queen Mine is located at 2500 feet elevation on Owen Lake, 35 miles south of the town of Houston, and 20 miles west of the Equity Silver Mine in central B.C. The property covers an area 6 km east west by 7 km north-south, split into 3 ownership blocks with Houston Metals holding between 60% and 70% of each and being operator on all. (SEE PROPERTY LOCATION MAP) Block 1 - the Silver Queen or Placer Dome block; Block 2 - the Cole Lake or Houston Metals; Block 3 - the New Nadina block. As shown on the map overleaf, most of the reserves are on the claims where Houston has spent \$3,000,000, well in excess of the \$300,000

required by 31Dec86 to earn a 60% interest and must complete a feasibility study as well as attaining a minimum of 50 tons per day production by 31Dec1989 to complete the acquisition. Upon completion of the feasibility report, NEW NADINA EXPLORATIONS LTD. (NNA-V) holds the option to provide 40% of the capital costs to production or be diluted down to 10% or 20% net profits interest. Placer Development is also entitled to a 20% net profit interest from Block 1 of the property. Houston is entitled to 2.5 times all of its exploration expenditures, estimated at \$15,000,000, out of 80% of cash flow before New Nadina will participate to its full 40% working interest.

By expenditure of \$600,000 on Block 2, Houston will have earned a 60% interest. PetroMac must then match expenditures on Block 2 or reduce to an 8.5% interest. Houston will earn its interest by March 1988. New Nadina has no interest in this block.

If New Nadina does not contribute to expenditures interests will be: Block 1, Houston 70%, Placer 20%, New Nadina 10%; Block 2 Houston 60% to 91.5%, Placer and New Nadina nil; Block 3 Houston 80%, New Nadina 20%, Placer nil.

Reserves have been upgraded and expanded by the recent work. The new calculation for the feasiblility study are forecast to show substantial further increases.

GOLD SILVER COPPER LEAD ZINC

OZ/TON __%__ <u> %</u> TONNAGE OZ/TON 609,290 0.105 7.44 0.48 1.58 6.64 Proven Ore 155,875 0.046 1.19 0.76 5.90 Probable | 19.63 Possible 833,075 No Grade Assignment Total Tons 1,598,240

These reserves are in the No.2, No.3 and No.5 veins, all above the 2600 foot elevation level. Each vein has good tonnage potential along strike and particularly to depth. In the Camp vein the probable and possible 100,000 tons is estimated to grade: 0.03 oz.gold/t, 30 oz.silver/t, 0.23% copper, 1.01% lead,2.98% zinc. Currently, the geologically possible tonnage is considered to be in the 3,000,000 ton range. In addition to the base and percious metals the Silver Queen Mine contains germanium and indium. The extraction and sale of these metals is under study.

HOUSTON METALS CORPORATION

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FOR IMMEDIATE RELEASES

February 3, 1988

Further Flow-Through Financing Arranged

Houston Metals Corporation (Houston) announces the signing of a letter of intent with Excan Mining Management Ltd. on behalf of IMEX (1988) Mineral Exploration and Company, Limited Partnership (IMEX) to subscribe for a maximum of 1,844,828 flow-through shares to be issued by Houston at \$1.16 per share for a maximum aggregate consideration of \$2,140,000, subject to the availability of funds.

The approval of the Vancouver Stock Exchange and the acceptance of Houston as a reporting security issuer in the Province of Quebec by the Quebec Securities Commission and the listing of Houston's shares on the Montreal Stock Exchange is required for this transaction to be completed.

Upon completion of the transaction a finder's fee pursuant to rule 6/83 of the Vancouver Stock Exchange is payable to First Century Capital Inc.

HOUSTON METALS CORPORATION

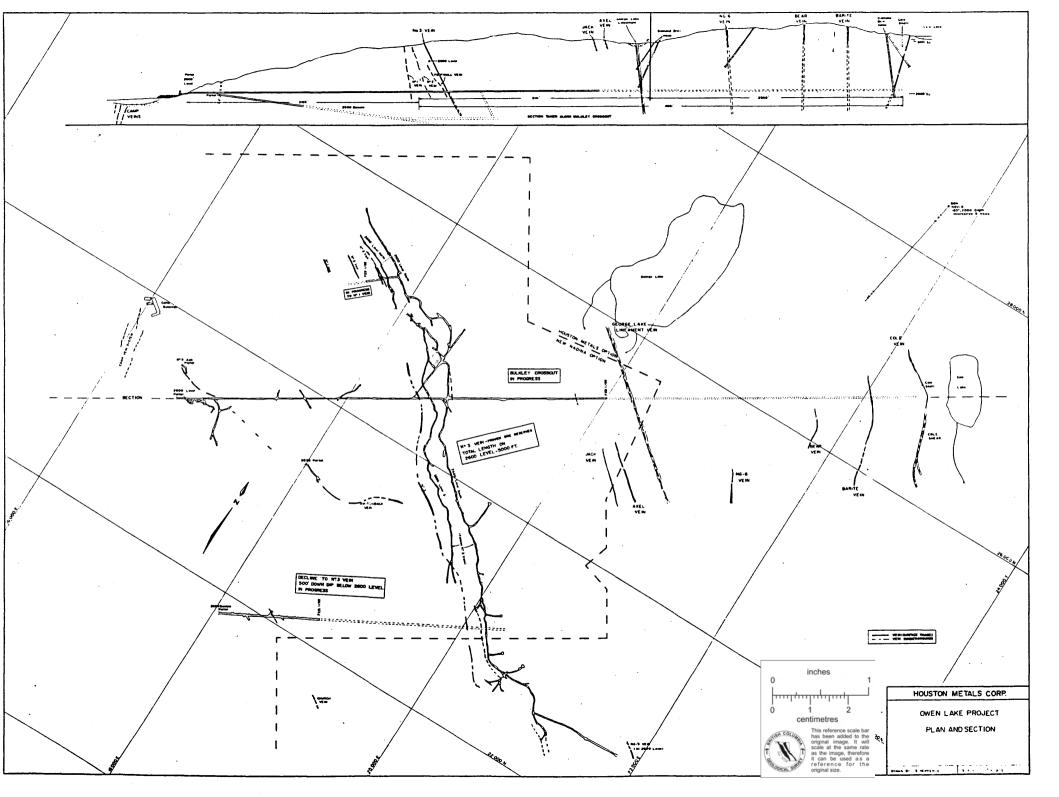
Per:

Adolf M. Retainer

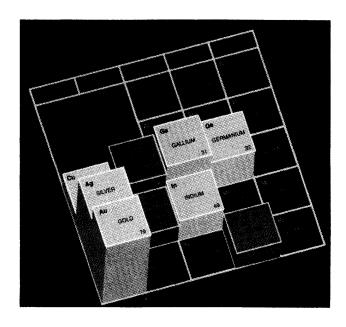
President

This news release has been prepared and approved by the board of directors of Houston Metals Corporation, who accept full responsibilities of its contents.

The Vancouver Stock Exchange has neither approved nor disapproved of the information contained herein.



HOUSTON METALS CORPORATION



Dear Shareholders

Good progress is being made at the Silver Oueen Mine.

Houston is proceeding with two major headings: a minus 15% 13′ x 9′ declined which has advanced 700′ towards its objective of 3100′, 465′ down-dip a high grade gold-silver-zinc ore shoot, and a 9′ x 9′ cross cut which has advanced 800′ towards its objective of 4300′, the Cole Lake high grade silver vein.

Surface drilling has traced the high grade Camp vein (30 oz per ton of silver or better) for over 400' and is progressing.

Lakefield Research is completing the metallurgical research on the ore and will present a mill flow-sheet within the next two weeks.

A flow-through financing of \$1,500,000 with First Exploration Fund 1988 (sponsored by Merrill Lynch Canada Inc./Dominion Securities Pitfield Ltd.) and a private placement of \$420,000 have been concluded.

James Wade & Associates, mining engineers, Toronto, Ontario, and Norecol Environmental Consultants Ltd., Vancouver, B.C. are retained and will produce a feasibility study and an environmental impact report by early 1988. Mr. Bert Easton, formerly general sales manager of a major non-ferrous metal producer, has been retained to assist in marketing Houston's concentrates.

At the conclusion of the current exploration program, the Silver Queen's proven, probable, and possible reserves placed at 1,500,000 tons will be increased substantially and major portion of ore will be

reclassified from possible to probable and from probable to proven.

The medium grade of this ore is currently given as: gold .1 oz/ton, silver 10 oz/ton, zinc 7%, lead 3%, copper .75% and germanium .1 kg/ton.

The last half of 1987 was a period of abnormal market activity and no clear trend has yet emerged. Houston, with its mix of precious, base, and high tech metals is ideally placed to cope with this situation, providing both an inflationary and deflationary hedge, and should be considered as a buy and a long term hold at this time.

Thanking you for your continued support.

ON BEHALF OF THE BOARD OF DIRECTORS

"Adolf A. Petancic" President

December 4, 1987

Houston Metals Corporation

Consolidated Balance Sheet

| | As at October 31, 1987 | | |
|---|--|---|---|
| | October 31, 1987 | April 30, 1987 | October 27, 1986 (Date of amalgamation. See note) |
| ASSETS | | | |
| Current Cash Accounts receivable Deposits Subscriptions receivable Due from related parties | \$ 18,730 8,267 99,074 14,068 | \$ 157,371 4,267 50,000 9,068 | \$ 667 1,354 |
| Funds Available For | 140,139 | 220,706 | 2,021 |
| Exploration Expenses Investment Mineral Properties Deferred Administration | 697,925 827,500 2,597,777 | 345,000 1,518,058 | 497,717 |
| Expenses Mining Equipment Fixed Assets Goodwill | 748,505 31,366 10,284 50,975 | 416,605 36,902 9,064 53,810 | 208,919 36,902 56,683 |
| Goodwin | \$5,104,471 | \$2,600,145 | \$ 802,242 |
| LIABILITIES | | | |
| Current: Accounts payable and accrued liabilities Due to Putco Due to related parties | \$ 189,827 180,000 369,827 | \$ 74,007 | \$ 51,738 93,204 144,942 |
| SHAREHOLDERS' EQUITY | | | |
| Share Capital Subscribed Stock Deficit | 4,054,371 750,000 (69,727) 4,734,644 \$5,104,471 | 2,543,031 50,000 (66,893) 2,526,138 \$2,600,145 | 719,966 (62,666) 657,300 \$ 802,242 |

On Behalf of the Board:

"Adolf A. Petancic" Director

"J. Michael Mackey" Director

Note: The balance sheet has been prepared on a comparative basis with those of October 27, 1986 (date of amalgamation) and April 30, 1987. The statements have not been prepared on a comparative basis as at October 31, 1987, as the fiscal year ends of the two predecessor companies did not coincide with each other, nor with Houston's.

(unaudited) (Canadian Dollars) Prepared by Management

Consolidated Statement of Changes in Financial Position

| | Six Months Ended October 31, 1987 | |
|--|--|--|
| Operating Activities | | |
| Net loss for the period Less: amortization of goodwill | \$ (2,834) 2,834 0 | |
| Change in non-cash working capital items: Accounts receivable Deposit Subscriptions receivable Due (from) to related parties Funds available for exploration Accounts payable and accrued liabilities Subscription payable | 0 (4,000) (49,074) (5,000) (697,925) 115,820 180,000 | |
| Cash Used in Operating Activities | (460,179) | |
| Investment Activities | | |
| Investment Expenditures on mineral property – net Purchase of fixed assets – net Deferred administrative expenses | (482,500) (1,074,183) (1,220) (331,899) | |
| Cash Used in Investment Activities | (1,889,802) | |
| Financing Activities | | |
| Capital stock issued: Canadian exploration expenditures incurred Private placement - share puchase warrants exercised Capital stock subscribed: | 1,050,000 461,340 700,000 | |
| Cash Provided by Financing Activities | 2,211,340 | |
| Net Decrease in Cash During the Period Cash Position, Beginning of Period | (138,641) 157,371 | |
| Cash Position, End of Period | \$ 18,730 | |

(Unaudited) (Canadian Dollars) Prepared by Management.

Consolidated Statement of Loss and Deficit

| | October 31, 1987 |
|------------------------------|------------------|
| Amortization of Goodwill | \$ 2,834 |
| Net Loss for the Period | 2,834 |
| Deficit, Beginning of Period | 66,893 |
| Deficit, End of Period | \$ 69,727 |

Six Months Ended

Houston Metals Corporation

Corporate Directory

Corporate Offices

#910 – 800 West Pender Street Vancouver, B.C. V6C 2V6 Phone (604) 683-4245 Fax (604) 683-8366

Transfer Agent

Guaranty Trust Company of Canada 800 West Pender Street Vancouver, B.C. V6C 2V7

Guaranty Trust Company of Canada 88 University Avenue Toronto, Ontario M5J 1T8

Shares Listed

Vancouver Stock Exchange Trading Symbol "HML.V" O.T.C. – U.S.A.

Capitalization

Authorized 50,000,000 Issued 7,600,000

Shareholders and others wanting information about Houston Metals Corporation or wishing to receive copies of the Annual Report, Semi-Annual Report and News Releases should call or write.