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DIAMOND RESEARCH LABORATORY  
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TEL. 615768 טל

בן ציון יהודה ובנו  
מעבדה למחקר יהלומים  
רחוב נחמני 55, תל-אביב 67136  
ת.ד. 14028 - למברקים דיאבן, ת"א

30 December 1973

Dr. H.T. Hall  
H. Tracy Hall Inc.  
P.O.B. 7533 University Station  
Provo, Utah 84601

Dear Sirs;

Thank you for your letter dated 19 December 1973.

We hope Dr. Leo Merrill will soon send us the materials we asked.

Please let us know what kind of commercial size equipment will be available in 2-3 years.

Please make available to us all the specifications concerning the 300 ton cubic press especially concerning the following:

1. Actual dimensions and volume of pressure cell, and approximate figures concerning the volume shrinkage capacity during the phase conversion. e.g. Starting volume of the cell at the beginning of the conversion compared with the volume of the cell at the end of the process.

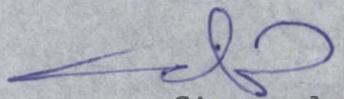
2. Approximate number of runs and working hours at 55 Kb - 60 Kb 1600 C<sup>o</sup> expected from the anvils assembly.

What type of controls and electric power supply are included?

Inspite of the fact that you define this equipment has pilot plant size it may be of interest for us if it will enable even small production without a loss of money.

We also must know if you'll be able in the future to supply us with bigger equipment of multi anvils.

Thanking for your co-operation

  
Sincerely

40002777

Zvi Yehuda  
B.Z. Yehuda & Son

## H. TRACY HALL, INCORPORATED

P.O. BOX 7533 UNIVERSITY STATION

PROVO, UTAH 84601

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5 February 1974

B.Z. Yehuda & Son  
55 Nachmany Street  
Tel-Aviv 67136  
ISRAEL

Gentlemen:

Thank you for your letter of 30 December 1973.

Our commercial equipment is custom built to the customer's requirements. With the current shortages and delays extant in the United States, it would require two to three years to design and build a 1000 ton cubic press of heavy design for long life in commercial use. Costs are rising steeply and such a press would probably now cost about \$250,000.00 for 1977 delivery.

With regards to the 300 ton pilot-plant cubic press, it will operate at 60 kbar and 1650 degree centigrade on a 5minute diamond grit making cycle with an average anvil life of 3000 runs making one carat of grit per cycle. The press itself will operate an average of 20,000 such cycles between replacement of oil seals and reconditioning of the hydraulic cylinders. The pressure cell is a pyrophyllite cube .78 inch on edge. Follow-through on the graphite- diamond phase change easily allows 2 carats of grit to be made. However, increased anvil life desirable in commercial use recommends that only one carat be made per run.

Our company is prepared to design and build any style of high pressure, high temperature equipment including multi-anvil designs to 6000 tons.

The price of the 300 ton cubic press pilot plant unit will increase to \$75,000.00 April 1st.

Thank you for your interest.

Sincerely,

*H. Tracy Hall*  
H. Tracy Hall,  
President

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