



तार : "नेटफिलेब"  
TELEGRAMS : NATPHYLAB  
फोन : ५८७१६१ (इल.), ५८७६७३  
PHONES : 587161, (3L.), 587673

# NATIONAL PHYSICAL LABORATORY

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Hillside Road, NEW DELHI-110012.  
हिलसाइड रोड, नई दिल्ली-११००१२

संदर्भ  
Ref. No. AM/MW/402/75

तिथि  
Date September 20, 1975

Dr B.K. Agarwala,  
Head, Division of Mechanics

Dear Dr Tracy Hall,

When I met you last in Provo in August, 1974 you had agreed to supply, along with the press, pressure and temperature calibration curves so that we could immediately go on to the material synthesis. On opening the packages sent by you we did not find any information whatsoever regarding it. It will be helpful if you could make these curves available to us.

During my discussion with you I had pointed that we would want to carry out such pressure and temperature calibration during your two week visit to this Laboratory to erect and commission the press. Would you kindly agree to bring with you the materials that would be needed for this purpose?

In one of my earlier letters I had requested you to let me have the dimensional drawings and material specifications of the Tungston Carbide blocks used in the anvil. Since the Tungston Carbide blocks will be needed on a continuous basis we wish to investigate the local availability of this material machined to the desired dimensions and tolerances. I hope you will find it possible to make this information available.

One of the areas in which we are interested is the reaction kinetics. For this purpose we need the data on compressibility, pressure thermo-emf, resistivity and the melting curve of the constants of Simon's equation for the following materials upto 100 kbar pressure:

- 1 Graphite and diamond
- 2 Group IVb to group VIIb metals
- 3 Group VIII metals
- 4 Borides, Carbides and Nitrides of group IVb to group VIIb metals

Could we depend on your generosity to have this information from your data collection file?

I was a little disappointed to learn from the United Nations that you would not be able to make your proposed visit before October, 20, this year. We have written back to United Nations to investigate

Contd...2

P-T  
Calc curves

WC  
Anvil  
Dwg.



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संदर्भ  
Ref. No.

: 2 ३

तिथि  
Date.....

the possibility of advancing the visit as much as possible preferably to first week of October, 1975.

My wife and I send our warm regards to Mrs Tracy Hall whose hospitality we gratefully remember. I hope she will be able to accompany you during your visit to New Delhi.

With kind regards,

Yours sincerely,

*Bhagawats*  
( B.K. Agarwala )

Dr H. Tracy Hall,  
P.O. Box 7533,  
University Station,  
Provo, Utah 84601  
(U.S.A.)

## H. TRACY HALL, INCORPORATED

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October 4, 1975

Dr. B. K. Agarwala  
Head, Division of Mechanics  
National Physical Laboratory  
Hillside Road  
New Delhi-110012

Dear Dr. Agarwala:

Mrs. Hall and I will arrive in New Delhi according to the following flight schedule:

Salt Lake City to San Francisco, Western 671Y/Oct17, 9:40AM/10:17AM  
San Francisco to Tokyo, Pan Am 001Y/Oct17, 1:15PM/Oct18, 4:00PM  
Tokyo to Delhi, Pan Am 001Y/Oct 19, 5:15PM/ Oct20, 3:50AM

We plan to begin our return trip home on October 3rd.

The anvil drawings and the pressure and the temperature calibrations that you requested are enclosed.

Most of the data that you requested on graphite and diamond, group IVb to VII metals, group VIII metals, borides, carbides, and nitrides of group IVb to group VIIb metals are non-existent. They simply have not been measured. Compressibility data that are available are due to P. W. Bridgman, "Collected Experimental Papers" (7 volumes), Harvard University Press (1964). For melting data on diamond and graphite see F. P. Bundy, J. Chem. Phys. 38, 631, (1963).

We are looking forward to seeing you again.

Very truly yours,

*H. Tracy Hall*  
H. Tracy Hall