

BRIGHAM YOUNG UNIVERSITY
PROVO, UTAH

copy

November 21, 1955

DEPARTMENT OF RESEARCH

Dear Francis:

It was good to see you again on my short Schenectady visit. I wish I could have been there on a working day for a visit at the Lab.

I ~~thought~~ ^{think} you might be interested in some results that Gil obtained in Detroit. ~~that he may not have told you about yet~~. As you know, I spent ~~one~~ ^a day there talking about the possibilities of a consulting arrangement ~~and their difficulties~~ ^{and their difficulties}. ~~They are having much difficulty with plunger breakage.~~ ^{piston} I suggested that they remove the steel and lava cones from each ^{end} of the "Belt" ^{standard} assembly (leaving just the ^{std.} flower pots) and shorten up the lava cylinder correspondingly. I figured this would increase the support ^{quiver} to the piston. It apparently did. Gil reports with this arrangement they have pistons still going strong after 100 diamond making runs.

I should think some experiments need to be done to find out the maximum pressures obtainable with this arrangement ~~and~~ ^{in view of the reduced piston travel}. (Perhaps it's just as high because less stone is ~~lost~~ extruded.)

of course reduction of lava surface length helps.

One could then increase the chamber length ~~to~~ to a point where the maximum pressure obtainable is around 100,000 atmospheres. After all, at Carboloy, the current interest is just to grow diamonds.

I wonder if you fellows have a use for ~~the same~~ ^{the} small ring sets I had built at G.E.? I think there were three of them about 4" diameter and 1 1/4" thick. I didn't get a chance to use them ^{while} there but could certainly put them to work here. Would you consider contributing them?

As you may know by now, the air force and commerce department lawyers in Washington told me their secrecy order was not intended to fence off research at high-pressure and high temperature. They ~~also~~ ruled that research ^{in this field} can be carried out openly as long as the apparatus used is not that covered by the secrecy order. This, of course, requires the invention of new apparatus. I think this is a surmountable obstacle.

Best regards to all the gang.

Tracy

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