

801 Rogers Court  
Ashland, Kentucky  
Sept. 28, 1942

Dear Mr. McClintock,

All through my years at Northern I have consulted you and received your guidance in scheduling my classes. The least I can do is to let you know what sort of work I am doing at present. I am employed by the Refinery Engineering Co. as a designing draftsman. Our work is to design equipment for the petroleum refining industries. We do a lot of calculating and then draw our design on tracing paper, using pencil. So many revisions are called for that ink is rarely used. Black line prints are used instead of blue prints so that notes may be jotted down directly on the printed drawing. We have to use fairly soft pencils, 2H, H, F, because a dark line is essential. To be more specific, some of the work I have been called upon to do is to calculate weights of empty and filled fractionating columns, design concrete bases for equipment which will have stability when there is a 100 mi/hr. wind blowing, calculate the size and number of anchor bolts for stacks, and area of steel required to reinforce various concrete structures. Right now my job is to design a gate house for a new high test aviation gas plant. I certainly am glad that I took your course in elementary architectural



drawing - it comes in handy for problems like this. Other problems dealt with are fluid flow, high pressure vessel design, heat exchange equipment design. Obviously, we do not know off hand how to design all equipment, but refer to the specification sheets and to various handbooks in order to secure the necessary information and relations required. Sometimes we have to make studies of different phases, and do a lot of free hand sketching to get a general idea of various possibilities. I find analytic mechanics and descriptive geometry very useful. Very generally, this work is a combination of chemical engineering, mechanical engineering, and drafting.

My salary is \$200.00 a month plus overtime. We work 53 hours a week and have Sundays off. However, our work is very pleasant and time passes very quickly.

Mr. McClintock, I used your name as one of my references when I applied for this work. Before closing I wish to thank you for all you have done, and for acting as my advisor while at N.M.C.E.

Sincerely yours,  
Waino E. Waktera