

MEMORANDUM

TO: FRED PETHICK 904 822 8010  
FROM: KENT MORTON  
DATE: JUNE 4, 1990  
SUBJECT: VACUUM BOOSTER FOR ROASTER EXHAUST GAS

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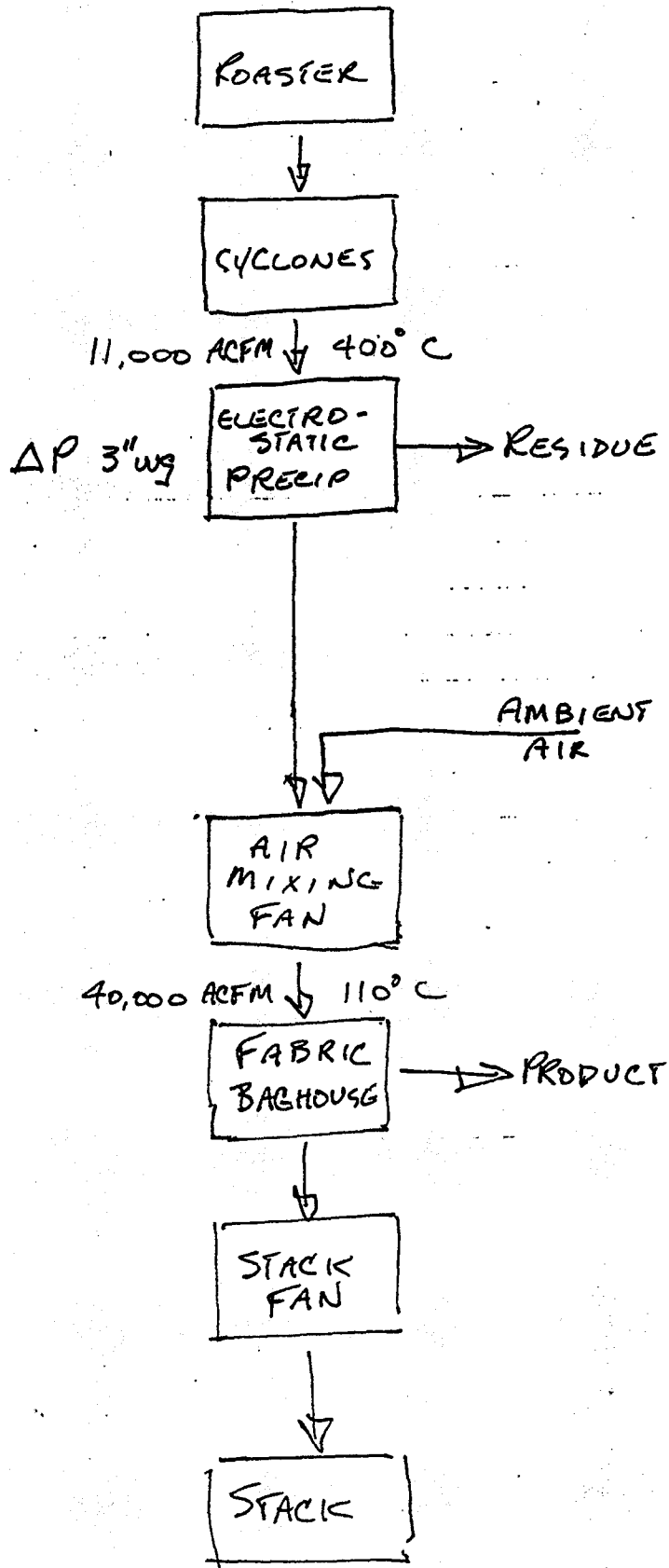
As you know, Giant Yellowknife Mines is considering replacing the existing Cottrell electrostatic precipitator with a sintered metal filter blowback system to improve particulate capture in the roaster exhaust system. (see attached block diagram). The new system has been thoroughly tested at pilot scale using a rotary blower to induce draft, but since the pressure drop across the filters will be up to 30" wg higher than across the ESP, the existing ID fan used in the full scale plant will not be capable of doing the job. In fact on warm summer days, it is now just barely adequate, even when operating at its highest speed..

We think that installation of a vacuum booster downstream of the sintered metal filter is what is required. It is likely that increasing draft at the stack fan would cause the baghouse or flues to collapse. It would also require require a much larger fan. In the proposed location, the vacuum booster should be designed to move 10,000 ACFM of gas at 450 deg C and at a pressure of 40" wg.

As we may use a Fluid Dynamic blowback system, depending upon pilot test results, we wonder if your firm is able to provide the design engineering and equipment specification not only for the filter system, but also for the gas handling equipment required to accomplish the desired objectives ?

  
Kent Morton

# EXISTING



# PROPOSED

