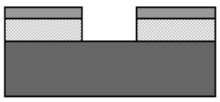
EECS 143 Microfabrication Technology	Department of Electrical Engineering and Computer Sciences University of California, Berkeley **Week #6 Quiz--Gate Definition**

Name _____ Section _____ Date _____

(1) Assuming perfect alignment, please draw a top view of what the overlapping alignment markers will look like for this week's mask and the ACTIVE mask?

(2) Order the following steps for this weeks lab(1 for the first step, through 5 for last step):
( ) Etch the oxide
( ) Expose the photoresist
( ) Strip the photoresist
( ) Develop the photoresist
( ) Etch the polysilicon

(3) Which of these is what a normal wet-etched film looks like (e.g. an oxide film after a BHF etch)?
(top layer=photoresist middle layer=oxide bulk=silicon)



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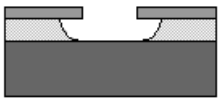

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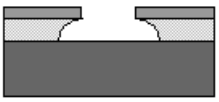

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(4) What can be done to help all the 2-micron gates survive the steps we will do in the lab this week?

(5) Why do exposure times vary with substrate material?

(6) What do we etch the polysilicon with? What is the nominal polysilicon etch rate? Using the nominal etch rate above, assuming 3500Å of poly, and using a 10% overetch, how long should we etch the poly?

(7) Why do we do an oxide etch after the polysilicon etch?

(8) Show how one of your MOSFETs will look after this week's lab (draw cross section)?