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1&2 J. N. TILLEY - HUKY

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Manufacturing Division
Hanford Engineer Works

CLASSIFICATION CANCELLED

DATE 1-14-59

For The Atomic Energy Commission

March 2, 1944

J. N. TILLEY, PROCESS MANAGER
HANFORD ENGINEER WORKS
WILMINGTON, DELAWARE

Chief, Declassification Branch

ATTENTION: MR. R. W. HUKY

NOT UCN!

On February 17th I stopped at Baker Brothers Machine Company in Toledo to get the latest information on machining speeds and feeds and to determine the validity of their reported three pieces per hour per machine. Baker Brothers report that the three pieces per hour figure is an average given for determining delivery dates and allows for machining shapes other than a straight cylinder. They now recommend a speed of 360 R.P.M. for turning with a .010 feed. They are using two cuts but are of the opinion that a single cut will be satisfactory if the equipment can be kept in shape. With the feeds and speeds recommended and allowing for 25% down time their theoretical production rate is 8 pieces per hour. Their present experience indicates that they can do only 75% of this or approximately 6 pieces per hour. This loss of efficiency is largely due to the necessity for straightening and aligning rods in the machine.

Baker Brothers recommend the use of a 6-7 degree tool angle and an open cut. They also recommend that the coolant be mixed at a concentration of 50-1 rather than the 20-1 recommended by the coolant manufacturer. They have added bushings to the head stock of their lathes and recommended an additional collet at the back end of the head stock.

We have found that we can use somewhat higher speeds than recommended by Baker with good results. It is still necessary to use two cuts. For any production plans, it would seem best to follow Baker's experience rather than planning on an increase at Hanford.

R. E. SWENSON, PRODUCTION SUPT.
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