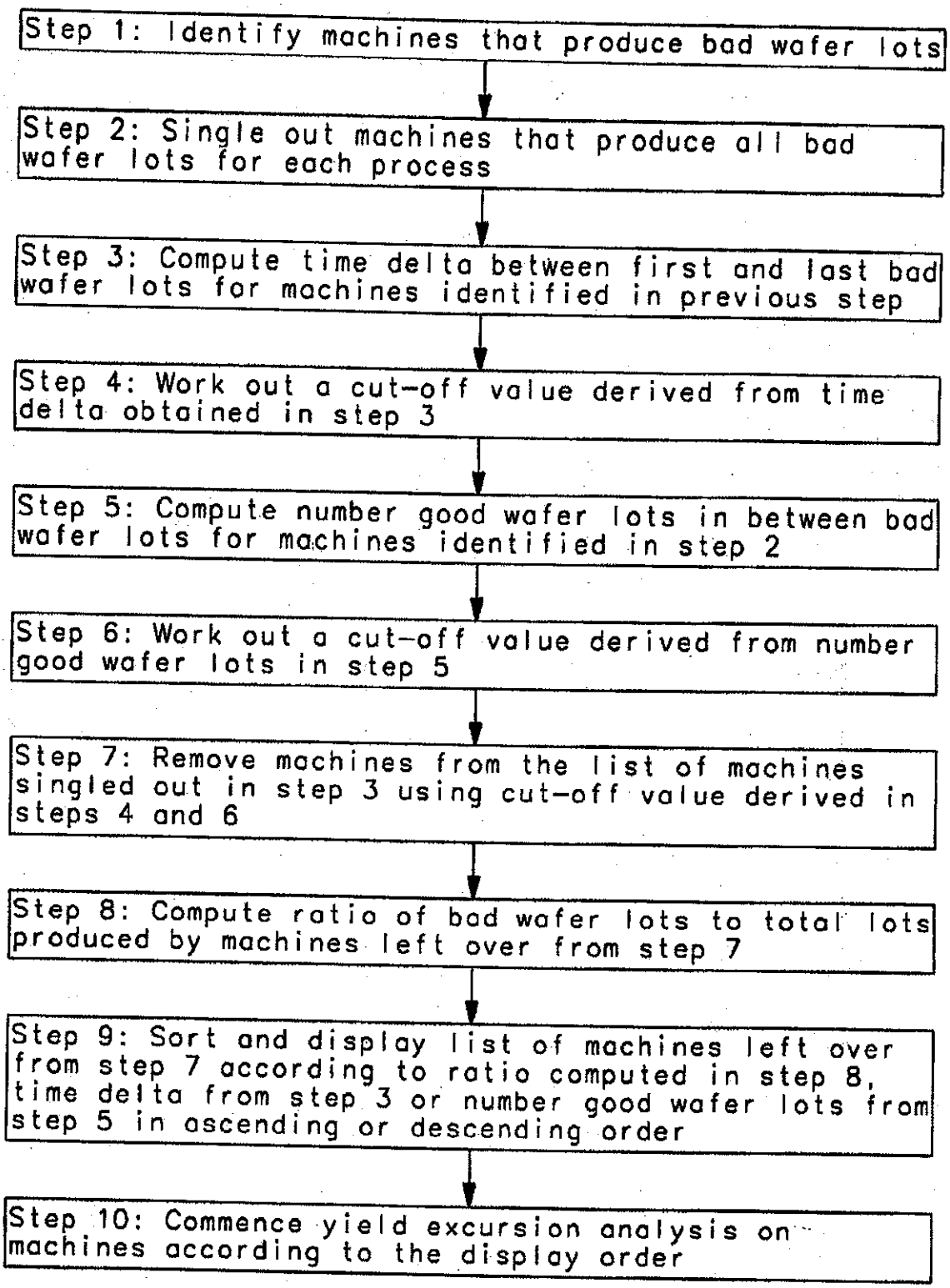

Step 1: Identify machines that produce bad wafer lots
Step 2: Single out machines that produce all bad wafer lots for each process
Step 3: Compute time delta between first and last bad wafer lots for machines identified in previous step
Step 4: Work out a cut-off value derived from time delta obtained in step 3
Step 5: Compute number good wafer lots in between bad wafer lots for machines identified in step 2
Step 6: Work out a cut-off value derived from number good wafer lots in step 5
Step 7: Remove machines from the list of machines singled out in step 3 using cut-off value derived in steps 4 and 6
Step 8: Compute ratio of bad wafer lots to total lots produced by machines left over from step 7
Step 9: Sort and display list of machines left over from step 7 according to ratio computed in step 8, time delta from step 3 or number good wafer lots from step 5 in ascending or descending order
Step 10: Commence yield excursion analysis on machines according to the display order

FIG. 1

Process	A			B		C		D		
Machine	M_{A1}	M_{A2}	M_{A3}	M_{B1}	M_{B2}	M_{C1}	M_{C2}	M_{D1}	M_{D2}	M_{D3}
Number Bad Wafer Lots	0	3	0	1	2	3	0	0	0	3
Ratio= Number Bad Wafer Lots / Number Total Bad Wafer Lots	$\frac{0}{3}$	$\frac{3}{3}$	$\frac{0}{3}$	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$	$\frac{0}{3}$	$\frac{0}{3}$	$\frac{0}{3}$	$\frac{3}{3}$

FIG. 2

Process	A	C	D
Machine with Ratio = 1	M_{A2}	M_{C1}	M_{D3}
Wafer Lots Processed within Timeframe of Bad wafer lots occurred	XXOOX	XOXOX	XOOOOOXOOOX
Time Delta Between 1st to last Bad Wafer lot	3	1	7
Number Good Wafer Lots in between Bad Wafer Lots	2	2	8

Legend: "X"bad wafer lot; "O"good wafer lot

FIG. 3

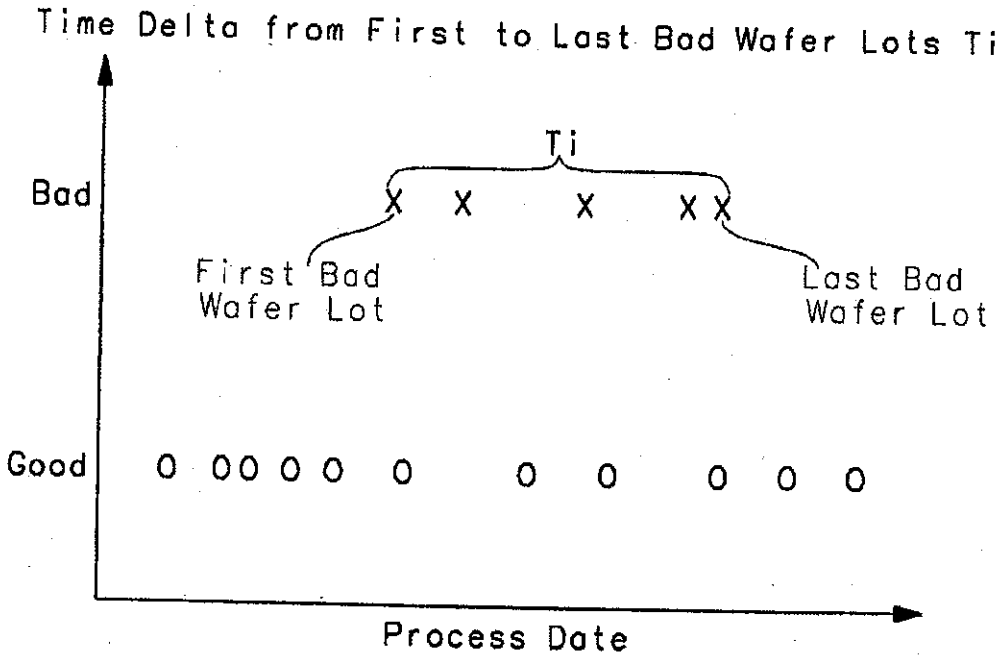

Time Delta from First to Last Bad Wafer Lots Ti
Ti
Bad
First Bad Wafer Lot
Last Bad Wafer Lot
Good
Process Date

FIG. 4

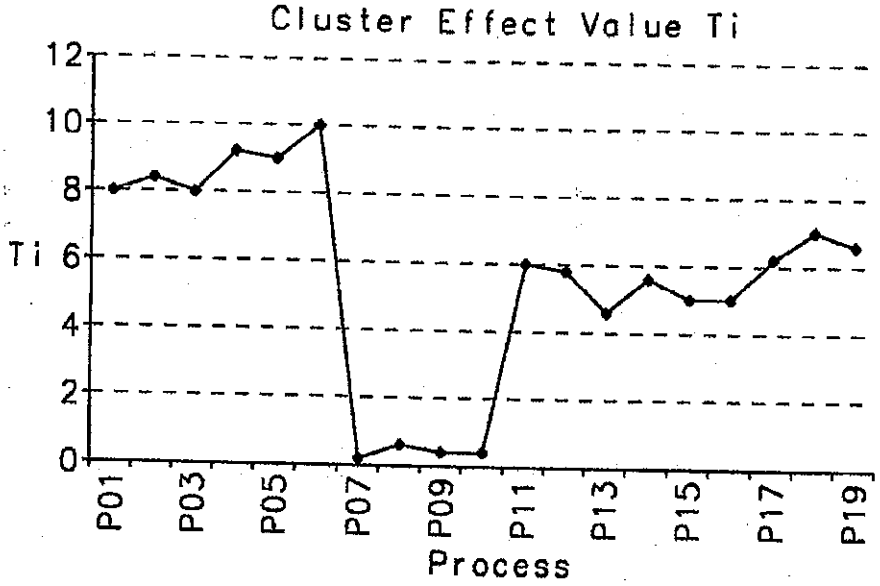

Cluster Effect Value Ti
12
10
8
Ti 6
4
2
0
P01
P03
P05
P07
P09
P11
P13
P15
P17
P19
Process

FIG. 5A

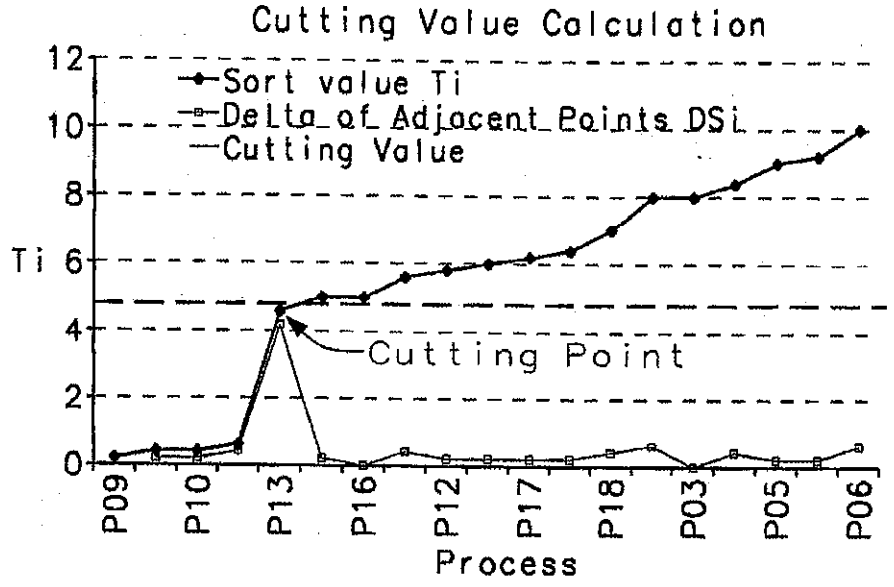

Cutting Value Calculation
Sort value Ti
Delta of Adjacent Points DSi
Cutting Value
Cutting Point
Ti
12
10
8
6
4
2
0
P09
P10
P13
P16
P12
P17
P18
P03
P05
P06
Process

FIG. 5B

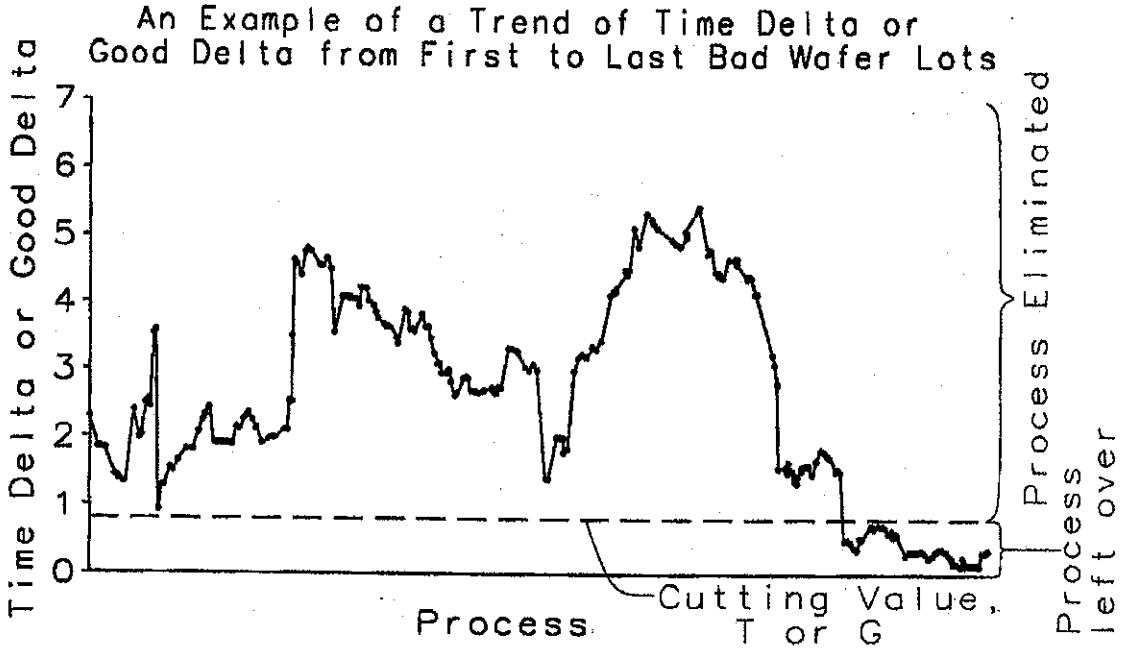

An Example of a Trend of Time Delta or
Good Delta from First to Last Bad Wafer Lots
Time Delta or Good Delta
7
6
5
4
3
2
1
0
Process
Cutting Value,
T or G
Process Eliminated
Process
left over

FIG. 6

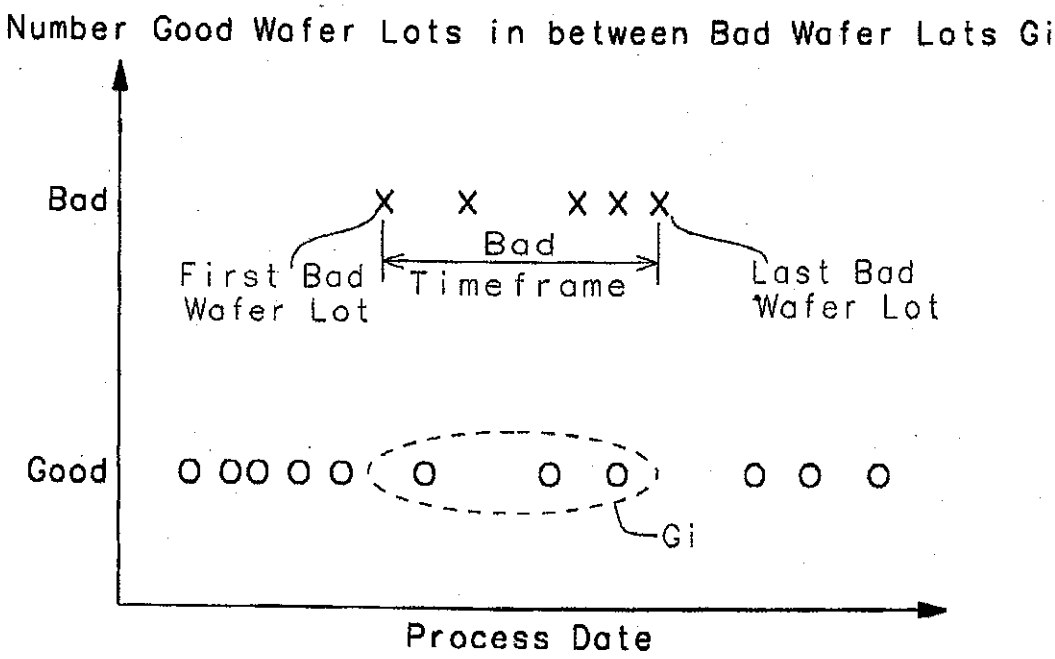
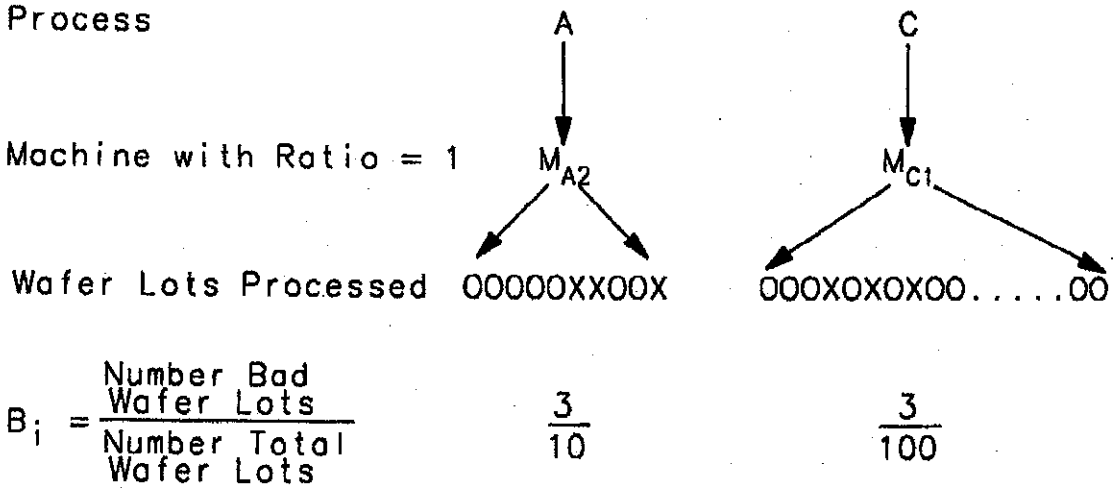


FIG. 7



Legend: "X"bad wafer lot; "O"good wafer lot

FIG. 8