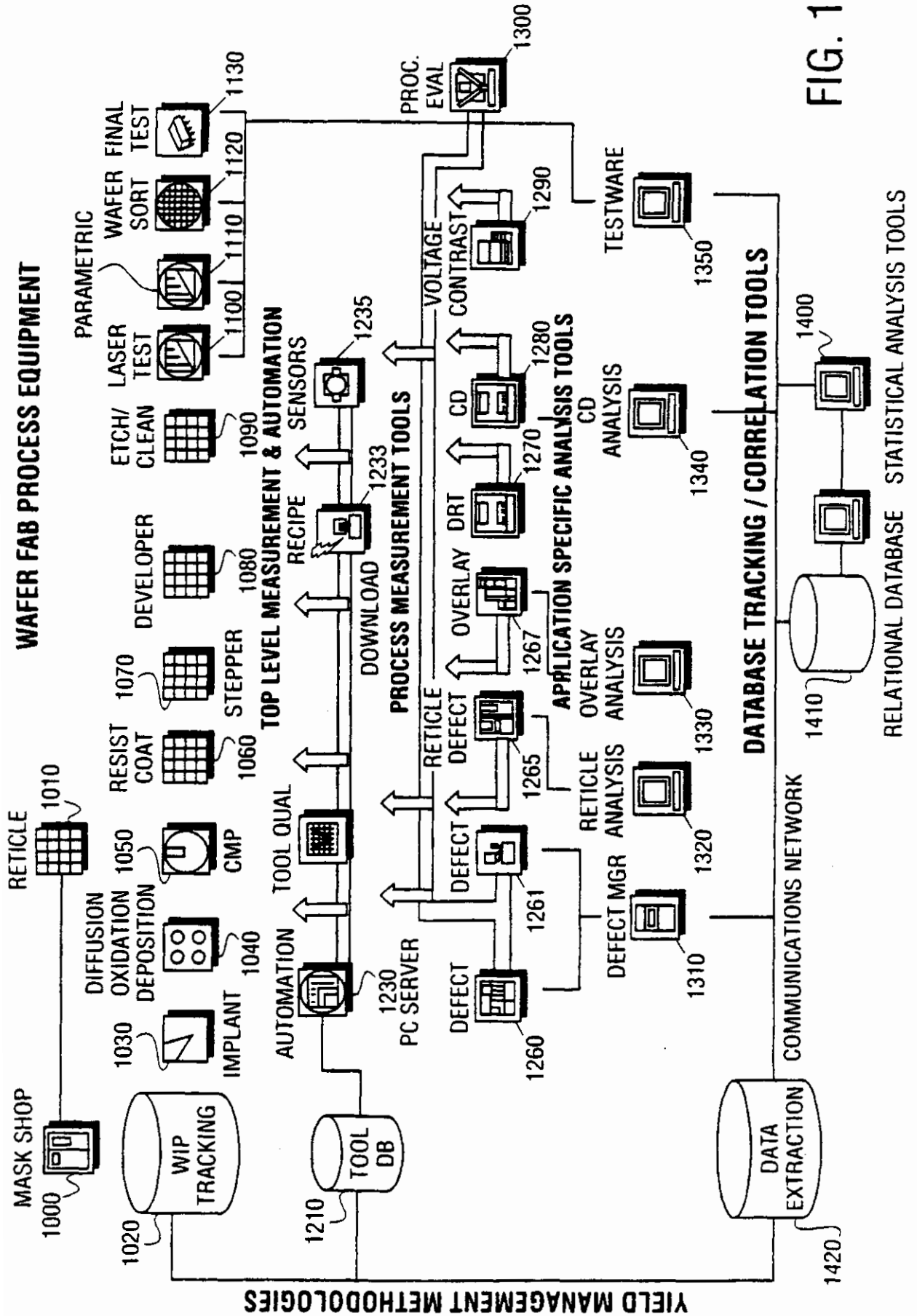


1/21



2/21

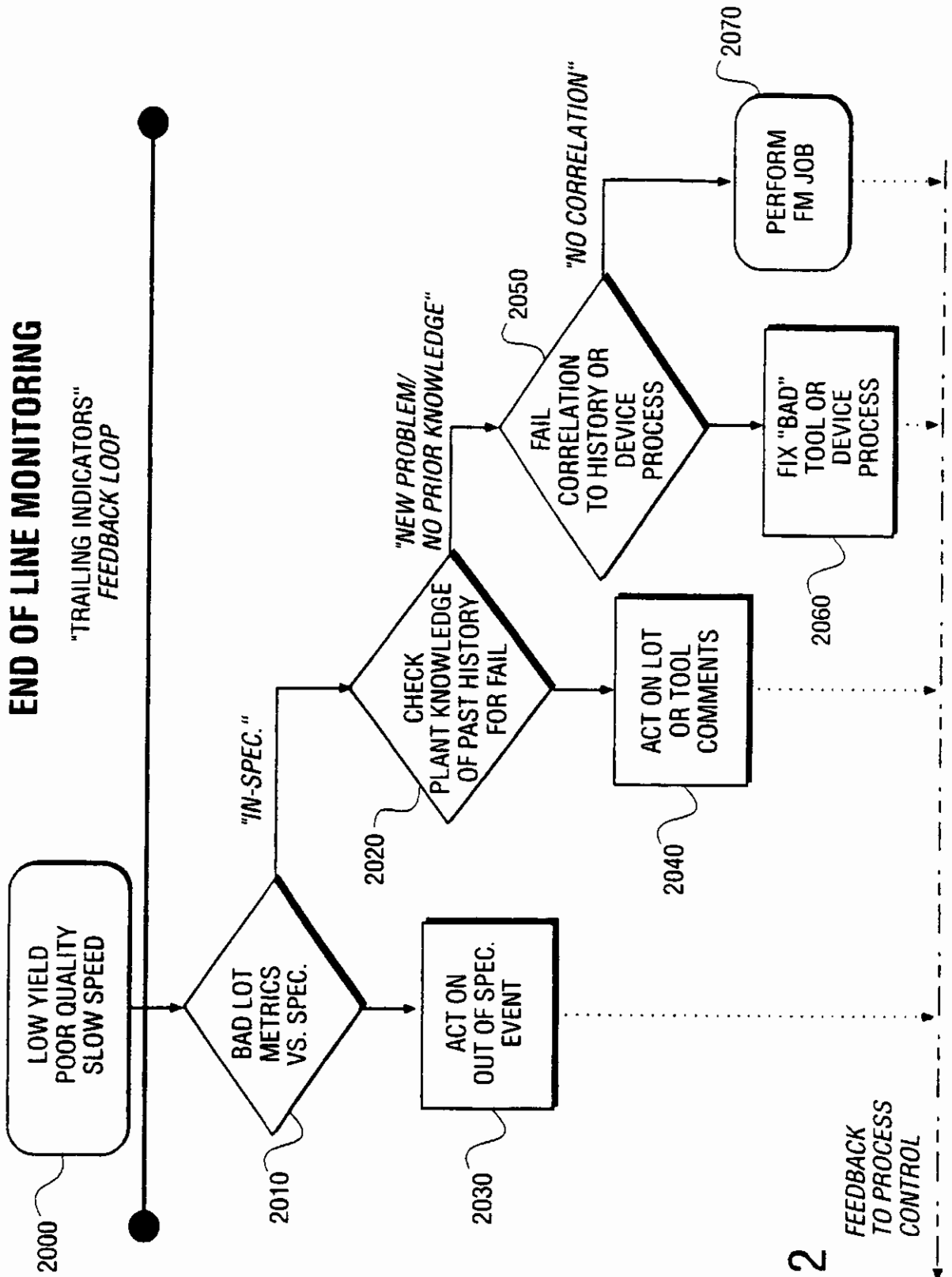


FIG. 2

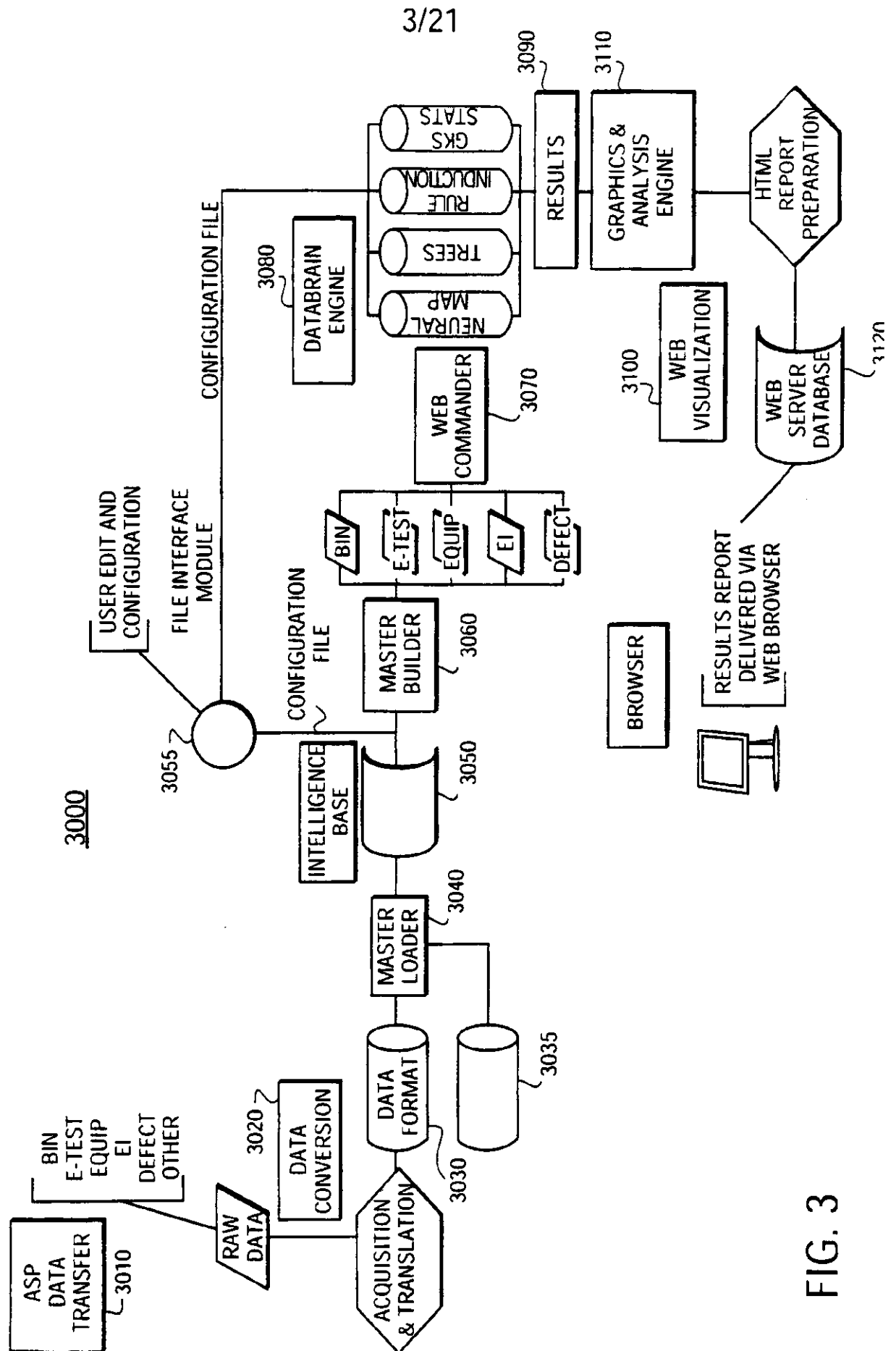


FIG. 3

4/21

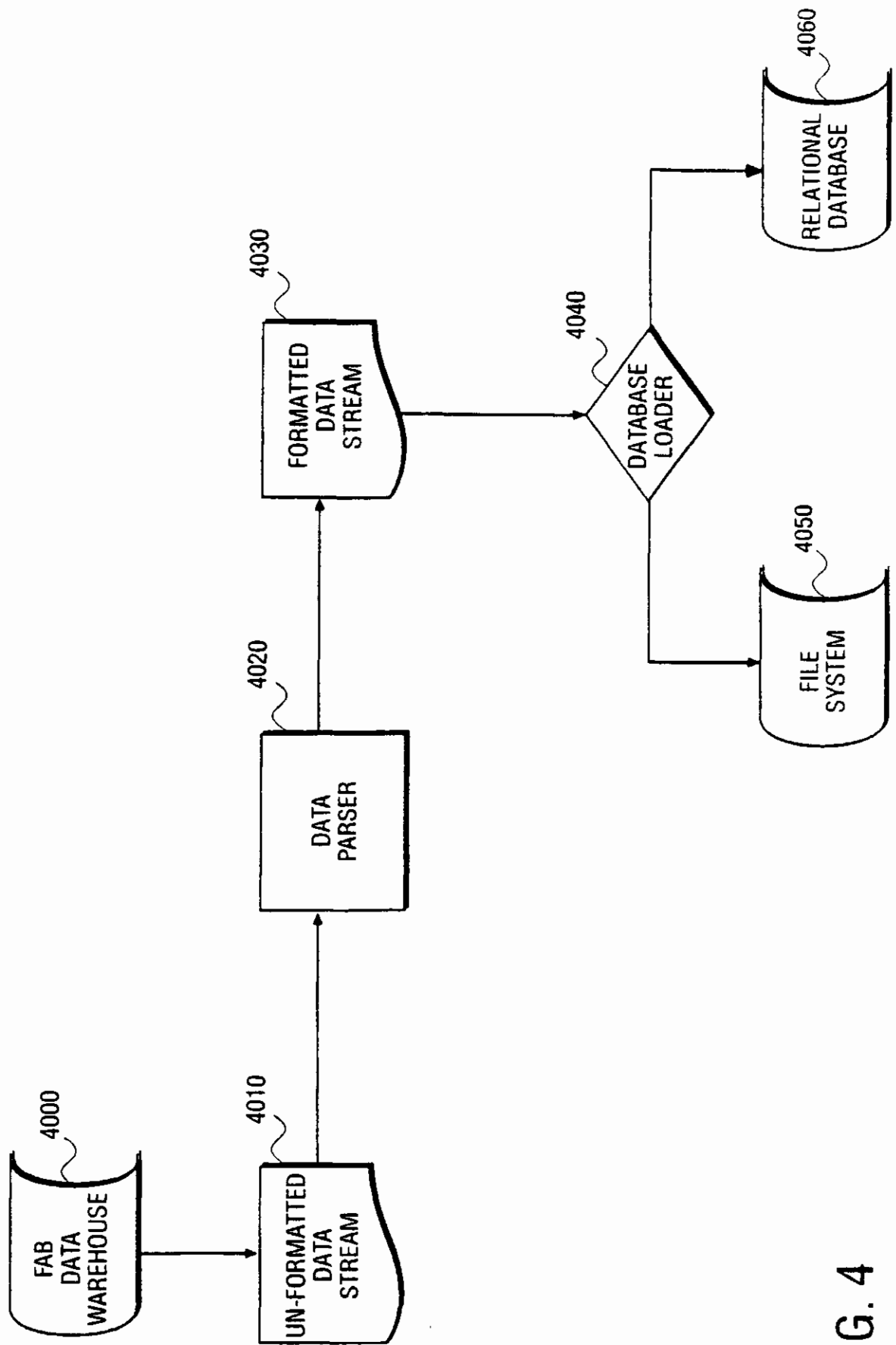


FIG. 4

5/21

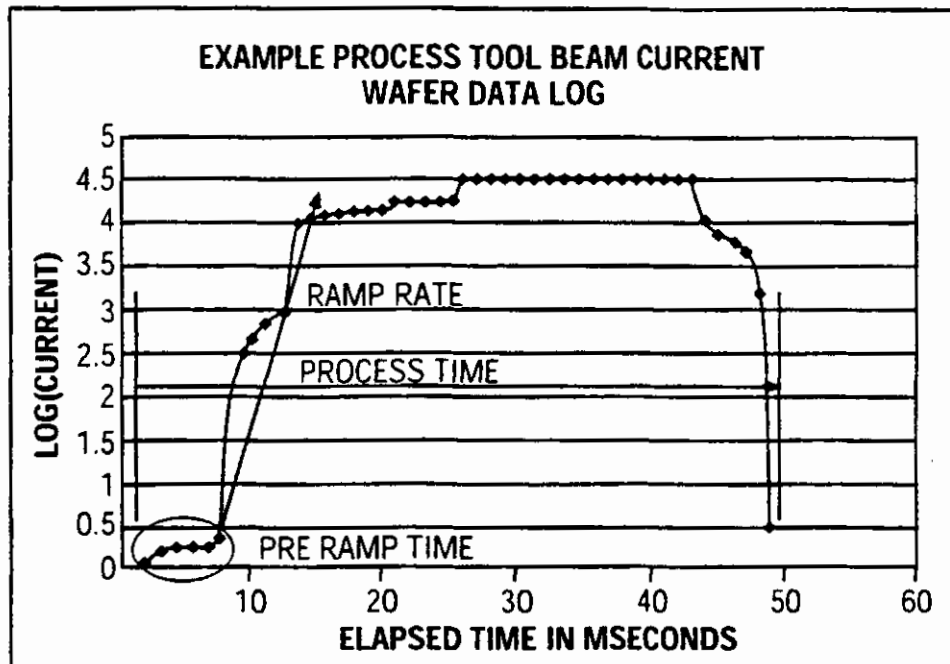


FIG. 5

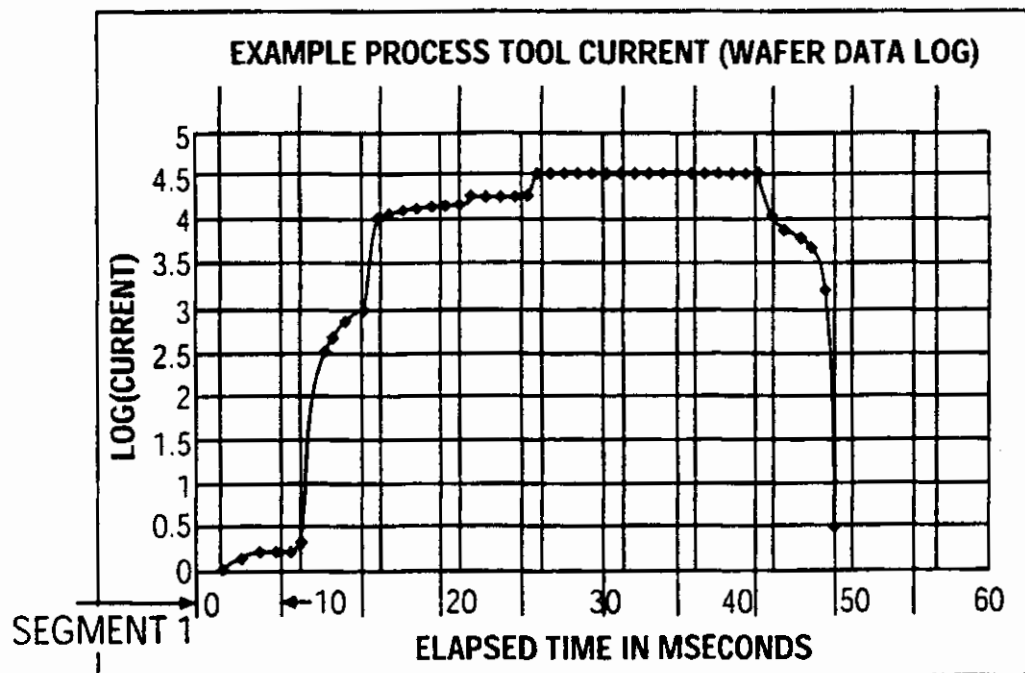


FIG. 6

6/21

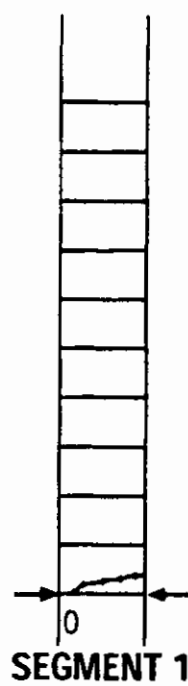


FIG. 7

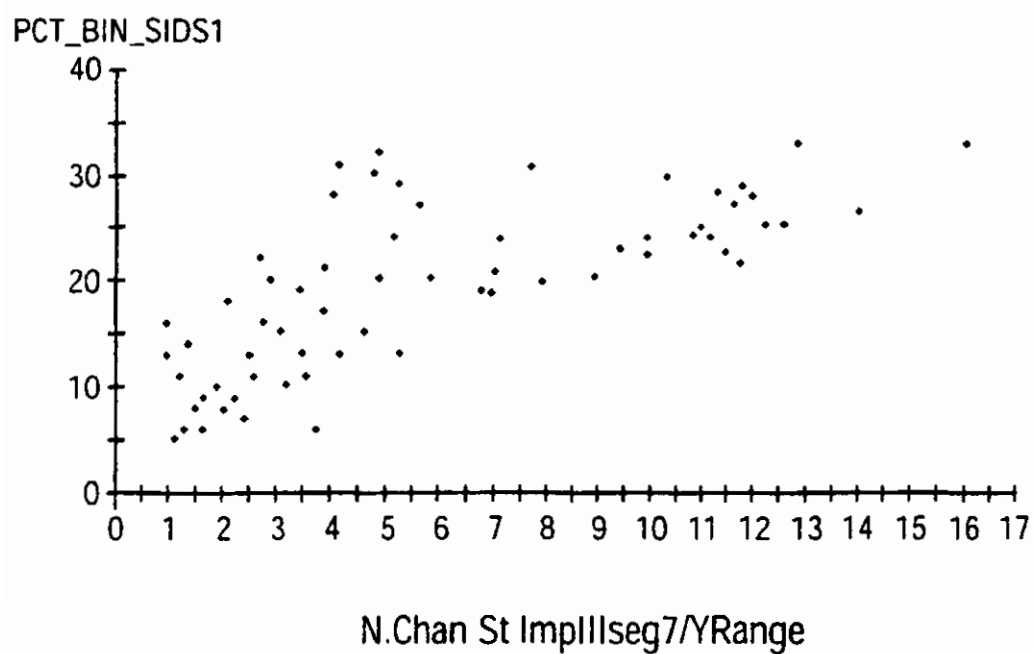


FIG. 8

7/21

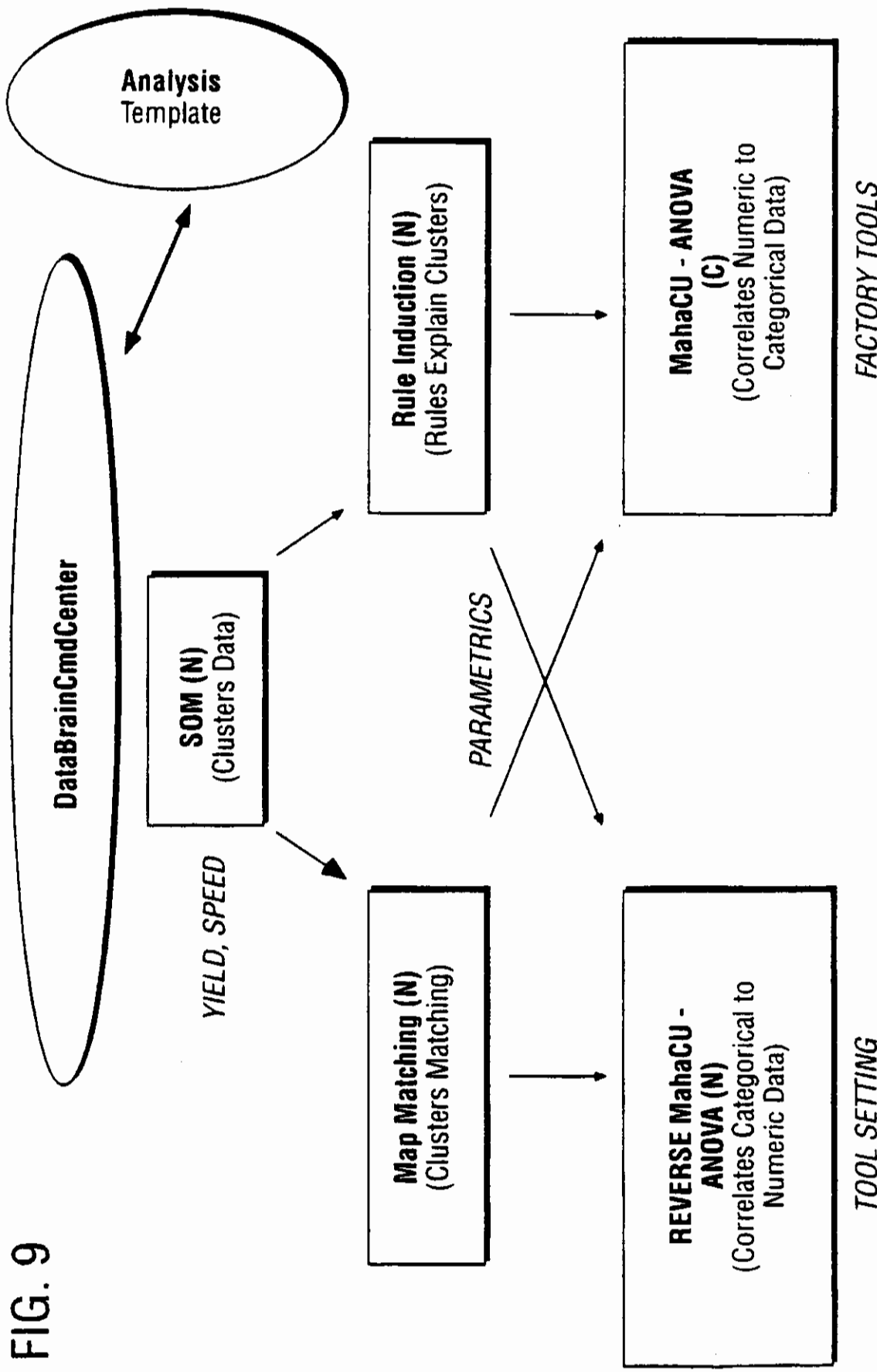


FIG. 9

8/21

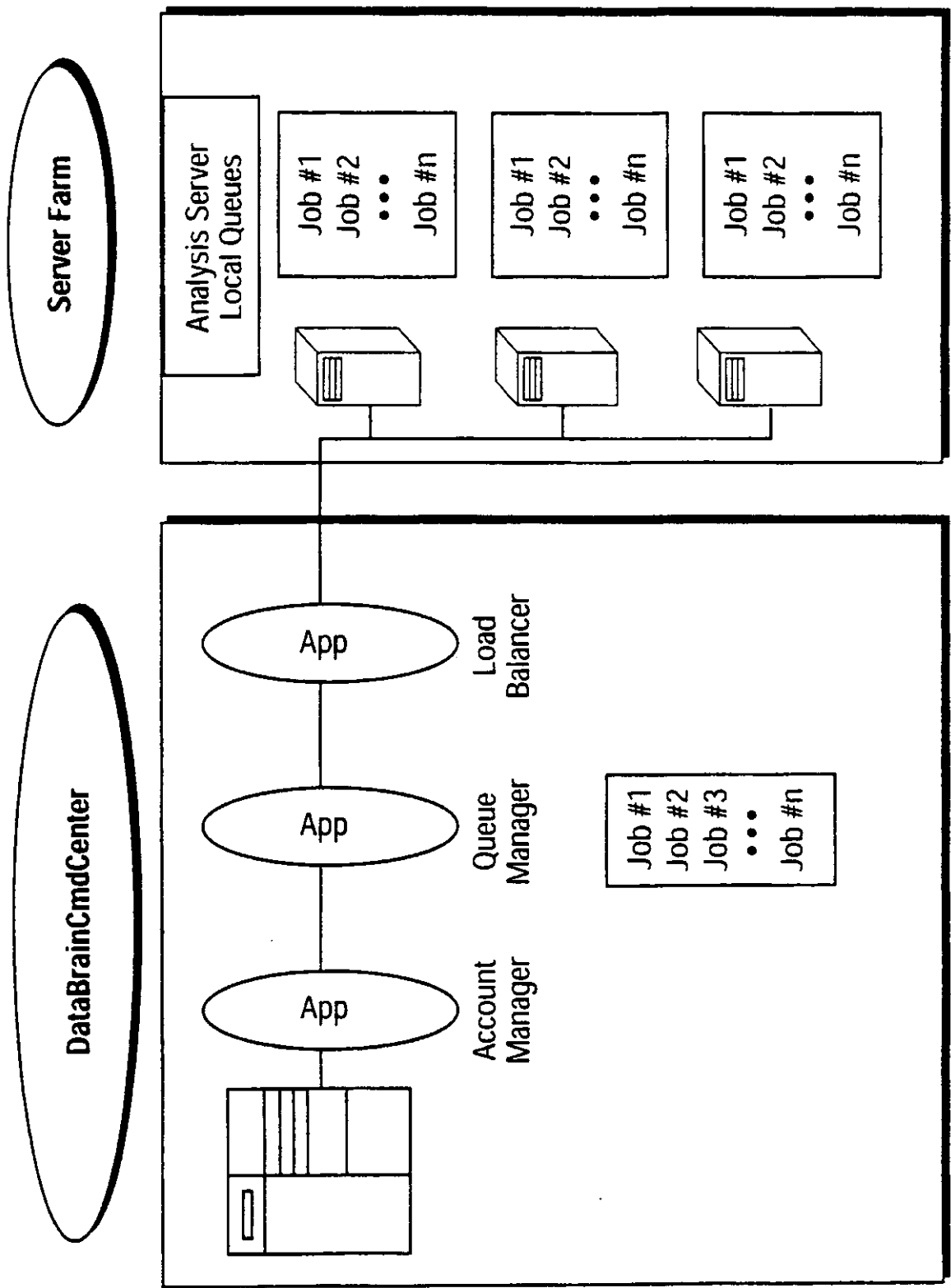


FIG. 10

9/21

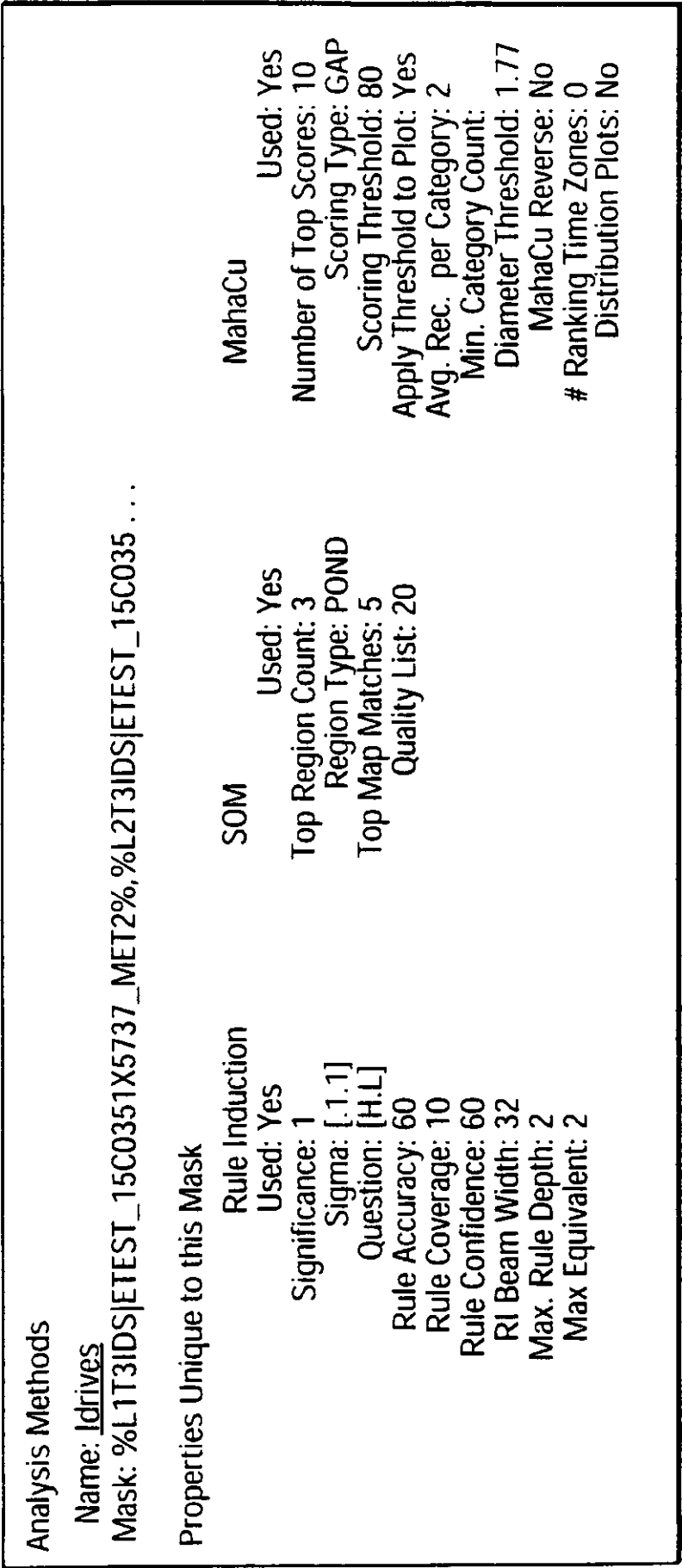


FIG. 11

10/21

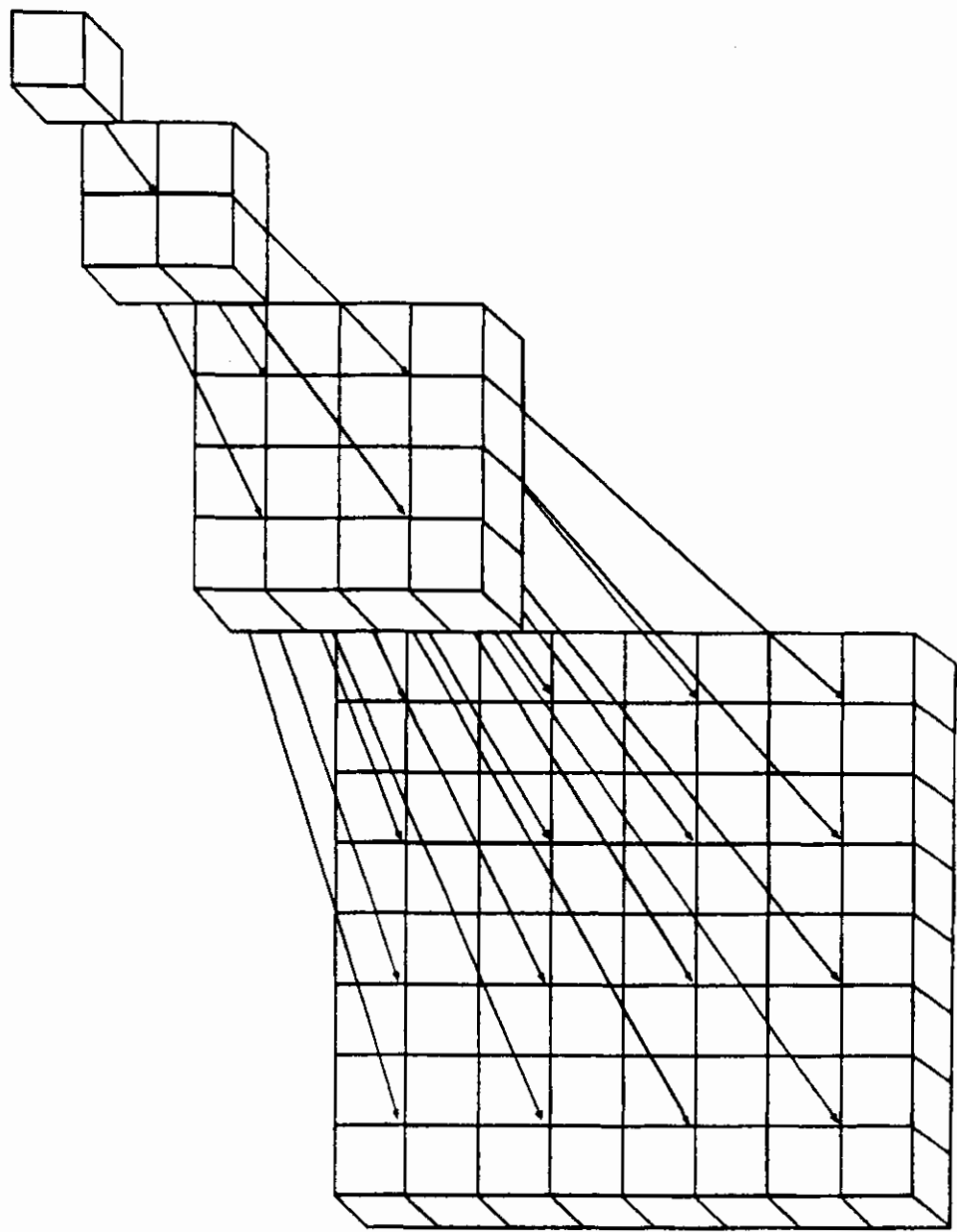
```
[ANALYSIS_METHODS]
DATABASE_CONNECTION_STR=kfabauto
DATA_CUBE_MASK=1053_PEL.GKS
2ND_DATA_CUBE_MASK=1053_EFL.GKS
DATE_MASKS=DATE_MASK1,DATE_MASK2
RULE_INDUCTION=1
SOM=1
MAHACu=0
APPLY_RULE_FILE=0

DRAW_BEST_FIT_LINE=0
DATA_CLEANER=1
SCATTER_2D_PLOT_SCALE=90
SCATTER_3D_PLOT_SCALE=90
GRAPH_DATA_WRITE_THESE_COLS=LEVEL1, WAFER%,DATE_OUT%

: multiple filters go on same line separated by comma
:[RULE_BASE]
:RULE_FULE = \\laureh\GKS\Customers\KFabauto\RuleBase\Rules\HoldingPen\1053_FILTER_RUL
```

FIG. 12

11/21



A HYPER-PYRAMID CUBE

FIG. 13

12/21

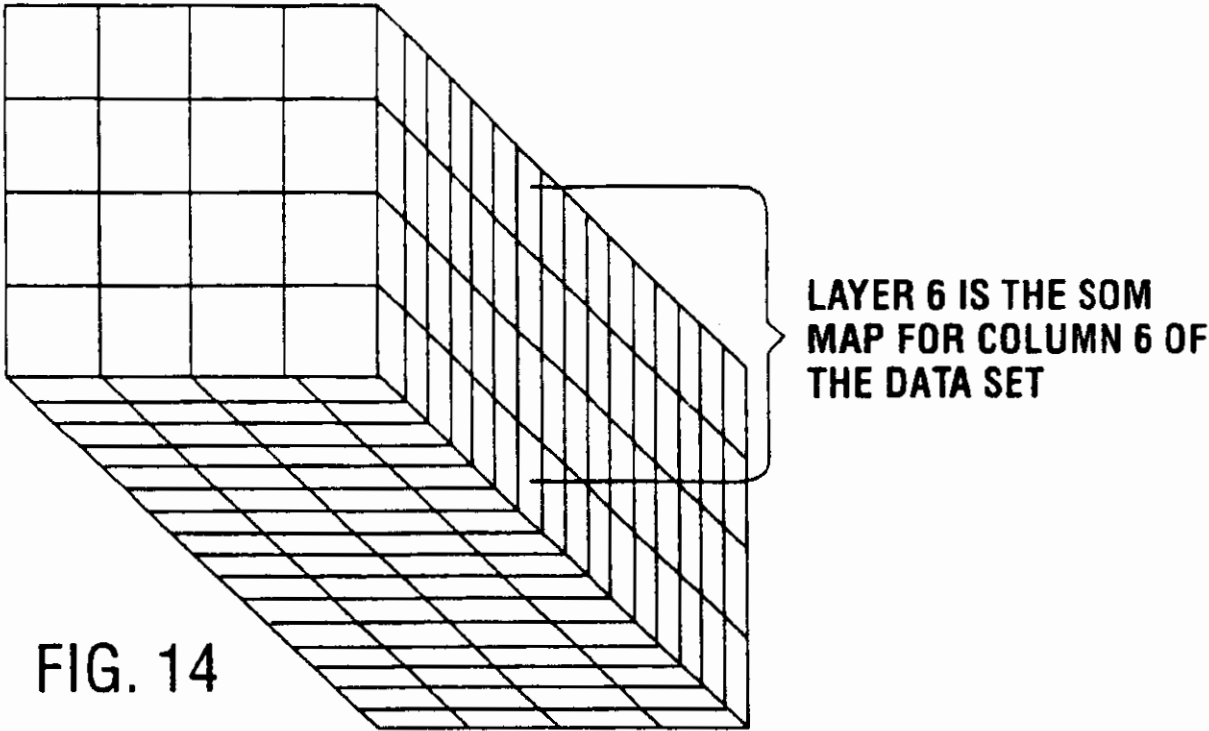


FIG. 14

A HYPER-PYRAMID CUBE LAYER (HYPER-CUBE)

R3	R7	R2	R3
R3	R2	R1	R6
R9	R2	R6	R1
R9	R5	R4	R1

FIG. 15

13/21

R3	R7	R2	R3
R3	R2	R1	R6
R9	R2	R6	R1
R9	R5	R4	R1

FIG. 16

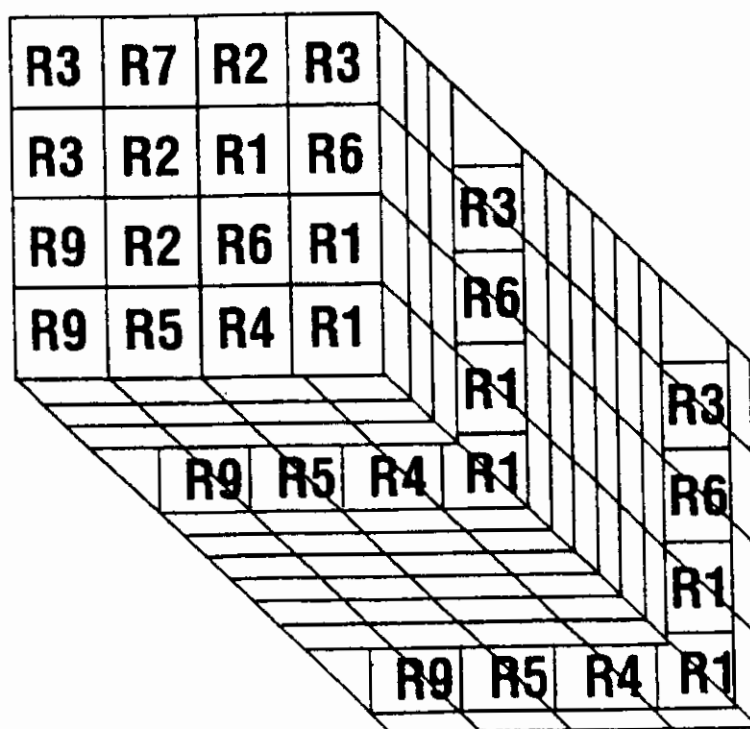


FIG. 17

CELL PROJECTION THROUGH A HYPER-CUBE

14/21

Pigin Technique Initial Category Definition

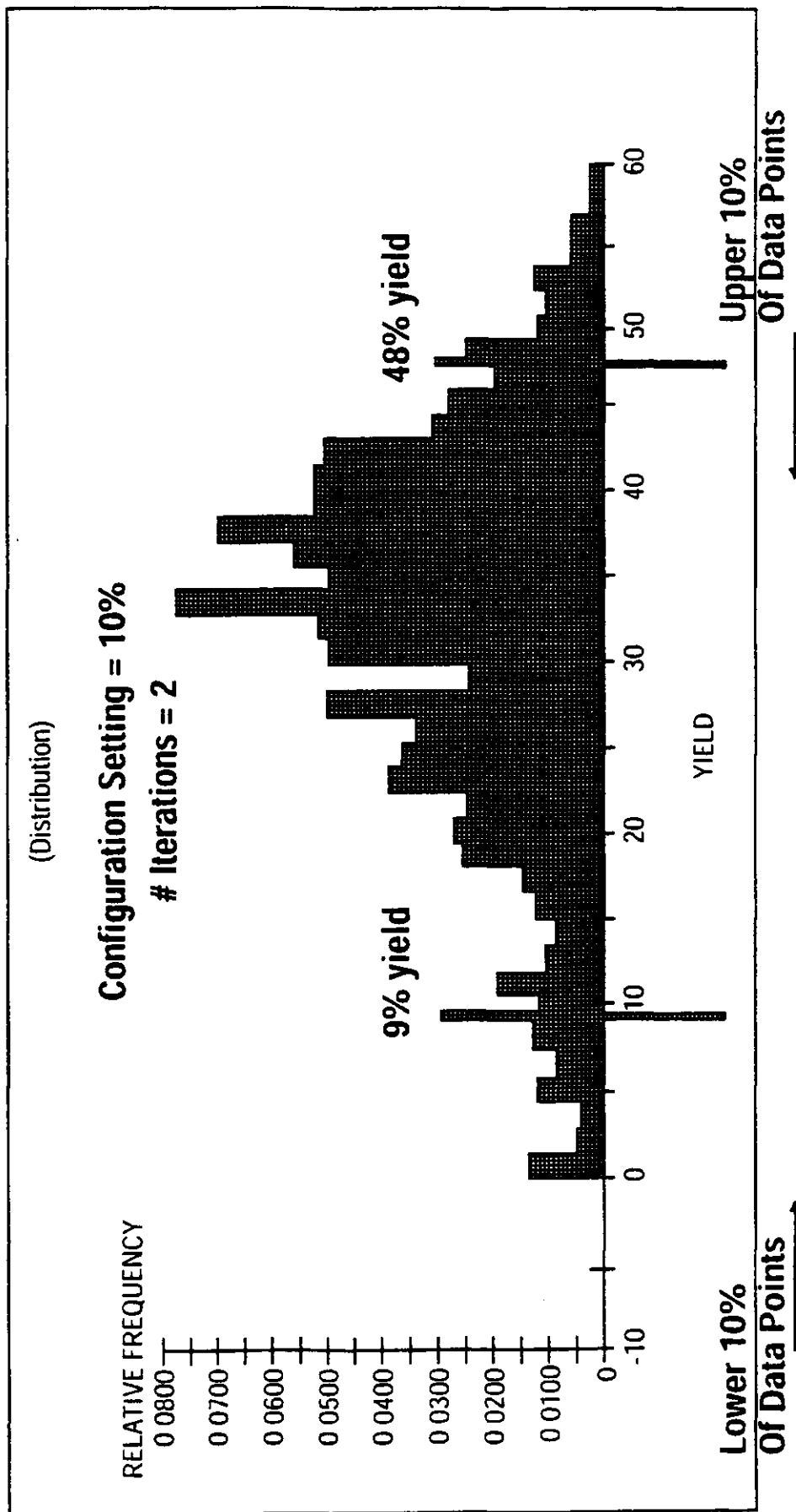
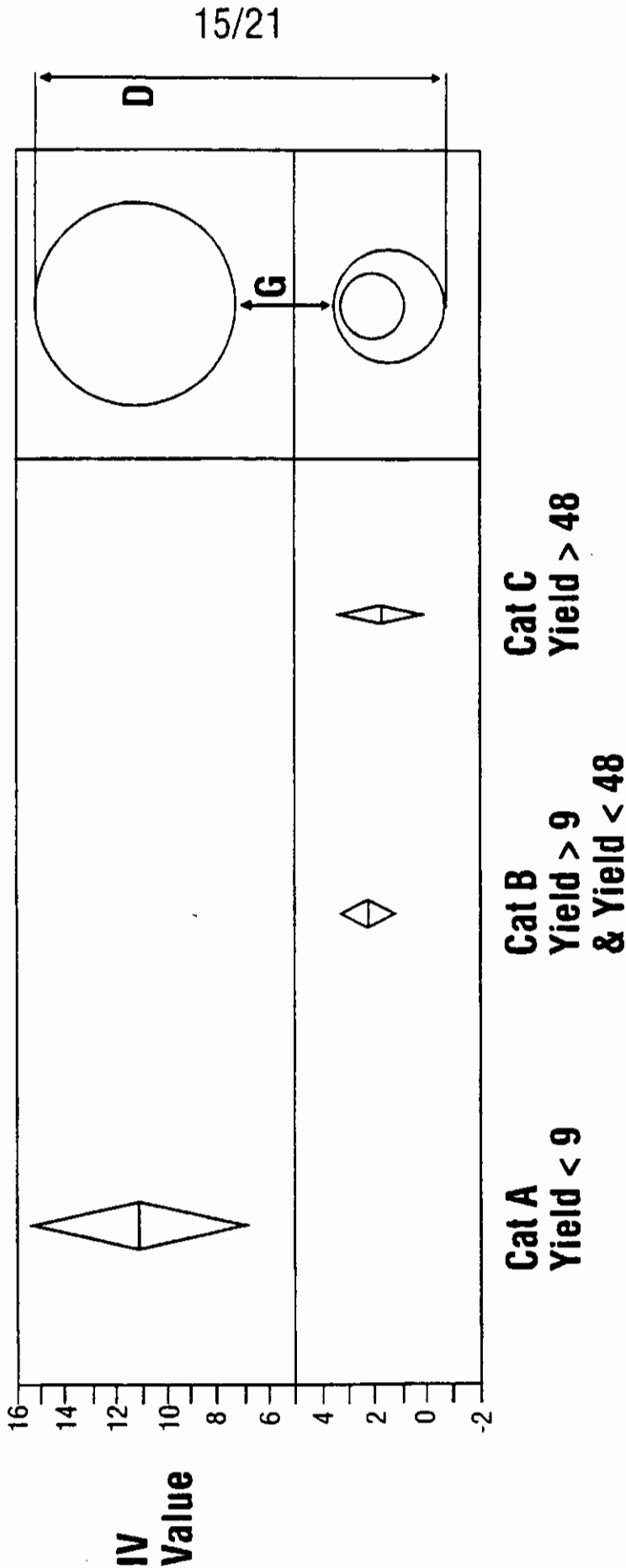


FIG. 18

Example Confidence Circles for an IV vs. DV

Gap score = sum total of all gaps (not within any circle)
Diameter Score = D / average diameter of the three circles

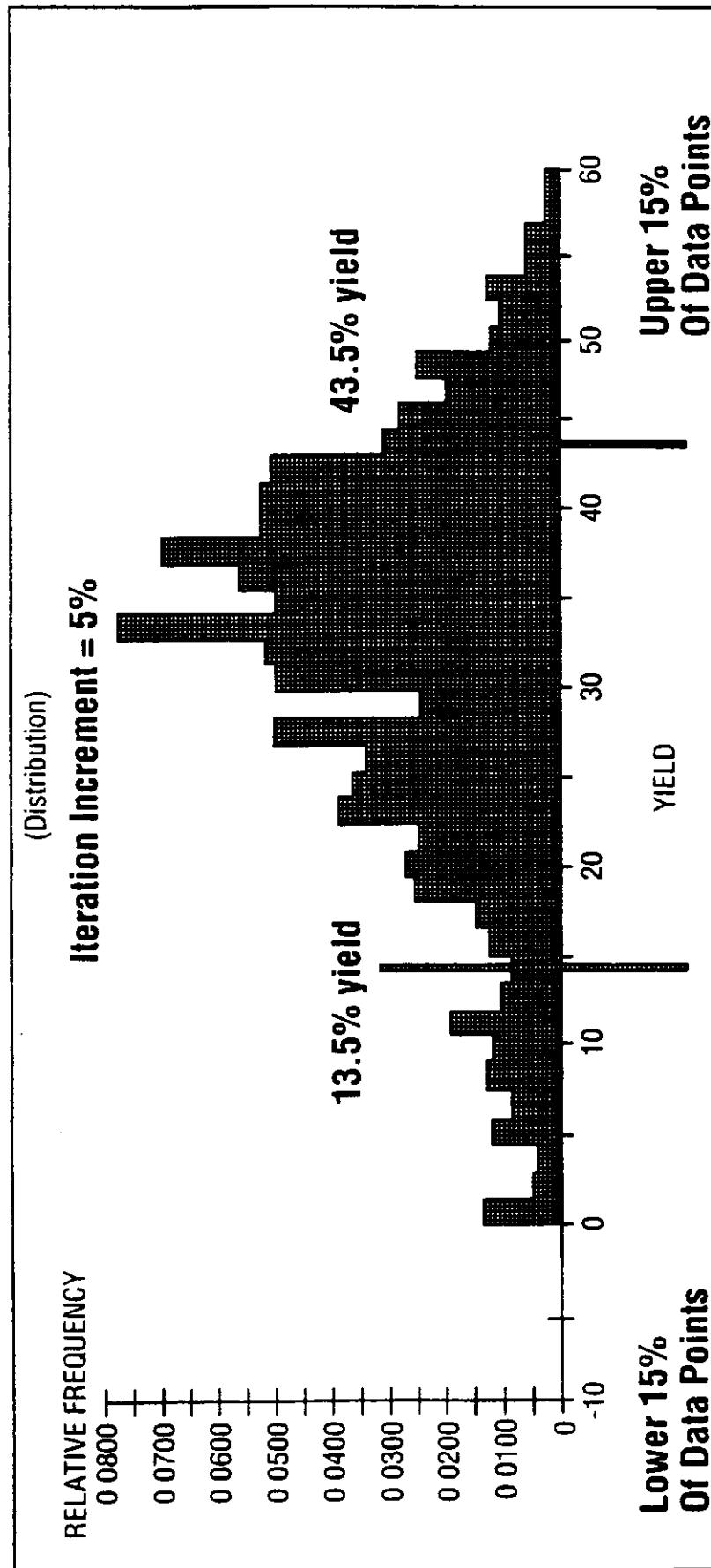


DV Categories are based upon numerical distribution for the DV.

FIG. 19

16/21

FIG. 20
Pigin Technique Category Re-Definition
2nd Iteration for DV Category Definitions



SCORING LISTS EXAMPLE:

DV Variable Name = Yield

Iteration 1 IV Rankings

IV	Gap	Diameter
IV30	.2	3.5
IV52	.18	3.4
IV66	.17	3.2
IV67	.15	3.5

Iteration 2 IV Rankings

IV	Gap	Diameter
IV35	.2	3.5
IV52	.18	3.4
IV61	.10	3.2
IV63	.09	3.5

Master Score List for DV=Yield

IV	Gap	Diameter	#Repeats
IV52	.18	3.4	2
IV30	.2	3.5	1
IV35	.2	3.5	1
IV66	.17	3.2	1

17/21

DEVICE	LOT	LOT_END_TIME	BIN_32	BIN_54	BIN_30	TRACKIN 203_LSR_ASH	Eq_Id 203_LSR_ASH	TRACKIN 218_LSR_STRIP	Eq_Id 218_LSR_STRIP
1234XYD	221102703	26-Jun-01	24.09	4.55	8.18	2001-05-10-13-09	ETGAS35Q7	2001-05-10-14-52	ETNSWS03
1234XYD	221180250	23-Jun-01	23.33	2.08	18.25	2001-05-10-06-27	ETGAS35Q4	2001-05-10-07-27	ETNSWS03
1234XYD	221180080	30-Jun-01	15.00	3.33	12.50	2001-05-01-09-52	ETGAS35Q4	2001-05-01-10-48	ETNSWS03
1234XYD	221180070	28-Jun-01	16.96	2.61	3.04	2001-05-01-09-02	ETGAS35Q7	2001-05-01-10-13	ETNSWS03
1234XYD	221170460	26-Jun-01	14.00	2.00	5.00	2001-04-28-01-10	ETGAS35Q2	2001-04-26-02-27	ETNSWS03
1234XYD	221170130	23-Jun-01	20.42	3.33		2001-04-25-08-57	ETGAS35Q1	2001-04-25-10-00	ETNSWS03
1234XYD	221458000	26-Jun-01	14.17	4.17	0.42	2001-04-25-04-51	ETGAS35Q5	2001-04-25-05-44	ETNSWS03
1234XYD	221170110	28-Jun-01	24.58	3.75	20.83	2001-04-25-01-58	ETGAS35Q6	2001-04-25-02-53	ETNSWS03
1234XYD	221160510	26-Jun-01	16.00	3.80	2.80	2001-04-25-06-34	ETGAS35Q7	2001-04-21-08-07	ETNSWS03
1234XYD	221160400	26-Jun-01	16.00	2.40	9.20	2001-04-19-03-59	ETULVETNP	2001-04-20-02-39	ETNSWS03
1234XYD	221180280	27-Jun-01	18.00	1.60	20.80	2001-04-19-03-19	ETULVETNP	2001-04-19-05-18	ETNSWS03
1234XYD	221160180	25-Jun-01	13.33	5.00	15.42	2001-04-18-06-39	ETGAS35Q6	2001-04-18-11-19	ETNSWS03
1234XYD	221160150	26-Jun-01	32.92	3.75	2.06	2001-04-18-11-15	ETGAS35Q5	2001-04-18-12-20	ETNSWS03
1234XYD	221150820	25-Jun-01	20.42	4.55	10.42	2001-04-15-10-09	ETGAS35P1	2001-04-15-11-28	ETNSWS03
1234XYD	221150810	17-Jun-01	19.58	5.00	1.67	2001-04-15-10-26	ETGAS35Q7	2001-04-15-11-26	ETNSWS03
1234XYD	221150800	24-Jun-01	21.74	3.48	10.87	2001-04-15-07-37	ETGAS35Q5	2001-04-15-10-13	ETNSWS03
1234XYD	221150730	24-Jun-01	26.33	4.17	11.25	2001-04-14-17-18	ETGAS35P6	2001-04-14-01-09	ETNSWS03
1234XYD	221150830	26-Jun-01	15.80	7.20	2.40	2001-04-13-23-37	ETGAS35P2	2001-04-14-01-09	ETNSWS03
1234XYD	221150600	25-Jun-01	15.20	2.00	28.80	2001-04-13-21-48	ETGAS35Q5	2001-04-13-23-06	ETNSWS03
1234XYD	221138270	27-Jun-01	17.08	3.33	6.57	2001-03-28-13-17	ETGAS35P1	2001-03-28-18-40	ETNSWS03

FIG. 21

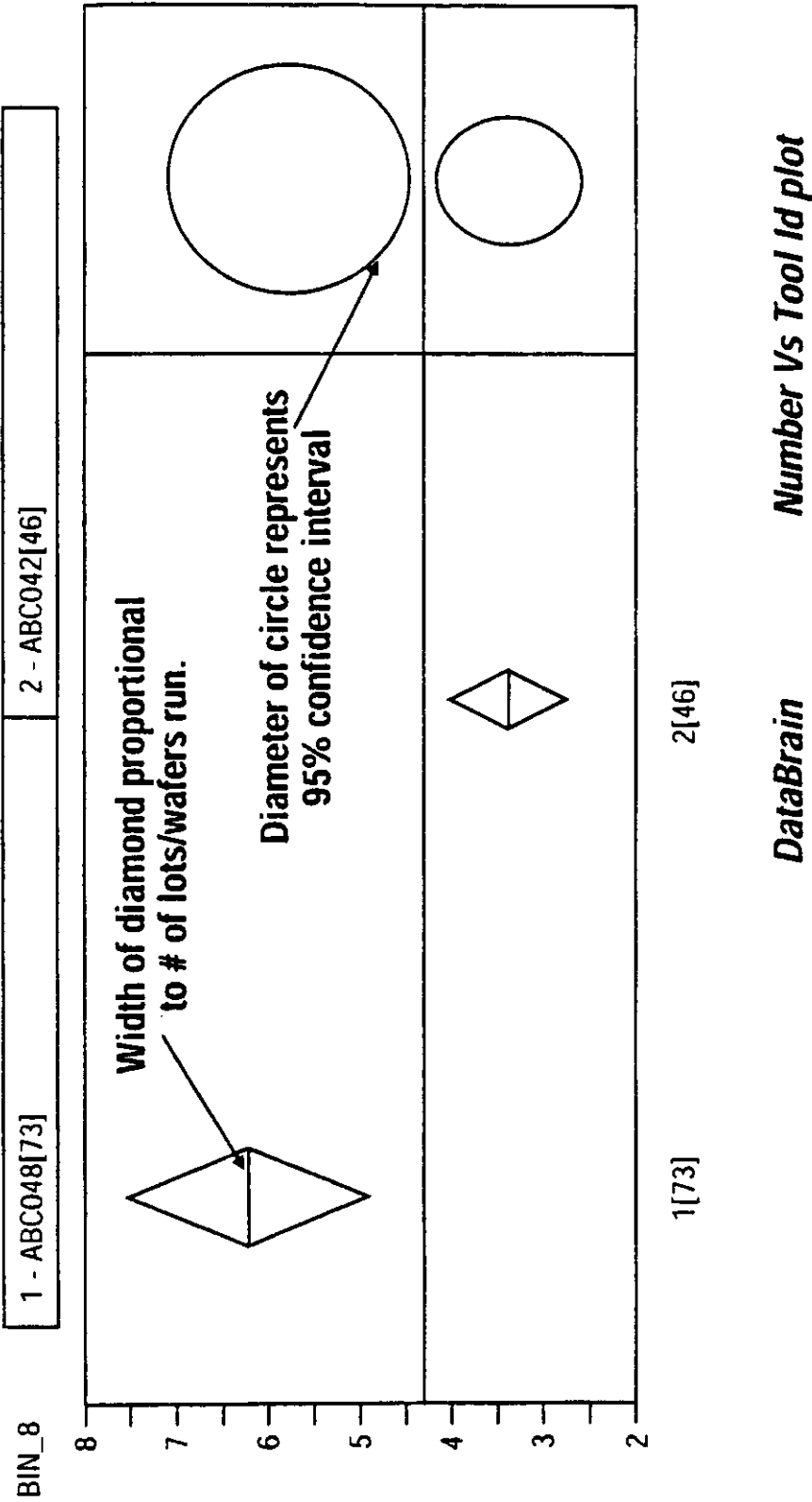


FIG. 22

FIG. 23

TOOL ID	Number of Lots
XT00L1	44
XT00L2	51
XT00L3	6

Example of scoring threshold filtering under-represented tools.

DefectRecordSpec	13	DEFECTID	XREL	YREL	XINDEX	YINDEX	XSIZE	YSIZE	DEFECTAREA	DSIZE	CLASSNUMBER	TEST	IMAGECOUNT	IMAGELIST
DefectList														
1	3.6295660000e+003	3.1987050000e+003	0	2	0.999000	0.999000	0.032000	1.790000000000e-001	95	1	0			
2	1.2501635000e+004	1.1613669000e+004	2	1	0.250000	0.250000	0.011900	1.090000000000e-001	0	1	0			
3	1.4073433000e+004	1.6317668000e+004	-1	0	0.499000	0.250000	0.019200	1.390000000000e-001	0	1	0			
4	4.4211260000e+003	4.5963820000e+003	0	-1	0.499000	0.499000	0.019200	1.390000000000e-001	166	1	0			
5	4.1131850000e+003	2.7772780000e+003	-3	-1	0.250000	0.250000	0.011900	1.090000000000e-001	166	1	0			

Example of a defect file to be transferred by the data translation algorithm

FIG. 24

20/21

LOTID	WAFERID	DATE_OUT	DIE_X	DIE_Y	CATEGORY	Bin Code	IM6API_Size-.2u	IM6API_Size-.2-.4u	IM6API_Size-.4-.8u	IM6API_Size-.6-.8u
37989	7	37016	5	12	Bad_Die	F	0	0	1	0
37989	7	37016	5	13	Bad_Die	F	0	0	0	0
37989	7	37016	5	15	Bad_Die	F	0	0	2	0
37989	7	37016	5	16	Bad_Die	A	0	0	1	1
37989	7	37016	5	17	Bad_Die	F	0	0	1	0
37989	7	37016	5	19	Bad_Die	F	0	0	0	0
37989	7	37016	13	6	Bad_Die	F	0	0	0	1
37989	7	37016	13	7	Bad_Die	A	0	0	0	0
37989	7	37016	9	10	Bad_Die	A	0	0	1	0
37989	7	37016	13	8	Bad_Die	A	0	0	0	0
37989	7	37016	9	11	Bad_Die	F	0	0	1	1
37989	7	37016	9	12	Bad_Die	A	0	0	1	1
37989	7	37016	7	3	Bad_Die	F	0	0	0	0
37989	7	37016	9	13	Bad_Die	F	0	0	0	0
37989	7	37016	7	4	Bad_Die	9	0	0	0	0
37989	7	37016	9	14	Bad_Die	A	0	0	0	0
37989	7	37016	7	5	Bad_Die	A	0	0	3	0

Example of a datamatrix translated by the data translation algorithm

FIG. 25

21/21

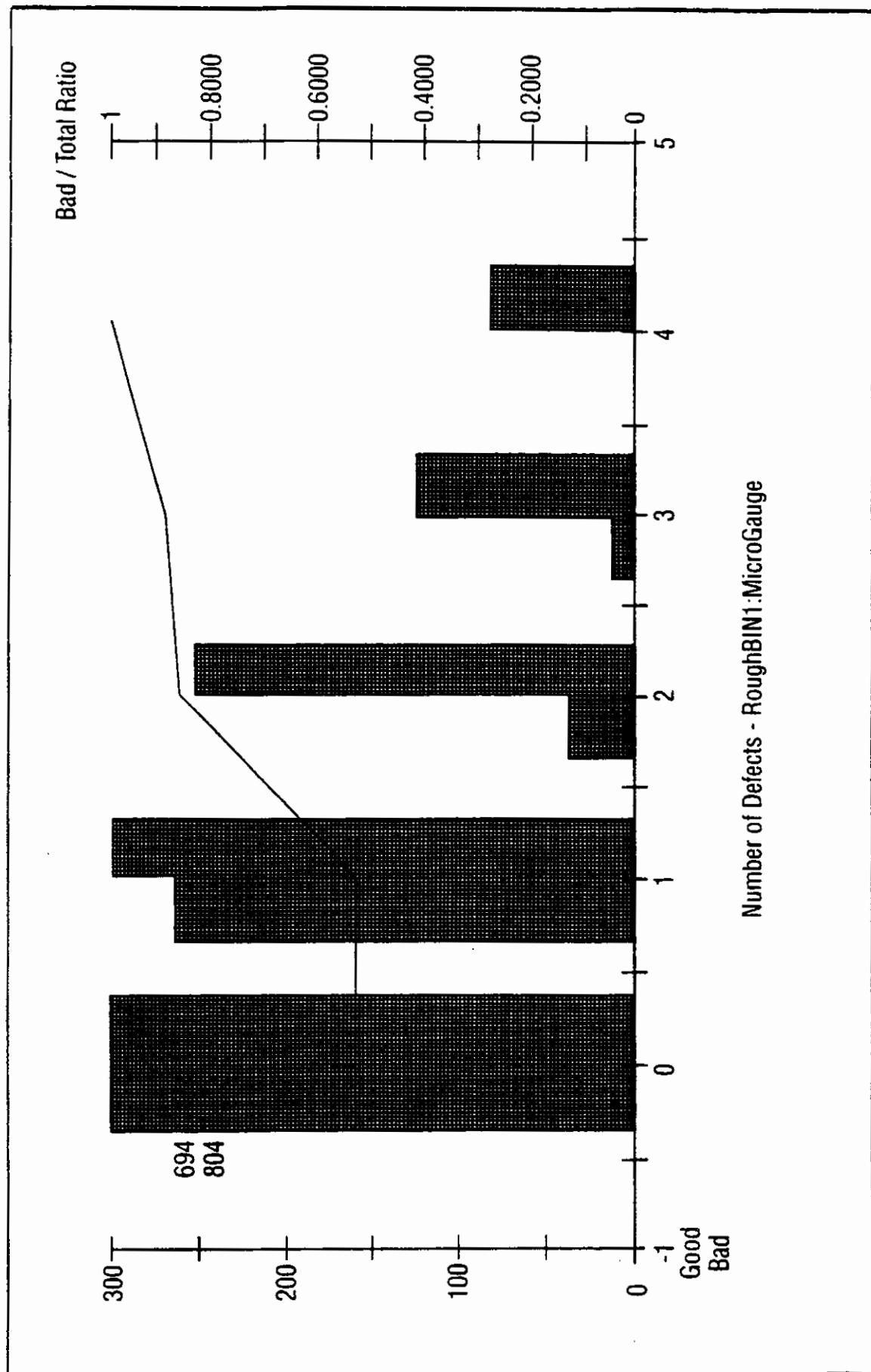


FIG. 26