

→ PVC Litigation
RECEIVED
FEB 13 90

To: W. L. McClain

WILLIAM L. McCLAIN

From: J. Richard Williams
Date: February 12, 1990

VISTA

Interoffice
Communication

Subject: 1QFY90 SPC Charts for RVCM

Please find attached SPC charts for RVCM testing on all PVC resin products produced at the Aberdeen PVC plant during October, November and December, 1989. This report is being sent to you to add to your PVC/VCM Litigation File. These charts will be sent to you each quarter.

If you have any questions, please call me. My number is (601) 369-3613.



J. Richard Williams
Quality Control Supervisor

cc: RRS

CCR 000006160

5265 RVCN 1ST Q FY90

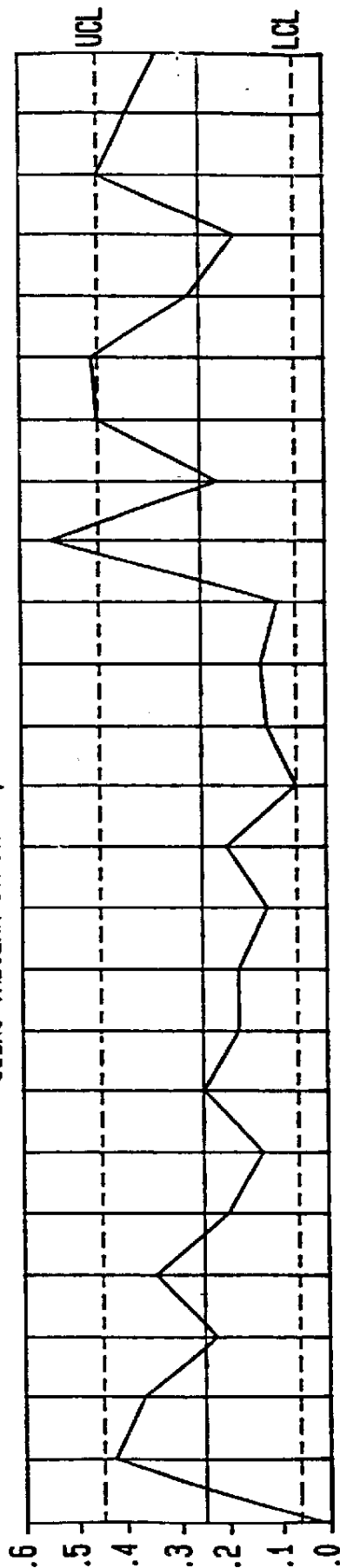
VISTA POLYMERS

02-08-1990

X-bar Chart

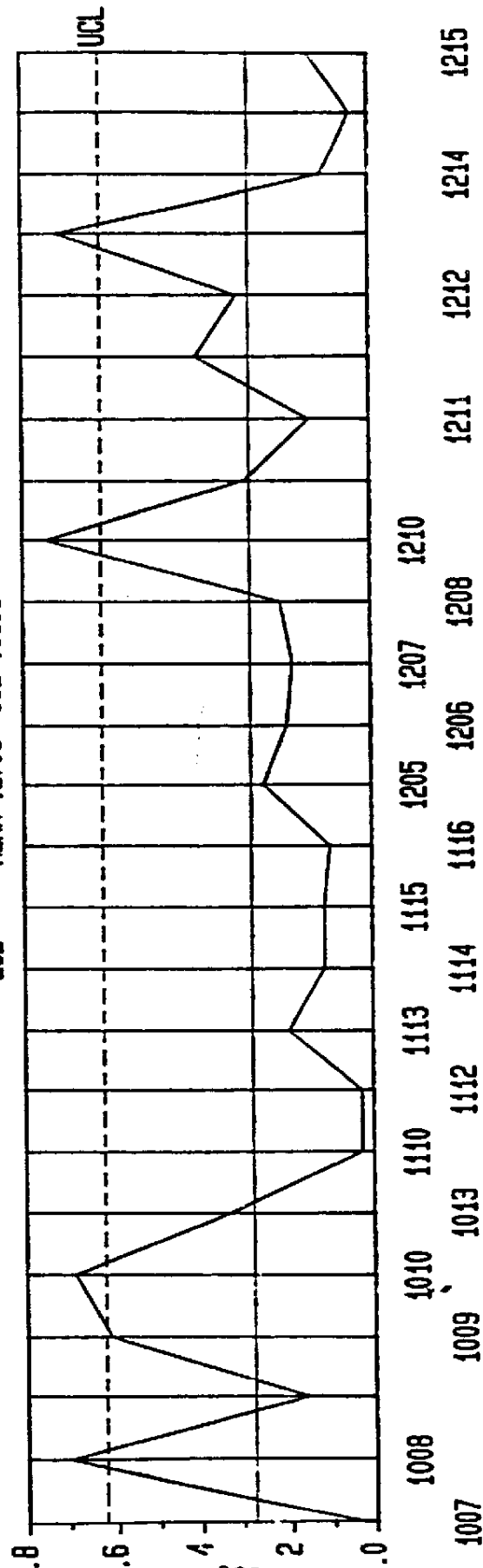
LCL=.0539 MEAN=.2514 UCL=.4488

USING TABULAR CONSTANTS, BASED ON 1007 TO 1215



Range Chart

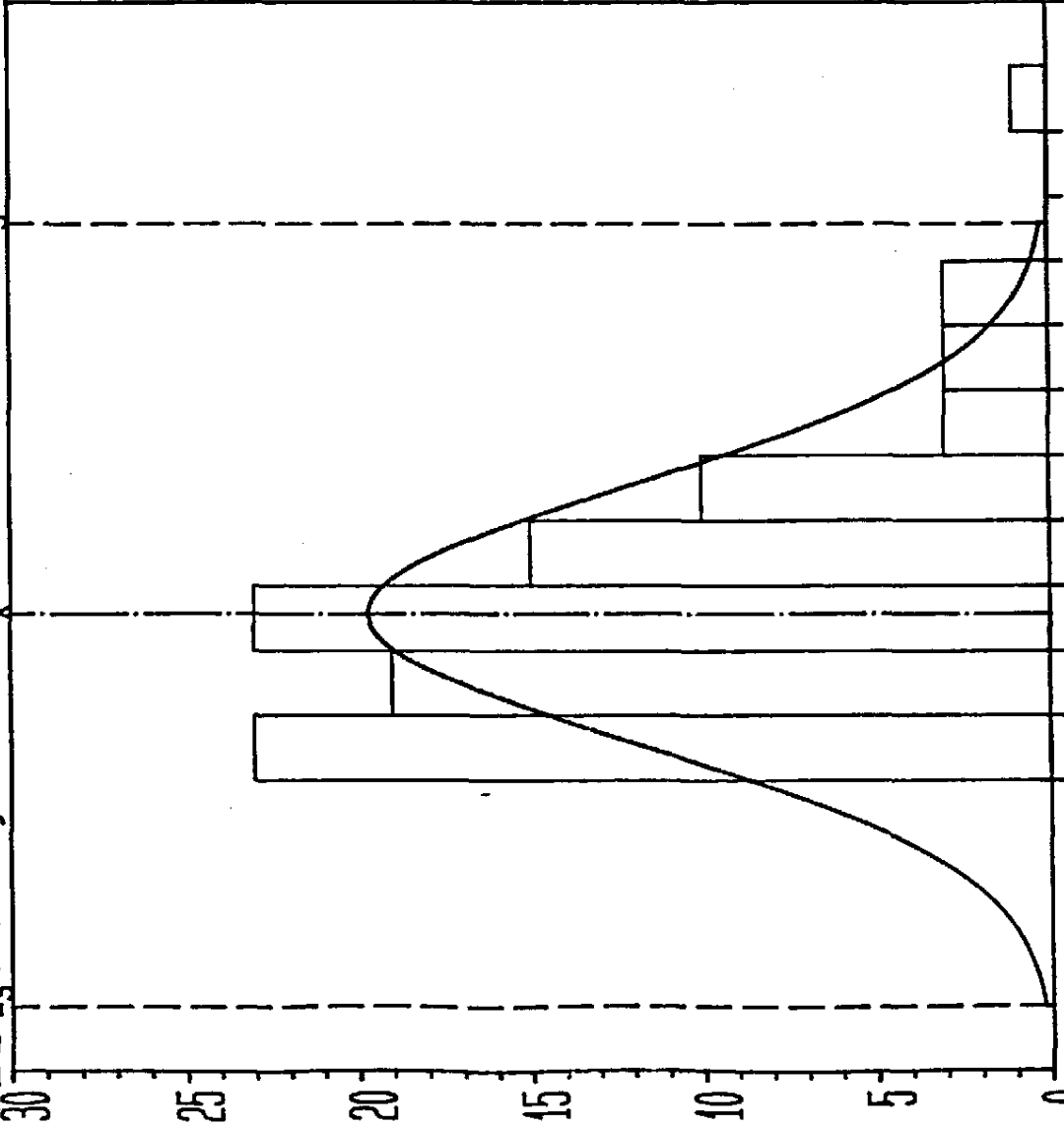
LCL=--- MEAN=.2708 UCL=.6181



5265 RVCN 1st Q FY90

02-04-1990

VISTA Polymers



Date: 02-04-1990
Interval = 0.0980
All samples (n=4)
100 data points
lower boundary
Mean = 0.2514
Sigma Indiv = 0.1962
Est. Sigma = 0.1315
Coeff. Var. = 0.7804
Min. Value = 0.000
Max. Value = 0.983
Kurtosis = 1.008
Skewness = 0.925
Chi Squared = 1.907
deg. free. = 3
Conf. Level = 95%
Normal

Capability
Using Sigma Indiv
Cpk = 1.27
Cp = 1.27
Cr = 0.79
Z upper = 3.82
Z lower = .
Actual %
Above Spec = 0.00
Below Spec = 0.00
Out of Spec = 0.00
Theoretical %
Above Spec = 0.01
Below Spec = 0.00
Out of Spec = 0.01
Mean + 3s = 0.8399
Mean - 3s = -0.3371

5305 RVCN 1STQ FY90

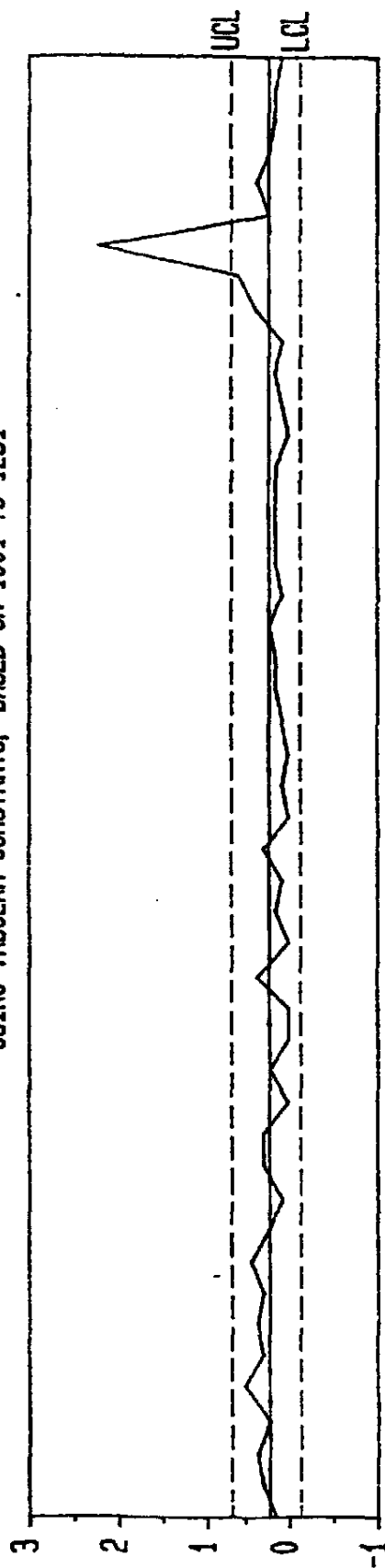
VISTA POLYMERS

02-07-1990

X-bar Chart

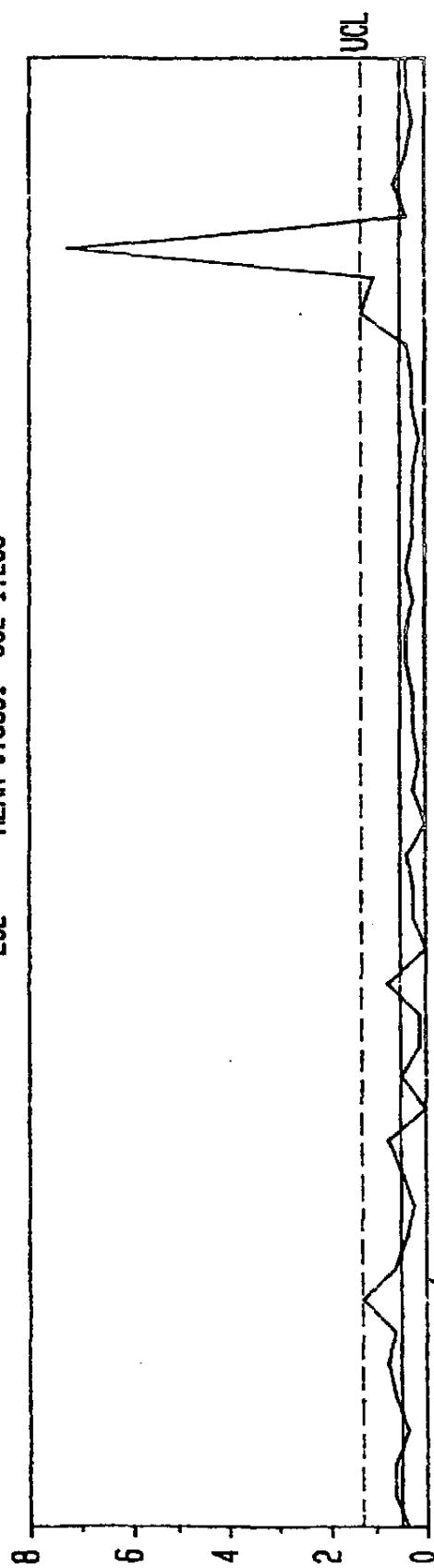
LCL=-.1634 MEAN=0.2471 UCL=0.6577

USING TABULAR CONSTANTS, BASED ON 1001 TO 1231



Range Chart

LCL=--- MEAN=0.5631 UCL=1.285



CCR 000006163

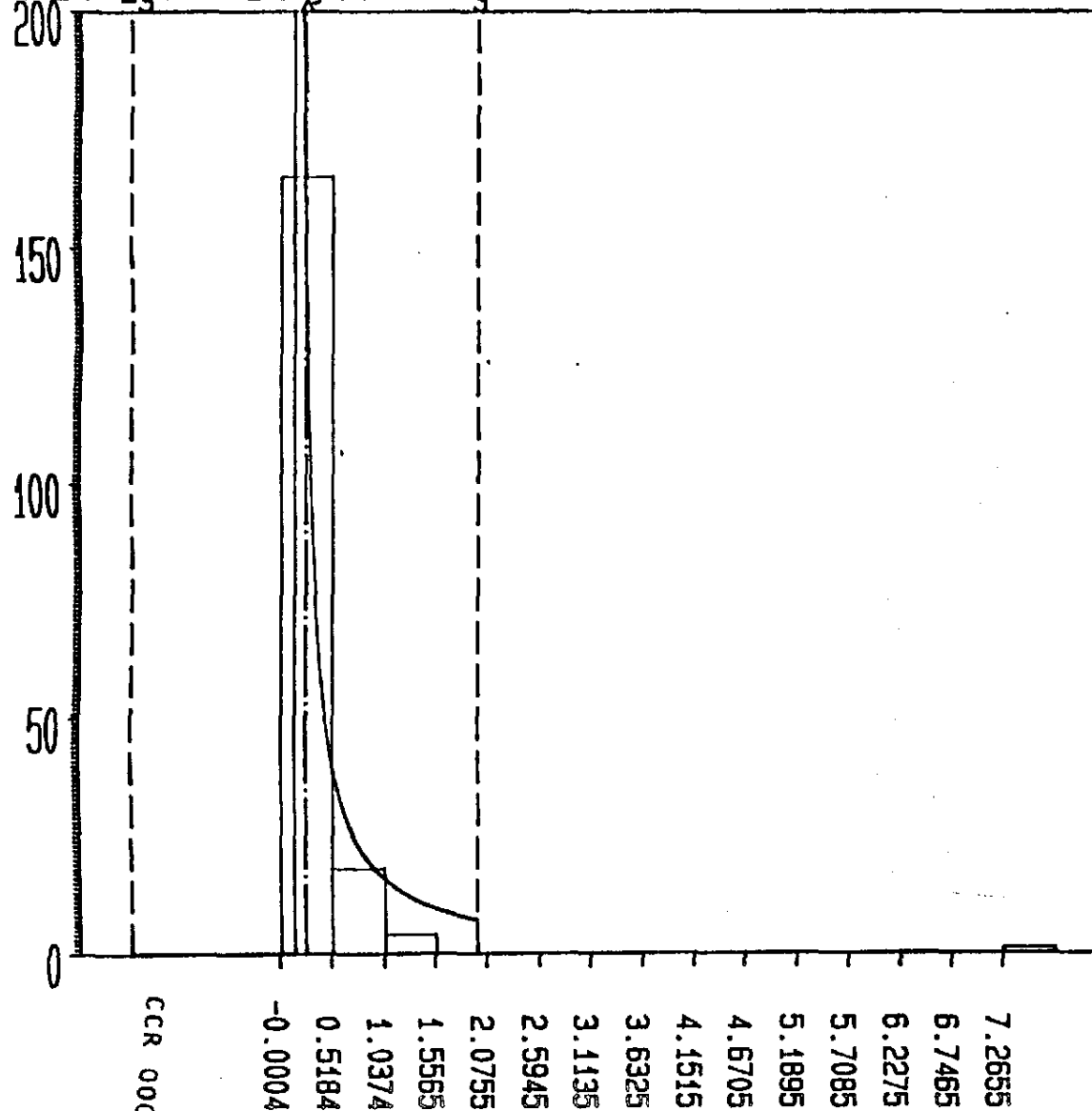
1001

1231

5305 RVCM 1stQ FY90

02-07-1990

VISTA Polymers₃



Date: 02-07-1990
Interval = 0.5190
All samples (n=4)
188 data points
lower boundary
Mean = 0.2471
Sigma Indiv = 0.5760
Est. Sigma = 0.2735
Coeff. Var. = 2.3305
Min. Value = 0.000
Max. Value = 7.277
Kurtosis = 115.255
Skewness = 9.781
Chi Squared = 14.461
deg. free. = 0
Conf. Level = 95%
Chi Sq. invalid

Capability
Using Sigma Indiv
Cpk = 0.39
Cp = 0.39
Cr = 2.59
Z upper = 3.04
Z lower = .
Actual %
Above Spec = 0.53
Below Spec = 0.00
Out of Spec = 0.53
Theoretical %
Above Spec = 11.42
Below Spec = 0.00
Out of Spec = 11.42
Mean + 3s = 1.9751
Mean - 3s = -1.4808

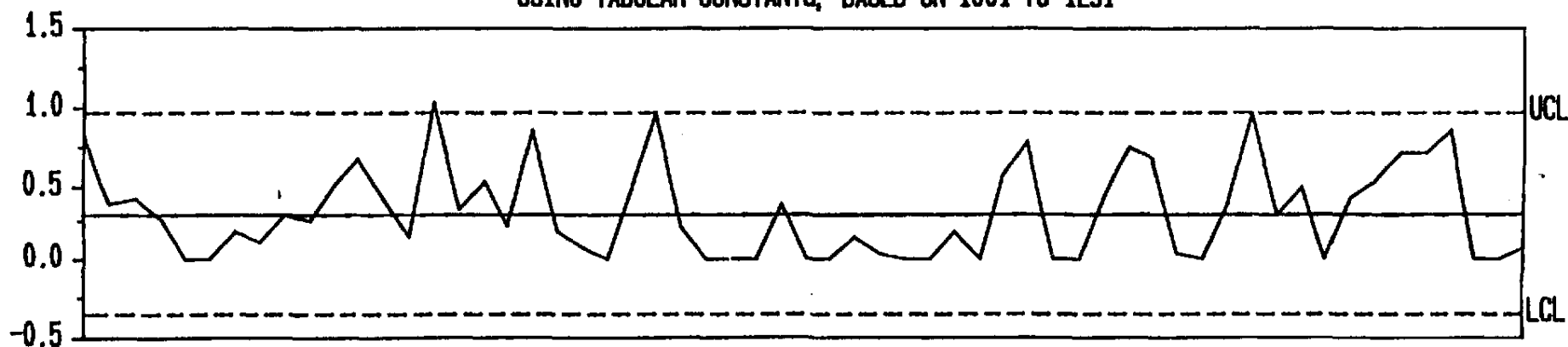
5385 RVCM 1STQ FY90
VISTA POLYMERS

02-07-1990

Individuals

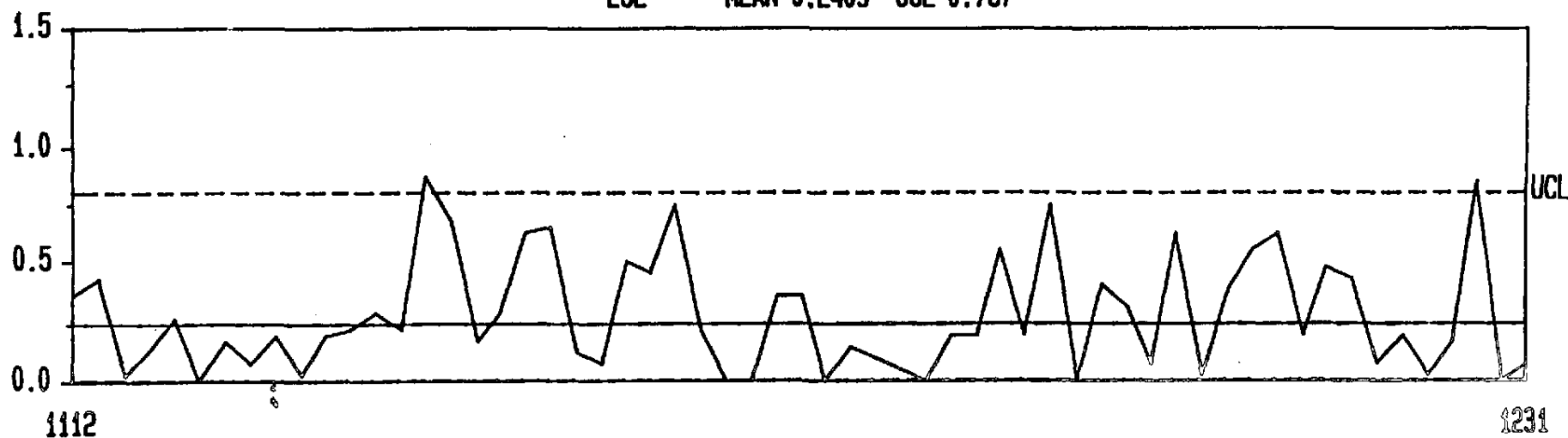
LCL=-.3386 MEAN=0.3021 UCL=0.9429

USING TABULAR CONSTANTS, BASED ON 1001 TO 1231



Moving range, n=2

LCL=— MEAN=0.2409 UCL=0.787



CCR 000006165

1112

1231

5385 RVCN 1STQ FY90

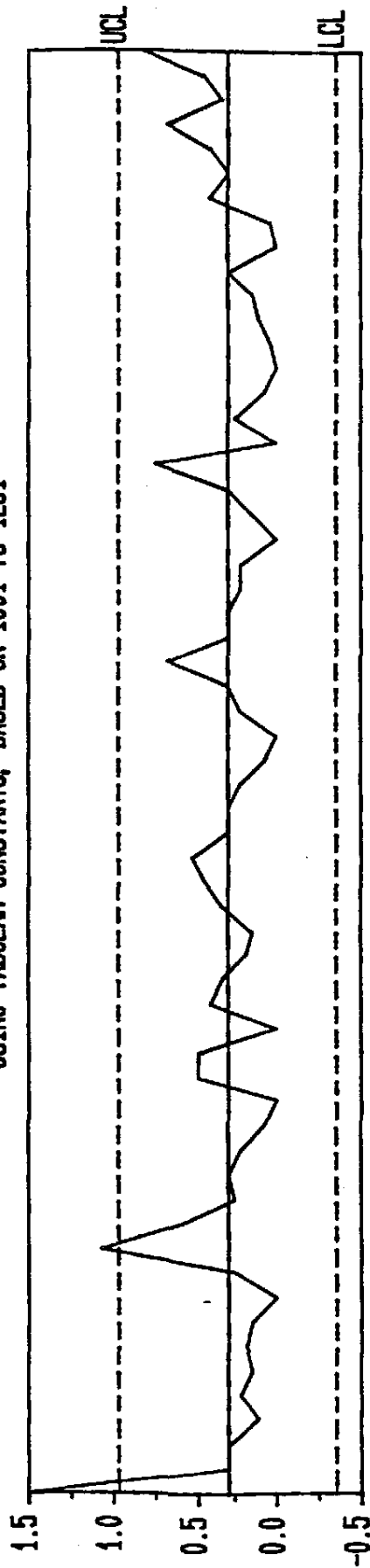
VISTA POLYMERS

02-07-1990

Individuals

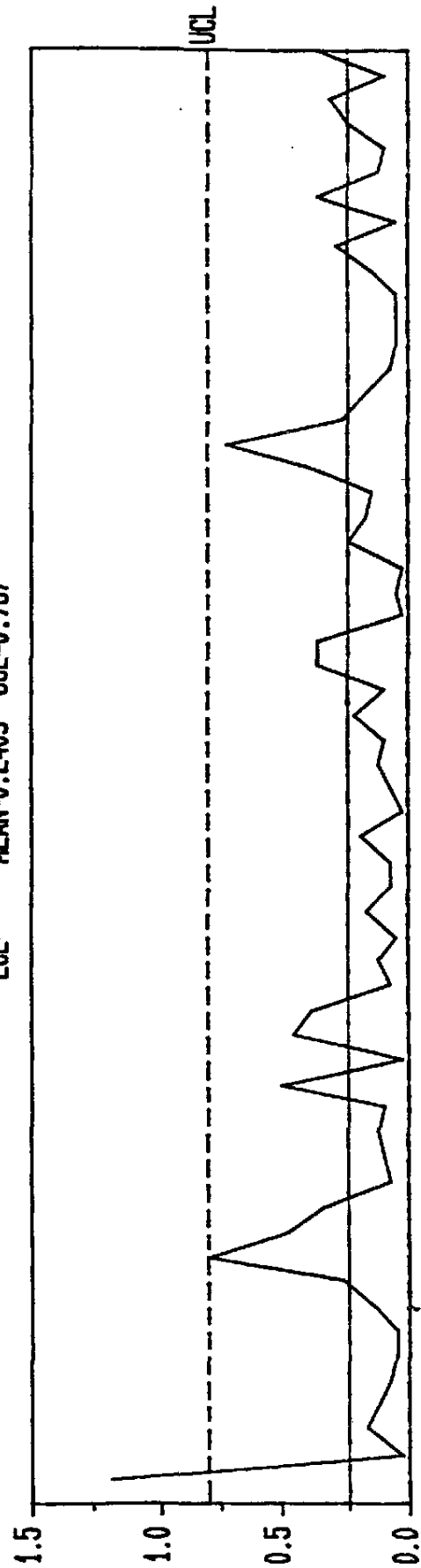
LCL=-.3386 MEAN=0.3021 UCL=0.9429

USING TABULAR CONSTANTS, BASED ON 1001 TO 1231



Moving range, n=2

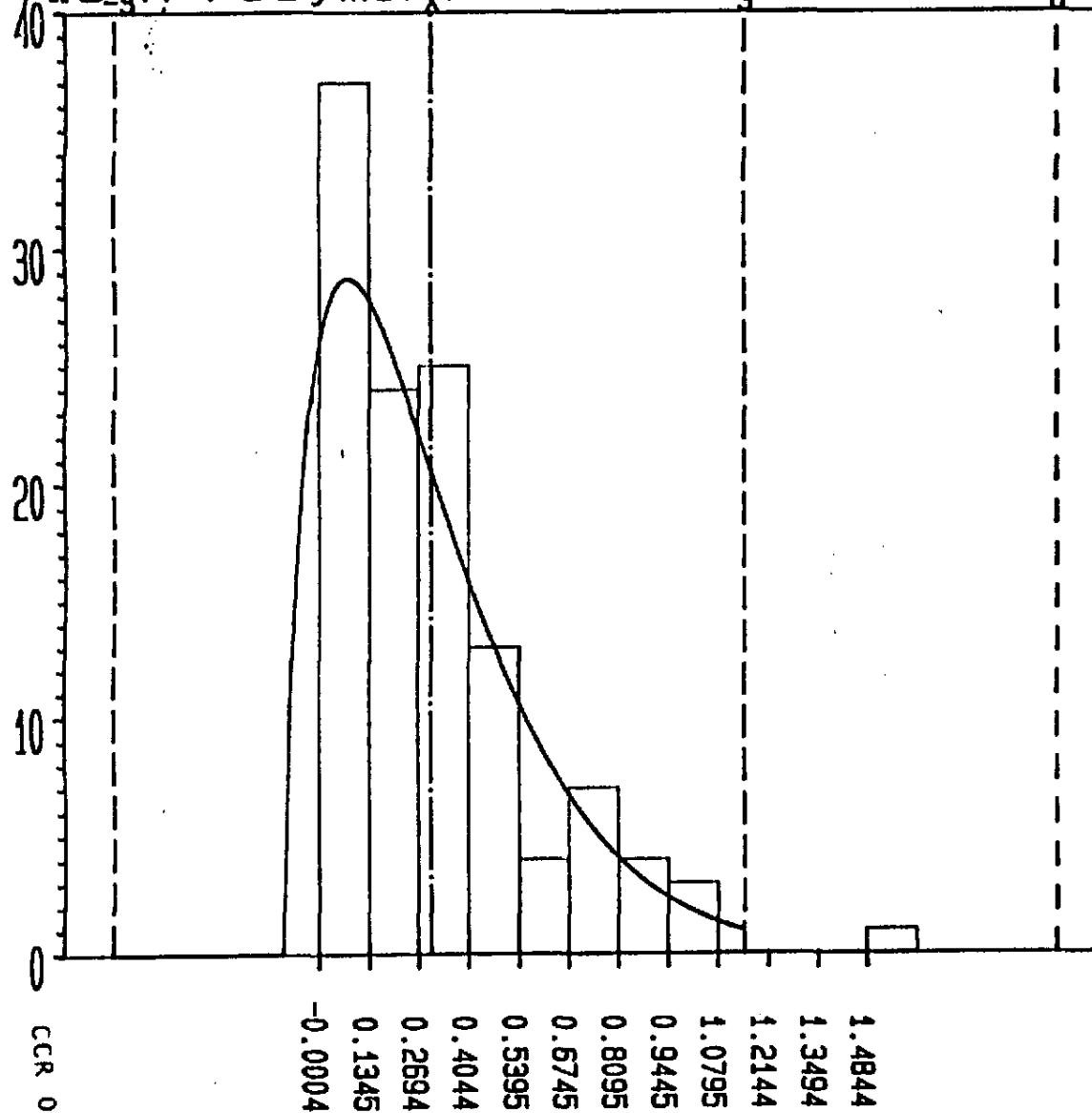
LCL=-.2409 MEAN=0.2409 UCL=0.787



5385 RVCM 1stQ FY90

02-07-1990

YISIA Polymers



Date: 02-07-1990
Interval = 0.1350
All samples (n=1)
118 data points
lower boundary
Mean = 0.3021
Sigma Indiv = 0.2829
Est. Sigma = 0.2135
Coeff.Var. = 0.9365
Min. Value = 0.000
Max. Value = 1.494
Kurtosis = 1.921
Skewness = 1.249
Chi Squared = 5.087
deg. free. = 4
Conf. Level = 95%
Beta
Upper Spec. = 2.0000
Nominal = .
Lower Spec. = .

Capability
Using Sigma Indiv
Cpk = 1.36
Cp = 1.36
Cr = 0.73
Z upper = 6.00
Z lower = .
Actual %
Above Spec = 0.00
Below Spec = 0.00
Out of Spec = 0.00
Theoretical %
Above Spec = 0.01
Below Spec = 0.00
Out of Spec = 0.01
Mean + 3s = 1.1510
Mean - 3s = -0.5467

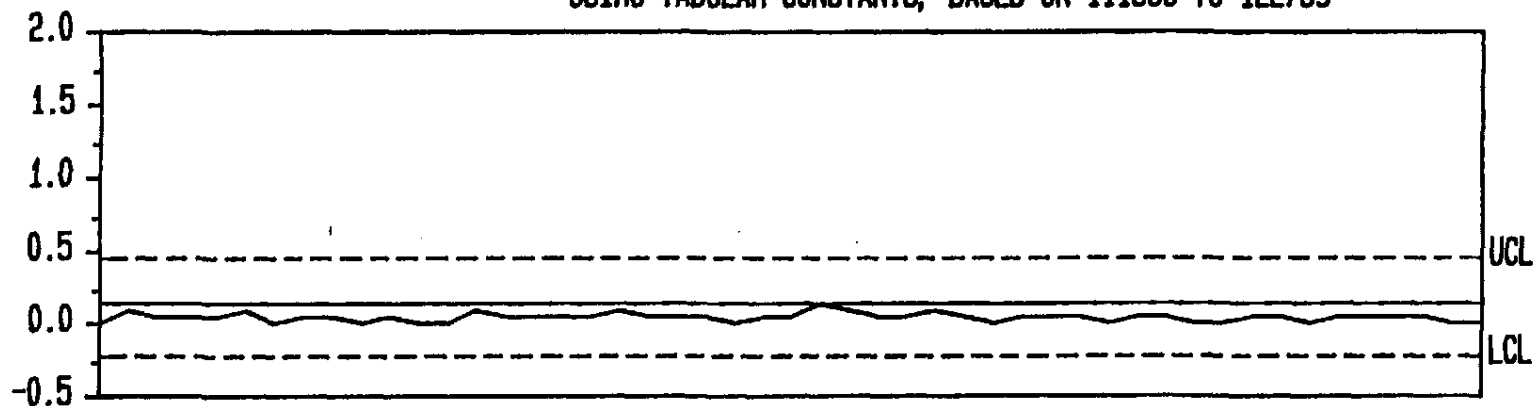
5415 RVCM 1STQ FY90
VISTA POLYMERS

02-08-1990

Individuals

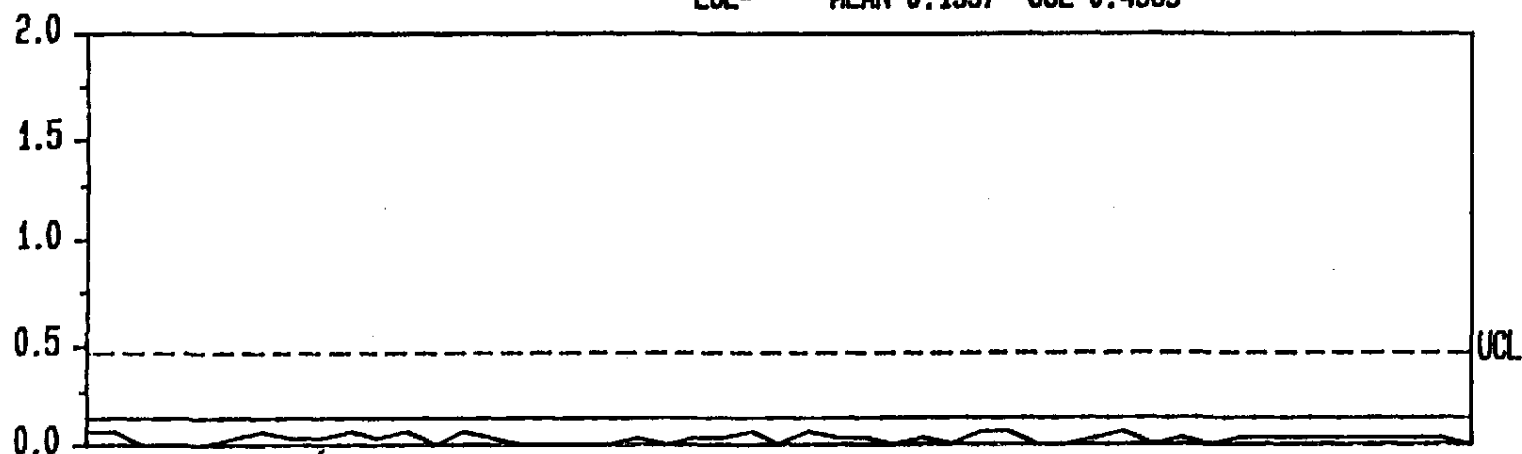
LCL=-.24 MEAN=0.1157 UCL=0.4714

USING TABULAR CONSTANTS, BASED ON 111888 TO 122789



Moving range, n=2

LCL=— MEAN=0.1337 UCL=0.4369



CCR 000006168

113089

122789

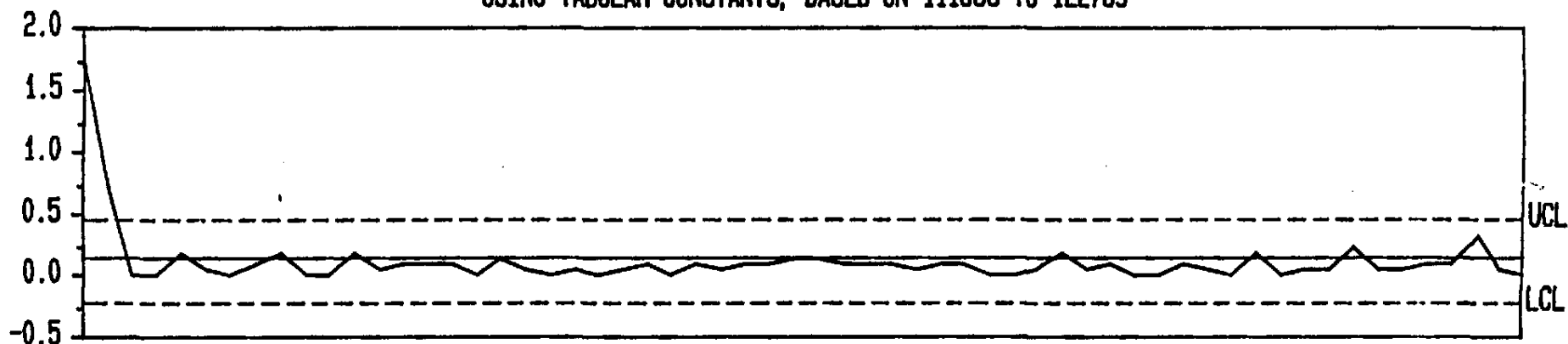
5415 RVCM 1STQ FY90
VISTA POLYMERS

02-08-1990

Individuals

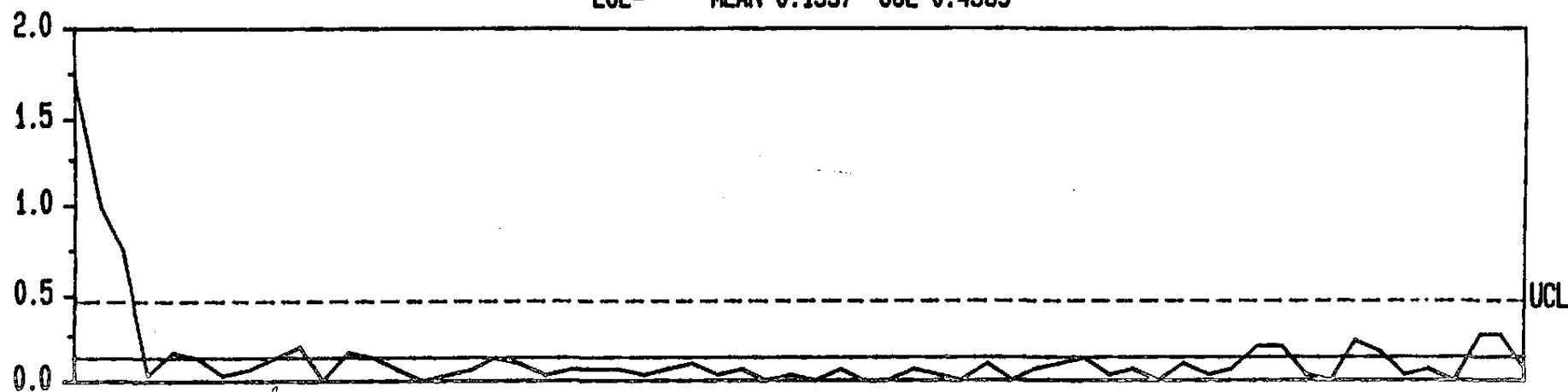
LCL=-.24 MEAN=0.1157 UCL=0.4714

USING TABULAR CONSTANTS, BASED ON 111888 TO 122789



Moving range, n=2

LCL=--- MEAN=0.1337 UCL=0.4369



CCR 000006169

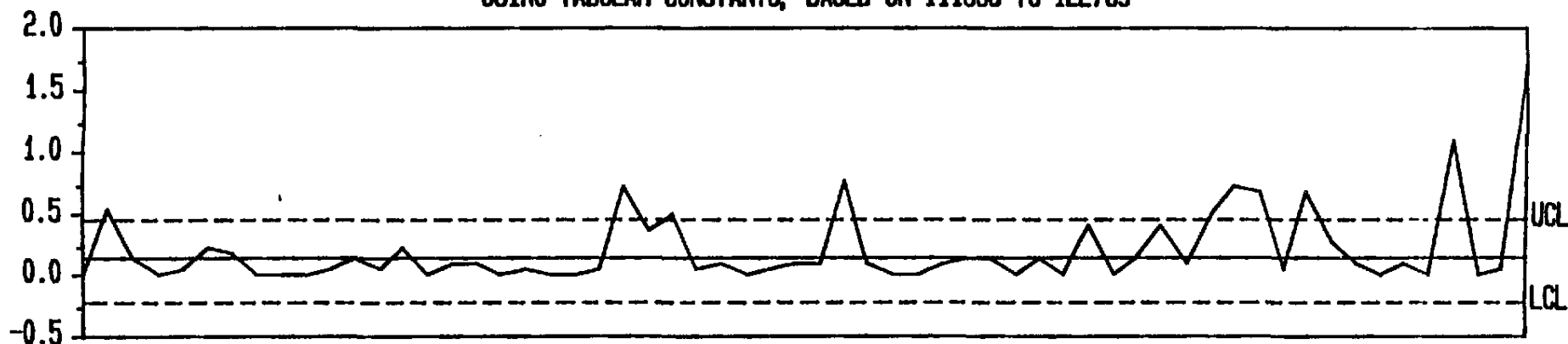
110289

113089

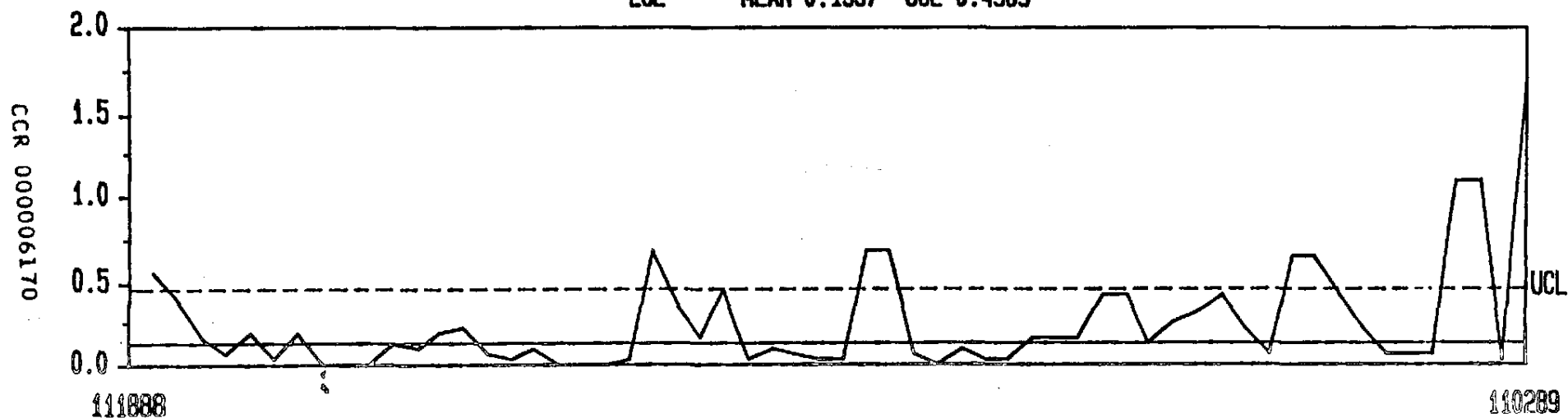
5415 RVCM 1STQ FY90
VISTA POLYMERS

02-08-1990

Individuals
LCL=-.24 MEAN=0.1157 UCL=0.4714
USING TABULAR CONSTANTS, BASED ON 111888 TO 122789



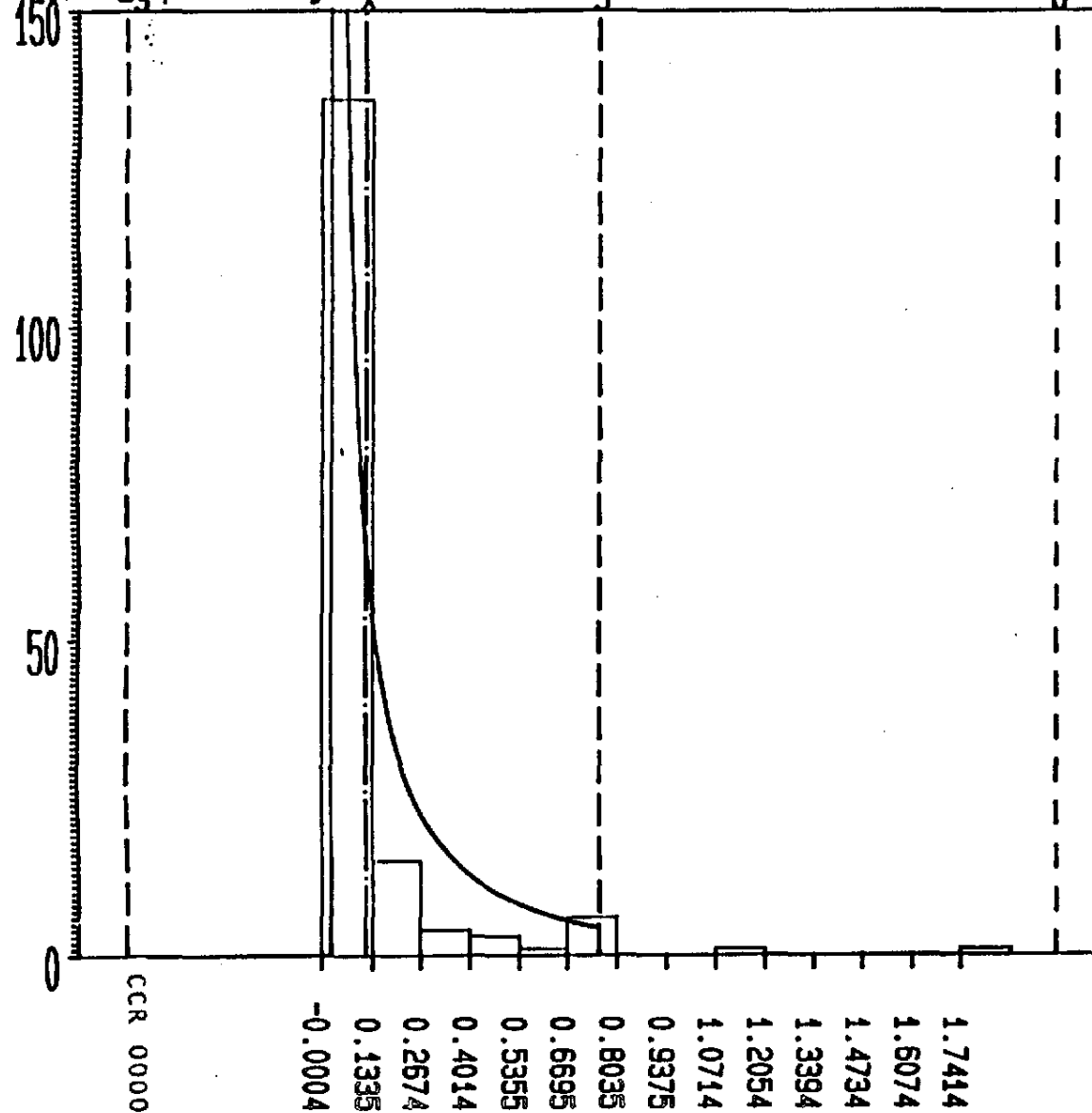
Moving range, n=2
LCL=— MEAN=0.1337 UCL=0.4369



5415 RVCM 1stQ FY90

VISTA Polymers

02-08-1990



Date: 02-08-1990
Interval = 0.1340
All samples (n=1)
167 data points
lower boundary
Mean = 0.1157
Sigma Indiv = 0.2131
Est. Sigma = 0.1186
Coeff. Var. = 1.8424
Min. Value = 0.000
Max. Value = 1.746
Kurtosis = 22.951
Skewness = 4.223
Chi Squared = 2.862
deg. free. = 0
Conf. Level = 95%
Chi Sq. invalid
Upper Spec. = 2.0000
Nominal = .
Lower Spec. = .

Capability
Using Sigma Indiv
Cpk = 1.21
Cp = 1.21
Cr = 0.83
Z upper = 8.84
Z lower = .
Actual %
Above Spec = 0.00
Below Spec = 0.00
Out of Spec = 0.00
Theoretical %
Above Spec = 0.00
Below Spec = 0.00
Out of Spec = 0.00
Mean + 3s = 0.7551
Mean - 3s = -0.5237

Distribution: THH-RRS-CJM

AWS, BJM, Shift Supervisors, AJW, RSB, JJM/JGG
P.L. Foote (Premiere Polymers)
N.S. Vafiadis
N.J. Forsa
M.C. Manion
W.L. McClain

RECEIVED

FEB 20 90

WILLIAM L. MCCLAIN

→ Ben
Residual
data for
PVC NEM Document
Library

[Note: This information (particularly the narrative and tables identifying customers) should not be shared with customers "as is". The intent of providing this information is hopefully to satisfy a need by field sales for this kind of information but more importantly to have field sales "armed" with knowledge about the quality their customers have been receiving and about the trends and changes in plant operations affecting product quality before going in to the customer. Hopefully field sales will be able to use the information in proactive dialogue/discussion versus our historical reactive mode.

This narrative is not intended to be an exhaustive discussion or analysis of the data. If more detailed information is needed regarding the discussion, the data or how certain customers may have been impacted, we want marketing personnel to call and talk to whomever at the OKC Plant can best answer their questions. In my view, this is the real value of providing this information --- not merely having SPC charts to flash on the customer.

If anyone would like to discuss this in more detail, please give me a call. Please keep in mind that manpower limitations preclude expanding the parameters analyzed or customizing charts for specific customers.]

CCR 000006172

TO: DISTRIBUTION

FROM: H. Garrison
DATE: February 15, 1990

VISTA

Interoffice
Communication

SUBJECT: RAILCAR QUALITY DATA - January, 1990

Attached for your information are copies of control charts for a number of key quality parameters as measured in railcars loaded at OKC in January, 1990. A brief comparison of January results versus the three previous months is presented in the following table:

	<u>JAN 1990</u>	<u>DEC 1989</u>	<u>NOV 1989</u>	<u>OCT 1989</u>
<u>Bulk Density (Spec. = 0.510 min.)</u>				
AVG	0.562	0.567	0.564	0.564
UCL	0.601	0.602	0.600	0.595
LCL	0.523	0.533	0.529	0.532
UCL-LCL	0.078	0.069	0.071	0.063
cpk	1.3	1.6	1.6	1.7
<u>% Moisture (Spec. = 0.30 max.)</u>				
AVG	0.08	0.07	0.08	0.08
UCL	0.13	0.12	0.12	0.12
LCL	0.03	0.02	0.05	0.05
UCL-LCL	0.10	0.10	0.07	0.07
cpk	4.4	5.1	5.7	6.3
<u>% thru 140 (Spec. = 20.0 max.)</u>				
AVG	8.1	6.0	6.8	7.2
UCL	11.4	8.7	9.1	9.1
LCL	4.9	3.2	4.5	5.4
UCL-LCL	6.5	5.5	4.6	3.7
cpk	3.7	5.2	5.7	6.9
<u>% on Pan (Spec. = 5.0 max.)</u>				
AVG	1.5	0.9	1.3	1.9
UCL	2.5	1.6	2.3	2.8
LCL	0.5	0.1	0.3	1.0
UCL-LCL	2.0	1.5	2.0	1.8
cpk	3.5	5.3	3.7	3.4
<u>RVCM (PPM) (Spec. = 2.0 max. Pipe/ 8.5 max. siding)</u>				
AVG	1.3	1.3	1.3	1.0
UCL	2.3	2.3	2.2	1.6
LCL	0.3	0.2	0.4	0.3
UCL-LCL	2.0	2.1	1.8	1.3
cpk	0.7	0.7	0.8	1.6

CCR 000006173

RAILCAR QUALITY DATA - January, 1990
February 15, 1990
Page 2

The average bulk density was virtually unchanged versus the previous month. Control has been very consistent and predictable for the last four months.

The % Moisture was virtually identical to the previous month.

The average % thru the 140 Mesh and % on the Pan increased in January but was comparable to results in October and November. The change was due solely to testing being conducted to determine if Dow Methocel (Europe) which produces a more peaked particle size distribution can replace Culminal in our process and achieve the desired particle size distribution on the 80 Mesh, through the 140 Mesh and on the Pan.

The RVCM results and variability were comparable to last month's results. The cause is believed to be due to operational problems with the new steam stripping revisions control systems. Work is continuing to identify the cause(s) and to fine tune the instruments to achieve the results we were obtaining on the old manual system.

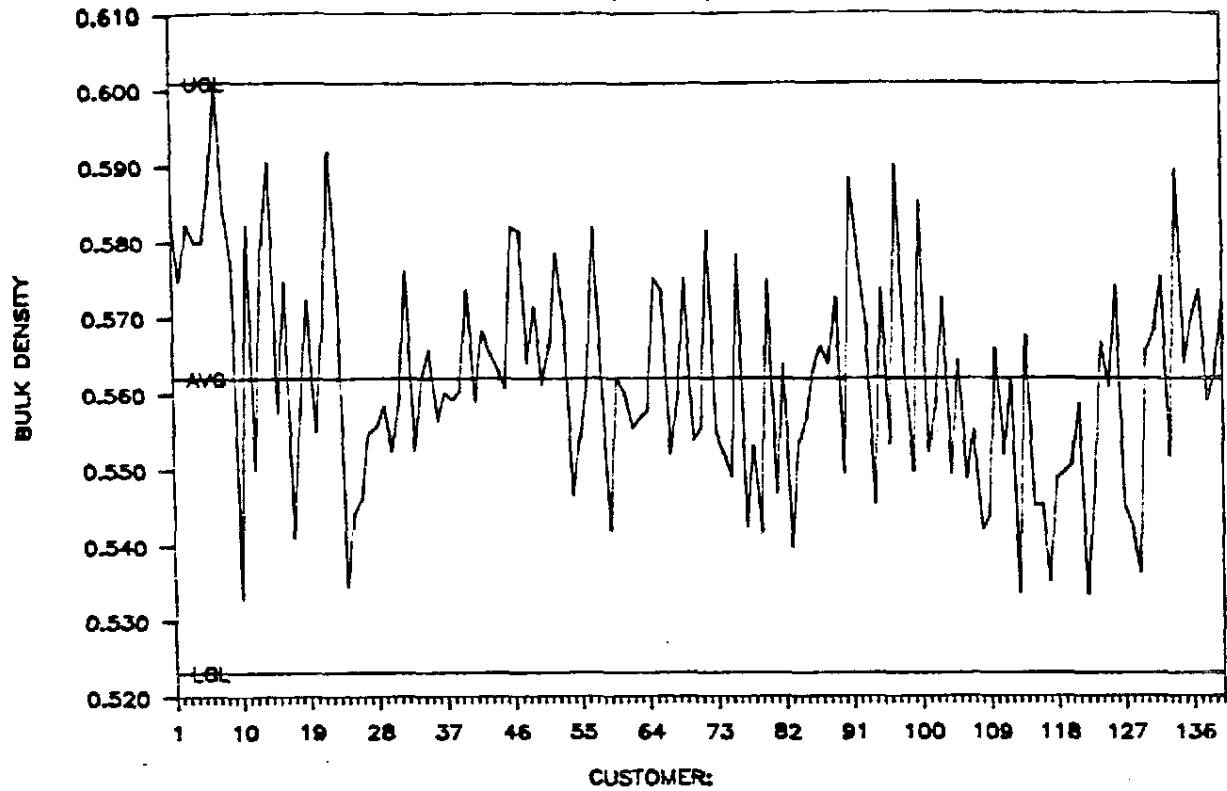


H. GARRISON
PLANT MANAGER

CCR 000006174

OKC PVC SHIPMENTS (X - CHART)

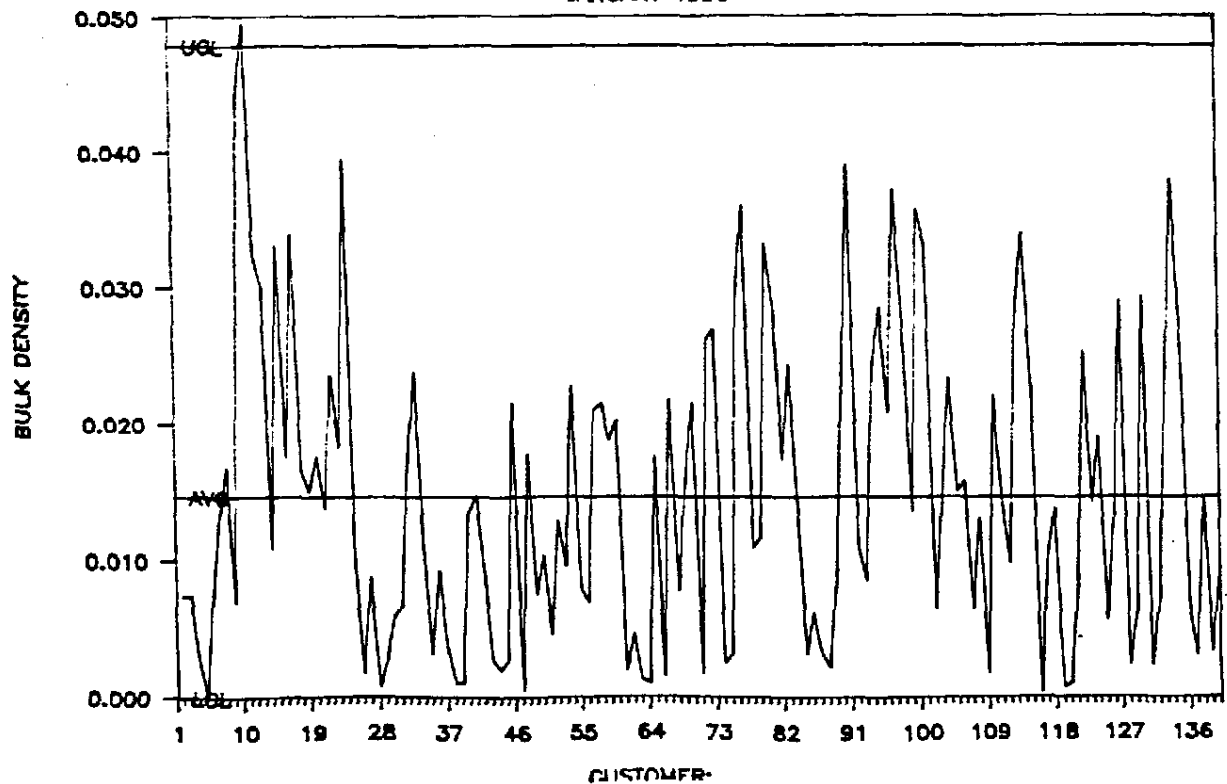
JANUARY 1990



CCR 000006175

OKC PVC SHIPMENTS (R-CHART)

JANUARY 1990



XX

OKC RC DATA JAN 1990 TOTAL DATA POINTS= 140.00
X-R (INDIVIDUALS) SPC DATA

AVG AVG UCL LCL UCL

XX

DATE LOADED	CAR NUMBER	BULK DENSITY	MOVING RANGE	CURRENT X BAR	R BAR	UCL X	LCL X	UCL R
1	1	41618	0.583	0.562	0.015	0.601	0.523	0.048
2	1	48029	0.575	0.008	0.562	0.015	0.601	0.048
3	1	44734	0.583	0.008	0.562	0.015	0.601	0.048
4	1	44756	0.580	0.003	0.562	0.015	0.601	0.048
5	1	46569	0.580	0.000	0.562	0.015	0.601	0.048
6	2	46450	0.588	0.008	0.562	0.015	0.601	0.048
7	2	48054	0.601	0.013	0.562	0.015	0.601	0.048
8	2	46542	0.584	0.017	0.562	0.015	0.601	0.048
9	2	46543	0.577	0.007	0.562	0.015	0.601	0.048
10	2	48058	0.533	0.044	0.562	0.015	0.601	0.048
11	2	48076	0.583	0.049	0.562	0.015	0.601	0.048
12	3	46561	0.550	0.032	0.562	0.015	0.601	0.048
13	3	46538	0.580	0.030	0.562	0.015	0.601	0.048
14	3	46471	0.591	0.011	0.562	0.015	0.601	0.048
15	3	42680	0.558	0.033	0.562	0.015	0.601	0.048
16	3	46524	0.575	0.017	0.562	0.015	0.601	0.048
17	4	46480	0.541	0.034	0.562	0.015	0.601	0.048
18	4	73395	0.558	0.017	0.562	0.015	0.601	0.048
19	4	46515	0.573	0.015	0.562	0.015	0.601	0.048
20	4	73390	0.555	0.017	0.562	0.015	0.601	0.048
21	5	44410	0.569	0.014	0.562	0.015	0.601	0.048
22	5	45709	0.592	0.023	0.562	0.015	0.601	0.048
23	5	46476	0.574	0.018	0.562	0.015	0.601	0.048
24	5	48055	0.535	0.039	0.562	0.015	0.601	0.048
25	5	46522	0.545	0.010	0.562	0.015	0.601	0.048
26	5	46508	0.546	0.002	0.562	0.015	0.601	0.048
27	6	43699	0.555	0.009	0.562	0.015	0.601	0.048
28	6	73402	0.556	0.001	0.562	0.015	0.601	0.048
29	6	48047	0.559	0.003	0.562	0.015	0.601	0.048
30	6	43871	0.553	0.006	0.562	0.015	0.601	0.048
31	6	43717	0.559	0.007	0.562	0.015	0.601	0.048
32	7	41650	0.576	0.017	0.562	0.015	0.601	0.048
33	7	42121	0.553	0.024	0.562	0.015	0.601	0.048
34	7	45833	0.563	0.010	0.562	0.015	0.601	0.048
35	7	46464	0.566	0.003	0.562	0.015	0.601	0.048
36	7	44757	0.557	0.009	0.562	0.015	0.601	0.048
37	8	43857	0.560	0.004	0.562	0.015	0.601	0.048
38	8	44755	0.559	0.001	0.562	0.015	0.601	0.048
39	8	46555	0.568	0.001	0.562	0.015	0.601	0.048
40	8	73401	0.574	0.013	0.562	0.015	0.601	0.048
41	8	46493	0.559	0.015	0.562	0.015	0.601	0.048
42	9	41602	0.568	0.009	0.562	0.015	0.601	0.048
43	9	46541	0.566	0.003	0.562	0.015	0.601	0.048
44	9	46578	0.564	0.002	0.562	0.015	0.601	0.048
45	9	46518	0.561	0.003	0.562	0.015	0.601	0.048
46	9	45801	0.582	0.021	0.562	0.015	0.601	0.048
47	10	43855	0.582	0.000	0.562	0.015	0.601	0.048

CCR 000006176

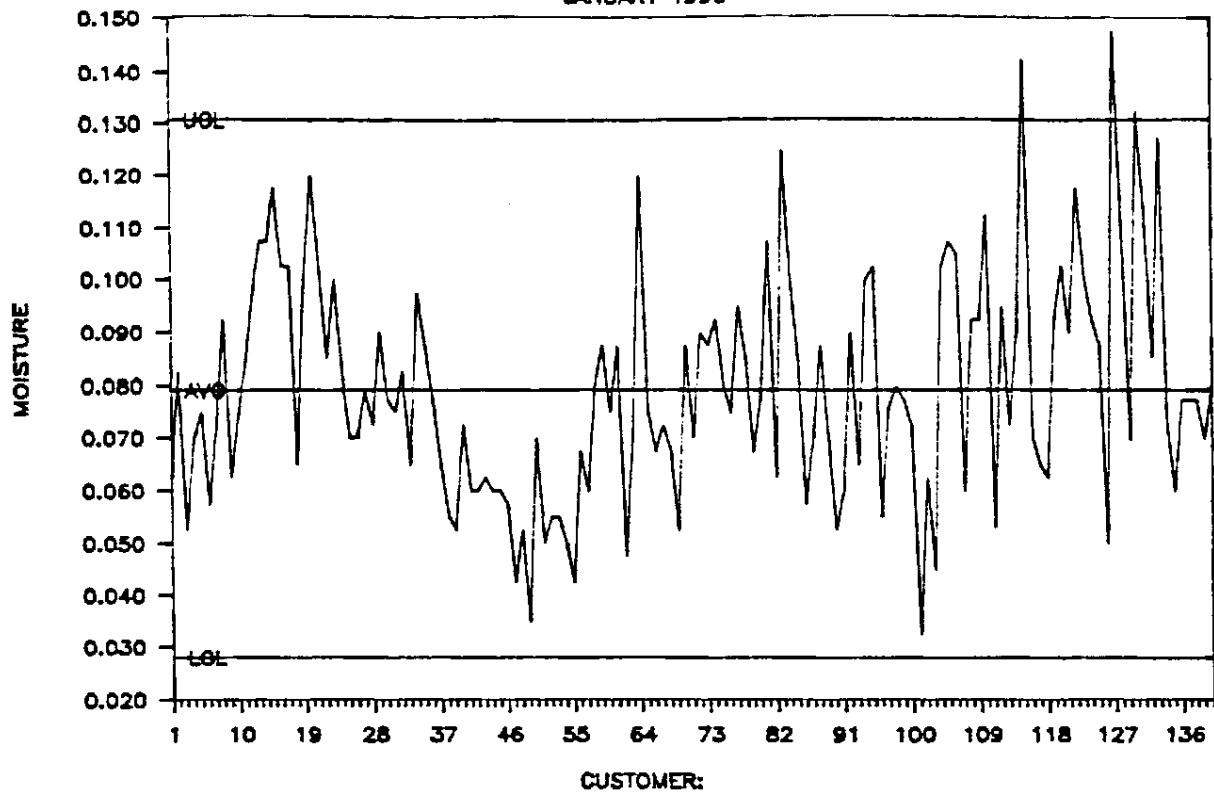
48	10	45910	0.564	0.018	0.562	0.015	0.601	0.523	0.048
49	10	73391	0.572	0.008	0.562	0.015	0.601	0.523	0.048
50	10	73405	0.561	0.010	0.562	0.015	0.601	0.523	0.048
51	10	43493	0.566	0.005	0.562	0.015	0.601	0.523	0.048
52	10	41305	0.579	0.013	0.562	0.015	0.601	0.523	0.048
53	11	45921	0.569	0.010	0.562	0.015	0.601	0.523	0.048
54	11	41895	0.547	0.023	0.562	0.015	0.601	0.523	0.048
55	11	45714	0.554	0.008	0.562	0.015	0.601	0.523	0.048
56	11	46404	0.561	0.007	0.562	0.015	0.601	0.523	0.048
57	12	45838	0.582	0.021	0.562	0.015	0.601	0.523	0.048
58	12	46408	0.561	0.021	0.562	0.015	0.601	0.523	0.048
59	12	46501	0.542	0.019	0.562	0.015	0.601	0.523	0.048
60	12	46574	0.562	0.020	0.562	0.015	0.601	0.523	0.048
61	12	46467	0.560	0.002	0.562	0.015	0.601	0.523	0.048
62	12	42664	0.556	0.005	0.562	0.015	0.601	0.523	0.048
63	13	73406	0.557	0.001	0.562	0.015	0.601	0.523	0.048
64	13	41169	0.558	0.001	0.562	0.015	0.601	0.523	0.048
65	14	43394	0.575	0.017	0.562	0.015	0.601	0.523	0.048
66	15	46457	0.574	0.001	0.562	0.015	0.601	0.523	0.048
67	15	46465	0.552	0.022	0.562	0.015	0.601	0.523	0.048
68	15	46454	0.560	0.008	0.562	0.015	0.601	0.523	0.048
69	15	43701	0.575	0.015	0.562	0.015	0.601	0.523	0.048
70	16	42108	0.554	0.021	0.562	0.015	0.601	0.523	0.048
71	16	46400	0.556	0.002	0.562	0.015	0.601	0.523	0.048
72	16	41616	0.582	0.026	0.562	0.015	0.601	0.523	0.048
73	16	48049	0.555	0.027	0.562	0.015	0.601	0.523	0.048
74	16	43863	0.552	0.003	0.562	0.015	0.601	0.523	0.048
75	17	44732	0.549	0.003	0.562	0.015	0.601	0.523	0.048
76	17	43753	0.579	0.029	0.562	0.015	0.601	0.523	0.048
77	17	44722	0.543	0.036	0.562	0.015	0.601	0.523	0.048
78	17	43743	0.553	0.011	0.562	0.015	0.601	0.523	0.048
79	17	43749	0.542	0.011	0.562	0.015	0.601	0.523	0.048
80	18	46514	0.575	0.033	0.562	0.015	0.601	0.523	0.048
81	18	46468	0.547	0.028	0.562	0.015	0.601	0.523	0.048
82	19	48040	0.564	0.017	0.562	0.015	0.601	0.523	0.048
83	19	41646	0.540	0.024	0.562	0.015	0.601	0.523	0.048
84	19	45248	0.554	0.014	0.562	0.015	0.601	0.523	0.048
85	19	43078	0.557	0.003	0.562	0.015	0.601	0.523	0.048
86	19	42172	0.563	0.006	0.562	0.015	0.601	0.523	0.048
87	19	42153	0.566	0.003	0.562	0.015	0.601	0.523	0.048
88	19	42080	0.564	0.002	0.562	0.015	0.601	0.523	0.048
89	20	41842	0.573	0.009	0.562	0.015	0.601	0.523	0.048
90	20	46480	0.550	0.023	0.562	0.015	0.601	0.523	0.048
91	20	46502	0.589	0.039	0.562	0.015	0.601	0.523	0.048
92	21	46530	0.578	0.011	0.562	0.015	0.601	0.523	0.048
93	21	41605	0.569	0.009	0.562	0.015	0.601	0.523	0.048
94	21	41597	0.546	0.024	0.562	0.015	0.601	0.523	0.048
95	21	46547	0.574	0.028	0.562	0.015	0.601	0.523	0.048
96	22	48058	0.553	0.021	0.562	0.015	0.601	0.523	0.048
97	22	46493	0.591	0.037	0.562	0.015	0.601	0.523	0.048
98	22	44725	0.563	0.027	0.562	0.015	0.601	0.523	0.048
99	22	41314	0.550	0.013	0.562	0.015	0.601	0.523	0.048
100	22	48076	0.586	0.036	0.562	0.015	0.601	0.523	0.048
101	23	46399	0.552	0.033	0.562	0.015	0.601	0.523	0.048
102	23	46393	0.559	0.007	0.562	0.015	0.601	0.523	0.048
103	23	46558	0.573	0.014	0.562	0.015	0.601	0.523	0.048

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104	23	43278	0.550	0.023	0.562	0.015	0.601	0.523	0.048
105	24	48046	0.565	0.015	0.562	0.015	0.601	0.523	0.048
106	24	44735	0.549	0.016	0.562	0.015	0.601	0.523	0.048
107	24	41406	0.555	0.006	0.562	0.015	0.601	0.523	0.048
108	24	46569	0.542	0.013	0.562	0.015	0.601	0.523	0.048
109	24	46462	0.544	0.002	0.562	0.015	0.601	0.523	0.048
110	24	42777	0.566	0.022	0.562	0.015	0.601	0.523	0.048
111	24	43059	0.552	0.014	0.562	0.015	0.601	0.523	0.048
112	25	46466	0.562	0.010	0.562	0.015	0.601	0.523	0.048
113	25	46507	0.534	0.028	0.562	0.015	0.601	0.523	0.048
114	25	73404	0.568	0.034	0.562	0.015	0.601	0.523	0.048
115	25	73396	0.545	0.022	0.562	0.015	0.601	0.523	0.048
116	26	42057	0.546	0.000	0.562	0.015	0.601	0.523	0.048
117	26	43235	0.535	0.010	0.562	0.015	0.601	0.523	0.048
118	26	46529	0.549	0.014	0.562	0.015	0.601	0.523	0.048
119	26	46581	0.550	0.001	0.562	0.015	0.601	0.523	0.048
120	27	48045	0.551	0.001	0.562	0.015	0.601	0.523	0.048
121	27	42117	0.559	0.008	0.562	0.015	0.601	0.523	0.048
122	27	73411	0.534	0.025	0.562	0.015	0.601	0.523	0.048
123	27	46472	0.548	0.014	0.562	0.015	0.601	0.523	0.048
124	28	73397	0.567	0.019	0.562	0.015	0.601	0.523	0.048
125	28	43730	0.561	0.006	0.562	0.015	0.601	0.523	0.048
126	28	52535	0.574	0.013	0.562	0.015	0.601	0.523	0.048
127	28	73396	0.545	0.029	0.562	0.015	0.601	0.523	0.048
128	28	46485	0.543	0.002	0.562	0.015	0.601	0.523	0.048
129	29	46460	0.537	0.006	0.562	0.015	0.601	0.523	0.048
130	29	46398	0.566	0.029	0.562	0.015	0.601	0.523	0.048
131	29	46394	0.568	0.002	0.562	0.015	0.601	0.523	0.048
132	29	46401	0.576	0.007	0.562	0.015	0.601	0.523	0.048
133	29	48071	0.552	0.024	0.562	0.015	0.601	0.523	0.048
134	30	46478	0.590	0.038	0.562	0.015	0.601	0.523	0.048
135	30	46491	0.564	0.026	0.562	0.015	0.601	0.523	0.048
136	30	46473	0.571	0.007	0.562	0.015	0.601	0.523	0.048
137	30	48051	0.574	0.003	0.562	0.015	0.601	0.523	0.048
138	31	43699	0.559	0.014	0.562	0.015	0.601	0.523	0.048
139	31	73403	0.563	0.003	0.562	0.015	0.601	0.523	0.048
140	31	44734	0.572	0.009	0.562	0.015	0.601	0.523	0.048

OKC PVC SHIPMENTS (X - CHART)

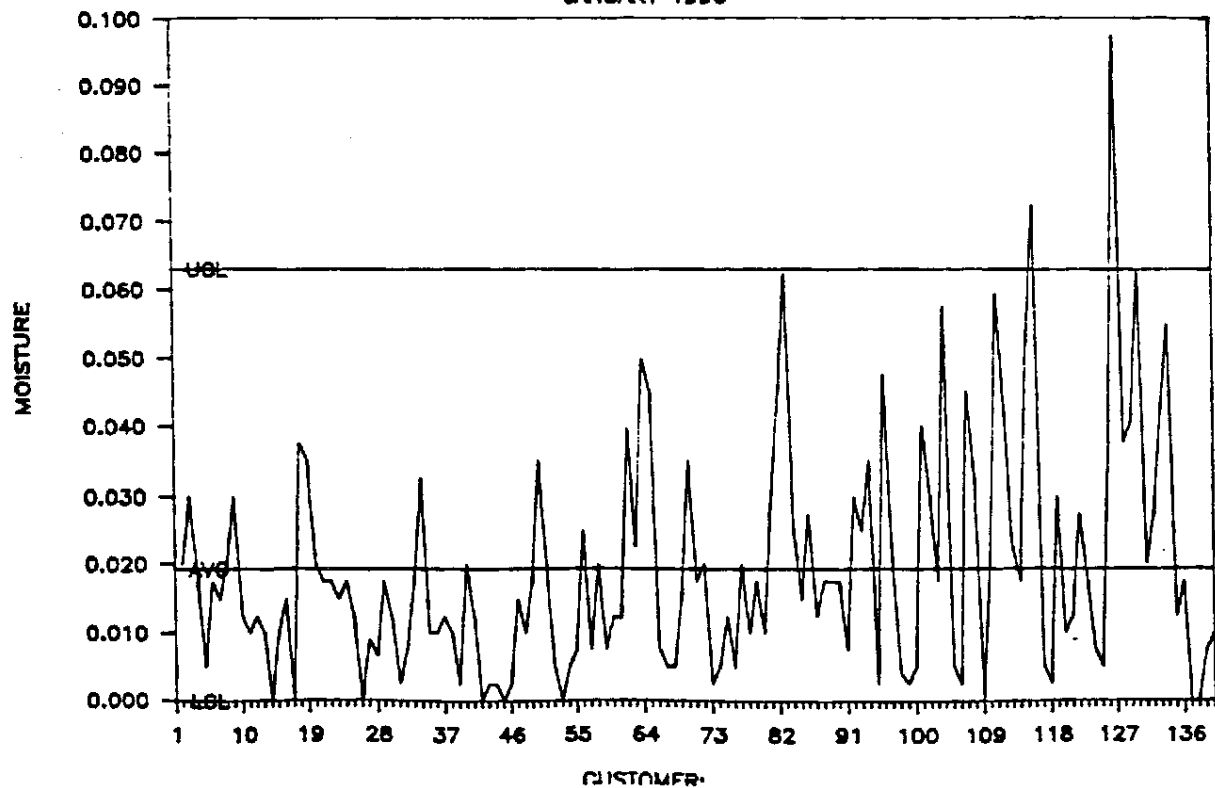
JANUARY 1990



OKC PVC SHIPMENTS (R-CHART)

JANUARY 1990

CCR 000006179



XX

OXC RC DATA JAN 1990

TOTAL DATA POINTS= 140.00

X-R (INDIVIDUALS) SPC DATA

AVG AVG UCL LCL UCL

XX

DATE	CAR	MOISTURE	MOVING	CURRENT				
LOADED	NUMBER		RANGE	X BAR	R BAR	UCL X	LCL X	UCL R
1	1	41618	0.063	0.079	0.019	0.131	0.028	0.063
2	1	48029	0.083	0.020	0.079	0.019	0.131	0.028
3	1	44734	0.053	0.030	0.079	0.019	0.131	0.028
4	1	44756	0.070	0.018	0.079	0.019	0.131	0.028
5	1	46569	0.075	0.005	0.079	0.019	0.131	0.028
6	2	46450	0.058	0.017	0.079	0.019	0.131	0.028
7	2	48054	0.073	0.015	0.079	0.019	0.131	0.028
8	2	46542	0.093	0.020	0.079	0.019	0.131	0.028
9	2	46543	0.063	0.030	0.079	0.019	0.131	0.028
10	2	48058	0.075	0.012	0.079	0.019	0.131	0.028
11	2	48076	0.085	0.010	0.079	0.019	0.131	0.028
12	3	46561	0.098	0.012	0.079	0.019	0.131	0.028
13	3	46538	0.108	0.010	0.079	0.019	0.131	0.028
14	3	46471	0.108	0.000	0.079	0.019	0.131	0.028
15	3	42680	0.118	0.010	0.079	0.019	0.131	0.028
16	3	46524	0.103	0.015	0.079	0.019	0.131	0.028
17	4	46480	0.103	0.000	0.079	0.019	0.131	0.028
18	4	73395	0.065	0.038	0.079	0.019	0.131	0.028
19	4	46515	0.100	0.035	0.079	0.019	0.131	0.028
20	4	73390	0.120	0.020	0.079	0.019	0.131	0.028
21	5	46410	0.103	0.017	0.079	0.019	0.131	0.028
22	5	45709	0.085	0.018	0.079	0.019	0.131	0.028
23	5	46476	0.100	0.015	0.079	0.019	0.131	0.028
24	5	48055	0.083	0.018	0.079	0.019	0.131	0.028
25	5	46522	0.070	0.012	0.079	0.019	0.131	0.028
26	5	46508	0.070	0.000	0.079	0.019	0.131	0.028
27	6	43699	0.079	0.009	0.079	0.019	0.131	0.028
28	6	73402	0.073	0.006	0.079	0.019	0.131	0.028
29	6	48047	0.090	0.017	0.079	0.019	0.131	0.028
30	6	43871	0.078	0.012	0.079	0.019	0.131	0.028
31	6	43717	0.075	0.003	0.079	0.019	0.131	0.028
32	7	41650	0.083	0.008	0.079	0.019	0.131	0.028
33	7	42121	0.063	0.018	0.079	0.019	0.131	0.028
34	7	45833	0.098	0.033	0.079	0.019	0.131	0.028
35	7	46464	0.088	0.010	0.079	0.019	0.131	0.028
36	7	44757	0.078	0.010	0.079	0.019	0.131	0.028
37	8	43857	0.065	0.012	0.079	0.019	0.131	0.028
38	8	44755	0.055	0.010	0.079	0.019	0.131	0.028
39	8	46535	0.053	0.002	0.079	0.019	0.131	0.028
40	8	73401	0.073	0.020	0.079	0.019	0.131	0.028
41	8	46493	0.060	0.013	0.079	0.019	0.131	0.028
42	9	41602	0.060	0.000	0.079	0.019	0.131	0.028
43	9	46541	0.063	0.002	0.079	0.019	0.131	0.028
44	9	46578	0.060	0.002	0.079	0.019	0.131	0.028
45	9	46518	0.060	0.000	0.079	0.019	0.131	0.028
46	9	45801	0.058	0.002	0.079	0.019	0.131	0.028
47	10	43855	0.043	0.015	0.079	0.019	0.131	0.028

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48	10	45910	0.053	0.010	0.079	0.019	0.131	0.028	0.063
49	10	73391	0.035	0.017	0.079	0.019	0.131	0.028	0.063
50	10	73405	0.070	0.035	0.079	0.019	0.131	0.028	0.063
51	10	43693	0.050	0.020	0.079	0.019	0.131	0.028	0.063
52	10	41365	0.055	0.005	0.079	0.019	0.131	0.028	0.063
53	11	45921	0.053	0.000	0.079	0.019	0.131	0.028	0.063
54	11	41895	0.050	0.005	0.079	0.019	0.131	0.028	0.063
55	11	45714	0.043	0.006	0.079	0.019	0.131	0.028	0.063
56	11	46464	0.068	0.025	0.079	0.019	0.131	0.028	0.063
57	12	45838	0.060	0.006	0.079	0.019	0.131	0.028	0.063
58	12	46408	0.080	0.020	0.079	0.019	0.131	0.028	0.063
59	12	46501	0.088	0.008	0.079	0.019	0.131	0.028	0.063
60	12	46574	0.075	0.012	0.079	0.019	0.131	0.028	0.063
61	12	46467	0.087	0.012	0.079	0.019	0.131	0.028	0.063
62	12	42644	0.048	0.040	0.079	0.019	0.131	0.028	0.063
63	13	73406	0.070	0.023	0.079	0.019	0.131	0.028	0.063
64	13	41149	0.120	0.050	0.079	0.019	0.131	0.028	0.063
65	14	43394	0.075	0.045	0.079	0.019	0.131	0.028	0.063
66	15	46457	0.068	0.008	0.079	0.019	0.131	0.028	0.063
67	15	46465	0.073	0.005	0.079	0.019	0.131	0.028	0.063
68	15	46454	0.068	0.005	0.079	0.019	0.131	0.028	0.063
69	15	43701	0.053	0.015	0.079	0.019	0.131	0.028	0.063
70	16	42108	0.088	0.035	0.079	0.019	0.131	0.028	0.063
71	16	46400	0.070	0.017	0.079	0.019	0.131	0.028	0.063
72	16	41616	0.090	0.020	0.079	0.019	0.131	0.028	0.063
73	16	48049	0.088	0.002	0.079	0.019	0.131	0.028	0.063
74	16	43863	0.093	0.005	0.079	0.019	0.131	0.028	0.063
75	17	44732	0.088	0.012	0.079	0.019	0.131	0.028	0.063
76	17	43753	0.075	0.005	0.079	0.019	0.131	0.028	0.063
77	17	44722	0.095	0.020	0.079	0.019	0.131	0.028	0.063
78	17	43743	0.085	0.010	0.079	0.019	0.131	0.028	0.063
79	17	43749	0.068	0.018	0.079	0.019	0.131	0.028	0.063
80	18	46514	0.078	0.010	0.079	0.019	0.131	0.028	0.063
81	18	46462	0.108	0.030	0.079	0.019	0.131	0.028	0.063
82	19	48040	0.063	0.045	0.079	0.019	0.131	0.028	0.063
83	19	41646	0.125	0.063	0.079	0.019	0.131	0.028	0.063
84	19	45248	0.100	0.025	0.079	0.019	0.131	0.028	0.063
85	19	43078	0.085	0.015	0.079	0.019	0.131	0.028	0.063
86	19	42172	0.058	0.028	0.079	0.019	0.131	0.028	0.063
87	19	42153	0.076	0.013	0.079	0.019	0.131	0.028	0.063
88	19	42080	0.088	0.018	0.079	0.019	0.131	0.028	0.063
89	20	41842	0.070	0.018	0.079	0.019	0.131	0.028	0.063
90	20	46480	0.053	0.018	0.079	0.019	0.131	0.028	0.063
91	20	46502	0.060	0.008	0.079	0.019	0.131	0.028	0.063
92	21	46530	0.090	0.030	0.079	0.019	0.131	0.028	0.063
93	21	41605	0.065	0.025	0.079	0.019	0.131	0.028	0.063
94	21	41597	0.100	0.035	0.079	0.019	0.131	0.028	0.063
95	21	46547	0.103	0.003	0.079	0.019	0.131	0.028	0.063
96	22	48058	0.055	0.048	0.079	0.019	0.131	0.028	0.063
97	22	46493	0.076	0.021	0.079	0.019	0.131	0.028	0.063
98	22	44725	0.080	0.004	0.079	0.019	0.131	0.028	0.063
99	22	41314	0.078	0.003	0.079	0.019	0.131	0.028	0.063
100	22	48076	0.073	0.005	0.079	0.019	0.131	0.028	0.063
101	23	46399	0.033	0.040	0.079	0.019	0.131	0.028	0.063
102	23	46393	0.063	0.030	0.079	0.019	0.131	0.028	0.063
103	23	46558	0.045	0.017	0.079	0.019	0.131	0.028	0.063

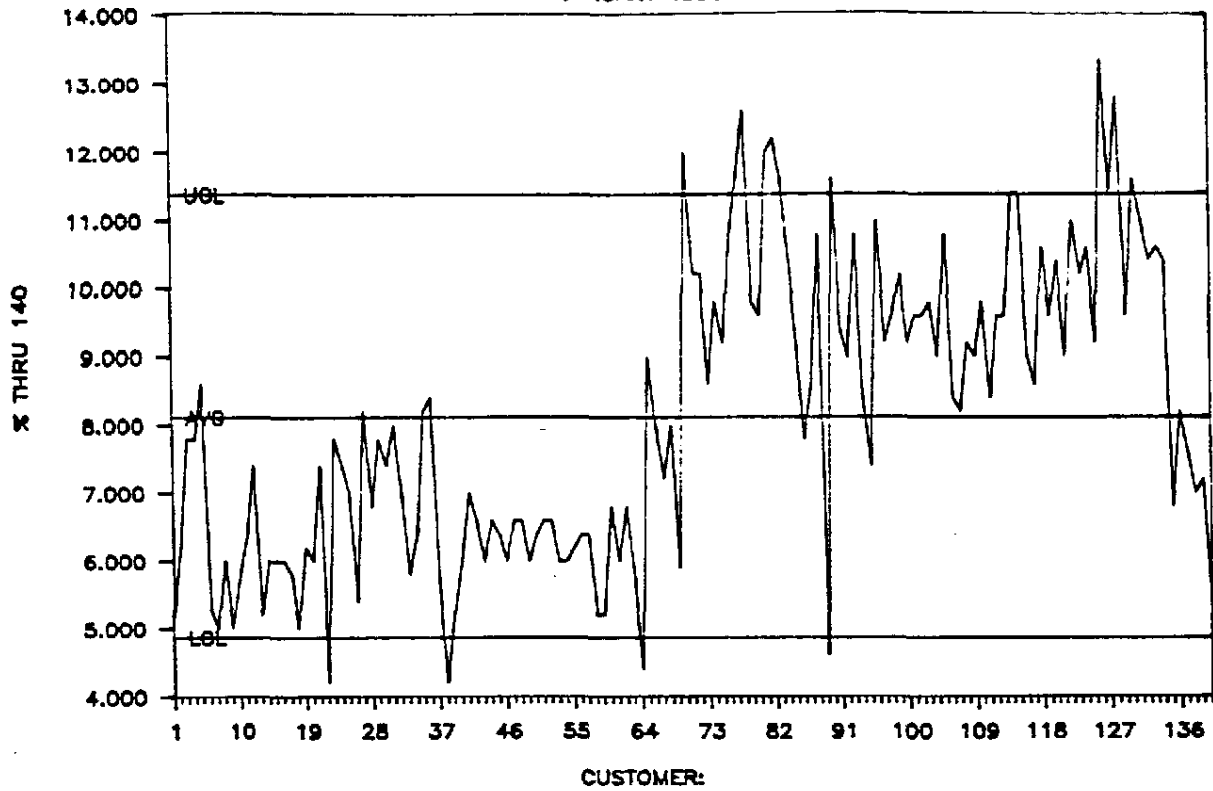
CCR 000006181

104	23	43278	0.103	0.038	0.079	0.019	0.131	0.028	0.063
105	24	48046	0.108	0.005	0.079	0.019	0.131	0.028	0.063
106	24	44735	0.105	0.002	0.079	0.019	0.131	0.028	0.063
107	24	41406	0.060	0.045	0.079	0.019	0.131	0.028	0.063
108	24	46569	0.093	0.032	0.079	0.019	0.131	0.028	0.063
109	24	46462	0.093	0.000	0.079	0.019	0.131	0.028	0.063
110	24	42777	0.113	0.020	0.079	0.019	0.131	0.028	0.063
111	24	43059	0.053	0.060	0.079	0.019	0.131	0.028	0.063
112	25	46466	0.095	0.042	0.079	0.019	0.131	0.028	0.063
113	25	46507	0.073	0.023	0.079	0.019	0.131	0.028	0.063
114	25	73404	0.090	0.018	0.079	0.019	0.131	0.028	0.063
115	25	73396	0.143	0.053	0.079	0.019	0.131	0.028	0.063
116	26	42057	0.070	0.073	0.079	0.019	0.131	0.028	0.063
117	26	43235	0.065	0.005	0.079	0.019	0.131	0.028	0.063
118	26	46529	0.063	0.003	0.079	0.019	0.131	0.028	0.063
119	26	46581	0.093	0.030	0.079	0.019	0.131	0.028	0.063
120	27	48045	0.103	0.010	0.079	0.019	0.131	0.028	0.063
121	27	42117	0.090	0.013	0.079	0.019	0.131	0.028	0.063
122	27	73411	0.118	0.028	0.079	0.019	0.131	0.028	0.063
123	27	46472	0.100	0.018	0.079	0.019	0.131	0.028	0.063
124	28	73397	0.093	0.008	0.079	0.019	0.131	0.028	0.063
125	28	43730	0.088	0.005	0.079	0.019	0.131	0.028	0.063
126	28	52535	0.050	0.038	0.079	0.019	0.131	0.028	0.063
127	28	73396	0.148	0.098	0.079	0.019	0.131	0.028	0.063
128	28	46485	0.110	0.038	0.079	0.019	0.131	0.028	0.063
129	29	46460	0.070	0.040	0.079	0.019	0.131	0.028	0.063
130	29	46398	0.133	0.063	0.079	0.019	0.131	0.028	0.063
131	29	46394	0.113	0.020	0.079	0.019	0.131	0.028	0.063
132	29	46401	0.085	0.027	0.079	0.019	0.131	0.028	0.063
133	29	48071	0.128	0.042	0.079	0.019	0.131	0.028	0.063
134	30	46478	0.073	0.055	0.079	0.019	0.131	0.028	0.063
135	30	46491	0.060	0.013	0.079	0.019	0.131	0.028	0.063
136	30	46473	0.076	0.017	0.079	0.019	0.131	0.028	0.063
137	30	48051	0.078	0.000	0.079	0.019	0.131	0.028	0.063
138	31	43699	0.078	0.000	0.079	0.019	0.131	0.028	0.063
139	31	73403	0.070	0.007	0.079	0.019	0.131	0.028	0.063
140	31	44734	0.080	0.010	0.079	0.019	0.131	0.028	0.063

CCR 000006182

OKC PVC SHIPMENTS (X - CHART)

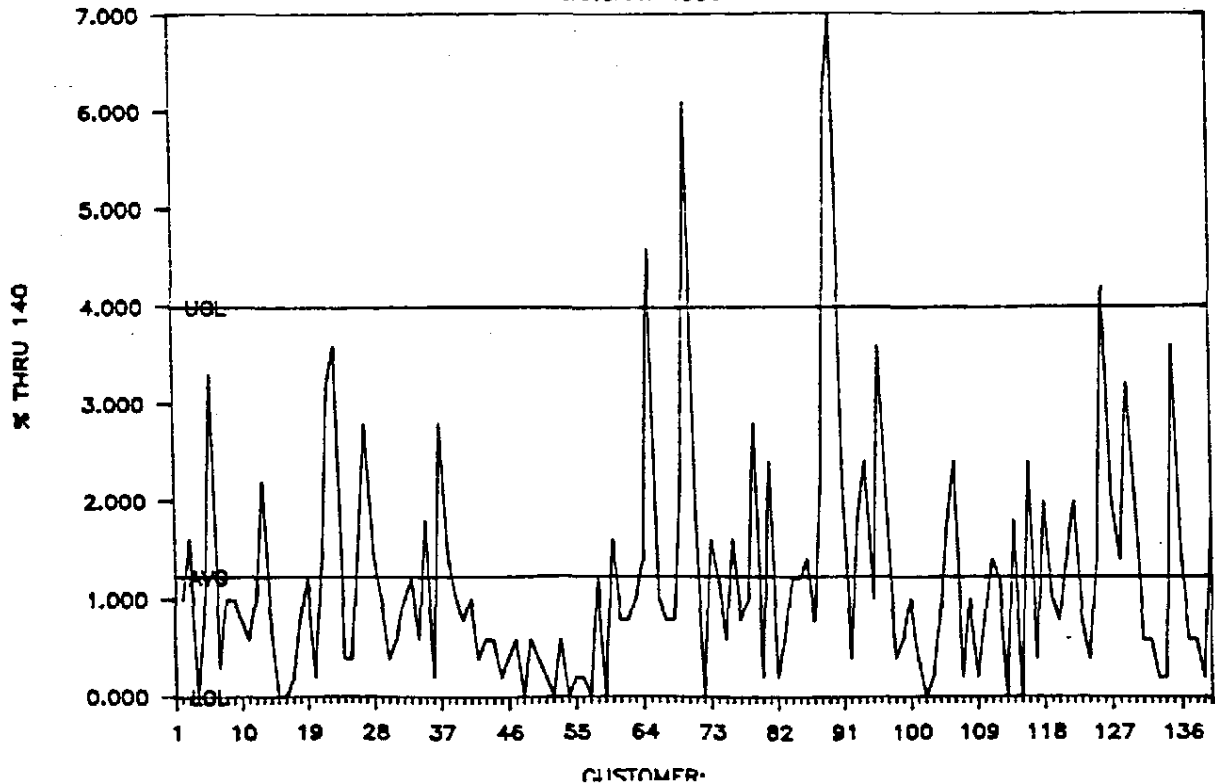
JANUARY 1990



CCR 000006183

OKC PVC SHIPMENTS (R-CHART)

JANUARY 1990



OGC RC DATA JAN 1990 TOTAL DATA POINTS= 140.00
 X-R (INDIVIDUALS) SPC DATA

AVG AVG UCL LCL UCL

DATE LOADED	CAR NUMBER	Z THRU 140	MOVING RANGE	CURRENT X BAR	R BAR	UCL X	LCL X	UCL R
1	1	41618	5.200	0.117	1.223	11.370	4.864	3.996
2	1	48029	6.200	1.000	0.117	1.223	11.370	4.864
3	1	44734	7.800	1.600	0.117	1.223	11.370	4.864
4	1	44756	7.800	0.000	0.117	1.223	11.370	4.864
5	1	46569	8.600	0.800	0.117	1.223	11.370	4.864
6	2	44450	5.300	3.300	0.117	1.223	11.370	4.864
7	2	48054	5.000	0.300	0.117	1.223	11.370	4.864
8	2	46542	6.000	1.000	0.117	1.223	11.370	4.864
9	2	46543	5.000	1.000	0.117	1.223	11.370	4.864
10	2	48058	5.800	0.800	0.117	1.223	11.370	4.864
11	2	48076	6.400	0.600	0.117	1.223	11.370	4.864
12	3	46561	7.400	1.000	0.117	1.223	11.370	4.864
13	3	46538	5.200	2.200	0.117	1.223	11.370	4.864
14	3	44471	6.800	0.800	0.117	1.223	11.370	4.864
15	3	42680	6.800	0.800	0.117	1.223	11.370	4.864
16	3	44524	6.800	0.000	0.117	1.223	11.370	4.864
17	4	44480	5.800	0.200	0.117	1.223	11.370	4.864
18	4	73395	5.000	0.800	0.117	1.223	11.370	4.864
19	4	44515	6.200	1.200	0.117	1.223	11.370	4.864
20	4	73390	6.000	0.200	0.117	1.223	11.370	4.864
21	5	44410	7.400	1.400	0.117	1.223	11.370	4.864
22	5	45709	4.200	3.200	0.117	1.223	11.370	4.864
23	5	44476	7.800	3.600	0.117	1.223	11.370	4.864
24	5	48055	7.400	0.400	0.117	1.223	11.370	4.864
25	5	46522	7.000	0.400	0.117	1.223	11.370	4.864
26	5	44508	5.400	1.600	0.117	1.223	11.370	4.864
27	6	43699	8.200	2.800	0.117	1.223	11.370	4.864
28	6	73402	6.800	1.400	0.117	1.223	11.370	4.864
29	6	48047	7.800	1.000	0.117	1.223	11.370	4.864
30	6	43871	7.400	0.400	0.117	1.223	11.370	4.864
31	6	43717	8.000	0.600	0.117	1.223	11.370	4.864
32	7	41650	7.000	1.000	0.117	1.223	11.370	4.864
33	7	42121	5.800	1.200	0.117	1.223	11.370	4.864
34	7	45833	6.400	0.600	0.117	1.223	11.370	4.864
35	7	44464	8.200	1.800	0.117	1.223	11.370	4.864
36	7	44757	8.400	0.200	0.117	1.223	11.370	4.864
37	8	43857	5.600	2.800	0.117	1.223	11.370	4.864
38	8	44755	4.200	1.400	0.117	1.223	11.370	4.864
39	8	46555	5.200	1.000	0.117	1.223	11.370	4.864
40	8	73401	6.000	0.800	0.117	1.223	11.370	4.864
41	8	44493	7.000	1.000	0.117	1.223	11.370	4.864
42	9	41602	6.600	0.400	0.117	1.223	11.370	4.864
43	9	46541	6.000	0.600	0.117	1.223	11.370	4.864
44	9	44578	6.600	0.600	0.117	1.223	11.370	4.864
45	9	46518	6.400	0.200	0.117	1.223	11.370	4.864
46	9	45801	6.000	0.400	0.117	1.223	11.370	4.864
47	10	43855	6.600	0.600	0.117	1.223	11.370	4.864

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48	10	45910	6.600	0.000	0.117	1.223	11.370	4.864	3.996
49	10	73391	6.000	0.600	0.117	1.223	11.370	4.864	3.996
50	10	73405	6.400	0.400	0.117	1.223	11.370	4.864	3.996
51	10	43693	6.600	0.200	0.117	1.223	11.370	4.864	3.996
52	10	41305	6.600	0.000	0.117	1.223	11.370	4.864	3.996
53	11	45921	6.000	0.600	0.117	1.223	11.370	4.864	3.996
54	11	41095	6.000	0.000	0.117	1.223	11.370	4.864	3.996
55	11	45714	6.200	0.200	0.117	1.223	11.370	4.864	3.996
56	11	46404	6.400	0.200	0.117	1.223	11.370	4.864	3.996
57	12	45838	6.400	0.000	0.117	1.223	11.370	4.864	3.996
58	12	46408	5.200	1.200	0.117	1.223	11.370	4.864	3.996
59	12	46501	5.200	0.000	0.117	1.223	11.370	4.864	3.996
60	12	46574	6.800	1.600	0.117	1.223	11.370	4.864	3.996
61	12	46467	6.000	0.800	0.117	1.223	11.370	4.864	3.996
62	12	42664	6.800	0.800	0.117	1.223	11.370	4.864	3.996
63	13	73406	5.800	1.000	0.117	1.223	11.370	4.864	3.996
64	13	41169	4.400	1.400	0.117	1.223	11.370	4.864	3.996
65	14	43394	9.000	4.600	0.117	1.223	11.370	4.864	3.996
66	15	46457	8.000	1.000	0.117	1.223	11.370	4.864	3.996
67	15	46465	7.200	0.800	0.117	1.223	11.370	4.864	3.996
68	15	46454	8.000	0.800	0.117	1.223	11.370	4.864	3.996
69	15	43701	5.900	2.100	0.117	1.223	11.370	4.864	3.996
70	16	42108	12.000	6.100	0.117	1.223	11.370	4.864	3.996
71	16	46400	10.200	1.800	0.117	1.223	11.370	4.864	3.996
72	16	41616	10.200	0.000	0.117	1.223	11.370	4.864	3.996
73	16	48049	8.600	1.600	0.117	1.223	11.370	4.864	3.996
74	16	43863	9.800	1.200	0.117	1.223	11.370	4.864	3.996
75	17	44732	9.200	0.600	0.117	1.223	11.370	4.864	3.996
76	17	43753	10.800	1.600	0.117	1.223	11.370	4.864	3.996
77	17	44722	11.600	0.800	0.117	1.223	11.370	4.864	3.996
78	17	43743	12.600	1.000	0.117	1.223	11.370	4.864	3.996
79	17	43749	9.800	2.000	0.117	1.223	11.370	4.864	3.996
80	18	46514	9.600	0.200	0.117	1.223	11.370	4.864	3.996
81	18	46468	12.000	2.400	0.117	1.223	11.370	4.864	3.996
82	19	48040	12.200	0.200	0.117	1.223	11.370	4.864	3.996
83	19	41646	11.600	0.600	0.117	1.223	11.370	4.864	3.996
84	19	45248	10.400	1.200	0.117	1.223	11.370	4.864	3.996
85	19	43078	9.200	1.200	0.117	1.223	11.370	4.864	3.996
86	19	42172	7.800	1.400	0.117	1.223	11.370	4.864	3.996
87	19	42153	8.600	0.800	0.117	1.223	11.370	4.864	3.996
88	19	42080	10.800	2.200	0.117	1.223	11.370	4.864	3.996
89	20	41842	4.600	4.200	0.117	1.223	11.370	4.864	3.996
90	20	46480	11.600	7.000	0.117	1.223	11.370	4.864	3.996
91	20	46502	9.400	2.200	0.117	1.223	11.370	4.864	3.996
92	21	46530	9.000	0.400	0.117	1.223	11.370	4.864	3.996
93	21	41605	10.800	1.800	0.117	1.223	11.370	4.864	3.996
94	21	41597	8.400	2.400	0.117	1.223	11.370	4.864	3.996
95	21	46547	7.400	1.000	0.117	1.223	11.370	4.864	3.996
96	22	48058	11.000	3.600	0.117	1.223	11.370	4.864	3.996
97	22	46493	9.200	1.800	0.117	1.223	11.370	4.864	3.996
98	22	44725	9.600	0.400	0.117	1.223	11.370	4.864	3.996
99	22	41314	10.200	0.600	0.117	1.223	11.370	4.864	3.996
100	22	48076	9.200	1.000	0.117	1.223	11.370	4.864	3.996
101	23	46399	9.600	0.400	0.117	1.223	11.370	4.864	3.996
102	23	46393	9.600	0.000	0.117	1.223	11.370	4.864	3.996
103	23	46558	9.800	0.200	0.117	1.223	11.370	4.864	3.996

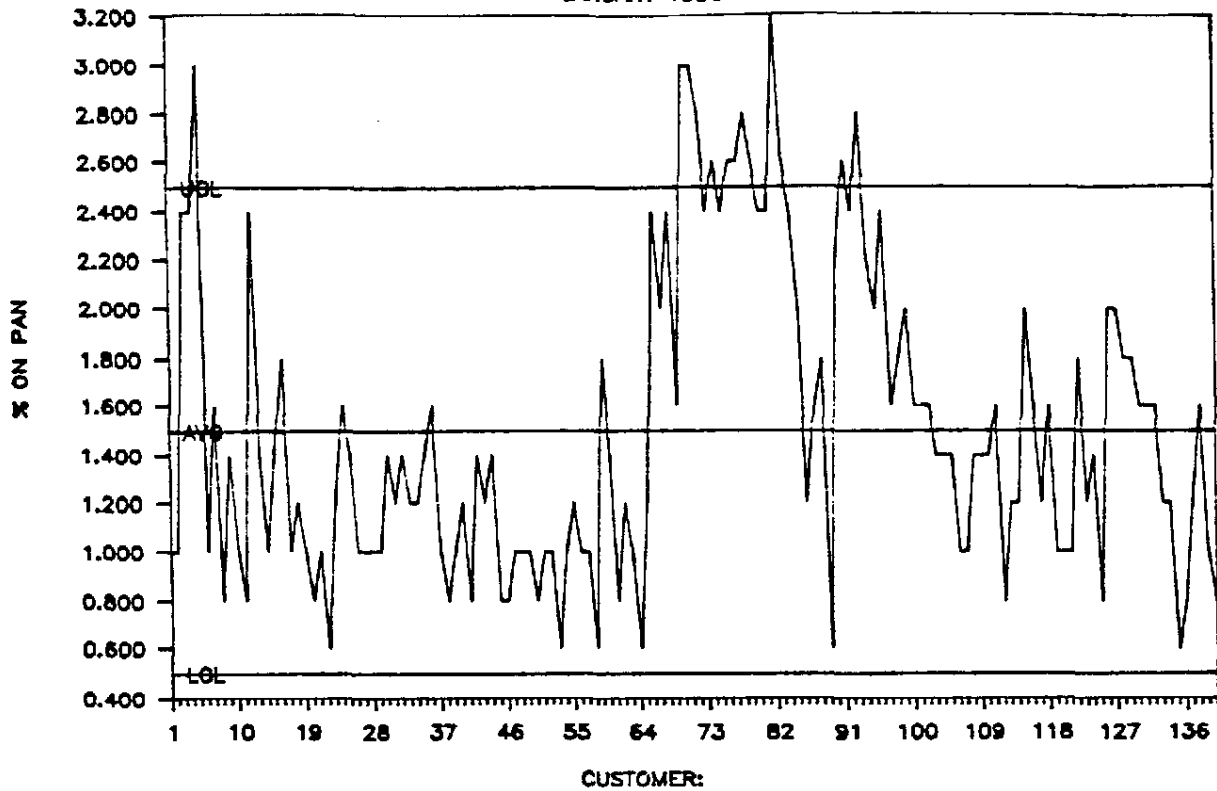
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104	23	43278	9.000	0.000	0.117	1.223	11.370	4.864	3.996
105	24	48046	10.000	1.800	0.117	1.223	11.370	4.864	3.996
106	24	44735	0.400	2.400	0.117	1.223	11.370	4.864	3.996
107	24	41406	0.200	0.200	0.117	1.223	11.370	4.864	3.996
108	24	46569	9.200	1.000	0.117	1.223	11.370	4.864	3.996
109	24	44462	9.000	0.200	0.117	1.223	11.370	4.864	3.996
110	24	42777	9.000	0.800	0.117	1.223	11.370	4.864	3.996
111	24	43059	0.400	1.400	0.117	1.223	11.370	4.864	3.996
112	25	44466	9.600	1.200	0.117	1.223	11.370	4.864	3.996
113	25	46507	9.600	0.000	0.117	1.223	11.370	4.864	3.996
114	25	73404	11.400	1.000	0.117	1.223	11.370	4.864	3.996
115	25	73396	11.400	0.000	0.117	1.223	11.370	4.864	3.996
116	26	42057	9.000	2.400	0.117	1.223	11.370	4.864	3.996
117	26	43235	0.600	0.400	0.117	1.223	11.370	4.864	3.996
118	26	46529	10.400	2.000	0.117	1.223	11.370	4.864	3.996
119	26	46581	9.600	1.000	0.117	1.223	11.370	4.864	3.996
120	27	48045	10.400	0.800	0.117	1.223	11.370	4.864	3.996
121	27	42117	9.000	1.400	0.117	1.223	11.370	4.864	3.996
122	27	73411	11.000	2.000	0.117	1.223	11.370	4.864	3.996
123	27	46472	10.200	0.800	0.117	1.223	11.370	4.864	3.996
124	28	73397	10.600	0.400	0.117	1.223	11.370	4.864	3.996
125	28	43730	9.200	1.400	0.117	1.223	11.370	4.864	3.996
126	28	52535	13.400	4.200	0.117	1.223	11.370	4.864	3.996
127	28	73396	11.400	2.000	0.117	1.223	11.370	4.864	3.996
128	28	46405	12.000	1.400	0.117	1.223	11.370	4.864	3.996
129	29	46460	9.600	3.200	0.117	1.223	11.370	4.864	3.996
130	29	46398	11.600	2.000	0.117	1.223	11.370	4.864	3.996
131	29	46394	11.000	0.600	0.117	1.223	11.370	4.864	3.996
132	29	46401	10.400	0.600	0.117	1.223	11.370	4.864	3.996
133	29	48071	10.600	0.200	0.117	1.223	11.370	4.864	3.996
134	30	46478	10.400	0.200	0.117	1.223	11.370	4.864	3.996
135	30	46491	6.800	3.600	0.117	1.223	11.370	4.864	3.996
136	30	46473	8.200	1.400	0.117	1.223	11.370	4.864	3.996
137	30	48051	7.600	0.600	0.117	1.223	11.370	4.864	3.996
138	31	43699	7.000	0.600	0.117	1.223	11.370	4.864	3.996
139	31	73403	7.200	0.200	0.117	1.223	11.370	4.864	3.996
140	31	44734	5.400	1.000	0.117	1.223	11.370	4.864	3.996

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OKC PVC SHIPMENTS (X - CHART)

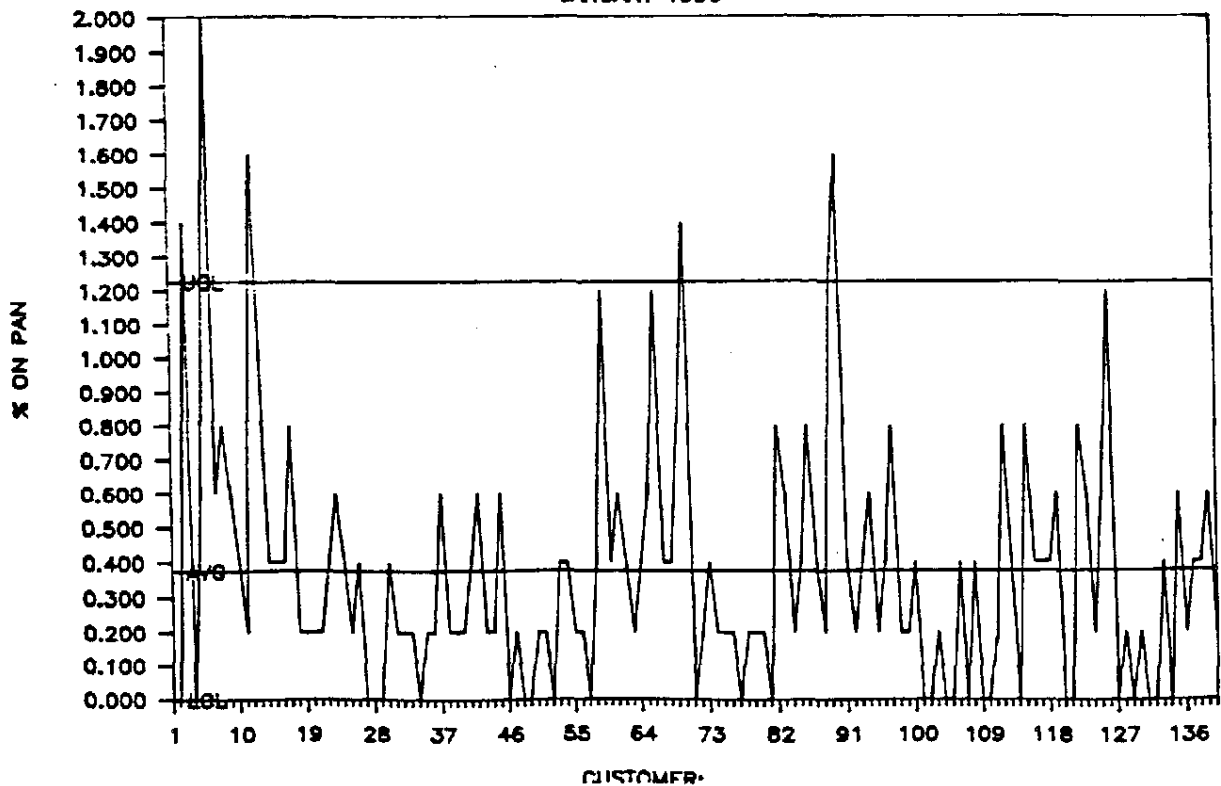
JANUARY 1990



CCR 000006187

OKC PVC SHIPMENTS (R-CHART)

JANUARY 1990



XX

ORC RC DATA JAN 1990

TOTAL DATA POINTS= 140.00

X-R (INDIVIDUALS) SPC DATA

AVG AVG UCL LCL UCL

XX

DATE	CAR	Z	OWN	MOVING	CURRENT				
LOADED	MUNDER	PAN	RANGE	X BAR	R BAR	UCL X	LCL X	UCL R	
1	1	41618	1.000		1.500	0.376	2.499	0.501	1.227
2	1	48029	1.000	0.000	1.500	0.376	2.499	0.501	1.227
3	1	44734	2.400	1.400	1.500	0.376	2.499	0.501	1.227
4	1	44756	2.400	0.000	1.500	0.376	2.499	0.501	1.227
5	1	46549	3.000	0.600	1.500	0.376	2.499	0.501	1.227
6	2	46450	1.000	2.000	1.500	0.376	2.499	0.501	1.227
7	2	48054	1.600	0.600	1.500	0.376	2.499	0.501	1.227
8	2	46542	0.800	0.800	1.500	0.376	2.499	0.501	1.227
9	2	46543	1.400	0.600	1.500	0.376	2.499	0.501	1.227
10	2	48058	1.000	0.400	1.500	0.376	2.499	0.501	1.227
11	2	48076	0.800	0.200	1.500	0.376	2.499	0.501	1.227
12	3	46561	2.400	1.600	1.500	0.376	2.499	0.501	1.227
13	3	46538	1.400	1.000	1.500	0.376	2.499	0.501	1.227
14	3	46471	1.000	0.400	1.500	0.376	2.499	0.501	1.227
15	3	42680	1.400	0.400	1.500	0.376	2.499	0.501	1.227
16	3	46524	1.800	0.400	1.500	0.376	2.499	0.501	1.227
17	4	46480	1.000	0.800	1.500	0.376	2.499	0.501	1.227
18	4	73395	1.200	0.200	1.500	0.376	2.499	0.501	1.227
19	4	46515	1.000	0.200	1.500	0.376	2.499	0.501	1.227
20	4	73390	0.800	0.200	1.500	0.376	2.499	0.501	1.227
21	5	46410	1.000	0.200	1.500	0.376	2.499	0.501	1.227
22	5	45709	0.600	0.400	1.500	0.376	2.499	0.501	1.227
23	5	46476	1.200	0.600	1.500	0.376	2.499	0.501	1.227
24	5	48055	1.600	0.400	1.500	0.376	2.499	0.501	1.227
25	5	46522	1.400	0.200	1.500	0.376	2.499	0.501	1.227
26	5	46508	1.000	0.400	1.500	0.376	2.499	0.501	1.227
27	6	43699	1.000	0.000	1.500	0.376	2.499	0.501	1.227
28	6	73402	1.000	0.000	1.500	0.376	2.499	0.501	1.227
29	6	48047	1.000	0.000	1.500	0.376	2.499	0.501	1.227
30	6	43071	1.400	0.400	1.500	0.376	2.499	0.501	1.227
31	6	43717	1.200	0.200	1.500	0.376	2.499	0.501	1.227
32	7	41650	1.400	0.200	1.500	0.376	2.499	0.501	1.227
33	7	42121	1.200	0.200	1.500	0.376	2.499	0.501	1.227
34	7	45833	1.200	0.000	1.500	0.376	2.499	0.501	1.227
35	7	46464	1.400	0.200	1.500	0.376	2.499	0.501	1.227
36	7	44757	1.600	0.200	1.500	0.376	2.499	0.501	1.227
37	8	43857	1.000	0.600	1.500	0.376	2.499	0.501	1.227
38	8	44755	0.800	0.200	1.500	0.376	2.499	0.501	1.227
39	8	46555	1.000	0.200	1.500	0.376	2.499	0.501	1.227
40	8	73401	1.200	0.200	1.500	0.376	2.499	0.501	1.227
41	8	46493	0.800	0.400	1.500	0.376	2.499	0.501	1.227
42	9	41602	1.400	0.600	1.500	0.376	2.499	0.501	1.227
43	9	46541	1.200	0.200	1.500	0.376	2.499	0.501	1.227
44	9	46578	1.400	0.200	1.500	0.376	2.499	0.501	1.227
45	9	46518	0.800	0.600	1.500	0.376	2.499	0.501	1.227
46	9	45801	0.800	0.000	1.500	0.376	2.499	0.501	1.227
47	10	43855	1.000	0.200	1.500	0.376	2.499	0.501	1.227

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48	10	45910	1.000	0.000	1.500	0.376	2.499	0.501	1.227
49	10	73391	1.000	0.000	1.500	0.376	2.499	0.501	1.227
50	10	73405	0.800	0.200	1.500	0.376	2.499	0.501	1.227
51	10	43693	1.000	0.200	1.500	0.376	2.499	0.501	1.227
52	10	41305	1.000	0.000	1.500	0.376	2.499	0.501	1.227
53	11	45921	0.600	0.400	1.500	0.376	2.499	0.501	1.227
54	11	41895	1.000	0.400	1.500	0.376	2.499	0.501	1.227
55	11	45714	1.200	0.200	1.500	0.376	2.499	0.501	1.227
56	11	46404	1.000	0.200	1.500	0.376	2.499	0.501	1.227
57	12	45838	1.000	0.000	1.500	0.376	2.499	0.501	1.227
58	12	46408	0.600	0.400	1.500	0.376	2.499	0.501	1.227
59	12	46501	1.000	1.200	1.500	0.376	2.499	0.501	1.227
60	12	46574	1.400	0.400	1.500	0.376	2.499	0.501	1.227
61	12	46467	0.800	0.600	1.500	0.376	2.499	0.501	1.227
62	12	42664	1.200	0.400	1.500	0.376	2.499	0.501	1.227
63	13	73406	1.000	0.200	1.500	0.376	2.499	0.501	1.227
64	13	41169	0.600	0.400	1.500	0.376	2.499	0.501	1.227
65	14	43394	1.200	0.600	1.500	0.376	2.499	0.501	1.227
66	15	46457	2.400	1.200	1.500	0.376	2.499	0.501	1.227
67	15	46465	2.000	0.400	1.500	0.376	2.499	0.501	1.227
68	15	46454	2.400	0.400	1.500	0.376	2.499	0.501	1.227
69	15	43701	1.600	0.800	1.500	0.376	2.499	0.501	1.227
70	16	42108	3.000	1.400	1.500	0.376	2.499	0.501	1.227
71	16	46400	3.000	0.000	1.500	0.376	2.499	0.501	1.227
72	16	41416	2.000	0.200	1.500	0.376	2.499	0.501	1.227
73	16	48049	2.400	0.400	1.500	0.376	2.499	0.501	1.227
74	16	43863	2.600	0.200	1.500	0.376	2.499	0.501	1.227
75	17	44732	2.400	0.200	1.500	0.376	2.499	0.501	1.227
76	17	43753	2.600	0.200	1.500	0.376	2.499	0.501	1.227
77	17	44722	2.600	0.000	1.500	0.376	2.499	0.501	1.227
78	17	43743	2.000	0.200	1.500	0.376	2.499	0.501	1.227
79	17	43749	2.600	0.200	1.500	0.376	2.499	0.501	1.227
80	18	46514	2.400	0.200	1.500	0.376	2.499	0.501	1.227
81	18	46468	2.400	0.000	1.500	0.376	2.499	0.501	1.227
82	19	48040	3.200	0.800	1.500	0.376	2.499	0.501	1.227
83	19	41646	2.600	0.600	1.500	0.376	2.499	0.501	1.227
84	19	45248	2.400	0.200	1.500	0.376	2.499	0.501	1.227
85	19	43078	2.000	0.400	1.500	0.376	2.499	0.501	1.227
86	19	42172	1.200	0.800	1.500	0.376	2.499	0.501	1.227
87	19	42153	1.600	0.400	1.500	0.376	2.499	0.501	1.227
88	19	42080	1.800	0.200	1.500	0.376	2.499	0.501	1.227
89	20	41842	0.600	1.200	1.500	0.376	2.499	0.501	1.227
90	20	46480	2.200	1.600	1.500	0.376	2.499	0.501	1.227
91	20	46502	2.600	0.400	1.500	0.376	2.499	0.501	1.227
92	21	46530	2.400	0.200	1.500	0.376	2.499	0.501	1.227
93	21	41605	2.800	0.400	1.500	0.376	2.499	0.501	1.227
94	21	41597	2.200	0.600	1.500	0.376	2.499	0.501	1.227
95	21	46547	2.000	0.200	1.500	0.376	2.499	0.501	1.227
96	22	48058	2.400	0.400	1.500	0.376	2.499	0.501	1.227
97	22	46493	1.600	0.800	1.500	0.376	2.499	0.501	1.227
98	22	44725	1.800	0.200	1.500	0.376	2.499	0.501	1.227
99	22	41314	2.000	0.200	1.500	0.376	2.499	0.501	1.227
100	22	48076	1.600	0.400	1.500	0.376	2.499	0.501	1.227
101	23	46399	1.600	0.000	1.500	0.376	2.499	0.501	1.227
102	23	46393	1.600	0.000	1.500	0.376	2.499	0.501	1.227
103	23	46558	1.400	0.200	1.500	0.376	2.499	0.501	1.227

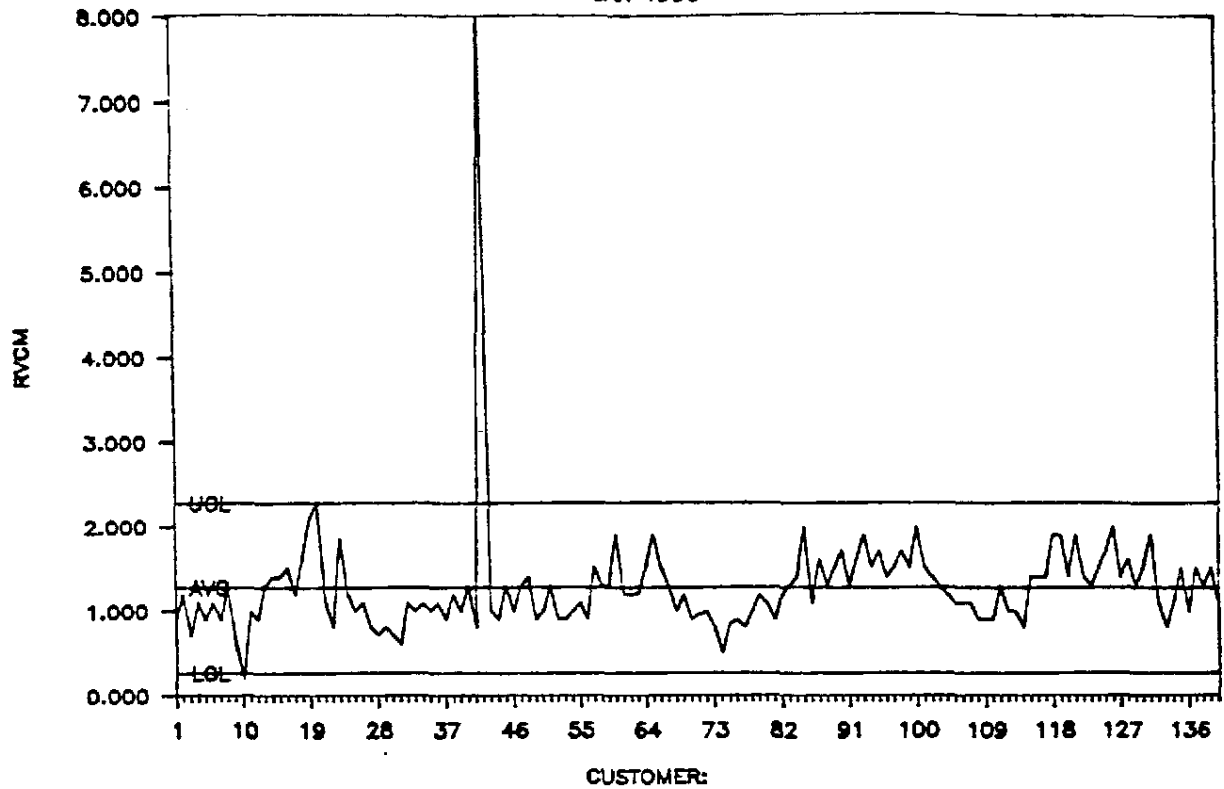
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104	23	43278	1.400	0.000	1.500	0.376	2.499	0.501	1.227
105	24	48046	1.400	0.000	1.500	0.376	2.499	0.501	1.227
106	24	44735	1.000	0.400	1.500	0.376	2.499	0.501	1.227
107	24	41406	1.000	0.000	1.500	0.376	2.499	0.501	1.227
108	24	46569	1.400	0.400	1.500	0.376	2.499	0.501	1.227
109	24	46462	1.400	0.000	1.500	0.376	2.499	0.501	1.227
110	24	42777	1.400	0.000	1.500	0.376	2.499	0.501	1.227
111	24	43059	1.600	0.200	1.500	0.376	2.499	0.501	1.227
112	25	46466	0.800	0.800	1.500	0.376	2.499	0.501	1.227
113	25	46507	1.200	0.400	1.500	0.376	2.499	0.501	1.227
114	25	73404	1.200	0.000	1.500	0.376	2.499	0.501	1.227
115	25	73396	2.000	0.800	1.500	0.376	2.499	0.501	1.227
116	26	42057	1.600	0.400	1.500	0.376	2.499	0.501	1.227
117	26	43235	1.200	0.400	1.500	0.376	2.499	0.501	1.227
118	26	46529	1.600	0.400	1.500	0.376	2.499	0.501	1.227
119	26	46581	1.000	0.600	1.500	0.376	2.499	0.501	1.227
120	27	48045	1.000	0.000	1.500	0.376	2.499	0.501	1.227
121	27	42117	1.000	0.000	1.500	0.376	2.499	0.501	1.227
122	27	73411	1.800	0.800	1.500	0.376	2.499	0.501	1.227
123	27	46472	1.200	0.600	1.500	0.376	2.499	0.501	1.227
124	28	73397	1.400	0.200	1.500	0.376	2.499	0.501	1.227
125	28	43730	0.800	0.600	1.500	0.376	2.499	0.501	1.227
126	28	52535	2.000	1.200	1.500	0.376	2.499	0.501	1.227
127	28	73396	2.000	0.000	1.500	0.376	2.499	0.501	1.227
128	28	46485	1.800	0.200	1.500	0.376	2.499	0.501	1.227
129	29	46460	1.800	0.000	1.500	0.376	2.499	0.501	1.227
130	29	46398	1.600	0.200	1.500	0.376	2.499	0.501	1.227
131	29	46394	1.600	0.600	1.500	0.376	2.499	0.501	1.227
132	29	46401	1.600	0.000	1.500	0.376	2.499	0.501	1.227
133	29	48071	1.200	0.400	1.500	0.376	2.499	0.501	1.227
134	30	46478	1.200	0.000	1.500	0.376	2.499	0.501	1.227
135	30	46491	0.600	0.600	1.500	0.376	2.499	0.501	1.227
136	30	46473	0.800	0.200	1.500	0.376	2.499	0.501	1.227
137	30	48051	1.200	0.400	1.500	0.376	2.499	0.501	1.227
138	31	43699	1.600	0.400	1.500	0.376	2.499	0.501	1.227
139	31	73403	1.000	0.600	1.500	0.376	2.499	0.501	1.227
140	31	44734	0.800	0.200	1.500	0.376	2.499	0.501	1.227

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OKC PVC SHIPMENTS (X - CHART)

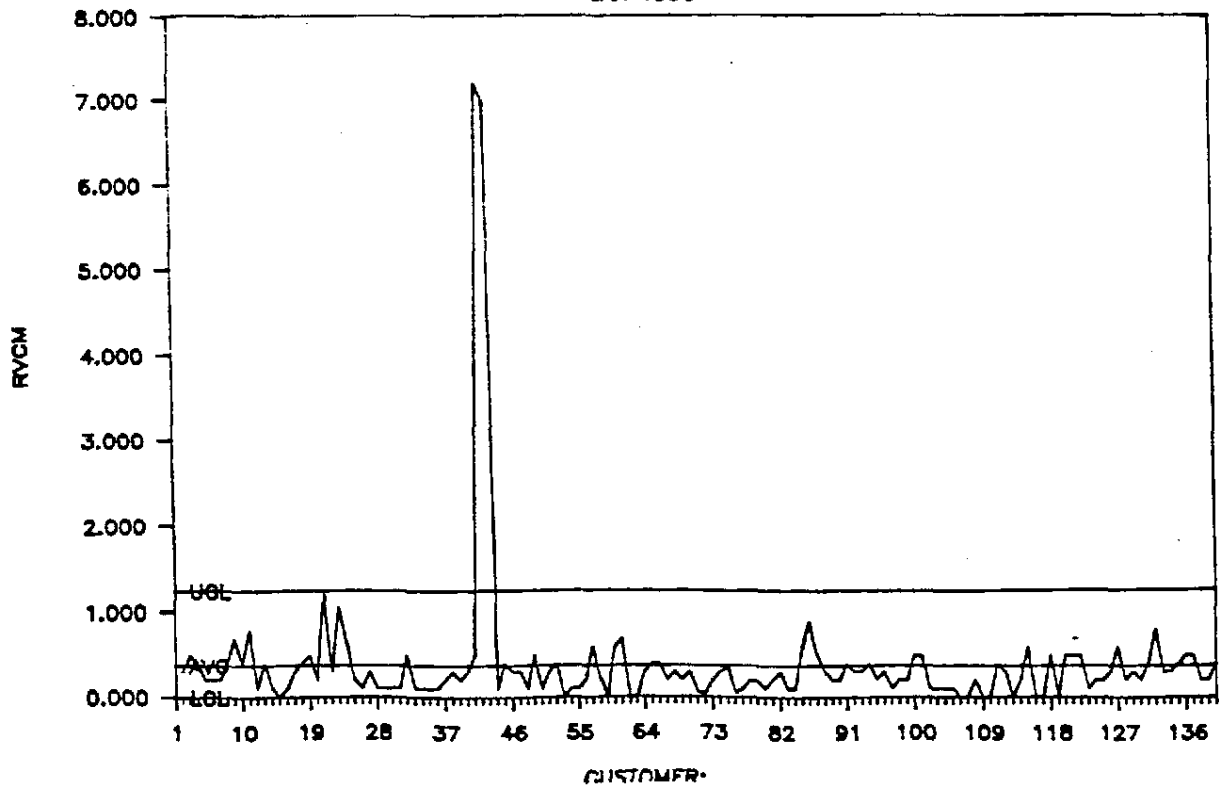
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OKC PVC SHIPMENTS (R-CHART)

JAN 1990



OEC RC DATA JAN 1990

TOTAL DATA POINTS= 140.00

X-R (INDIVIDUALS) SPC DATA

AVG AVG UCL LCL UCL

DATE	CAR	RUCH	MOVING	CURRENT					
LOADED	NUMBER		RANGE	X BAR	R BAR	UCL X	LCL X	UCL R	
1	1	41618	0.900	1.279	0.379	2.288	0.270	1.239	
2	1	48029	1.200	0.300	1.279	0.379	2.288	0.270	1.239
3	1	44734	0.700	0.500	1.279	0.379	2.288	0.270	1.239
4	1	44756	1.100	0.400	1.279	0.379	2.288	0.270	1.239
5	1	46569	0.900	0.200	1.279	0.379	2.288	0.270	1.239
6	2	46450	1.100	0.200	1.279	0.379	2.288	0.270	1.239
7	2	48054	0.900	0.200	1.279	0.379	2.288	0.270	1.239
8	2	46542	1.300	0.400	1.279	0.379	2.288	0.270	1.239
9	2	46543	0.600	0.700	1.279	0.379	2.288	0.270	1.239
10	2	48058	0.200	0.400	1.279	0.379	2.288	0.270	1.239
11	2	48076	1.000	0.800	1.279	0.379	2.288	0.270	1.239
12	3	46561	0.900	0.100	1.279	0.379	2.288	0.270	1.239
13	3	46538	1.300	0.400	1.279	0.379	2.288	0.270	1.239
14	3	46471	1.400	0.100	1.279	0.379	2.288	0.270	1.239
15	3	42680	1.400	0.000	1.279	0.379	2.288	0.270	1.239
16	3	46524	1.500	0.100	1.279	0.379	2.288	0.270	1.239
17	4	46480	1.200	0.300	1.279	0.379	2.288	0.270	1.239
18	4	73395	1.600	0.400	1.279	0.379	2.288	0.270	1.239
19	4	46515	2.100	0.500	1.279	0.379	2.288	0.270	1.239
20	4	73390	2.300	0.200	1.279	0.379	2.288	0.270	1.239
21	5	46410	1.100	1.200	1.279	0.379	2.288	0.270	1.239
22	5	45709	0.800	0.300	1.279	0.379	2.288	0.270	1.239
23	5	46476	1.850	1.050	1.279	0.379	2.288	0.270	1.239
24	5	48055	1.200	0.650	1.279	0.379	2.288	0.270	1.239
25	5	46522	1.000	0.200	1.279	0.379	2.288	0.270	1.239
26	5	46508	1.100	0.100	1.279	0.379	2.288	0.270	1.239
27	6	43699	0.800	0.300	1.279	0.379	2.288	0.270	1.239
28	6	73402	0.700	0.100	1.279	0.379	2.288	0.270	1.239
29	6	48047	0.800	0.100	1.279	0.379	2.288	0.270	1.239
30	6	43871	0.700	0.100	1.279	0.379	2.288	0.270	1.239
31	6	43717	0.600	0.100	1.279	0.379	2.288	0.270	1.239
32	7	41650	1.100	0.500	1.279	0.379	2.288	0.270	1.239
33	7	42121	1.000	0.100	1.279	0.379	2.288	0.270	1.239
34	7	45833	1.100	0.100	1.279	0.379	2.288	0.270	1.239
35	7	46464	1.000	0.100	1.279	0.379	2.288	0.270	1.239
36	7	44757	1.100	0.100	1.279	0.379	2.288	0.270	1.239
37	8	43857	0.900	0.200	1.279	0.379	2.288	0.270	1.239
38	8	44755	1.200	0.300	1.279	0.379	2.288	0.270	1.239
39	8	46555	1.000	0.200	1.279	0.379	2.288	0.270	1.239
40	8	73401	1.300	0.300	1.279	0.379	2.288	0.270	1.239
41	8	46493	0.800	0.500	1.279	0.379	2.288	0.270	1.239
42	9	41602	0.800	7.200	1.279	0.379	2.288	0.270	1.239
43	9	46541	1.000	7.000	1.279	0.379	2.288	0.270	1.239
44	9	46578	0.900	0.100	1.279	0.379	2.288	0.270	1.239
45	9	46518	1.300	0.400	1.279	0.379	2.288	0.270	1.239
46	9	45801	1.000	0.300	1.279	0.379	2.288	0.270	1.239
47	10	43855	1.300	0.300	1.279	0.379	2.288	0.270	1.239

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48	10	45910	1.400	0.100	1.279	0.379	2.208	0.270	1.239
49	10	73391	0.900	0.300	1.279	0.379	2.208	0.270	1.239
50	10	73405	1.000	0.100	1.279	0.379	2.208	0.270	1.239
51	10	43693	1.300	0.300	1.279	0.379	2.208	0.270	1.239
52	10	41305	0.900	0.400	1.279	0.379	2.208	0.270	1.239
53	11	45921	0.900	0.000	1.279	0.379	2.208	0.270	1.239
54	11	41895	1.000	0.100	1.279	0.379	2.208	0.270	1.239
55	11	45714	1.100	0.100	1.279	0.379	2.208	0.270	1.239
56	11	46404	0.900	0.200	1.279	0.379	2.208	0.270	1.239
57	12	45838	1.500	0.400	1.279	0.379	2.208	0.270	1.239
58	12	46408	1.300	0.200	1.279	0.379	2.208	0.270	1.239
59	12	46501	1.300	0.000	1.279	0.379	2.208	0.270	1.239
60	12	46574	1.900	0.600	1.279	0.379	2.208	0.270	1.239
61	12	46467	1.200	0.700	1.279	0.379	2.208	0.270	1.239
62	12	42664	1.200	0.000	1.279	0.379	2.208	0.270	1.239
63	13	73406	1.200	0.000	1.279	0.379	2.208	0.270	1.239
64	13	41149	1.500	0.300	1.279	0.379	2.208	0.270	1.239
65	14	43394	1.900	0.400	1.279	0.379	2.208	0.270	1.239
66	15	46457	1.500	0.400	1.279	0.379	2.208	0.270	1.239
67	15	46465	1.300	0.200	1.279	0.379	2.208	0.270	1.239
68	15	46454	1.000	0.300	1.279	0.379	2.208	0.270	1.239
69	15	43701	1.200	0.200	1.279	0.379	2.208	0.270	1.239
70	16	42108	0.900	0.300	1.279	0.379	2.208	0.270	1.239
71	16	46400	0.960	0.060	1.279	0.379	2.208	0.270	1.239
72	16	41616	1.000	0.040	1.279	0.379	2.208	0.270	1.239
73	16	48049	0.800	0.200	1.279	0.379	2.208	0.270	1.239
74	16	43863	0.500	0.300	1.279	0.379	2.208	0.270	1.239
75	17	44732	0.850	0.350	1.279	0.379	2.208	0.270	1.239
76	17	43753	0.900	0.050	1.279	0.379	2.208	0.270	1.239
77	17	44722	0.800	0.100	1.279	0.379	2.208	0.270	1.239
78	17	43763	1.600	0.200	1.279	0.379	2.208	0.270	1.239
79	17	43749	1.200	0.200	1.279	0.379	2.208	0.270	1.239
80	18	46514	1.100	0.100	1.279	0.379	2.208	0.270	1.239
81	18	46468	0.900	0.200	1.279	0.379	2.208	0.270	1.239
82	19	46040	1.200	0.300	1.279	0.379	2.208	0.270	1.239
83	19	41446	1.300	0.100	1.279	0.379	2.208	0.270	1.239
84	19	43248	1.400	0.100	1.279	0.379	2.208	0.270	1.239
85	19	43078	2.000	0.600	1.279	0.379	2.208	0.270	1.239
86	19	42172	1.100	0.900	1.279	0.379	2.208	0.270	1.239
87	19	42153	1.600	0.500	1.279	0.379	2.208	0.270	1.239
88	19	42080	1.300	0.300	1.279	0.379	2.208	0.270	1.239
89	20	41842	1.500	0.200	1.279	0.379	2.208	0.270	1.239
90	20	46480	1.700	0.200	1.279	0.379	2.208	0.270	1.239
91	20	46502	1.300	0.400	1.279	0.379	2.208	0.270	1.239
92	21	46538	1.600	0.300	1.279	0.379	2.208	0.270	1.239
93	21	41605	1.900	0.300	1.279	0.379	2.208	0.270	1.239
94	21	41597	1.500	0.400	1.279	0.379	2.208	0.270	1.239
95	21	46547	1.700	0.200	1.279	0.379	2.208	0.270	1.239
96	22	48058	1.400	0.300	1.279	0.379	2.208	0.270	1.239
97	22	46493	1.500	0.100	1.279	0.379	2.208	0.270	1.239
98	22	44725	1.700	0.200	1.279	0.379	2.208	0.270	1.239
99	22	41314	1.500	0.200	1.279	0.379	2.208	0.270	1.239
100	22	48076	2.000	0.500	1.279	0.379	2.208	0.270	1.239
101	23	46399	1.500	0.500	1.279	0.379	2.208	0.270	1.239
102	23	46393	1.400	0.100	1.279	0.379	2.208	0.270	1.239
103	23	46358	1.300	0.100	1.279	0.379	2.208	0.270	1.239

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104	23	43278	1.200	0.100	1.279	0.379	2.288	0.270	1.239
105	24	48046	1.100	0.100	1.279	0.379	2.288	0.270	1.239
106	24	44735	1.100	0.000	1.279	0.379	2.288	0.270	1.239
107	24	41406	1.100	0.000	1.279	0.379	2.288	0.270	1.239
108	24	46569	0.900	0.200	1.279	0.379	2.288	0.270	1.239
109	24	46462	0.900	0.000	1.279	0.379	2.288	0.270	1.239
110	24	42777	0.900	0.000	1.279	0.379	2.288	0.270	1.239
111	24	43059	1.300	0.400	1.279	0.379	2.288	0.270	1.239
112	25	46466	1.000	0.300	1.279	0.379	2.288	0.270	1.239
113	25	46507	1.000	0.000	1.279	0.379	2.288	0.270	1.239
114	25	73404	0.800	0.200	1.279	0.379	2.288	0.270	1.239
115	25	73396	1.400	0.600	1.279	0.379	2.288	0.270	1.239
116	26	42057	1.400	0.000	1.279	0.379	2.288	0.270	1.239
117	26	43235	1.400	0.000	1.279	0.379	2.288	0.270	1.239
118	26	46529	1.900	0.500	1.279	0.379	2.288	0.270	1.239
119	26	46581	1.900	0.000	1.279	0.379	2.288	0.270	1.239
120	27	48045	1.400	0.500	1.279	0.379	2.288	0.270	1.239
121	27	42117	1.900	0.500	1.279	0.379	2.288	0.270	1.239
122	27	73411	1.400	0.500	1.279	0.379	2.288	0.270	1.239
123	27	46472	1.300	0.100	1.279	0.379	2.288	0.270	1.239
124	28	73397	1.500	0.200	1.279	0.379	2.288	0.270	1.239
125	28	43730	1.700	0.200	1.279	0.379	2.288	0.270	1.239
126	28	52535	2.000	0.300	1.279	0.379	2.288	0.270	1.239
127	28	73396	1.400	0.600	1.279	0.379	2.288	0.270	1.239
128	28	46485	1.600	0.200	1.279	0.379	2.288	0.270	1.239
129	29	46460	1.300	0.300	1.279	0.379	2.288	0.270	1.239
130	29	46398	1.500	0.200	1.279	0.379	2.288	0.270	1.239
131	29	46394	1.900	0.400	1.279	0.379	2.288	0.270	1.239
132	29	46401	1.100	0.000	1.279	0.379	2.288	0.270	1.239
133	29	48071	0.800	0.300	1.279	0.379	2.288	0.270	1.239
134	30	46478	1.100	0.300	1.279	0.379	2.288	0.270	1.239
135	30	46491	1.500	0.400	1.279	0.379	2.288	0.270	1.239
136	30	46473	1.000	0.500	1.279	0.379	2.288	0.270	1.239
137	30	48051	1.500	0.500	1.279	0.379	2.288	0.270	1.239
138	31	43499	1.300	0.200	1.279	0.379	2.288	0.270	1.239
139	31	73403	1.500	0.200	1.279	0.379	2.288	0.270	1.239
140	31	44734	1.100	0.400	1.279	0.379	2.288	0.270	1.239

CCR 000006194

JAN 1990

RAIL CAR DATA

LOAD DATE	RAIL CAR NUMBER	SHIP DATE	CUST	BDW	RVCH	Z ON PAN	Z THRU 14	MOIST
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		CUST	BDW	RVCH	Z ON PAN	Z THRU 14	MOIST
1	41618	TNX	0.583	0.900	1.000	5.200	0.06
1	48029	CRA	0.575	1.200	1.000	6.200	0.08
1	44734	UNI	0.583	0.700	2.400	7.800	0.05
1	44756	UNI	0.580	1.100	2.400	7.800	0.07
1	46569	UNI	0.580	0.900	3.000	8.600	0.08
2	46450	PRE	0.588	1.100	1.000	5.300	0.06
2	48054	CAP-IL	0.601	0.900	1.600	5.000	0.07
2	46542	CAP-IL	0.584	1.300	0.800	6.000	0.09
2	46543	H&W-GA	0.577	0.600	1.400	5.000	0.06
2	48058	COT	0.533	0.200	1.000	5.800	0.08
2	48076	COT	0.583	1.000	0.800	6.400	0.09
3	46561	CAP-IL	0.550	0.900	2.400	7.400	0.10
3	46538	CAP-IL	0.580	1.300	1.400	5.200	0.11
3	46471	CAP-IL	0.591	1.400	1.000	6.000	0.11
3	42680	CRA	0.558	1.400	1.400	6.000	0.12
3	46524	H&W-GA	0.575	1.500	1.800	6.000	0.10
4	46480	H&W-OK	0.541	1.200	1.000	5.800	0.10
4	73395	SIL	0.558	1.600	1.200	5.000	0.07
4	46515	CRA	0.573	2.100	1.000	6.200	0.10
4	73390	IRA	0.555	2.300	0.800	6.000	0.12
5	46410	CRA	0.569	1.100	1.000	7.400	0.10
5	45709	IPK	0.592	0.800	0.600	4.200	0.09
5	46476	SIL	0.574	1.850	1.200	7.800	0.10
5	48055	H&W-GA	0.535	1.200	1.600	7.400	0.08
5	46522	H&W-GA	0.545	1.000	1.400	7.000	0.07
5	46508	IPK	0.546	1.100	1.000	5.400	0.07
6	43699	UNI	0.555	0.800	1.000	8.200	0.08
6	73402	CAP-IL	0.556	0.700	1.000	6.800	0.07
6	48047	CON-CT	0.559	0.800	1.000	7.800	0.09
6	43871	IPK	0.553	0.700	1.400	7.400	0.08
6	43717	CRA	0.559	0.600	1.200	8.000	0.08
7	41650	CRA	0.576	1.100	1.400	7.000	0.08
7	42121	CRA	0.553	1.000	1.200	5.800	0.07
7	45833	TNX	0.563	1.100	1.200	6.400	0.10
7	46464	OLY	0.566	1.000	1.400	8.200	0.09
7	44757	SIL	0.557	1.100	1.600	8.400	0.08
8	43857	CON-CT	0.560	0.900	1.000	5.600	0.07
8	44755	H&W-GA	0.559	1.200	0.800	4.200	0.06
8	46555	CRA	0.560	1.000	1.000	5.200	0.05
8	73401	CRA	0.574	1.300	1.200	6.000	0.07
8	46493	COT	0.559	0.800	0.800	7.000	0.06
9	41602	CRA	0.568	8.000	1.400	6.600	0.06
9	46541	TNX	0.566	1.000	1.200	6.000	0.06
9	46578	COT	0.564	0.900	1.400	6.600	0.06
9	46518	SIL	0.561	1.300	0.800	6.400	0.06
9	45801	SIL	0.582	1.000	0.800	6.000	0.06
10	43855	PRE	0.582	1.300	1.000	6.600	0.04

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10	45910	UNI	0.564	1.400	1.000	6.600	0.05
10	73391	H&W-GA	0.572	0.900	1.000	6.000	0.04
10	73405	H&W-GA	0.561	1.000	0.800	6.400	0.07
10	43693	H&W-GA	0.566	1.300	1.000	6.600	0.05
10	41305	CRA	0.579	0.900	1.000	6.600	0.06
11	45921	CDT	0.569	0.900	0.600	6.000	0.06
11	41895	TNX	0.547	1.000	1.000	6.000	0.05
11	45714	SIL	0.554	1.100	1.200	6.200	0.04
11	46404	H&W-GA	0.561	0.900	1.000	6.400	0.07
12	45838	UNI	0.582	1.500	1.000	6.400	0.06
12	46408	CRA	0.561	1.300	0.600	5.200	0.08
12	46501	SDU	0.542	1.300	1.800	5.200	0.09
12	46374	OLY	0.562	1.900	1.400	6.800	0.08
12	46467	KRO	0.560	1.200	0.800	6.000	0.09
12	42664	CON-CT	0.556	1.200	1.200	6.800	0.05
13	73406	CRA	0.557	1.200	1.000	5.800	0.07
13	41169	UNI	0.558	1.500	0.600	4.400	0.12
14	43394	UNI	0.575	1.900	1.200	9.000	0.08
15	46457	TNX	0.574	1.500	2.400	8.000	0.07
15	46465	CRA	0.552	1.300	2.000	7.200	0.07
15	46454	H&W-GA	0.560	1.000	2.400	8.000	0.07
15	43701	CDT	0.575	1.200	1.600	5.900	0.05
16	42108	SIL	0.554	0.900	3.000	12.000	0.09
16	46400	SIL	0.556	0.960	3.000	10.200	0.07
16	41616	SIL	0.582	1.000	2.800	10.200	0.09
16	48049	CRA	0.555	0.800	2.400	8.600	0.09
16	43863	CRA	0.552	0.500	2.600	9.800	0.09
17	44732	CRA	0.549	0.850	2.400	9.200	0.08
17	43753	TNX	0.579	0.900	2.600	10.800	0.08
17	44722	CON-CT	0.543	0.800	2.600	11.600	0.10
17	43743	H&W-GA	0.553	1.000	2.800	12.600	0.09
17	43749	CRA	0.542	1.200	2.600	9.800	0.07
18	46514	IPK	0.575	1.100	2.400	9.600	0.08
18	46468	UNI	0.547	0.900	2.400	12.000	0.11
19	48040	IPK	0.564	1.200	3.200	12.200	0.06
19	41646	CRA	0.540	1.300	2.600	11.600	0.13
19	45248	IPK	0.554	1.400	2.400	10.400	0.10
19	43078	UNI	0.557	2.000	2.000	9.200	0.09
19	42172	CAP-IL	0.563	1.100	1.200	7.800	0.06
19	42153	COT	0.566	1.600	1.600	8.600	0.07
19	42080	CRA	0.564	1.300	1.800	10.800	0.09
20	41842	KRO	0.573	1.500	0.600	4.600	0.07
20	46480	PRE	0.550	1.700	2.200	11.600	0.05
20	46502	H&W-GA	0.589	1.300	2.600	9.400	0.06
21	46530	COT	0.578	1.600	2.400	9.000	0.09
21	41605	IRA	0.569	1.900	2.800	10.800	0.07
21	41597	CRA	0.546	1.500	2.200	8.400	0.10
21	46547	CAP-IL	0.574	1.700	2.000	7.400	0.10
22	48058	TNX	0.553	1.400	2.400	11.000	0.06
22	46493	IPK	0.591	1.500	1.600	9.200	0.08
22	44725	COT	0.563	1.700	1.800	9.600	0.08
22	41314	UNI	0.550	1.500	2.000	10.200	0.08
22	48076	CRA	0.586	2.000	1.600	9.200	0.07
23	46399	H&W-HS	0.552	1.500	1.600	9.600	0.03
23	46393	BP	0.559	1.400	1.600	9.600	0.06
23	46558	CRA	0.573	1.300	1.400	9.800	0.05

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23	43278	CDT	0.550	1.200	1.400	9.000	0.10
24	48046	CAP-IL	0.565	1.100	1.400	10.800	0.11
24	44735	IPK	0.549	1.100	1.000	8.400	0.11
24	41406	CDT	0.555	1.100	1.000	8.200	0.06
24	46569	IPK	0.542	0.900	1.400	9.200	0.09
24	46462	UNI	0.544	0.900	1.400	9.000	0.09
24	42777	CRA	0.566	0.900	1.400	9.800	0.11
24	43059	CAP-IL	0.552	1.300	1.600	8.400	0.05
25	46466	CAP-IL	0.562	1.000	0.800	9.600	0.10
25	46507	TNX	0.534	1.000	1.200	9.600	0.07
25	73404	IRA	0.568	0.800	1.200	11.400	0.09
25	73396	UNI	0.545	1.400	2.000	11.400	0.14
26	42057	IPK	0.546	1.400	1.600	9.000	0.07
26	43235	CDT	0.535	1.400	1.200	8.600	0.07
26	46529	IPK	0.549	1.900	1.600	10.600	0.06
26	46581	IPK	0.550	1.900	1.000	9.600	0.09
27	48045	CRA	0.551	1.400	1.000	10.400	0.10
27	42117	TNX	0.559	1.900	1.000	9.000	0.09
27	73411	CAP-IL	0.534	1.400	1.800	11.000	0.12
27	46472	CDT	0.548	1.300	1.200	10.200	0.10
28	73397	H&W-MS	0.567	1.500	1.400	10.600	0.09
28	43730	UNI	0.561	1.700	0.800	9.200	0.09
28	52535	UNI	0.574	2.000	2.000	13.400	0.05
28	73396	UNI	0.545	1.400	2.000	11.400	0.15
28	46485	H&W-MS	0.543	1.600	1.800	12.800	0.11
29	46460	IPK	0.537	1.300	1.800	9.600	0.07
29	46398	CRA	0.566	1.500	1.600	11.600	0.13
29	46394	CRA	0.568	1.900	1.600	11.000	0.11
29	46401	IPK	0.576	1.100	1.600	10.400	0.09
29	48071	CDT	0.552	0.800	1.200	10.600	0.13
30	46478	H&W-MS	0.590	1.100	1.200	10.400	0.07
30	46491	IPK	0.564	1.500	0.600	6.800	0.06
30	46473	CRA	0.571	1.000	0.800	8.200	0.08
30	48051	IPK	0.574	1.500	1.200	7.600	0.08
31	43699	CRA	0.559	1.300	1.600	7.000	0.08
31	73403	CAP-IL	0.563	1.500	1.000	7.200	0.07
31	44734	CRA	0.572	1.100	0.800	5.400	0.08

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Operations

A clean wall agent was tested in reactor D745. Initial results are promising. Resin properties and quality were not significantly impacted.

Lucidol 288 catalyst was used to make a 5415 resin batch. This is a less expensive material than the catalyst currently used. No noticeable difference was noted between normal production and the trial batch. More extensive trials are scheduled for February.

Maintenance problems on Lines III and V, along with increased product demand, tightened flexible compound production schedules. A PLENEX polymer run was made on Line I.

Demand for rigid compound surged during the month. On January 6, a new one-day production record of 356.6M pounds was set. The previous record was 351.6M pounds set on 6/1/85.

Costs

Variable costs were favorable due primarily to good VCM usage and to product mix effects in the compound department.

Fixed costs were essentially at budget.

OMP

1. Production of off-grade resin for 1990 YTD is 0.0326 lbs./lb. versus the FY1989 average of 0.0441. Most of the improvement is the result of the Vinyl Operations Superintendent's Natural Team's changes in startup procedures.
2. The month's millscrap production in the flexible compound department was 0.0111 lbs./lb. versus last year's average of 0.01968. The improvement was a result of procedural changes that were implemented by the Millscrap Reduction Team (This is Bill Davis's natural team. Bill is a shift supervisor).
3. CAPCO, a 5385 resin customer, visited the plant to learn more about our rigid compounding and quality control methods.
4. Twitchell's R&D manager visited the plant to learn about 5415 production.