Monsanto

FROM (NAME & LOCATION): R. H. Munch - T1B

DATE : February 14, 1975

SUBJECT : AROCLOR 1016 QUALITY

REFERENCE :

TO : J. R. Kuster
1740

CC: W. C. Engman - 1740
H. J. Horner - 1740
A. E. Leisy - 1740
W. R. Richard - T3A
J. R. Savage - B2SL
D. Wood - B2SC

G.E. asked to have the subject of Aroclor 1016 quality included as an item on the agenda of our February 11, 1975 Research meeting with them at Hudson Falls. There are three items of concern to them:

1) A long-term upward trend in power factor.

2) Poor correlation between the moisture content as measured in their lab compared to ours.

3) Change in fluorescence.

Copies of charts which they had prepared are attached. The first of these shows $\pm 2\sigma$ values for the dissipation factor of Aroclor 1016 taken from our Certificates of Quality based on 30 lot Time Spans plotted as a function of time. You will note that the data start on 4/3/72 and continue through 11/11/74, and that over this time the data appear to indicate a change in the upper control limit from 0.27 to 0.34%. What disturbs them is the upward trend over this period and the fact that it might be a continuing one. We therefore need to ask ourselves if this apparent change represents a real change in the quality of our material or if it is due to changes in analytical techniques. Please measure reserve samples of six lots of Aroclor 1242 from the first part of the period covered by the data and six from the latest period. A comparison of the mean values of the measurements made on the two sets of samples should help us decide if there has been a change in our analytical techniques or if the change is a change in product quality.

The second and third charts are concerned with the correlation of water content measured by Monsanto and by G.E. If one subtracts the Monsanto value from the G.E. value and divides by the number of pairs of values the result, 4 ppm, is the average error. This is small. However, the difference between values ranges from +18 to -21 indicating very poor correlation between results from the two laboratories. The third chart which shows a plot of G.E. values against Monsanto values also shows that the correlation is poor.

It is my understanding that the same analytical method and equipment are used in the two laboratories. To make sure of this, a copy of the G.E. method is enclosed. Please compare this with your method.

DSW 329651

IN - 10 REV. 1/72

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This comparison should include a study of the sampling procedures used by both laboratories. If the two methods are not the same, the difference should be reconciled. We should then arrange a round-robin test with G.E. If my memory is correct, we found that the precision of the method itself using the Aqua-test instrument was better than the present data indicate. That was the justification for changing to it. But a good analysis on a poor sample is no good so we must check sampling.

The fluorescence problem has been discussed previously and Bill Engman's memo of February 7 is the latest on that. Based on the information in that memo, the plant has stated that they will use no more Vicksburg Chemical Co. chlorine and that they will recharge both the Porocel Adsorbtion towers used to treat Aroclor 1016. We hope this will cure the fluorescence problem. Further lab work is in progress in the Research Lab in case this is not a cure.

R. H. Munch

js
attachments

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ASKAREL® QUALITY CONCERNS

1) Long term trends in power factor.

2) Lack of moisture content correlation.

3) Fluorescence

DSW 329653

DRAWING NUMBER: Pyranol - Tank Cars

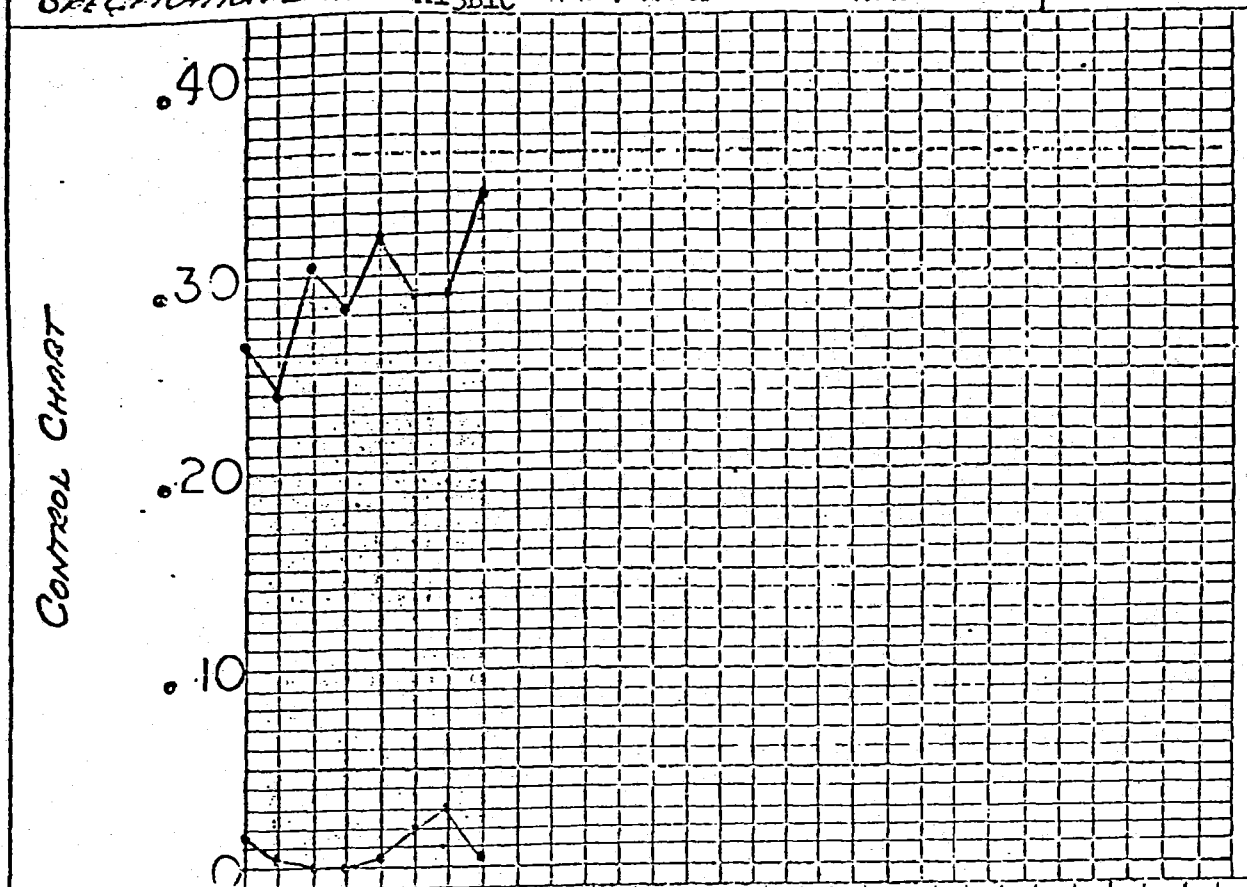
CHARACTERISTIC: Dissipation Factor 100°C 100 Cycles

UNIT OF MEASURE: MONSANTO DATA Each Time Span 30 Lots

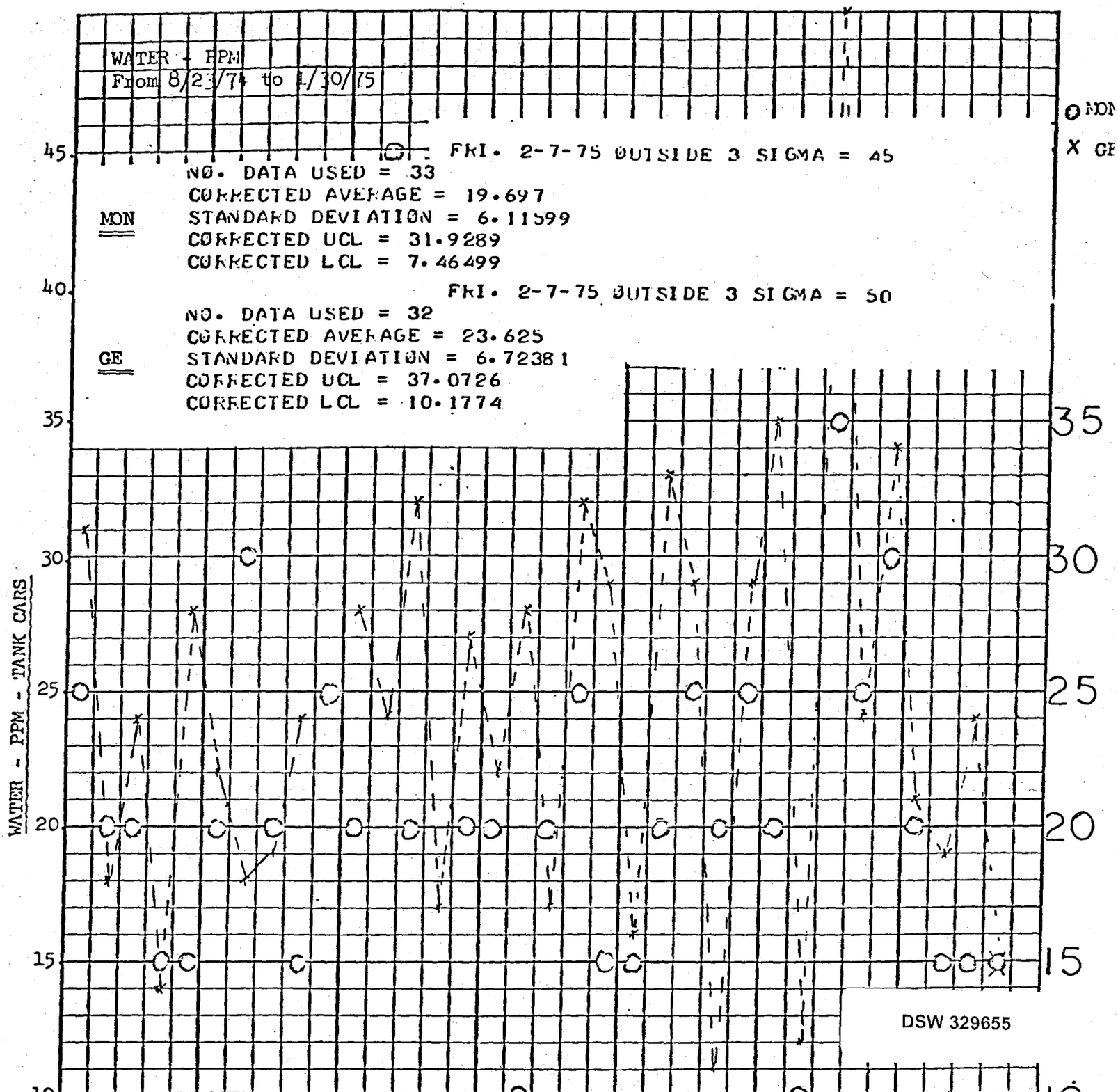
SPECIFICATION LIMITS: A13B1C ... MAX. ... MIN.

GENERAL ELECTRIC COMPANY

CAPACITOR DEPARTMENT

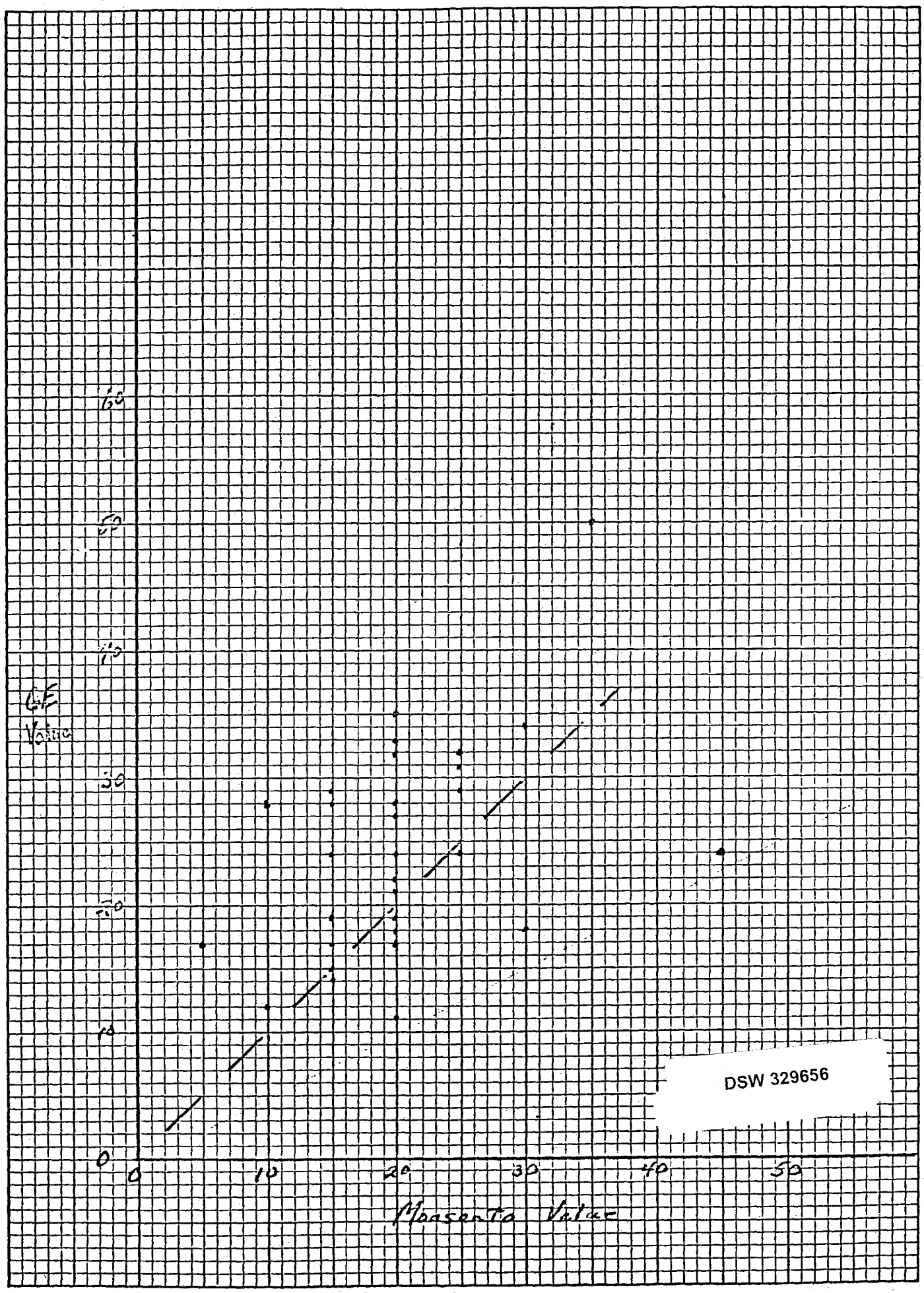


| Time Span | Lot # From KB2C3-1 thru | -2σ LCL | +2σ UCL | | |



Lot #	GE	MON
KD08-778	31	25
777	18	20
781	24	20
779	14	15
783	28	15
783A	22	20
785	18	30
785A	19	20
786	24	15
787A	—	25
787	28	20
KD09-793	24	45
793A	32	20
795	17	5
794	27	20
KD10 796	22	20
797	28	10
7001	17	20
7002	32	25
7005	29	15
7006	16	15
KD11-7009	33	20
7008	29	25
7013A	11	20
7010A	27	25
7010B	35	20
7013B	12	10
7016	50	35
7014	24	25
7016B	34	30
KD12-7228	21	20
7022A	19	15
7123	24	15
7041	15	15

STLCOPCB4076298


60
50
40
30
20
10
0
0
10
20
30
40
50
Monsanto Value
DSW 329656