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Office Memorandum • UNITED STATES GOVERNMENT

405678

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TO : Walter D. Claus, Chief of Applied Bio Physics DATE: July 24, 1951
 Branch, Division of Biology & Medicine, USAEC, Washington D. C.

FROM : G. V. Beard, Director, Health Physics Division, Idaho *G. V. Beard*
 Operations Office

SUBJECT: REPORT ON AIRBORNE ACTIVITY AT IDO AS RESULT OF "OPERATION GREENHOUSE"

SYMBOL: HP:JMS:mb

As per your request this memorandum is a summary of our air monitoring operations in the Idaho Operations area.

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Due to the high temperature inversion problem encountered here and the complete lack of previous background readings, we were somewhat at a loss to be able to get a very definitive type of indication except in the case of the heavier concentrations of activity. Due to this above difficulty we are certain that we have failed to evaluate all of the activity which we undoubtedly received.

We have worked closely with the Weather Bureau on the inversion problem so that we have an indication as to its time and intensity. You will note a plot of the inversion data on the upper section of the Central Facilities graphs. This was the only station at which the inversion data was available. This inversion data has correlated quite well with our peaks of activity but a separation of the effects due to the inversion and abnormal radioactivity is impossible with our limited data. All we have is an indication as to intensity and its time interval.

With the above difficulties in mind we felt that the only method for conclusively reading twice background was to note the ebb period (no inversion present). When the activity was found during these periods to be near or above twice background, a report was sent to you as requested except in a few cases mentioned below.

Normal background was assumed for all stations to be about 60×10^2 counts per hour or about 100 counts per minute. This had to be assumed on the basis of what could be determined on days of normal activity.

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MILITARY RESEARCH & APPL - 7 "Greenhouse" *Det #882*

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The equipment used in our air monitoring stations was essentially a brass filter probe in which was mounted a 35 mg/cm glass Geiger tube. Air was drawn through a filter mounted in an opening in the probe and over the G-M tube by a Motoair pump. The Geiger tube was in turn attached to a scaling unit and a recording device which gave an integrated count every ten minutes.

In collaboration with our air monitoring stations we also had a contract with Idaho State College at Pocatello to wash down a specified area, filter, ash and then count on Geiger tube. This was not started until the 20th of April, however, there was no background data available on which to thoroughly evaluate the data received. Because of this, activity was only reported on Pocatello reports when it corroborated our other stations.

In not all cases was the activity at the background level, but the ebb period showed a significant increase above normal background. In addition not all stations showed an increase, and our washings at Pocatello showed a time lag of approximately one day from the other stations in most instances.

It will be well to keep in mind that we had in operation three separate stations (two units working together at Central Facilities station, however) and the washing facilities at Pocatello thus making four stations in all. As indicated by the graphs not all stations could be kept in constant operation. Due to the nature of the equipment it should be noted that all the units in operation here on loan from Hanford for a period of about 3 months. In this period no calibration or new replacements were made and all readings could be off by some factor. This can be noted especially on the Central Facilities graphs after the twin units were changed on a 24 hour cycle. A marked discrepancy can be noted in the quantitative figures obtained although the units coincide on their peaks and troughs. Erratic operation can generally be blamed on faulty equipment. These periods must be watched for and discounted. In the following tabulation such periods have been neglected and only dates of supposedly significant activity are noted. From the graphs other periods may be noted which possibly correlate with nationwide activity but seemed insignificant on a local evaluation.

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Another curious item of note in the evaluation of this data is the ebb periods of twice background activity at one station while another shows only normal background. This seems curious in the light of such a small territory encompassed by these stations.

Not all periods of activity which are not felt to have been significant were reported at the time. It was felt in some cases that an overall evaluation at a time such as now would more clearly indicate the desired conclusions.

From the above it can be noted that not all stations correlated but in the following compilation when two or more stations showed a significant activity it has been noted as a point of interest.

Dates of significant activity

April	11, 12, 21, 26, 27
May	4, 5, 9, 10, 11, 14, 15, 17, 20, 21, 22, 23, 24, 25
June	10, 11, 13, 14, 15

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Reports:

- Idaho State College Washings
- Pocatello Station
- Idaho Falls Station
- Central Facilities Station (RTS)

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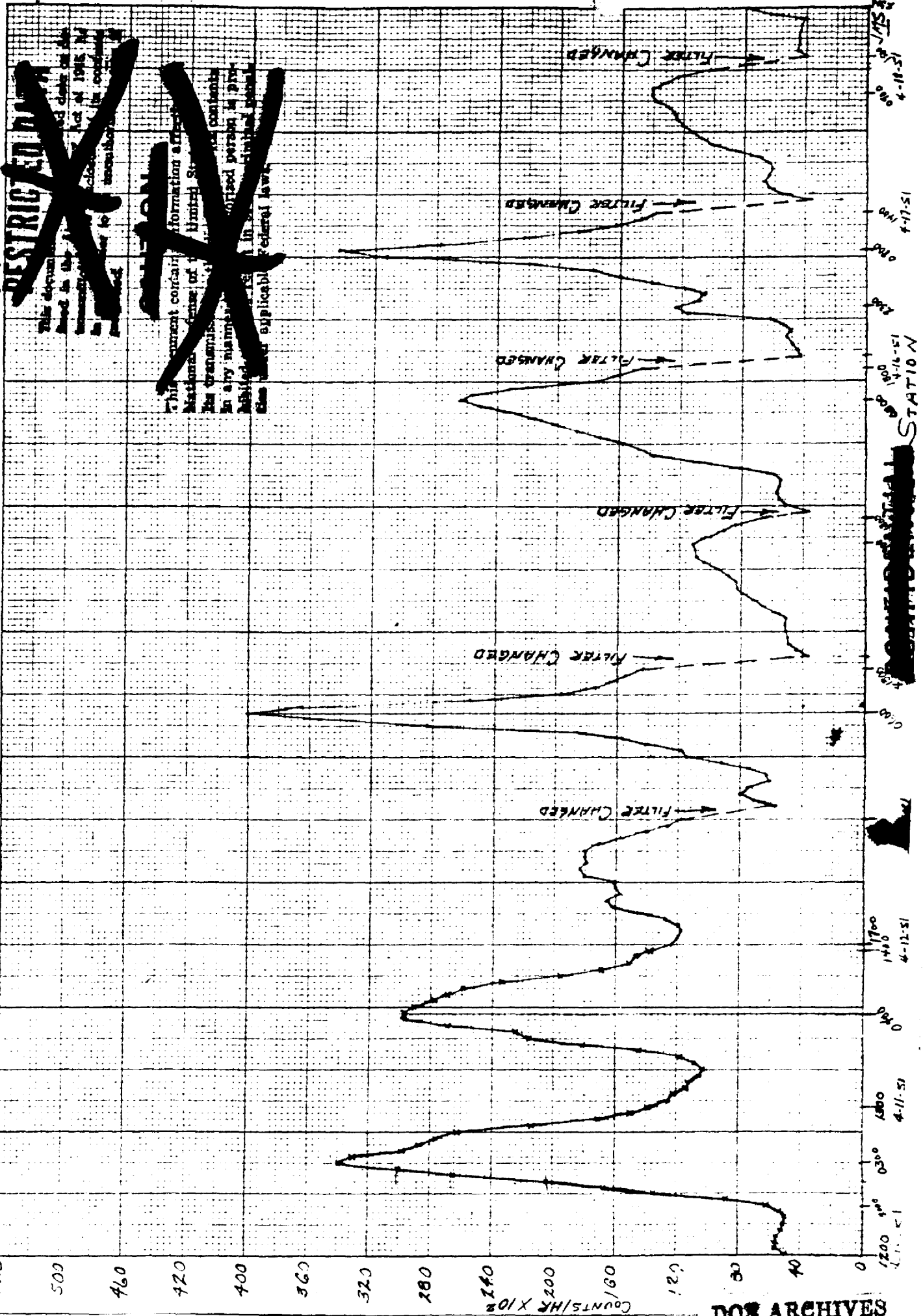
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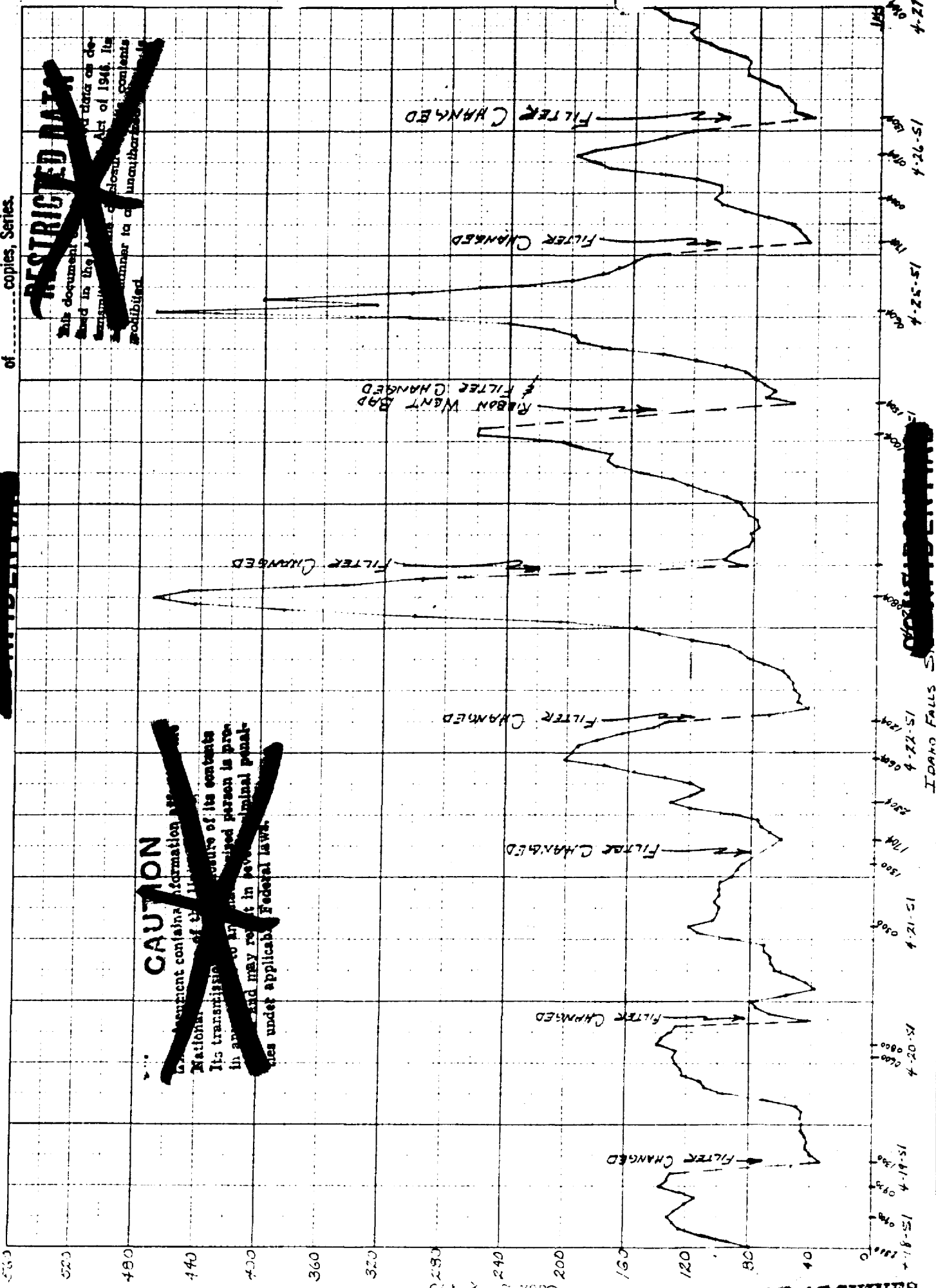
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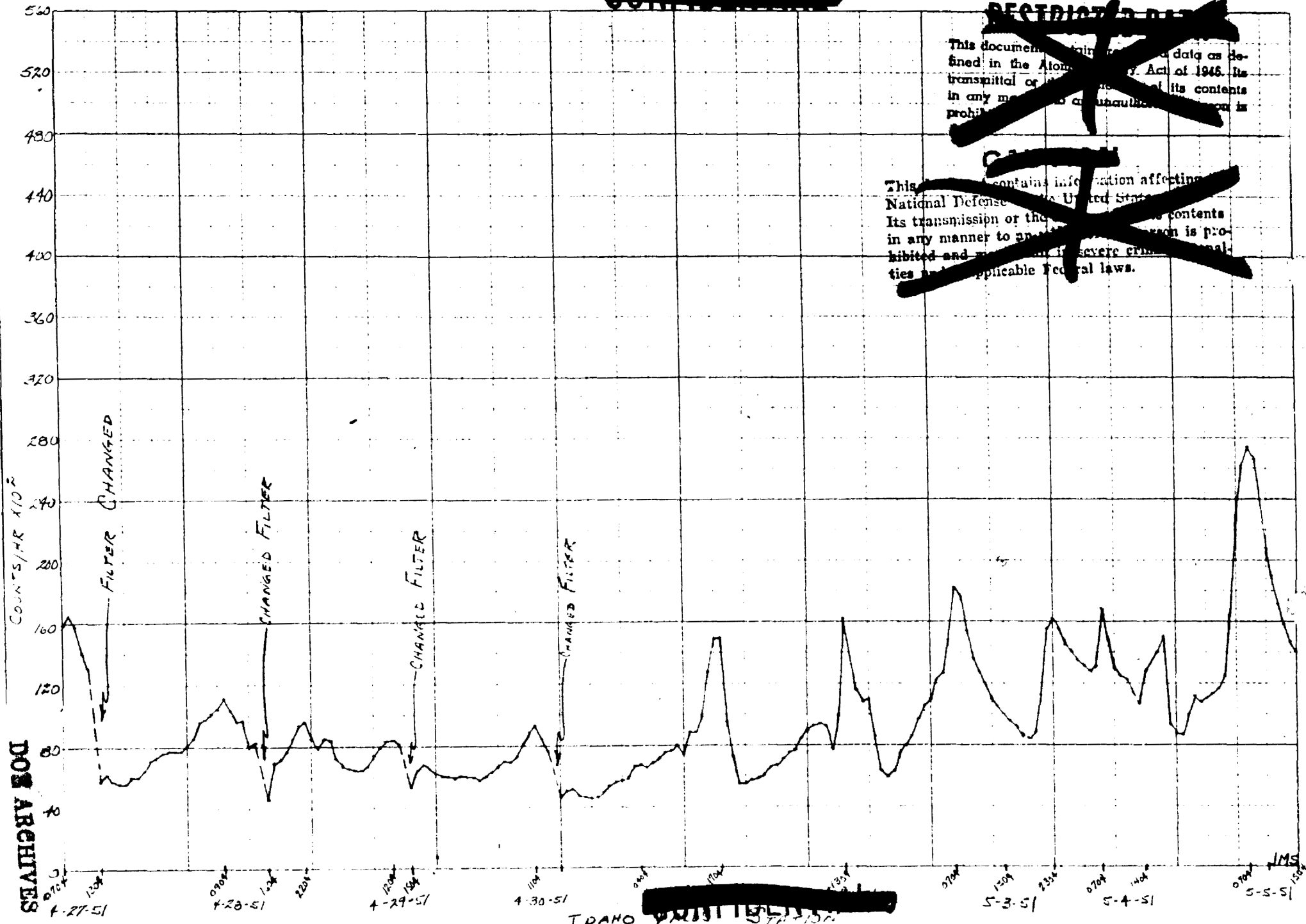
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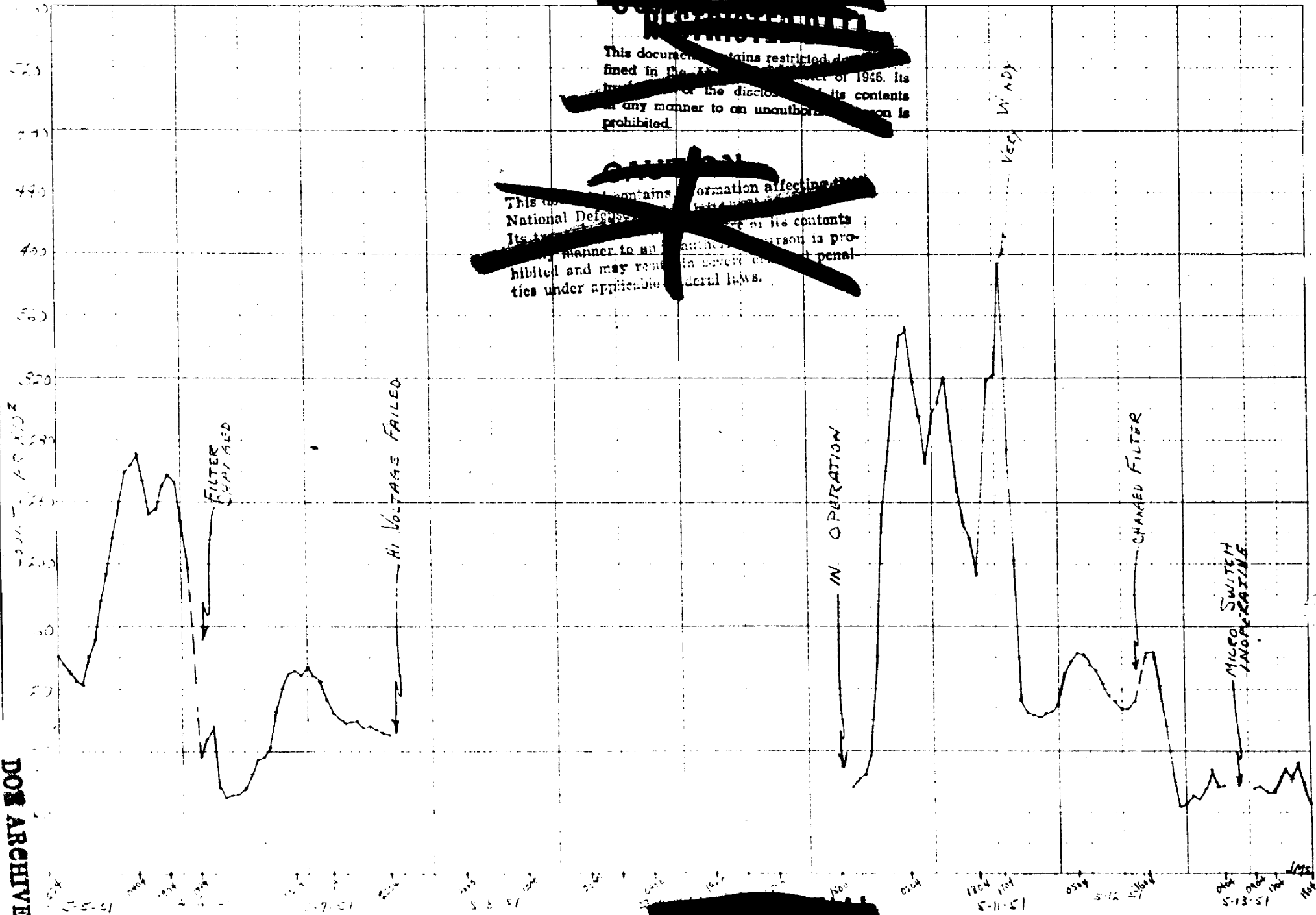
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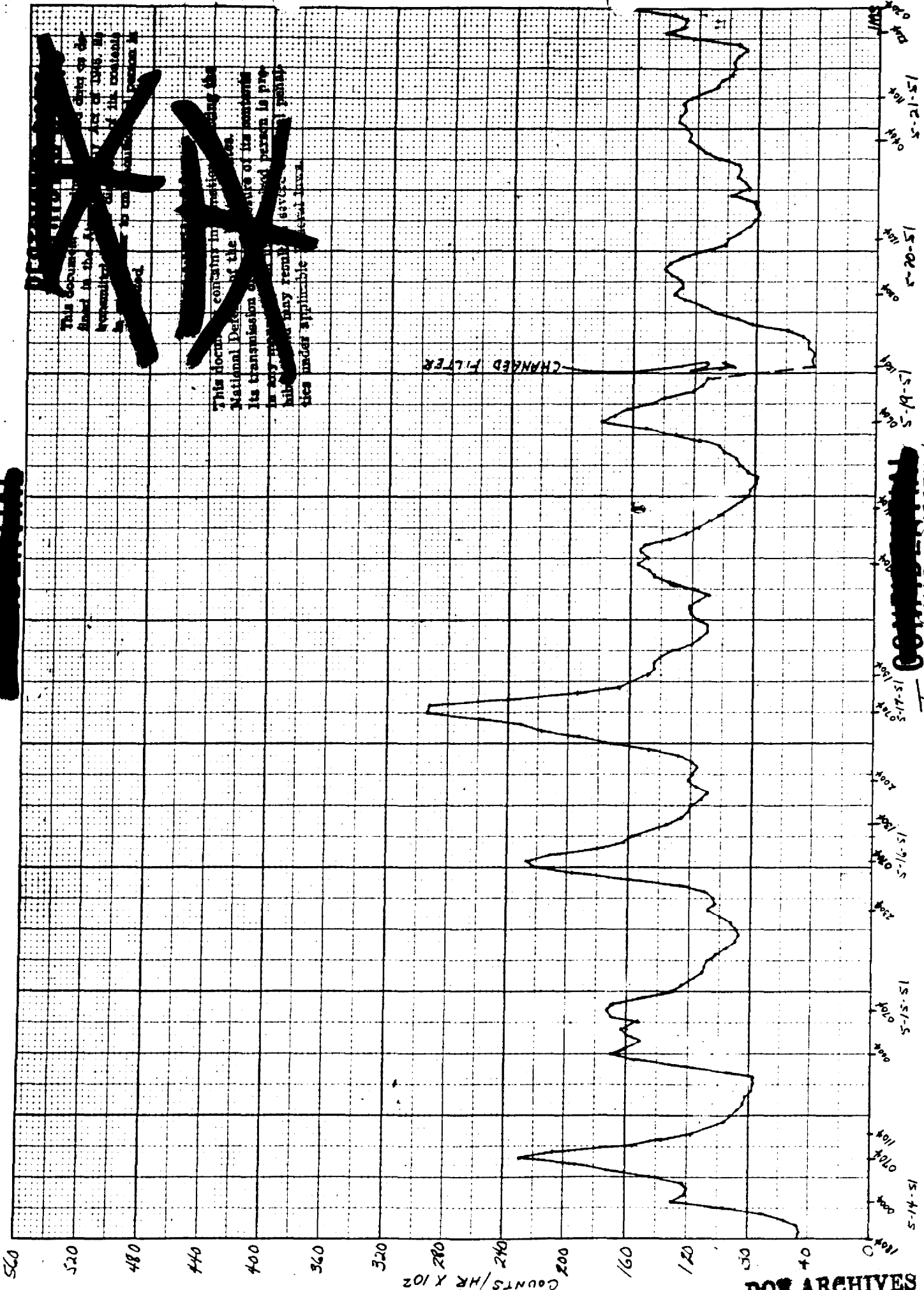
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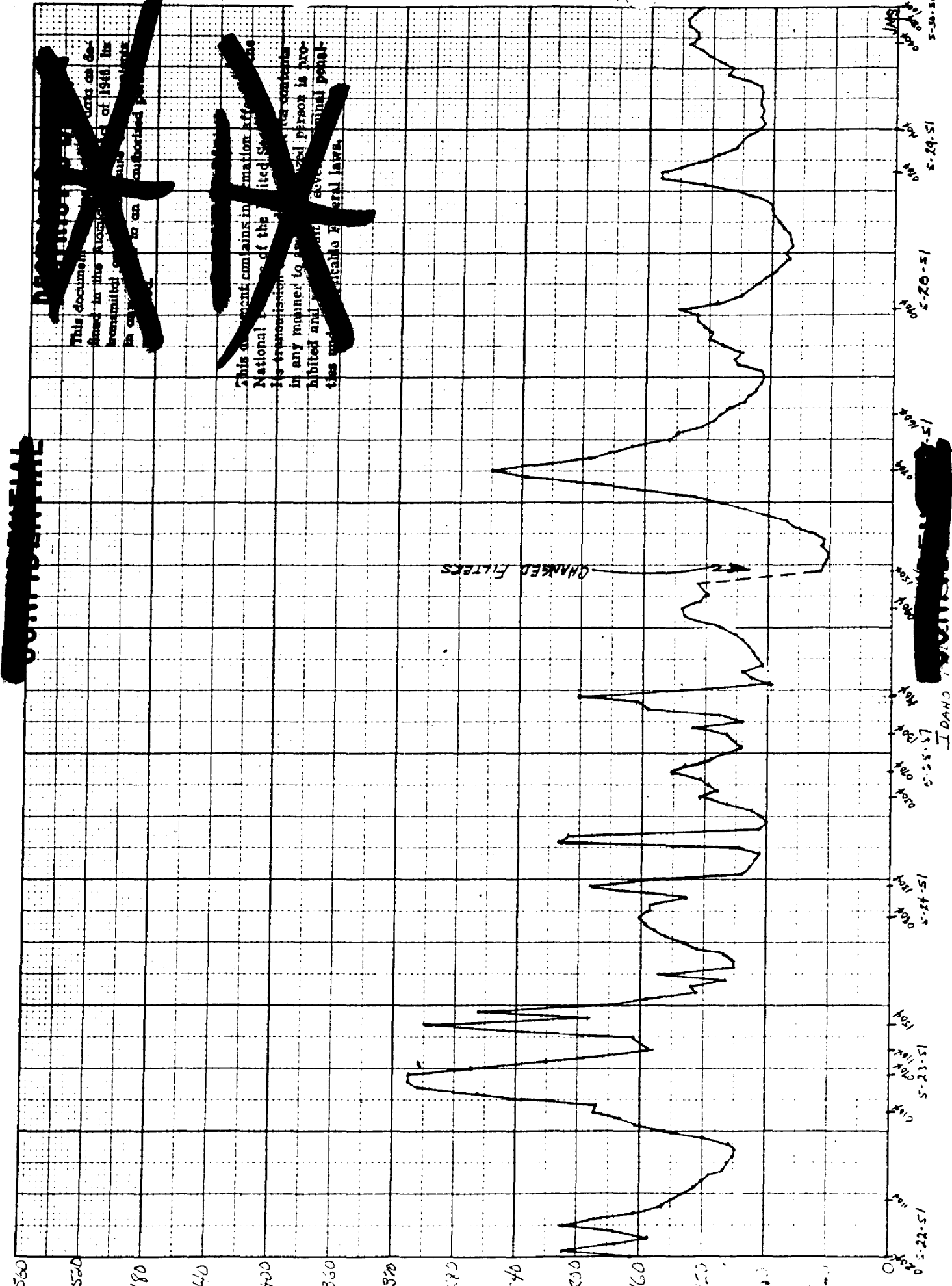
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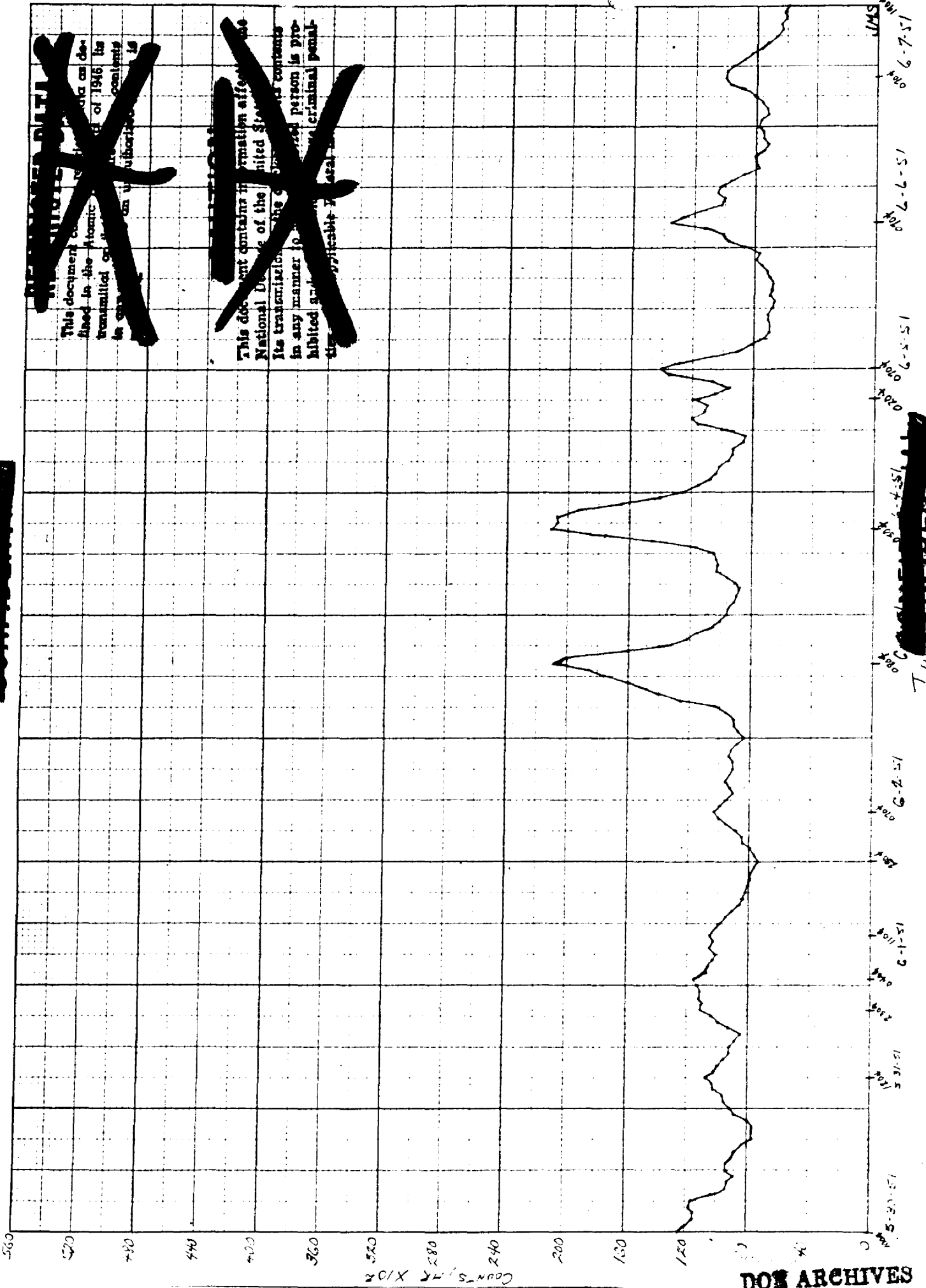
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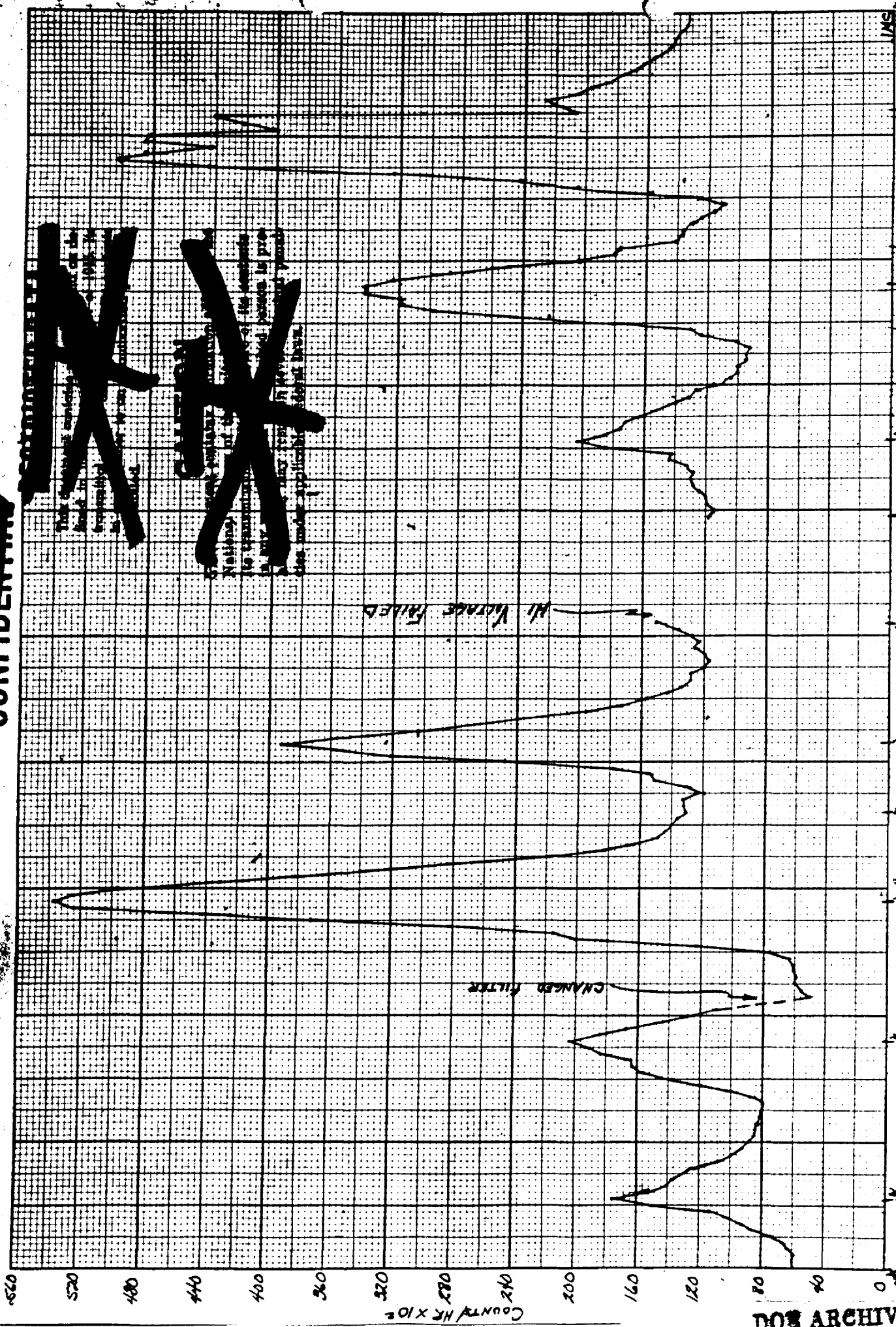


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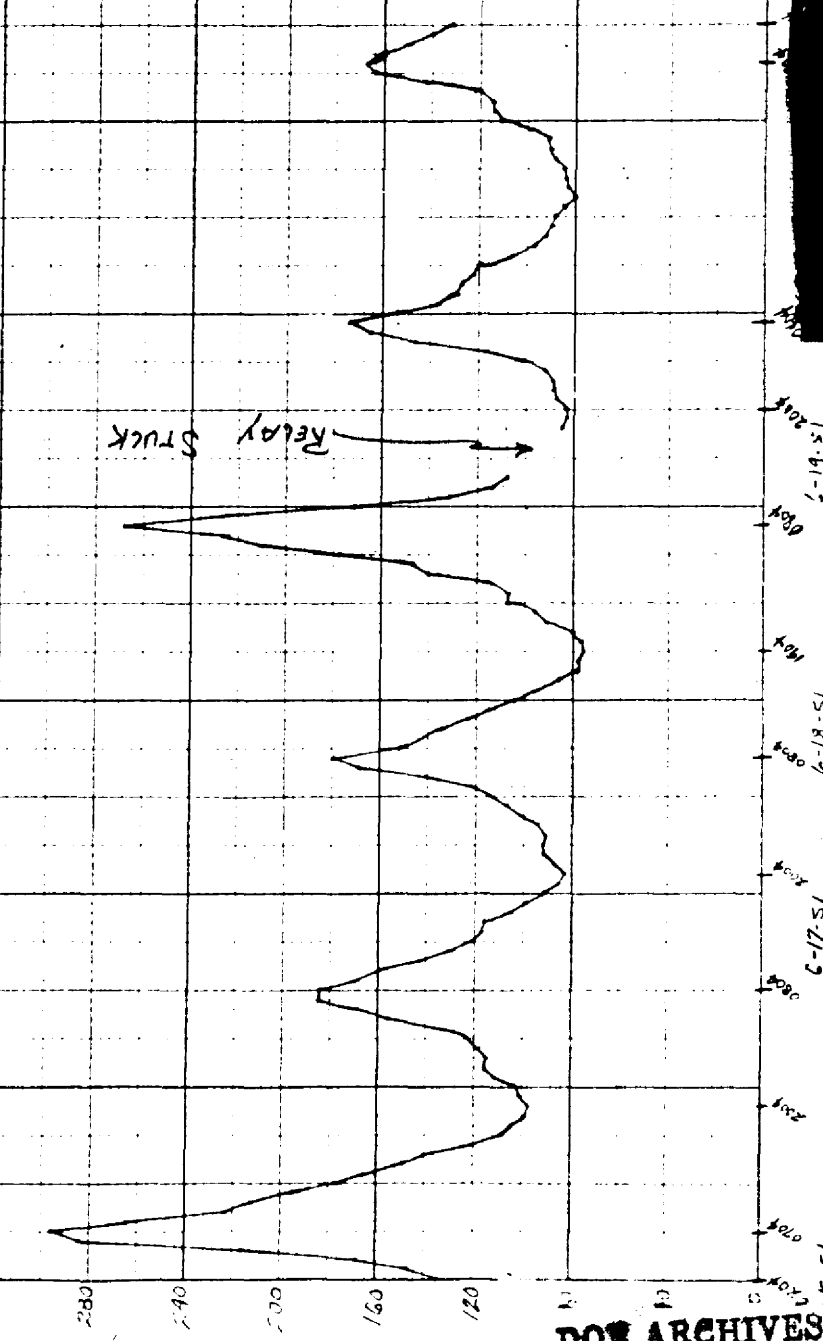
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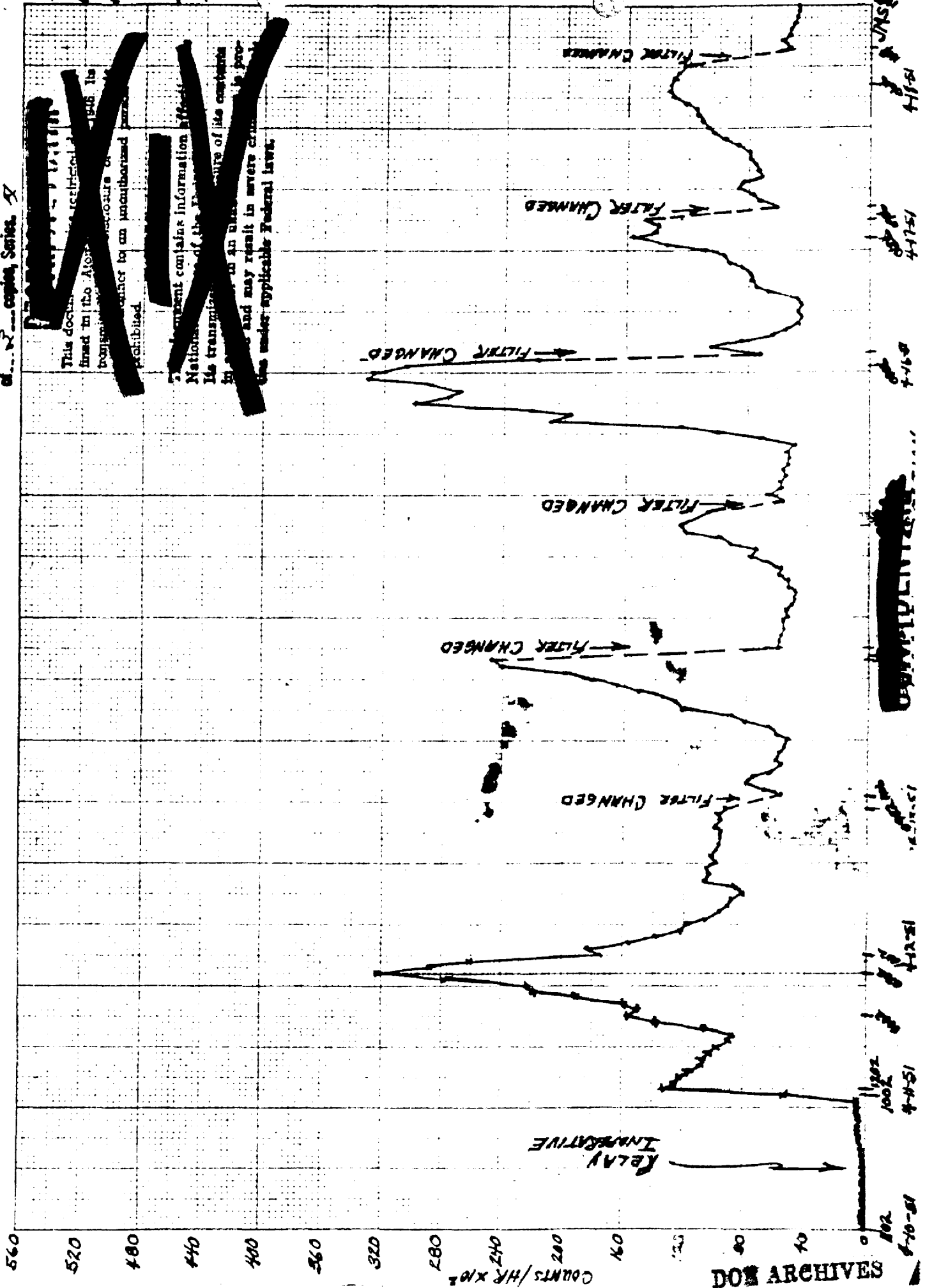
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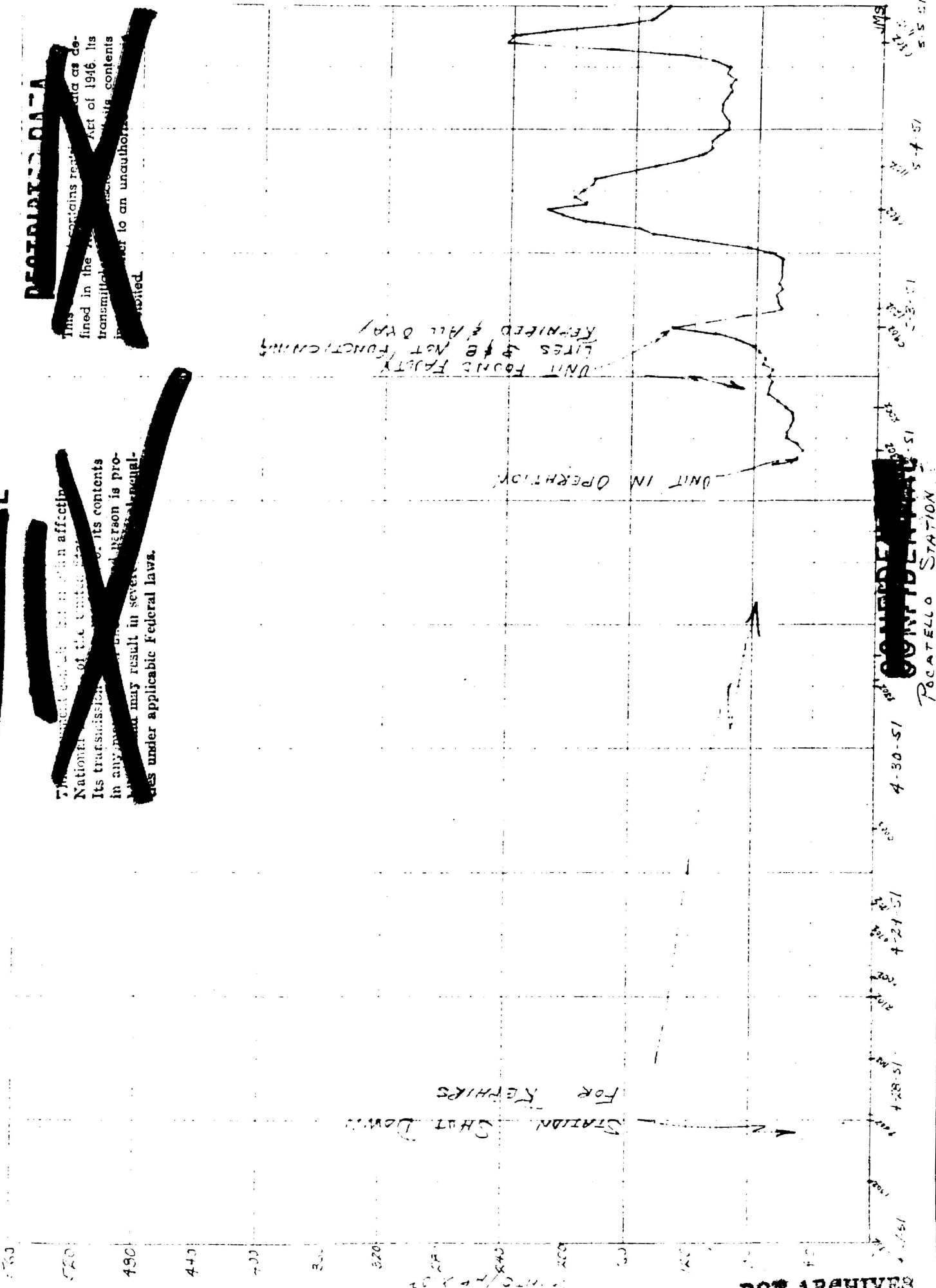
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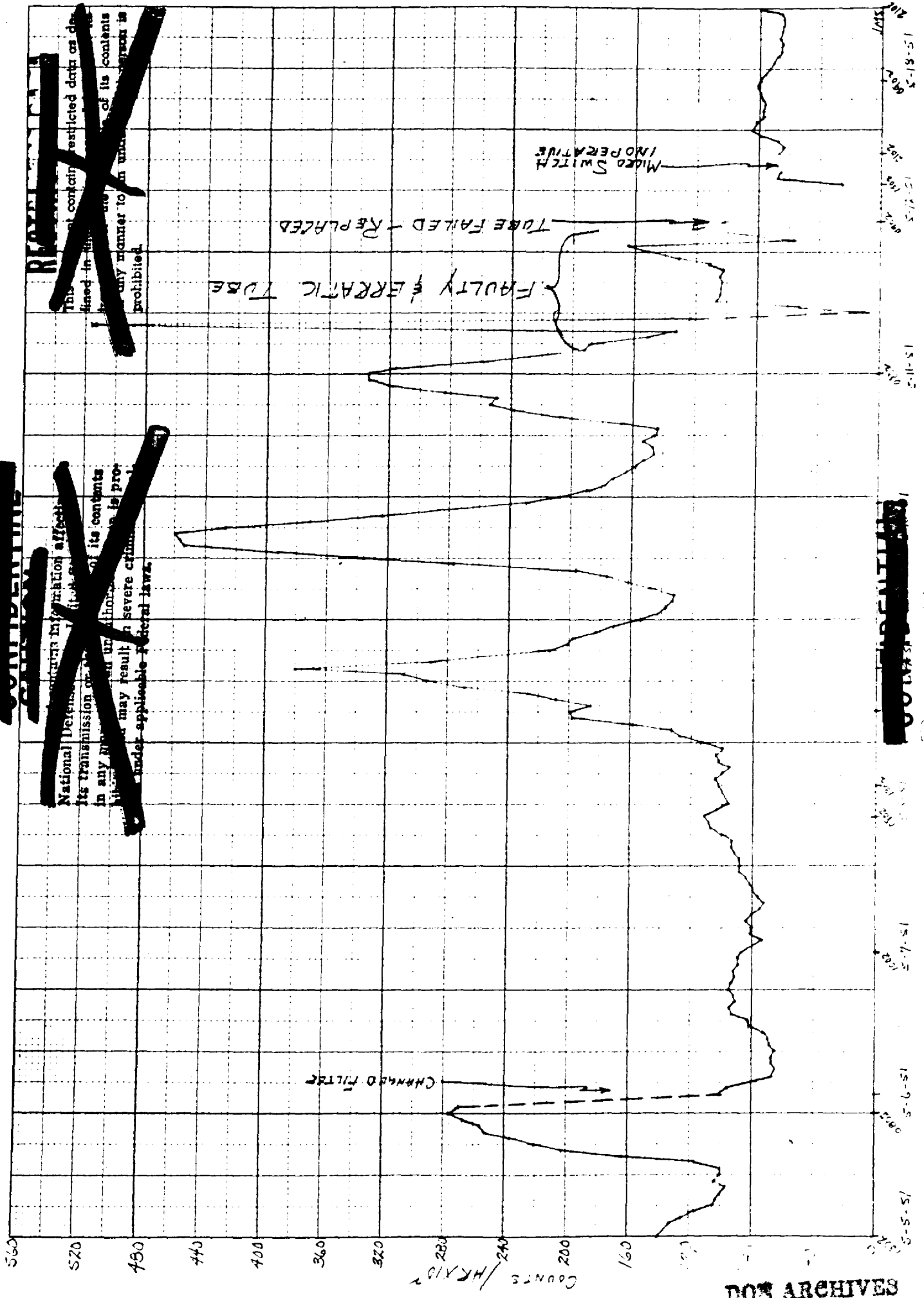
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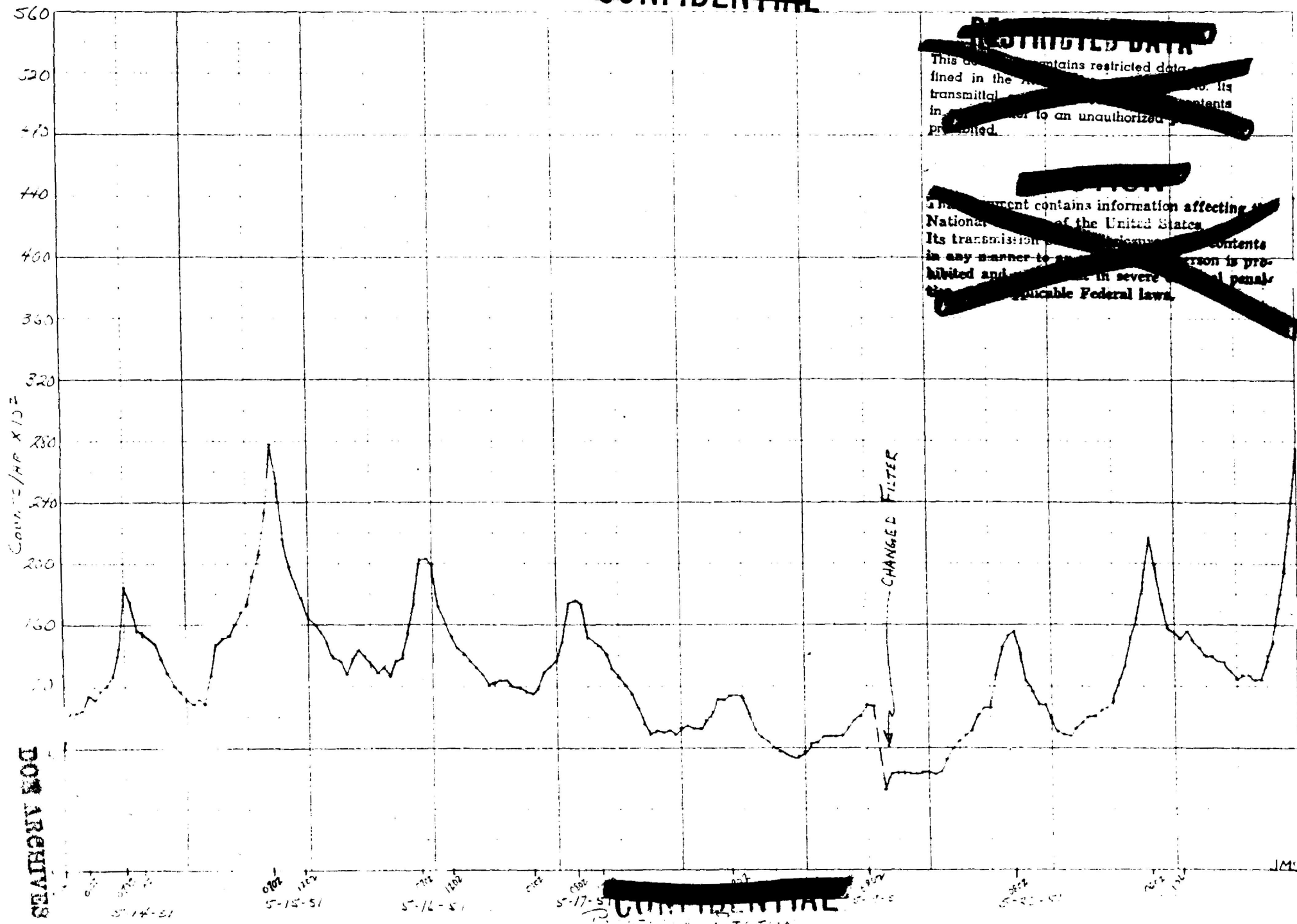
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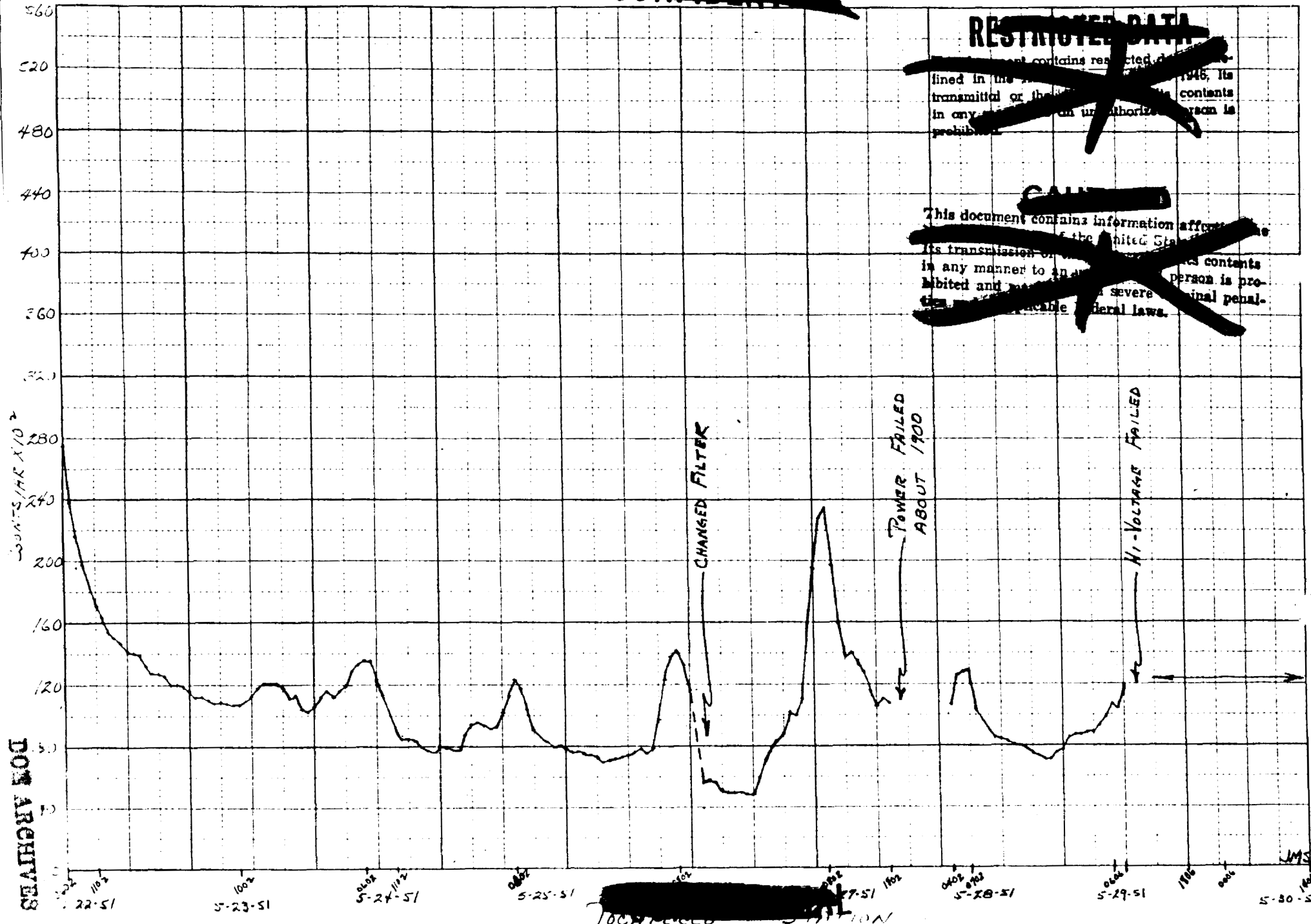
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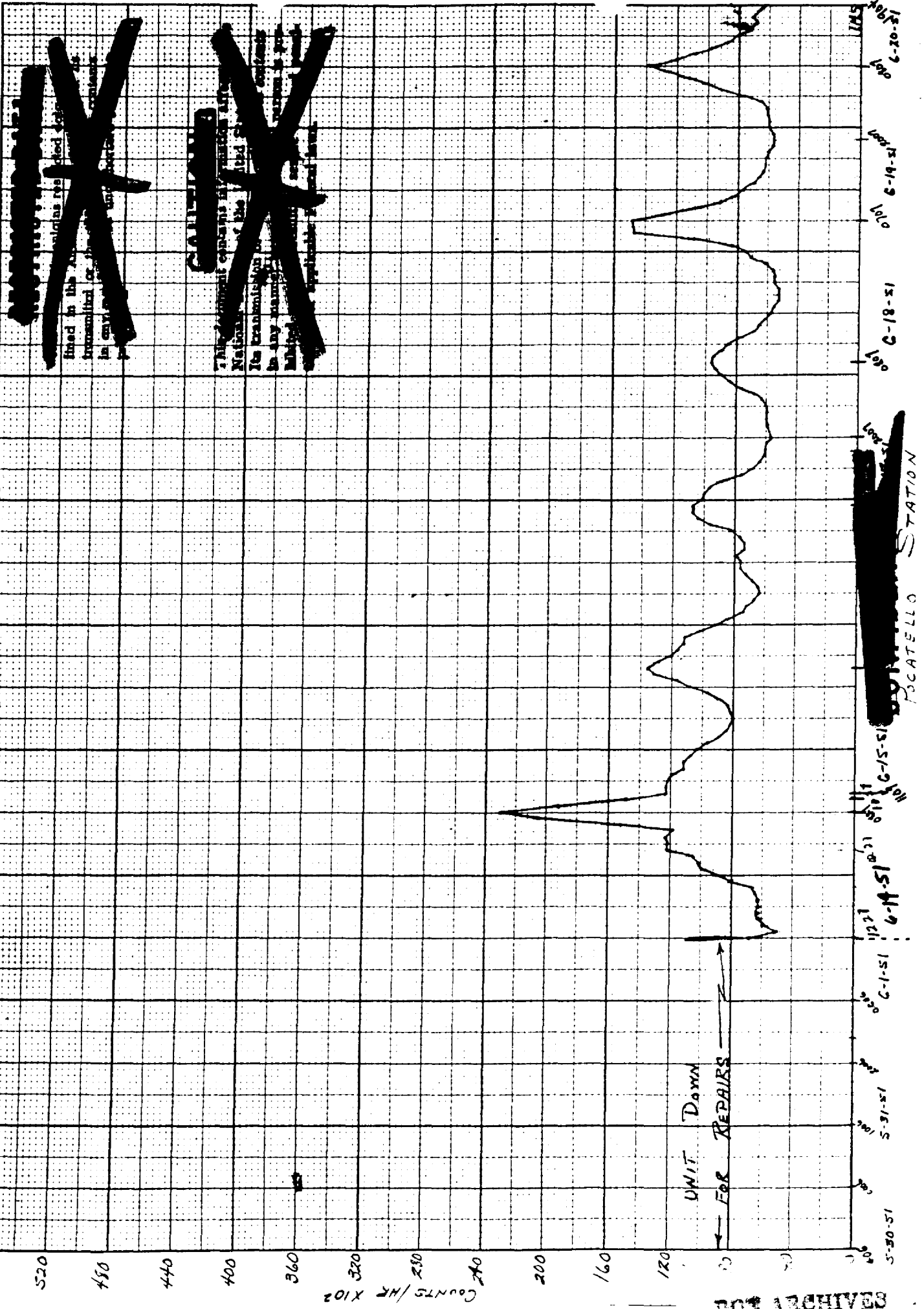
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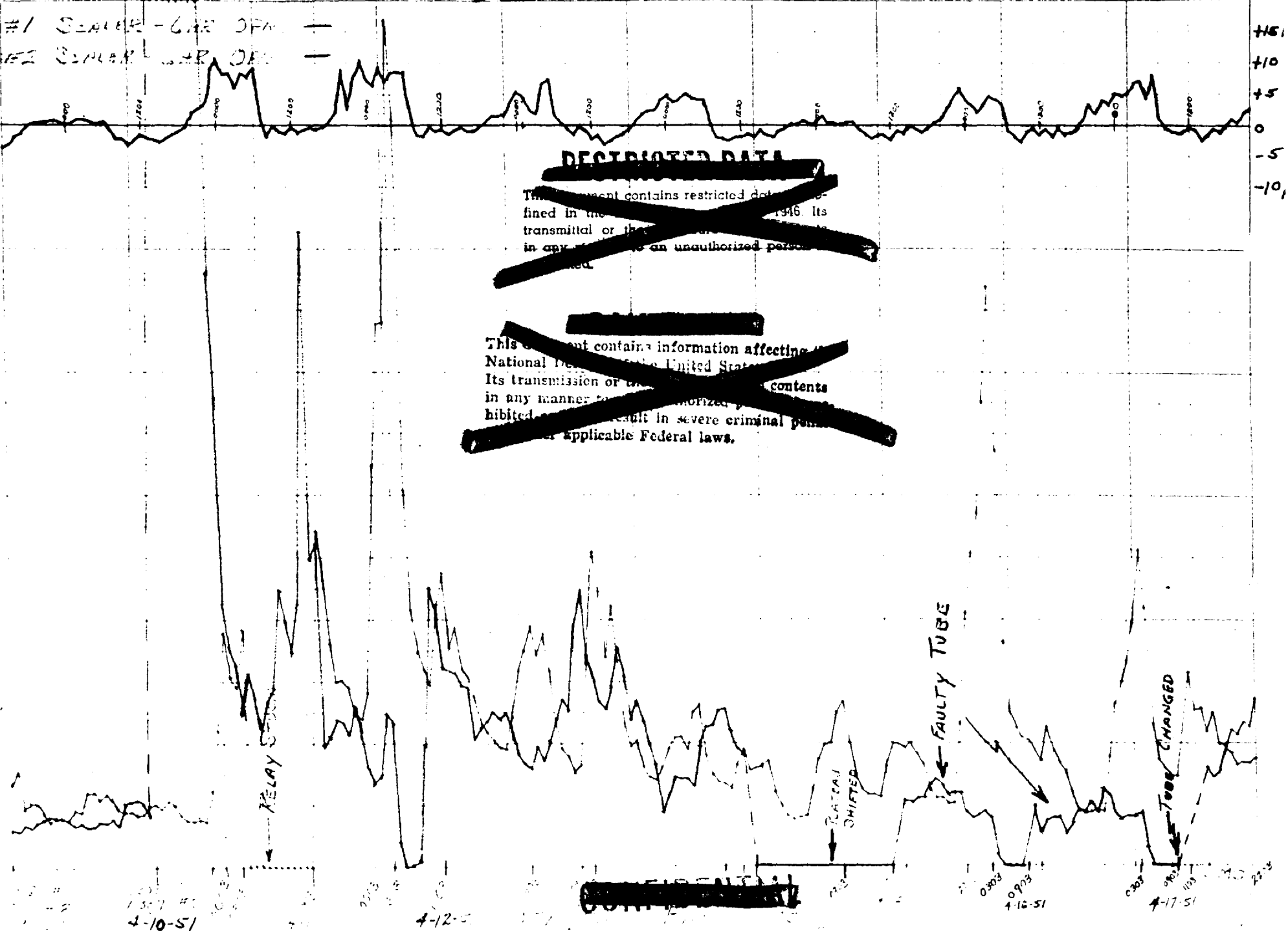
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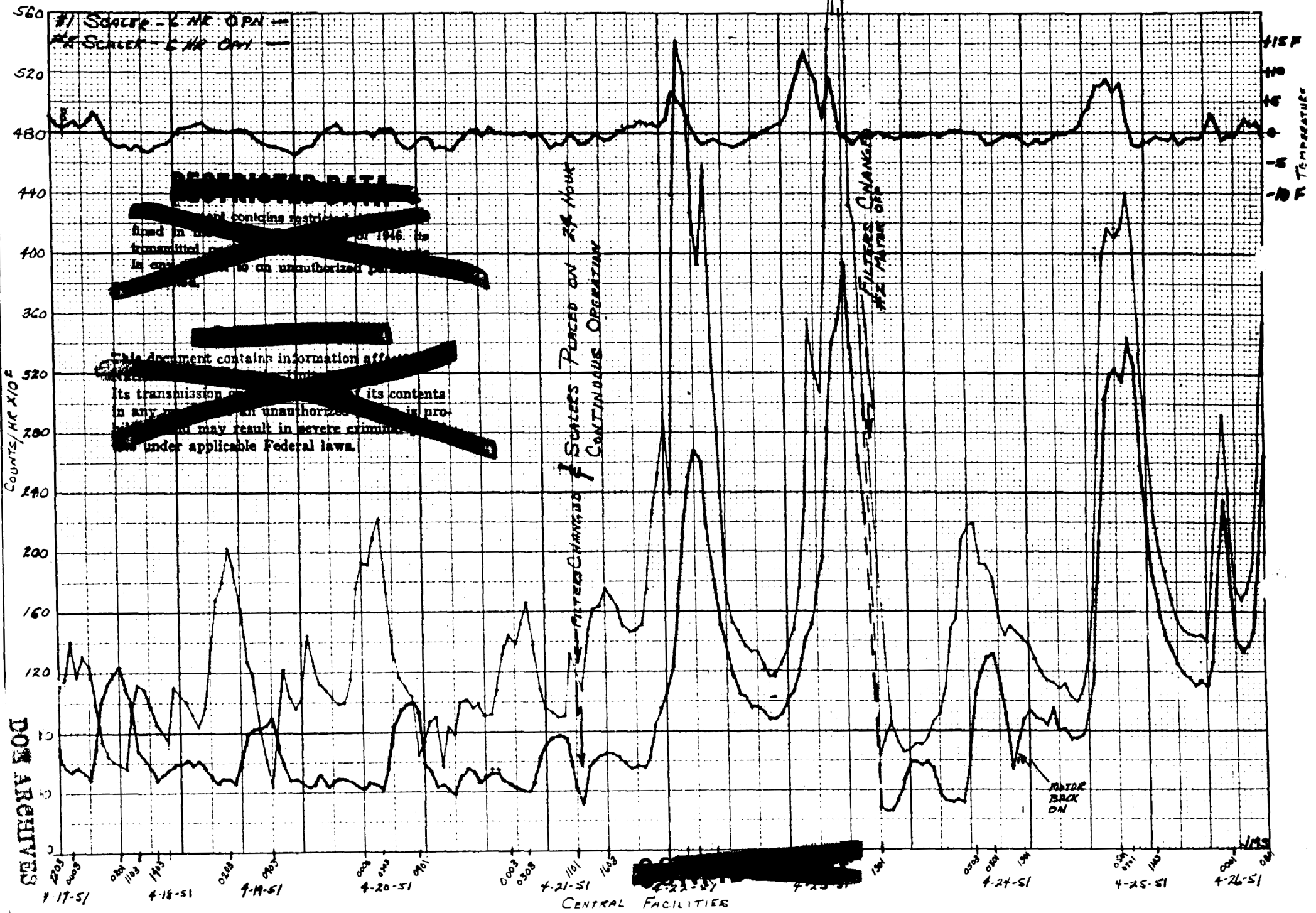
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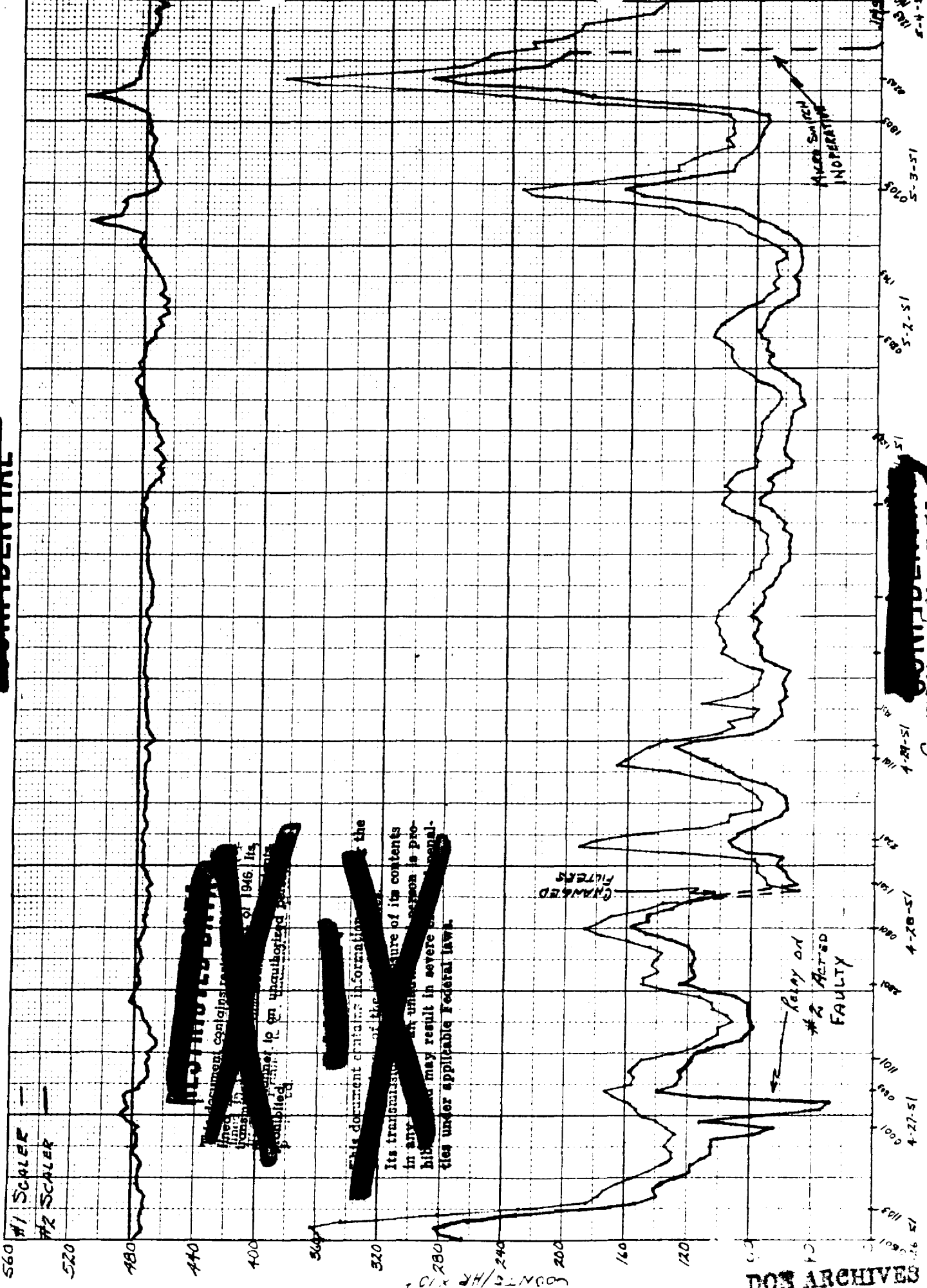
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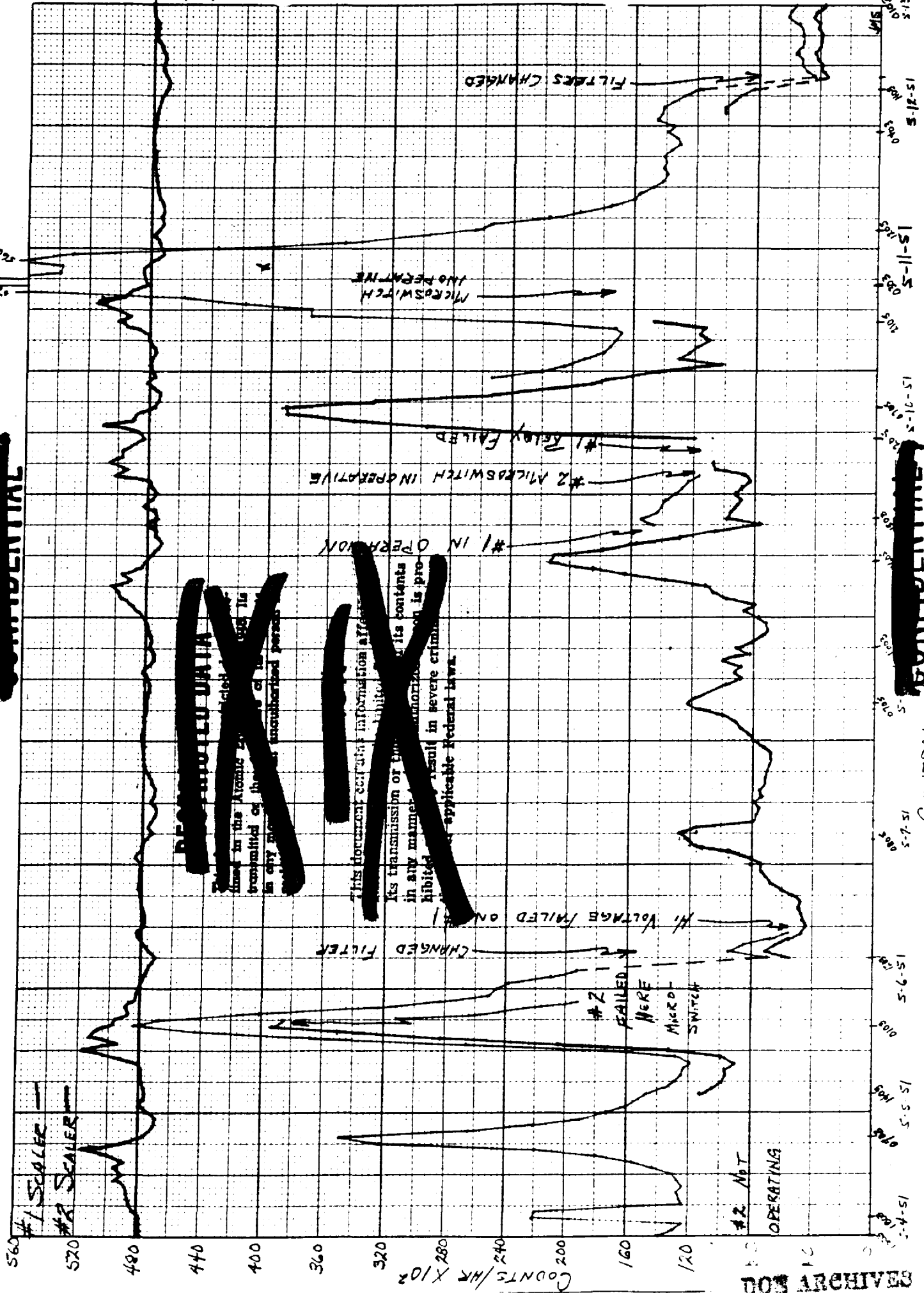
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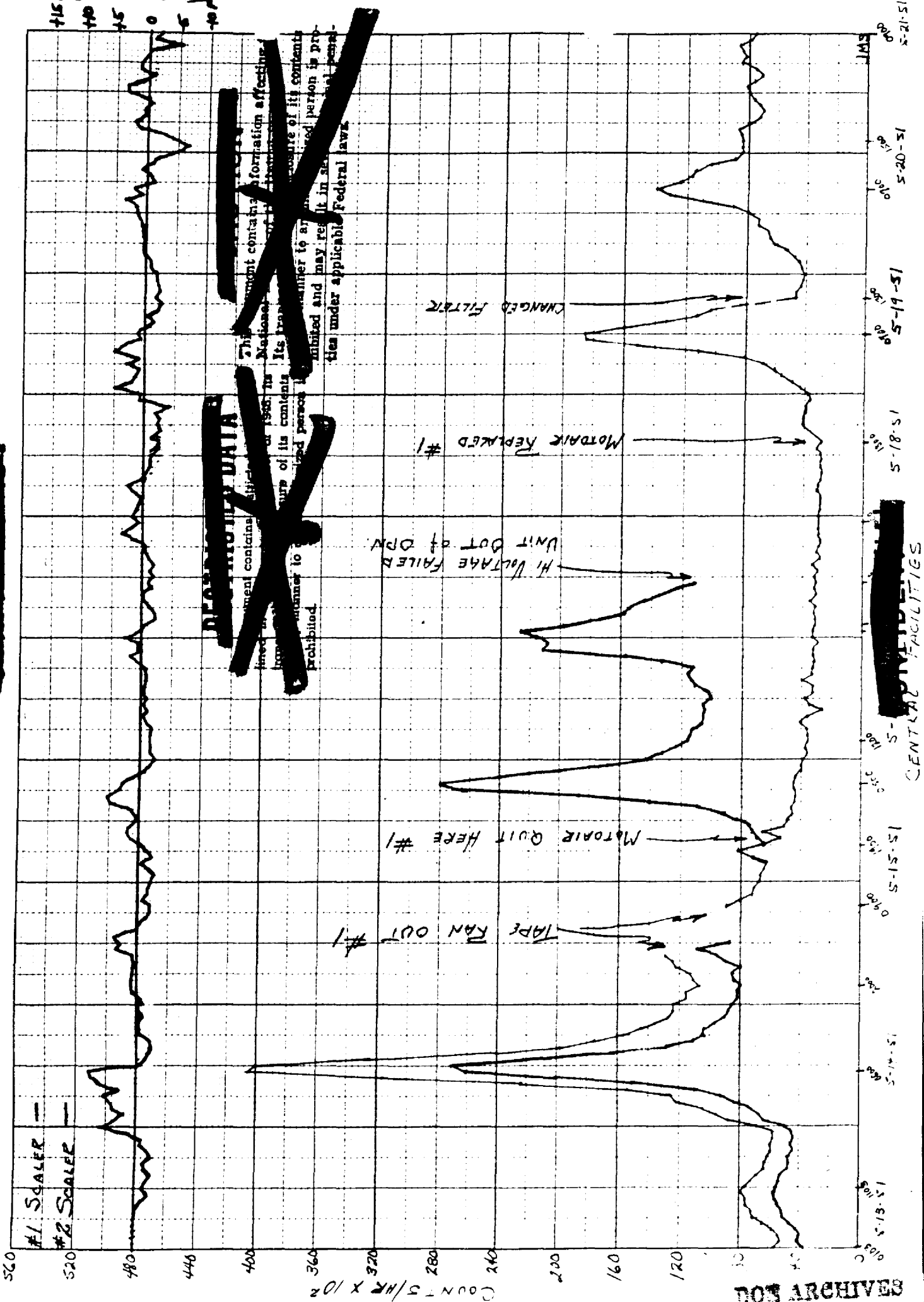
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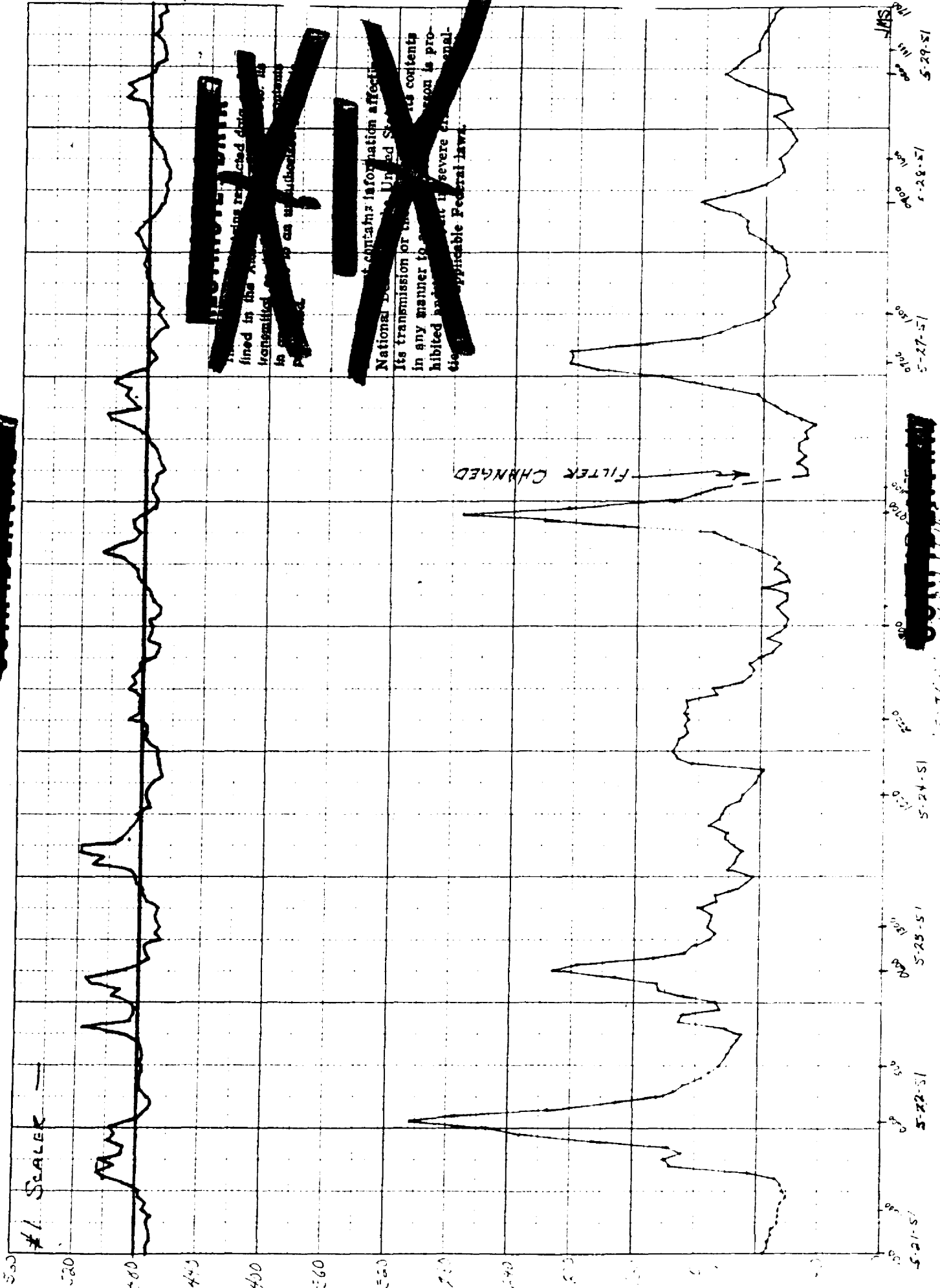


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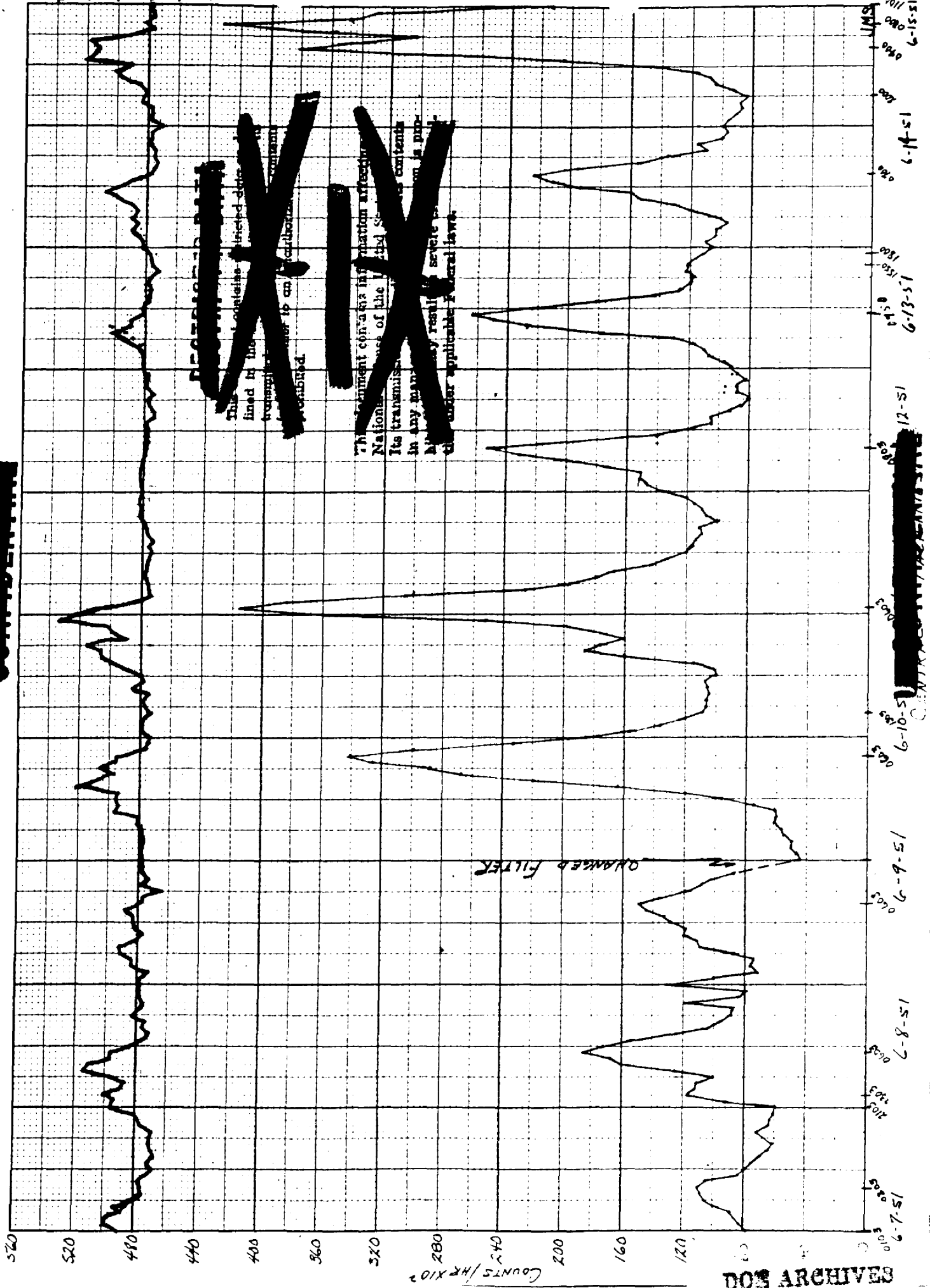


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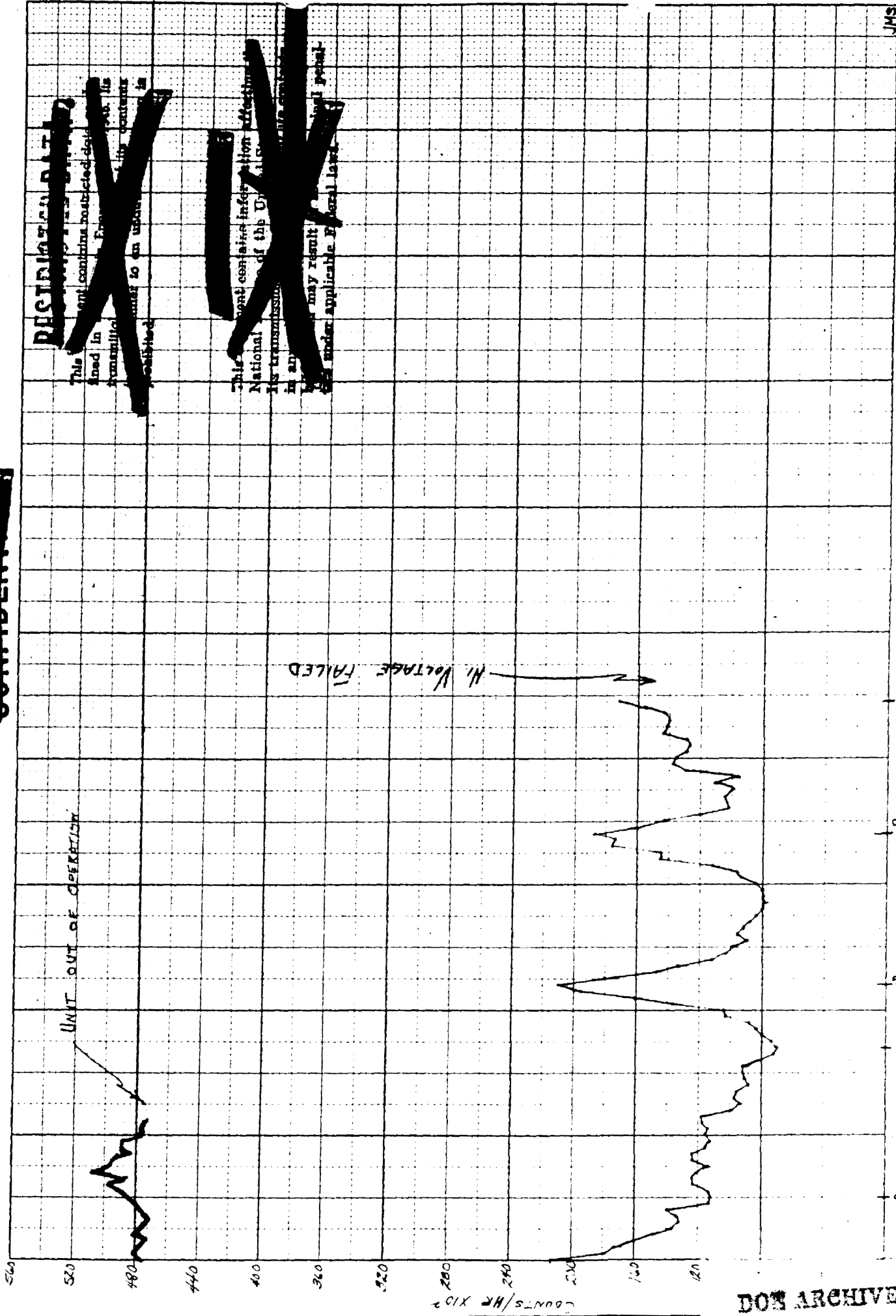
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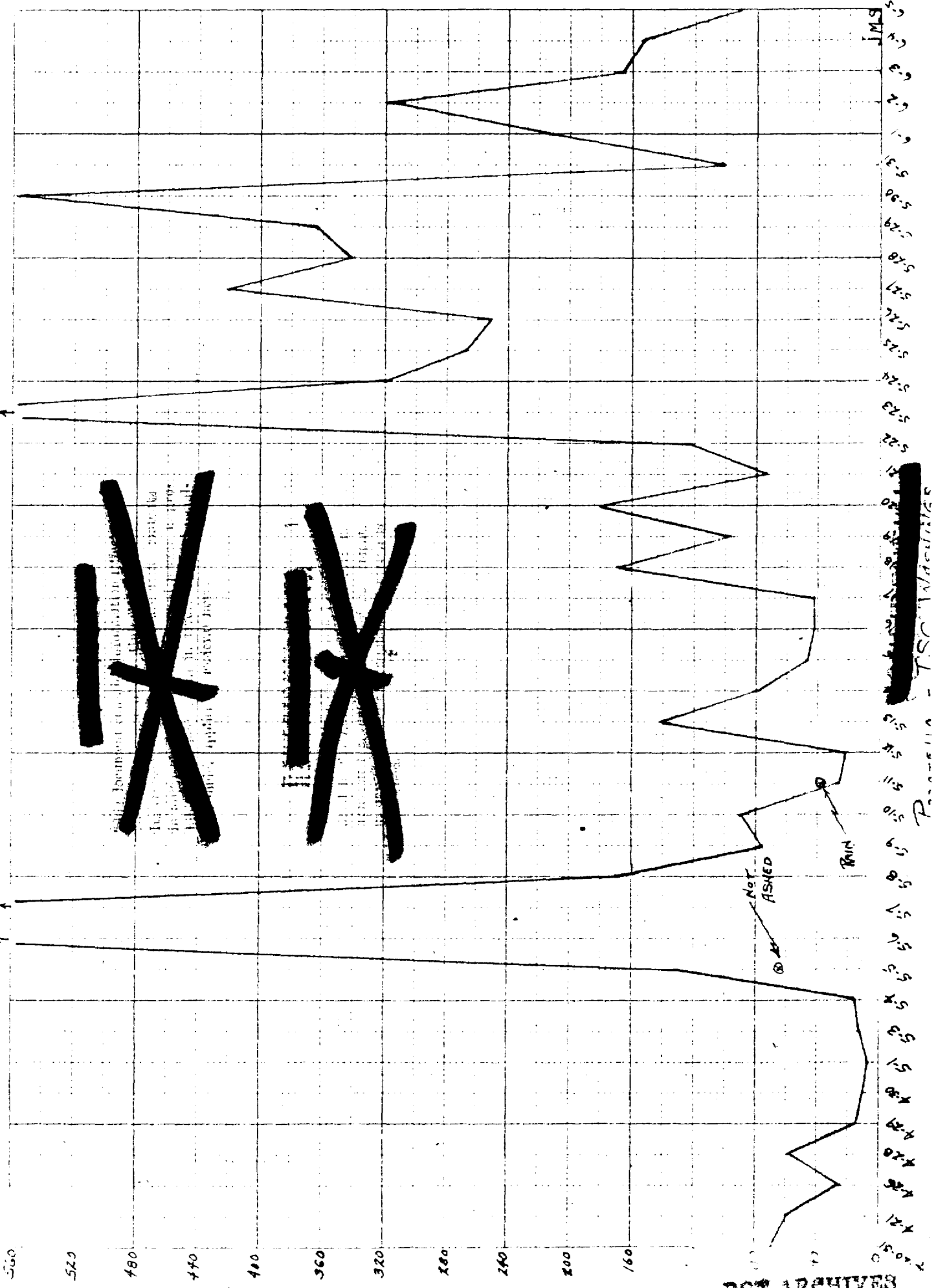
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