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TOP SECRET [redacted] lite 1964 01

Operational Report

15 October 1964

The information contained in this report has been obtained since July 11 and is treated as a continuation of the Satellite 1964 01 Report January 11 - July 11, 1964. The reduced telemetry data and orbital information has been plotted as an extension on the original drawings. Therefore Figures 1 through 6 and Figure 10 of the original report can be replaced by the updated drawings.

On September 26, the satellite entered the third 100% sunlight period. This condition ended on 5 October. The first period lasted five days, the second 18 days and the third nine days.

The variation of the battery voltages and temperature conditions in various parts of the satellite, Figures 1 thru 4, generally correspond to changes in the amount of exposure to sunlight. However, the effect of the faster and large excursions of the aspect of 01-D Figure 6 is very noticeable in Figure 3. Although the change of the aspect angle is in the same direction until the maximum is reached, the rate of change varies to a small degree in both directions throughout each day.

The spin rate of 01 D on October 15 is 0.25 rps. The initial spin rate decay of 100 day half life was changed to the decay rate of 82 day half life when the satellite was unintentionally spun up. After six weeks the spin rate decay became 100 days again but the reason is not known. Two months later, for some unknown reason, the decay rate became 80 days for half life and has remained at this value.

On October 7 a spurious command effected an address but not an execute on 01 D. The system was reset.

On October 9, the data indicated a loss of pressure in the battery pack enclosure of 01 D. No effects have been noted on the battery voltages or temperatures. It is assumed that the batteries have not leaked in order to equalize internal and external pressure.

The aspect sensors of 01 B are calibrated periodically and are still operating correctly. Data indicates that the satellite axis is still within a few degrees of being vertical to the earth.

Satellite 1964 01 E is operating very satisfactorily.

The apogee, perigee and period of each satellite remain quite constant. The satellites are separating at constant rates and the difference in time for telemetry data reception can be determined from Figure 10.

The project is continuing and the satellites are monitored for miscellaneous information.

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Ralph N. Gran

BIEMAN-TALENT-KEYHOLE-ENGINEERING CONTROL SYSTEMS JOINTLY

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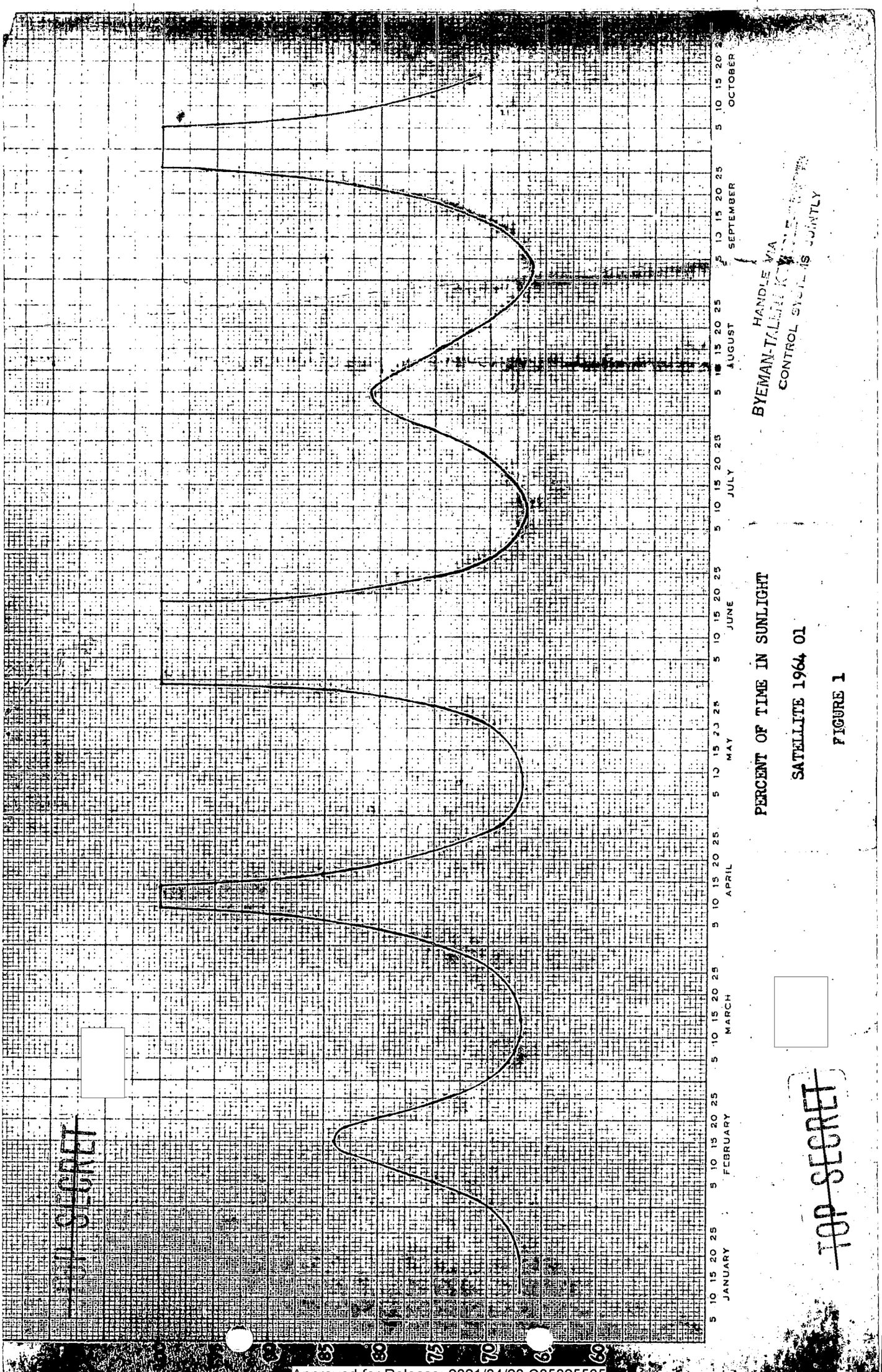

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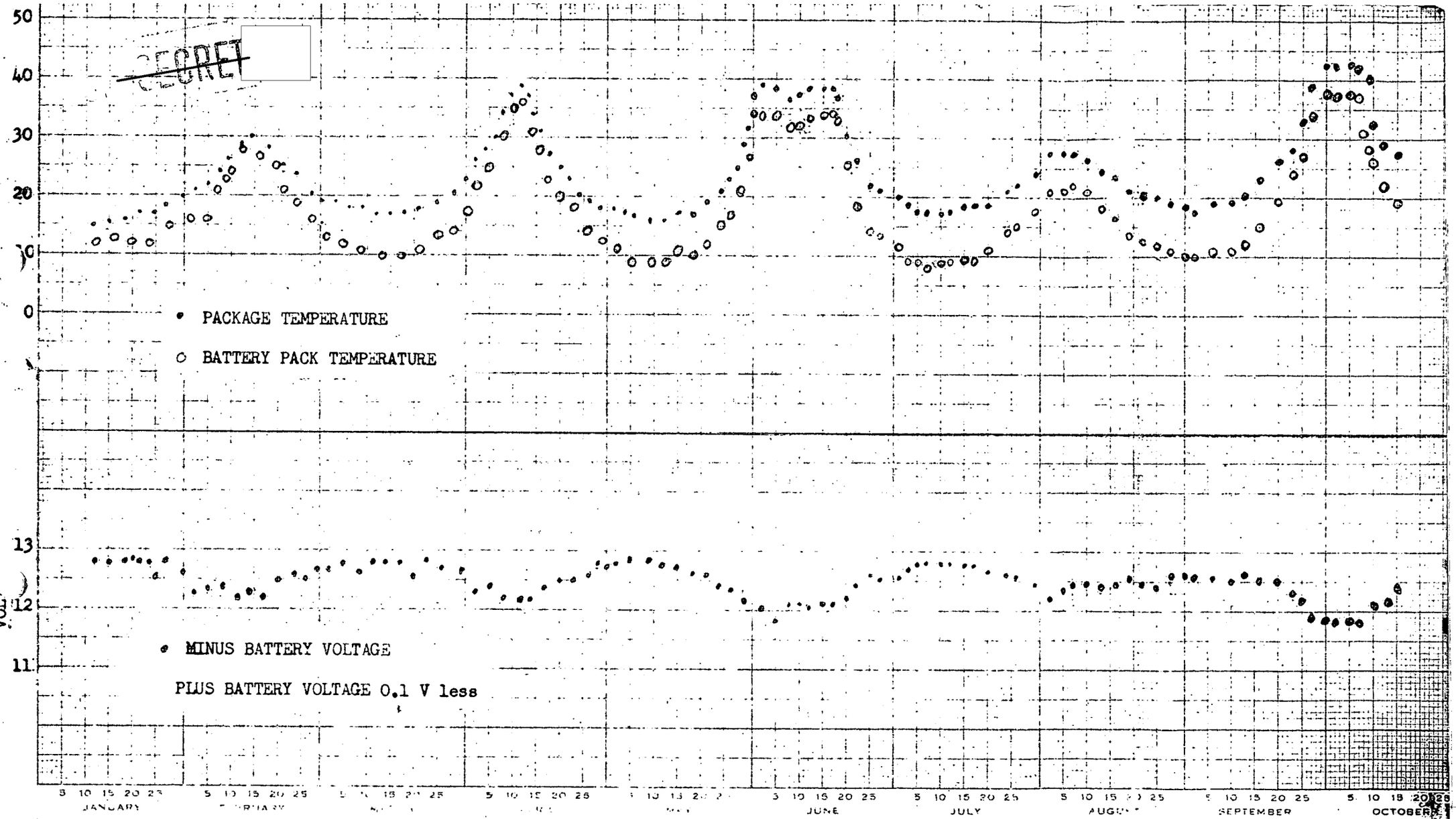

TEMPERATURE AND VOLTAGE CURVES

1964 01 B

FIGURE 2

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BYEMAN HANDLE VIA CONTROL SYSTEM ONLY

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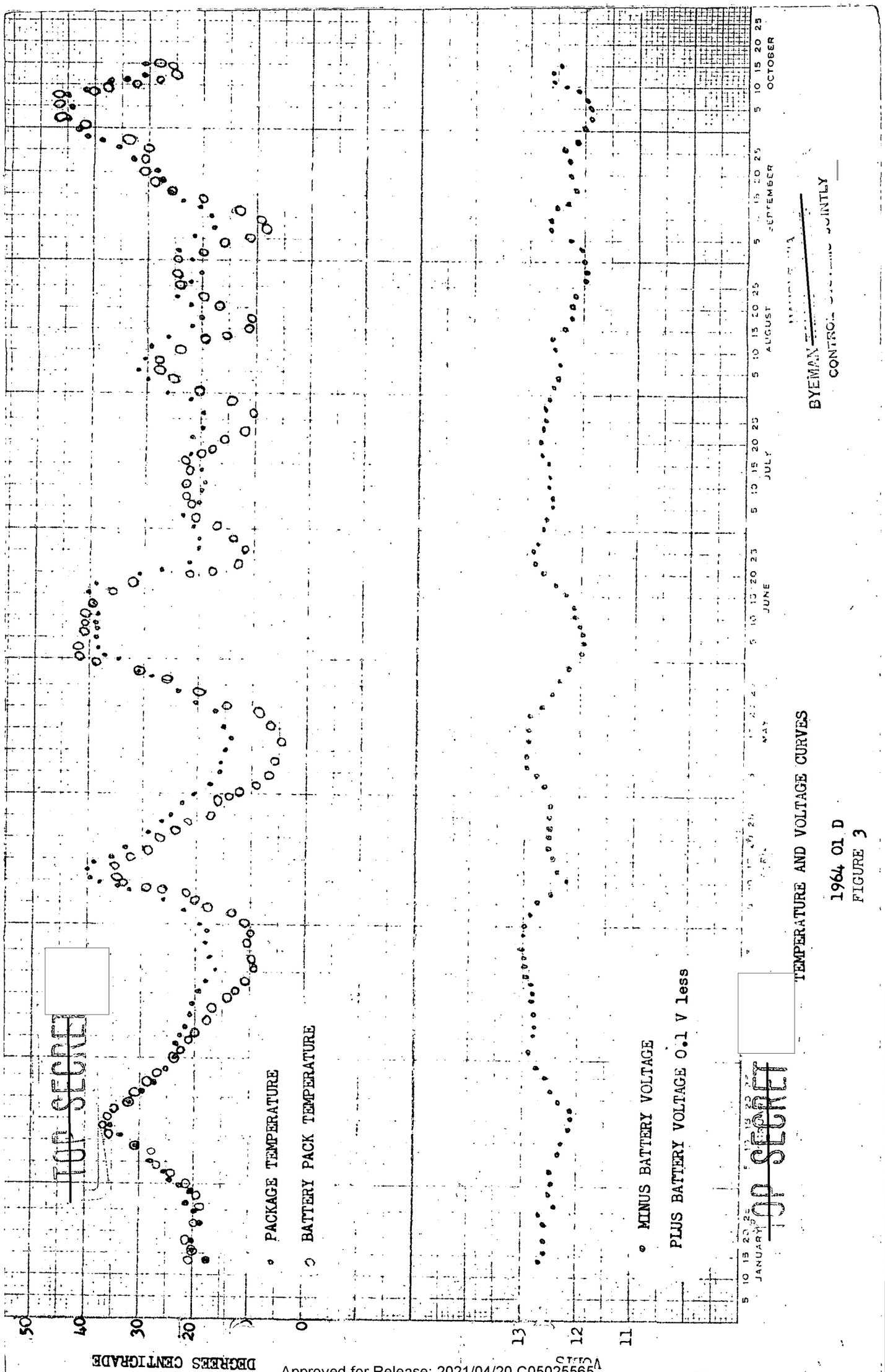

TEMPERATURE AND VOLTAGE CURVES

1964 01 D

FIGURE 3

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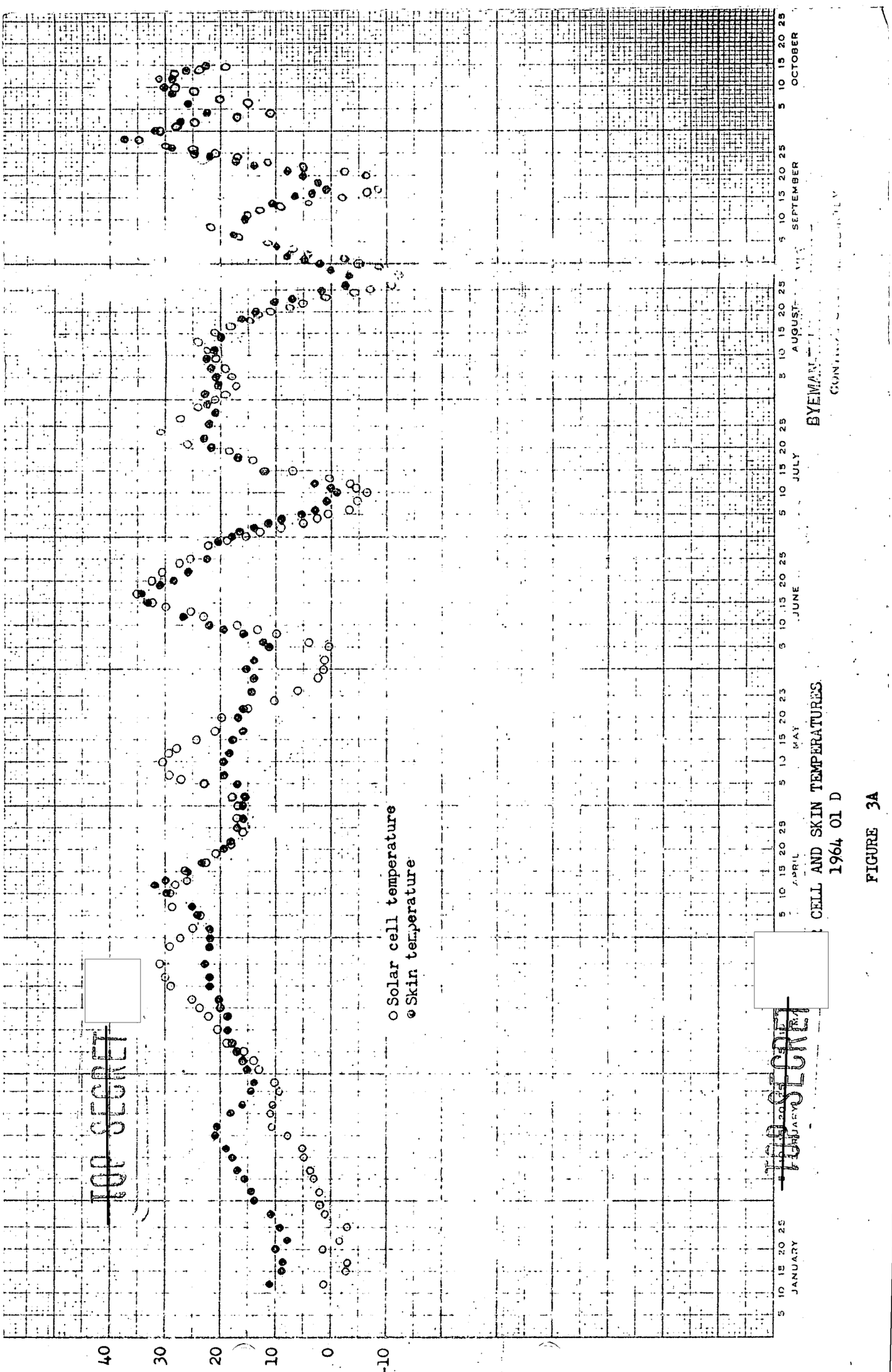

CELL AND SKIN TEMPERATURES
1964 01 D

FIGURE 3A

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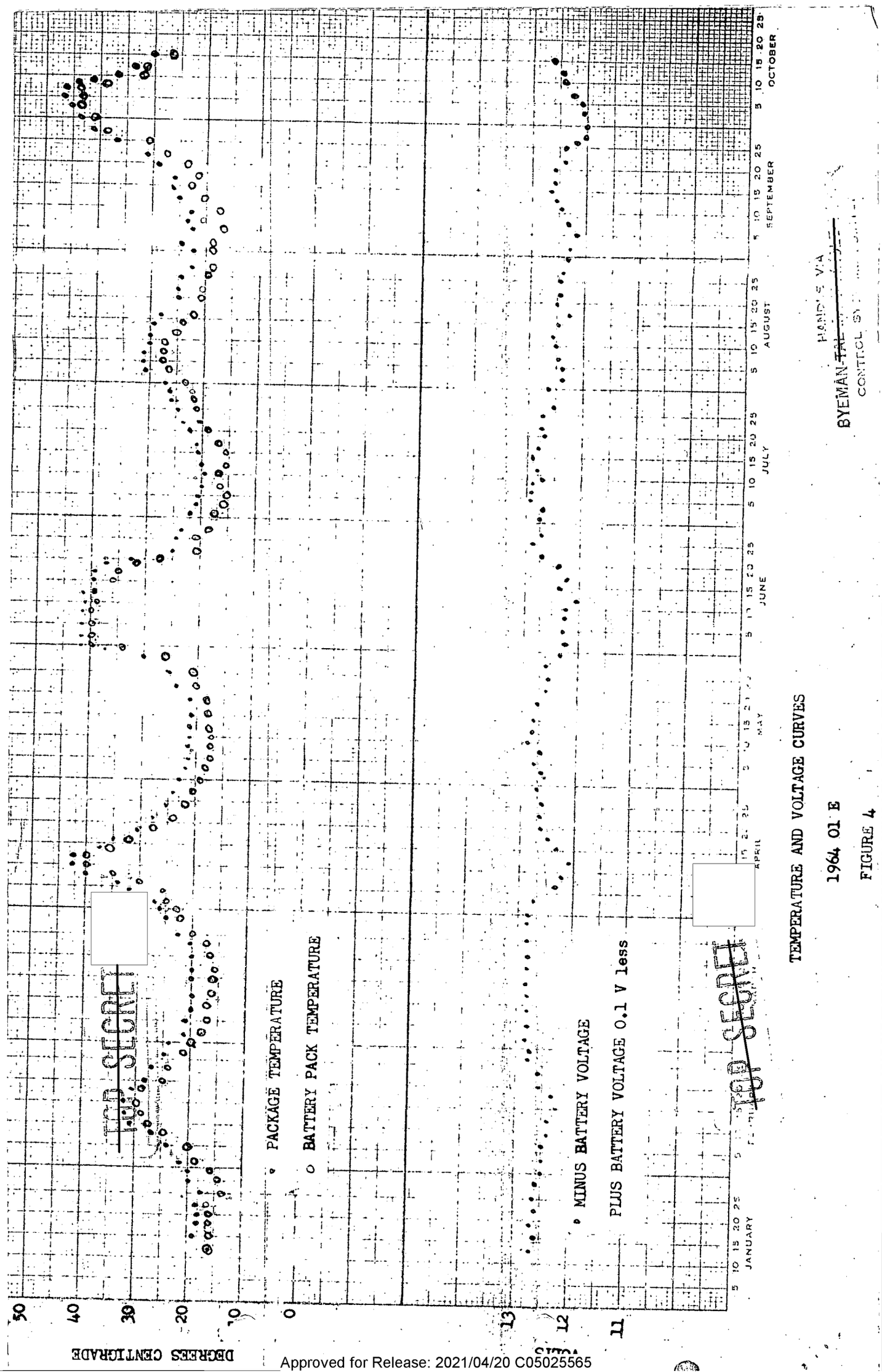

TEMPERATURE AND VOLTAGE CURVES

1964 01 E

FIGURE 4

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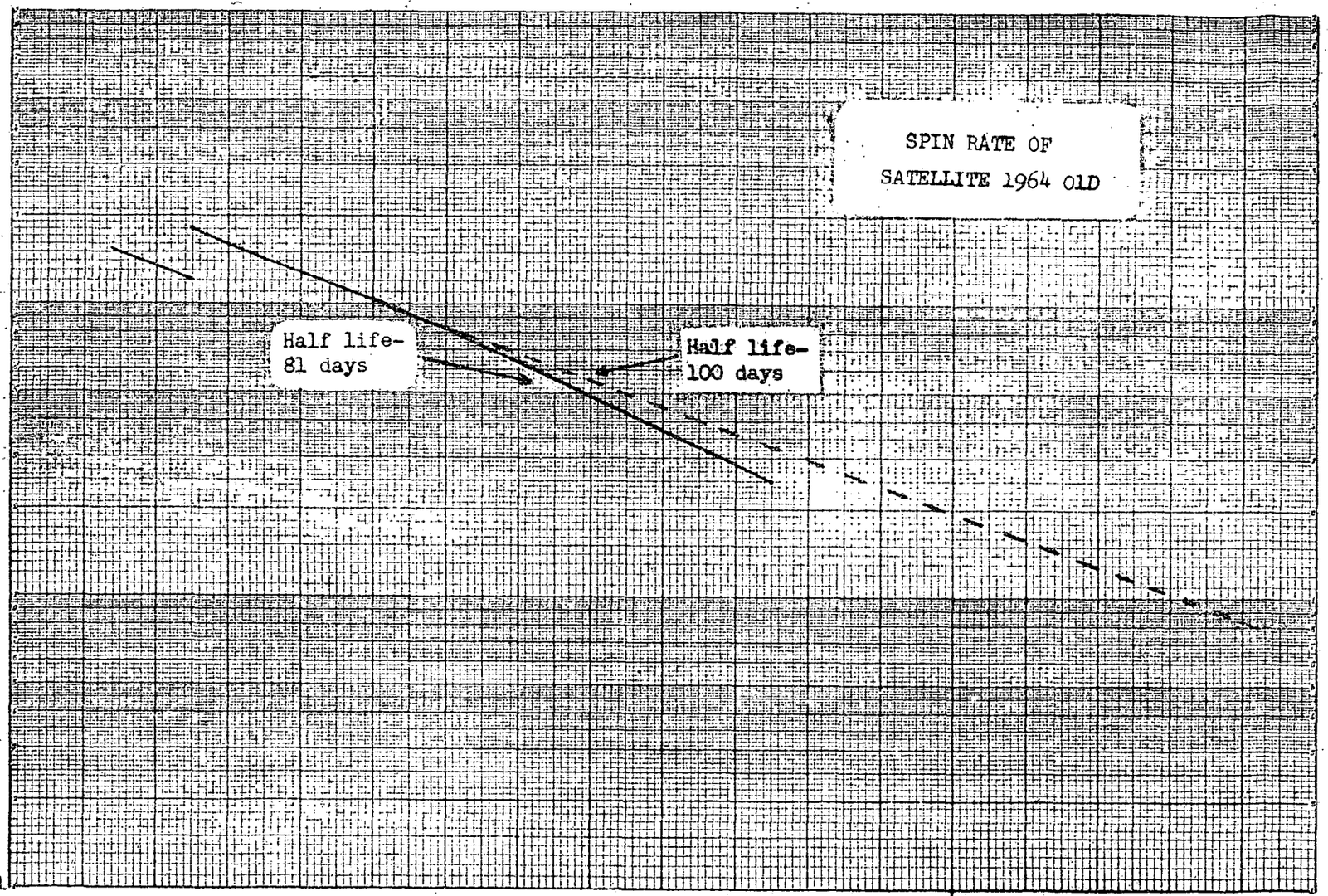

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FIGURE 5

SYEMA[illegible] CONTROL SYS[illegible] CONTLY

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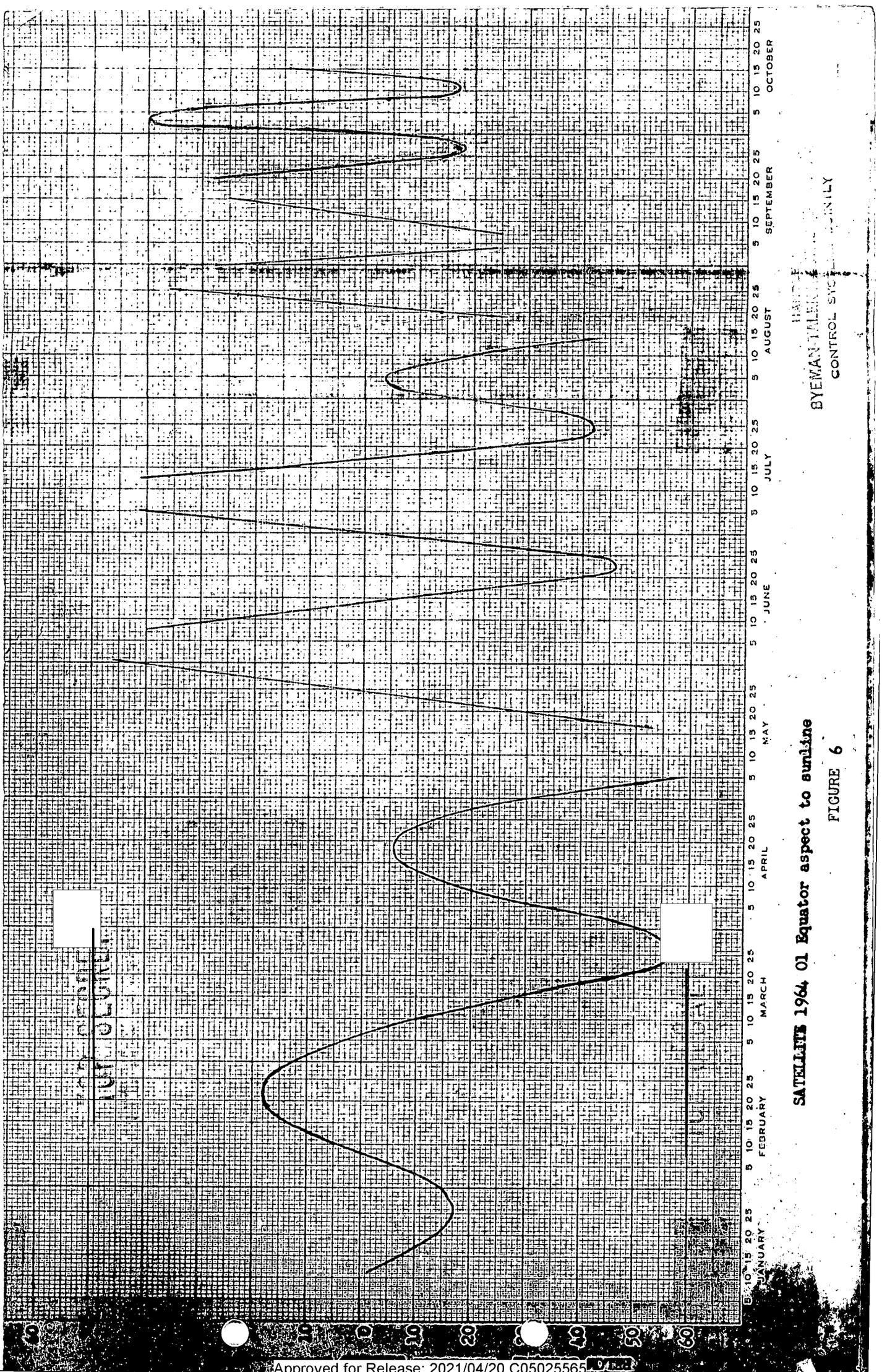

SATELLITE 1964 01 Equator aspect to sunline

FIGURE 6

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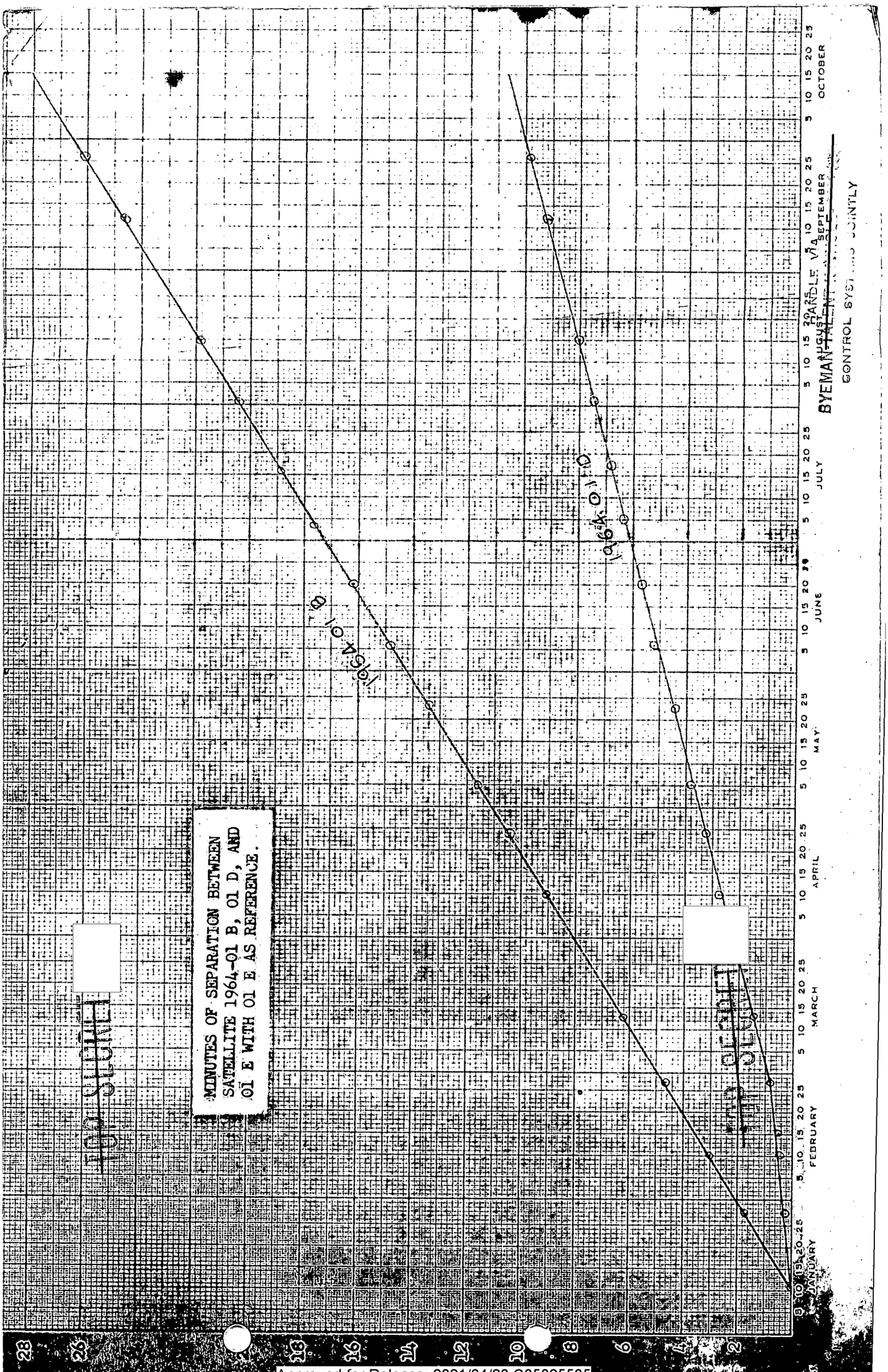

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