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MLM-412

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Contract Number AT-33-1-GEN-53

OSTI

MOUND LABORATORY

Operated By

MONSANTO CHEMICAL COMPANY

MIAMISBURG, OHIO

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ELECTRONICS ACCOMPLISHMENT REPORT

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C M Danenpatt/OSTI
Authorizing Official
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ELECTRONICS SECTIONGroup 10

Sixteen alpha monitors were tested, calibrated, and turned over to Health Physics. The remaining four require further aging of replacement tubes and recalibration. (Ten on EO-314 and ten for Scioto Laboratory.)

The following are under construction:

1. Four wiring harnesses for quartz-fiber microbalances (EO-610) 40 per cent complete.
2. Three induction heaters, Model No. E-1-A (EO-582, 588, and 589) 80 per cent complete.
3. One pulse generator, Model PG-1-B (EO-722) 20 per cent complete.
4. One rate meter (EO-723) 10 per cent complete.
5. One pre-amplifier (Scioto Laboratory) 20 per cent complete.
6. One cathode-follower probe (EO-662) 15 per cent complete.

An adaptor was made to permit use of a (borrowed) cathode-follower probe, Model PR-1, on the Logac-L in E-105. Construction of the probe itself awaits results of preliminary tests.

Some time was spent assisting the Warehouse Group in preparing lists of surplus electronic equipment.

Group 11

Installation and checking out of the vacuum system for filling counter tubes in E-119 is nearing completion. The system has not been checked for leaks, but it has been evacuated to a pressure of four microns with only a mechanical pump.

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Detailed drawings on the metal evaporation apparatus for E-119 have been completed. Some slight modifications are to be made prior to actual construction of the unit.

The instruction manual for the use of the power distribution panels in R-107 is nearing completion.

Preliminary checks have been made on a cathode-follower probe used with a Logac-L. The counting rate with or without the probe was the same although the plateau length with the probe appeared to be rather unstable. It was noted that the probe was subject to interference that caused spurious counts on the scaler, and before definite conclusions can be reached regarding the performance of the probe, these spurious counts must be eliminated.

The Faratron Electronic Controllers which have been used in the "HH" and "WD" Buildings are of the type which do not "fall-safe;" that is, any failure of the unit would cause the tanks in which the liquid level is being controlled to overflow and continue to overflow until the pump was manually turned off. These units have been successfully modified so that any failure of the unit immediately shuts off the pump.

Faulty operation of two Logac-S counters (one in T-307 and one in E-107) was traced to the methane gas. The two cylinders of gas are being returned to the company that supplied the methane for adjustment.

Group 12

Routine maintenance continued on electronic equipment in the "T" Area. The trouble calls were kept to a minimum due to the preventive maintenance program carried out in this area.

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A third Bradley counter was checked extensively and put into use for routine counts.

Counts were made for determination of tau and geometry factors on Logac-L. Routine counting included 6,476 counts.

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