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~~SECURITY INFORMATION~~  
DATE: 1-22-58 INIT. P/W

MOUND LABORATORY-MONSANTO  
Central File No. 53-1-109

MOUND LABORATORY  
OPERATED BY  
MONSANTO CHEMICAL COMPANY  
MIAMISBURG, OHIO

*cf Bounded vol.*

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MOUND LSDR PROJECT  
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PROGRESS MEMORANDUM

November 16, 1952 - December 15, 1952

CONTROL SECTION

Abstract

1. TERMINATION (CIRCLE NUMBER)	
1. CLASSIFICATION RETAINED	
2. CLASSIFICATION CHANGED TO	
3. CONTAINS NO DOE CLASSIFIED INFO	
4. COORDINATE WITH	
5. CLASSIFICATION CANCELLED	
6. CLASSIFIED INFO BRACKETED	

1st REVIEW DATE 11/24/57  
AUTHORITY  AOC  ADC  ADD  
NAME T. Mc FLANAGAN  
2ND REVIEW DATE 11/5/58  
AUTHORITY: ADD  
NAME: R. Ratay

Group 20

One hundred sixty-seven products were assayed.

Preliminary approval was granted for the modification of hood #10.

Group 22

The precious metals scrap sale is under way.

Hoods in the DM and Alpha lines were decontaminated.

Destruction of spent initiators is being accomplished by the Process Section.

Group 24

High neutrons are still in evidence.

The third T-29 counter was received.

Group 33

Work on the activation survey was continued.

~~GROUP 20~~  
~~Excluded from automatic~~  
~~downgrading and~~  
~~declassification~~

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~~Restricted Data~~  
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Progress Memorandum

Nov. 16 - Dec. 15, 1952

DETAILED REPORT

Group 20 - Electrolytic Purity Assay

During this period 167 products were assayed; 10 required resampling. Two research runs were made. To date 1636 solutions have been run; 91 or 5.6 percent required resampling.

During the week of December 8, seventy-seven runs were made. This is the greatest number of runs made on one shift operation since coming to Mound Laboratory.

Six bismuth analyses were made for R. W. Endebrock.

EQUIPMENT AND MAINTENANCE

One foil was lost and recovered this period.

Two baskets were lost this period.

Twenty-nine foil holders were cleaned and adjusted since the last report. New parts were installed where required.

M.L.B. #3 was thoroughly cleaned, lubricated and adjusted this period.

A leak developed in Hood #8 and water spilled out into the low-risk area. However the situation was brought under control with no serious contamination of the lab.

Preliminary approval was granted for the remodeling of Hood #10.

DEVELOPMENT

Effects of Assaying High Curie Products

A special product containing 158.0 curies was obtained from the process group. An investigation will be made to determine the effects of assaying such high curie products on M.A. methods and activity control.

MACRO-Assay Development

The final report is being written.

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Progress Memorandum

Nov. 16 - Dec. 15, 1952

SCIOTO

Estimates for the activation of Scioto Lab were completed this period and submitted to E. Culver on December 9, 1952.

Group 22 - Inventory

Operations

The organization of the scrap metal sale has been completed, and the sale of the cold platinum and gold items has already gone through. The cold platinum brought \$91 per ounce as against \$93 market for pure, clean platinum. The hot items and the Beryllium scrap are still being held pending receipt and acceptance of bids by the Business Division; these latter items represent the bulk of the money involved.

Some thought is apparently being given to the possibility of recovering Fb 206 as a by-product of the extraction of Po 210 and its subsequent decay. At the request of M. McEwen, the Group compiled some data relative to the operating levels of the extraction process, time the material exists in its plated form, and volumes of processing wastes that would have to be treated to recover the Fb 206. Present levels indicate the possibility of recovering approximately 0.25 gram of the material per month.

All operating hoods in the DM and Alpha lines have been decontaminated and repainted. All the interior equipment has been either decontaminated or replaced with new equipment, and some revisions have been made in the design of the furnishings. It is hoped that this will result in the elimination of the "hot bottom" slides from the DM lines, and in increased precision of results from the Alpha line.

The new type "Metal Requisition" forms are on order; these will replace both the present "Metal Requisition" and "Metal Transfer" forms. A rough draft of the Standard Operating Procedure for the Accountability of Polonium has been completed and will be edited for issuance as time permits. The revised procedure will incorporate the elimination of the "Activity Requisition" form.

The Process Section is again accepting over-age initiators for destruction. The inventory of these items was reduced to zero at one period during the month, although 70 were received early in December and are now on hand.

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Progress Memorandum

Nov. 16 - Dec. 15, 1952

The Group continues to have difficulty in maintaining unit costs of metals in line with costs as determined by the Accounting Section. The principal source of the difficulty arises from the inclusion of extra charges into the cost of an item after it has passed through the hands of the Inventory Group, been transferred to the ultimate user, and the charges to the ultimate user reported back to the Accounting Section. Getting the extra charge into the cost of an item after all this has transpired involves changing the records throughout the transaction, and in some cases issuing corrected memorandums. Discussions have been held with the Accounting personnel about the possibility of the Inventory Group being relieved of the burden of maintaining cost figures; it is felt that the transactions could be reported to the Accounting Section on a weight basis, and the charges involved could be calculated by them. The suggestion was not well received. The position of the Inventory Group is that the present system involves a duplication of records in which the Inventory Group is completely dependent upon the Accounting Section for data on costs, and that any omission of information by the Accounting Section will inevitably lead to discrepancies which are uncovered at the time of an audit and which always prove embarrassing. It seems that one set of unit cost data should be enough to enable the proper charges to be assessed by the Accounting Section.

#### Development

During the month, an order was placed for modest amounts of Columbium, Molybdenum, Tungsten, Zirconium, and Vanadium foil. These metals plus Copper, Palladium, Silver, Tantalum, and Stainless Steel will be used to continue the investigation of the apparent differences in "counting geometry" of metals as uncovered in report MLM-725. Work will not be started until all the metals are available.

#### Group 24 - Calorimetry and Counting

##### Operations

The assay work was heavier than usual during this period. Extra activity was assayed and transferred to the Y Section for the production of replacement items to make up losses resulting from production difficulties.

The stockpile of finished guns and gauges on hand at the end of the period is adequate. However, from a survey of these items it is apparent that the problem of high-neutron products has not been solved although some recent improvement has been noted.

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Counting equipment in Room T-218 has operated with less than the average amount of servicing during this period. However, one notable instance of repair work was occasioned by the breakdown of the register on one of the new Y neutron counters (T-29 type).

Calorimetry equipment required only a minimum of maintenance work during the month.

The third T-29 Neutron Counting Geometry and two sets of electronic counting equipment for Y counting were received early in December. This makes a total of three (3) complete counters of this type now available for counting Y products.

Additional evidence has been obtained indicating an error in the value supplied by Site Y for one of their neutron counting standards, E-970, as described in our last month's report. Counts obtained by Mr. M. R. Hertz of the Neutron Source Group corroborate this group's findings, that the value of this standard is actually approximately 9 per cent higher than the value furnished with the standard.

A comprehensive time and cost estimate for the activation of Group 24 facilities at Scioto Laboratory was prepared and submitted to Special Problems Group #33.

In addition to the regular production work, the following assays were made for other groups during this period:

<u>No.</u> <u>Assays</u>	<u>Type</u> <u>Sample</u>	<u>For</u> <u>Group</u>
7	Prod. Gauze	Neutron Source
18	Prod. Gun	" "
23	Neutron Source	" "
1	Prod. Gun	Res. Grp. 6

Group 33 - Special Problems

A large amount of time, this period, was spent working on the Scioto Activation Cost Estimate. Considerable time was given to discussing methods of pricing materials and methods of determining time to activate. Also a study was made of the operating levels for the activation conditions. This study revealed differences between early and late extraction reports regarding assay discrepancy and recycle quantities. Further study is planned along these lines.

Near the end of the period the group moved from room T-220 to rooms T-219 and T-221.

- mg
- Copy 1 - Mr. E.C. McCarthy
- 2 - Mr. P.J. Lowry
- 3 & 4 - Central Files

P. J. Lowry

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