Monsanto

FROM (LOCATION) Anniston, Ala. CC:

DATE : February 6, 1967

SUBJECT : FINAL STATUS OF 1966 LABORATORY OBJECTIVES

REFERENCE : OED-LCF 12/28/65

TO : L. C. Fuhrmeister

A. Safety

1. Serious injury frequency. 0/0

2. Minor injury frequency of 2.5 (9). 3.11

3. 87% attendance at 12 monthly safety meetings. 12/75%

(As of 1-1-67, all men attend safety session each month with $600/yr reduction in overtime.)

BB Function

1. a. Obtain IR spectrophotometer. Purchased 11-30-66

b. Obtain digital integrator. Purchased 4-1-66

(Excellent time saving device)

c. Develop GLC instrumentation. 2-1-66 lab built GLC in operation. 9-1-67 in-plant unit installed.

cut 4 hr orsat anal to 30 min as of 2/10 - have pass in dev. for in plant unit -

d. Replace obsolete equipment.

1) pH meter purchased 5-1-66 2) colorimeter No action 3) Aerograph GLC Purchased F&M 700 8-1-66

e. Additional equipment for methods development.

(1) F&M 5750 purchased 9-1-66.

(2) Aerograph Autoprep GLC from Research 10-1-66.

f. Formal work request program. Started 1-15-66

2. a. Review and revise 80% analytical methods. 80% completed 12-31-66

b. & c. New analytical methods for customer requirements and process control.

(1) New Niran method for condensation studies.

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IN-10 REV. 8-64

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B. Function (continued)

2. continued

b. & c. (continued)

(2) Changed Aroclor measuring equipment to more accurate substitution method.

(3) Developed method for high boiling compounds present in benzene.

(4) GLC method developed for Thio Acid assay and impurity distribution.

(5) Built GLC instrument for Cl_2 gas efficiency.

(6) P_2S_5 research work stopped 11-1-66 due to shortage of manpower. However, all control equipment and methods established and personnel were trained for start-up by 12-31-66.

d. Isomer studies on liquid Aroclors.

Work continuing to gether data for statistical evaluation on which isomers have greatest effect on electrical and stability properties.

3. a. Review and reissue all specifications issued prior to 1-1-65. 100% complete 12-1-67

b. All tentative specifications as required by product development were issued and up to date as of 12-31-66.

c. Monitor changing intermediate and raw material specifications.

Much work to do in this area. Daily I am finding many raw materials for which we have no specification. (Incorporated in 1967 objectives)

Started making 5 [illegible] KA - 8/65

C. Personnel

1. Testing program for new employees.

Started dexterity and preception test for all job applicants 6-1-66.

2. Testing program to measure efficiency of present employees.

Not developed.

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C. Personnel (continued)

3. Hold four quarterly training meetings.

   a. Set Realistic Goals and Pursue Them.

   b. Efficient Techniques for Aroclor Electrical Measurement.

   c. How Does GLC Work?

   d. P_2S_5 Production and Control.

4. Develop chemists.

   a. Liddle and Dolin attended Pittsburgh Analytical Symposium 3-1-66.

   b. Miller attended M.I.T. IR school 10-1-66.

5. Develop management skills of chemists.

   Work underway all year.

6. Train section leaders in supervisory skills.

   a. Considerable time and effort have been spent on this facet of the program and results of work are quite noticeable.

   b. S. O. Kemp attended Supervisory Skills Leadership session at Bromwoods 12-15-66.

7. Formal training of analysts.

   This work has been progressing quite well, especially since drop in Niran and PNP production rates. A formal method of recording training activities is now in use.

D. Facilities and Plans

1. & 2. 5 year plan for buildings, personnel needs, equipment and procedures.

   This information was developed and, as a result, two alternatives were developed and submitted to management 1-15-67.

3. a. & b. Move secretary and Chief Chemist to old communications room and provide methods space in old purchasing office.

   Project 2348 submitted to TPM 12-23-66.

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D. Facilities and Plans (continued)

3. c. Additional space for present control laboratory.

Pending outcome to present 5 year plan before management.

d. & e. Set up technical library and obtain International Critical Tables.

Responsibility transferred to TSD Supt. on request.

f. Revise filing system.

Some work done; however, major portion can be accomplished only after providing more office space.

Objective continued in 1967 objectives.

g. Establish physical constants for all plant ~~products~~. CHEMICALS RM INT FP

Data gathering and tabulation is proceeding commensurate with data availability.

E. Organization

1. Review organization to optimize efficiency.

Plan submitted and Section Leaders and Chemist working under plan.

2. Terminated.

G. W. Miller

/dp

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Laboratory Trip Schedule for 1966

1. One chemist to Fisk for IR school.

   Miller to M.I.T. 10-15-66.

2. One chemist to Perkin-Elmer course on IR.

   Arnett - 4/67.

3. Chief Chemist and chemist to Pittsburgh Symposium.

   Dolin and Liddle - 3-1-66.

4. Chief Chemist and one Section Leader to visit Central Research and WGK Plant.

   Dolin and Kemp

5. Section Leader to attend course on developing leadership skills.

   S. O. Kemp - Bromwoods - 12-15-66.

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Process Research and Development Laboratory - 1966 Objectives

I. Long Range Objectives

A. Aid in obtaining and holding plant safety at the highest possible level.

B. Reduce manufacturing costs by process improvements.

C. Improve product quality by process improvements.

D. Maintain properly equipped laboratory for prompt process investigations.

E. Maintain or obtain sufficient technical information to aid engineers in meeting department objectives.

Goal A. Aid in obtaining and holding the plant safety at the highest possible level.

Action: 1. Changed or modified parathion shipping containers with packaging personnel to reduce the number of parathion spills.

2. Conducted a TSD safety program.

3. Reviewed process changes for safety.

Goal B. Reduce manufacturing costs by process improvements.

Action: 1. Developed in-line measurement for Aroclor electrical properties on a laboratory unit.

2. Developed soft water wash on parathion to reduce loss and improve quality.

3. Developed a technique for sulfur recovery from residue.

Goal C. Improve product quality by process improvements.

Action: 1. Developed Porocel treatment for liquid Aroclors.

2. Developed a process for producing refined methyl PCT.

3. Tested and changed shipping containers for Aroclors.

4. Tested container linings for PCT shipment. Program was not completed due to loss of sales for PCT. A container lining more satisfactory than the present one was found but a more satisfactory liner is desired.

Goal D. Maintain properly equipped laboratory for prompt investigation action.

Action: 1. Equipment necessary for stocking laboratory was purchased.

2. Set up parathion experimentation in present laboratory and improvised old mechanical drafting room for Aroclor experimentation.

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Goal D. (continued)

Action: (continued)

3. Added one man to carry out programs.

Goal E. Maintain or obtain sufficient technical information to aid engineers in meeting department objectives.

Action: 1. Obtained sufficient data to scale up and design a methyl PCT refinement system.

2. Obtained sufficient data to scale up a production unit for decachlorobiphenyl.

3. Conducted an investigation with Anniston TSD engineer at Organic Research in the fractionation of Santowax..

4. Located and had a plant size column delivered for experimental investigations.

5. Started a filing system for research reports for ease of information retrieval.

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