Monsanto

FROM (NAME & LOCATION) P. B. Hodges - General Offices

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SUBJECT STATUS REPORT - AROCLORS
CLEAN-UP OF PLANT EFFLUENTS

REFERENCE

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This memorandum advises progress and problems involved with clean-up of Aroclors from the waste effluents at W. G. Krummrich and Anniston.

W. G. KRUMMRICH PLANT

A. Status

With the changes in practice at Aroclor using departments plus the greatly improved HCl off-gas cooling at the producing department chlorinators, the only significant losses now occur from handling at the producing department. Some of the changes in practice:

1. No spent heat transfer Aroclor is now deliberately sewered. Only losses are from leakage in pump packing glands, accidental handling losses, vapors, etc. The spent Aroclors are being disposed of in our toxic land fill -- a temporarily acceptable practice.

2. Aroclor heels from tank cars being washed at the repair track are also collected and hauled to the land fill.

At the producing department free Aroclor is visible in the sewer trenches. Samples of the affluent have been collected but, to date, none have been analyzed. Based on material balances, loss to sewer is an estimated maximum of 50,000 pounds per year (137 pounds per day average). Actual loss is probably considerably lower due to soaking into chat spread around the operating area.

B. Future Work

1. Waste Sampling

In-plant water, plant effluent water and Mississippi River mud samples are being taken on a regular basis, but no analyses have been run in recent months. The samples are being stored. We need to have the samples analyzed in order to guide future sampling work. As soon as we can find out where we stand quantitatively, we will review the sampling points and, no doubt, do more comprehensive sampling of the Mississippi River,

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including cross-section samples above our outfall and at a considerable distance below, e.g. Jefferson Barracks Bridge.

No plans presently exist for air sampling, but these will be developed in the next several months, depending on priorities established as the whole Aroclor problem becomes clearer.

2. Waste Reduction

An engineering study has been made to reduce losses at the production department. A number of sumps have been proposed which would virtually eliminate any sewering of "free" (undissolved) Aroclor by allowing the Aroclors lost to be settled out and to be intermittently pumped to a waste trailer. The trailer contents would be hauled to the toxic land fill. Total cost of the projects would be $81,000.

One sump (to cost $11,000) is estimated to collect 50% of the total losses. This is the collection point for process area discharges. Installation of this sump would be a logical point to commence with the next round of clean-up activities with other projects to follow as justified by actual measurements.

ANNISTON PLANT

A. Status

1. Waste Reduction

Numerous small changes have been made to eliminate any possibility of free Aroclor leaving the plant and depositing in Snow Creek (as previously experienced). These changes include:

a. Rehabilitation of the neutralization pit in the total (less Niran) effluent flow leaving the plant. This will effectively prevent Aroclor losses above saturation and will stop future deposition in Snow Creek.

1) To reduce losses to well below saturation, changes have been made to collect free Aroclors at points prior to dilution of the wastes. Included are:

a) An existing sump at the end of the warehouse is being utilized to trap Aroclors spilled from drumming and flaking operations.

b) A coalescer was installed in the muriatic acid flow from the HCl absorbers. Primary purpose was to improve quality and ease of treatment of the muriatic acid, but a considerable amount of free Aroclor is being trapped following the coalescence.

2. Waste Sampling

A set of samples taken June 10 were analyzed recently. A full report will be issued soon. The most interesting data are:

a. Snow Creek, about 1 mile below our plant --

Mud - 2.36% PCB
Water - 8.3 ppb PCB

With this concentration of Aroclor in the mud of Snow Creek, we can expect leaching to continue for a long time, regardless of how well we clean up in the plant.

b. Choccolocco Creek, about 10 miles below confluence with Snow Creek --

Water - 5.8 ppb PCB

B. Future Work

1. Waste Sampling

Drs. Gunning and Suttkus, biological consultants from Tulane University, who have been making fish studies for the plant, will be conducting a phase of their continuing study during late October. They will be requested to collect a variety of fish species above and below our outfall for PCB analysis by Dr. Scott Tucker's laboratory.

Collection of water and mud samples from Snow Creek, Choccolocco Creek and the Coosa River will be continued on an as-justified basis. A limited number of samples were collected recently during a several-day shut down of Aroclor production to establish losses without Aroclor production. Another full set of samples will be collected soon in order to resolve discrepancies with results from the first (June 10, 1969) samples. Following establishment of reasonably reliable facts on present receiving stream PCB levels, we will continue to sample at about six months intervals. As in the case at W. G. Krummrich,

we need the laboratory results fairly promptly in order to guide future sampling work.

2. Waste Reduction

The next logical step in waste reduction is to provide sumps in the operating department to collect spillage from pipe leaks, pump packing, etc. Firm plans will be developed after we gain quantitative information on losses (about January 1, 1970). Meanwhile, efforts will be directed toward making maximum use of the collection equipment already provided (the warehouse sump and the coalescers).

Paul B. Hodges

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