

To: Virgil Weiss - R & D, Austin

From: P. L. Fetzner
Date: January 31, 1990

VISTA

Interoffice
Communication

Subject: Biodegradation Test at Pilot Level
in Lake Charles

The proposed pilot plant test as outlined in your letter dated January 30, 1990, was reviewed at the VCM Plant Environmental Update meeting held Thursday morning. The VCM Plant is very supportive of such a studies. However, in view of the proposed starting date, it would be our recommendation that R & D schedule meeting in Lake Charles immediately to discuss the study in more detail and resolve logistic problems associated with the study.

Several potential drawbacks to using the copper pit were raised in our meeting. These being, a remote site, logistics of feed material, disposal of waste material, availability of aerators, no electricity at the copper pit, potential environmental concerns using the pit to treat EP toxic wastes.

The size of the open top frac tank given you was too low. We have used a 300 barrel tank, 12400 gallons, in the plant. The use of such tanks may solve the logistic problems associated with feed and waste streams as the tank can be located by the lagoons. The tank would provide the opportunity for a good control test. However, other problems may arise, i.e., aeration would be by a sparging system as an aerator would not fit easily in the tank. Such matters could be discussed in more detail at a Lake Charles meeting.

The VCM Plant laboratory would be able to provide assistance in the analytical area as we have the equipment on hand to conduct the testing. We are,

CWH 000010277

however, manpower limited and would need to rely on having R & D help to complete the tests. Once the program is outlined and refined, the manpower needs would again be reviewed.

Paul Fetzner
Chief Chemist

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cc: J. Friend, M. Hayes - LCCP
R. Conrad, D. Booth - LCVCM
C. Watson - Houston

CWH 000010278

To: Paul Fetzer, VCM Plant, Lake Charles

From: Virgil Weiss, R&D, Austin

Date: January 30, 1990

Interoffice
Communication

Subject: BIODEGRADATION TEST AT PILOT LEVEL IN LAKE CHARLES

VISTA

As requested, this memo outlines our present thoughts for a large scale bioremediation/treatability study at the Lake Charles plant.

The objective of this study is to gather sufficient data to determine how to treat the toxic characteristic (TC) waste streams and sludge in the bloponds on the site. Since the TC regulations may be effective by the end of 1990, we would like to start this study by February 15.

R&D is carrying out laboratory scale treatability studies using TC waste streams and activated sludge/bacteria from the plant. These experiments will give guidance for a large scale test. Since time is of the essence, R&D feels we should take the risk and scale directly to the multi-thousand-gallon level.

To carry out the pilot tests we will need either the copper pit or the open tank as we discussed. Our first choice is the copper pit provided it does not have any residual copper, since a small amount can kill bacteria. Let's both analyze the water and solids for copper.

- 1.) We will also need at least one (possibly two or more) aerators. ^{2.}Also a mechanism to put in and take waste from the pond, either trucks or pumps, whichever is best. However, if we go with the open tank, it can be placed close to the source of the TC stream,³ returns for the wastes and ⁴electricity.

one person

- 5.) We will need analytical support at the Lake Charles lab to determine biological oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids (TSS), pH, benzene, ethylene dichloride, alcohols, VCM and total oxygen demand (TOD). _{↓ c.c.}

Our initial experiment will be to degrade one waste stream from the manufacturing facility; e.g., butanol in water or benzene in water. If this is successful, we would then add a second stream or else add some sludge from one of the bloponds and determine the rate of degradation. This first experiment should take about a month. If successful, we will continue to experiment for at least another 3 to 4 months. R&D will provide some manpower to complement your people during the first experiments.

Paul Fetzer
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This study will be in addition to the other planned studies on treatability and bioremediation. We feel that by carrying out several studies simultaneously, we maximize our probability for success.

Thank you for all your effort and help. We look forward to helping any way we can.

Virgil

lab
CC:
J. R. Rohelm
J. Friend
R. A. Conrad
R. T. Ferrell

Curt Watson: will be talking to V. Weiss about using a lagoon
to do the study.

Drawback - already contains the sludge -

CWH 000010280