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YELLOW

OCT 15 1991

VIA TELEFAX

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4WD-SSRB

Mr. James C. Brown
Manager, Environmental Affairs
Department
Olin Chemicals
Post Office Box 248
Charleston, Tennessee 37310

RE: Olin Corporation/McIntosh Plant Superfund Site
Documents Revised Sampling and Analysis Plan for the Macroinvertebrate Study proposal and Fish Sampling and Fish Sampling Analytical Techniques proposal.

Dear Mr. Brown:

As you are aware, Cheryl Smith, the Remedial Project Manager (RPM) for the Olin Site, is on Maternity Leave. I shall be acting as the RPM in her absence. I appreciate Olin's participation in the meeting, here in Atlanta, on October 7, 1991. The purpose of this letter is to provide to the Olin Corporation, EPA's concerns regarding the Macroinvertebrate Study and Fish Sampling proposal and the Fish Sampling Analytical Techniques proposal.

The advantage of collecting the fish tissue samples during this time when the low Basin water level has caused species of fish to be retained in the area for a significant period, cannot be disputed. However, failure to reach agreement and to resolve issues regarding the data collection needs, prior to the initiation of the sampling activities, may necessitate the remobilization of personnel to continue the Basin Study during the next season of opportunity.

In order to maintain the agreed upon schedule EPA shall approve the Revised Sampling and Analysis Plan for the Macroinvertebrate Study proposal and Fish Sampling and Fish Sampling Analytical Techniques proposal. EPA's approval of these documents is based upon the modifications and understandings identified in your letter of October 10th and in Attachment 1 of this letter. Olin shall prepare an addendum to the field sampling plan for its own use and for use by EPA and EPA oversight personnel. The addendum must be submited to EPA no later that three working days prior to initiation of sampling activities. Attachment 2 identifies additional concerns which are not directly related to the Basin study but which were raised during our meeting. Please submit a response to each of EPA's comments with the addendum to the sampling plan.

The results of the sampling conducted during this first phase of the remedial investigation including the investigation of Operable Unit 1 will be evaluated by EPA to assess the adequacy of the Basin study. Once the results of this investigation are avaliable I suggest that we meet to discuss the development of the Site Characterization Summary Report. This should be done as early in the process as possible. If you have any questions you may contact me at (404)347-2643.

Sincerely,

Kenneth A. Lucas
Remedial Project Manager
South Superfund Remedial Branch

cc: Toni Odom, Olin
Joe Downey, ADEM
Dan Cooper, ADEM

Attachment 1

1. The significance of the inorganics data collected during the Phase I investigation has not been evaluated. Additionally, the source of the elevated level of the Bis(2-Ethylhexyl)-phthalate may be related to sources at the Olin Site. Olin shall review the preliminary inorganic laboratory data and report those findings to EPA within three working days prior to initiating mobilization for the Basin Sampling.

2. Analysis of fish fillets is important with respect to human health concerns. For ecological concerns, however, whole-body concentrations in fish samples provide more valuable information. Analytical information shall be presented by Olin to support the "fillet plus remains" method as a reasonable estimate of whole-body concentrations. Additionally, the original sample size of five fish per species shall be increased to ten fish.

3. A smaller mesh size in the macroinvertebrate processing should be used.

SPECIFIC COMMENTS

1. Sec. 3.1, p. 4 - The report states that any impacts will be calculated by comparing relative abundance and indices of community composition along gradients of contaminant concentrations across comparable substrates. The particular "indices of community composition" to be used in the study must be identified and indices for evenness, diversity, and similarity should be proposed. Also "comparable substrates" must be defined.

2. Sec. 4.1, p. 6 - Observations made during the Phase I field sampling indicate that emergent herbaceous vegetation was found in only one portion of the lake. This location should be specified. Since a more extensive littoral zone was apparently expected, possible causes of this lack of vegetation (e.g., possible presence of site-related contaminants in nearshore sediments or surface water, or frequent flooding of the area) should be investigated, if not already addressed as part of the vegetative stress survey. Observations should be made in conjunction with the macroinvertebrate survey.

3. Sec. 5.1.2, p. 9 - After the macroinvertebrates are stained and washed, they should again be stored in a preservative solution (such as isopropyl alcohol) if they are not processed immediately.

4. Sec. 5.1.2, p. 10 - Specify the major taxonomic keys to be used in macroinvertebrate identification. Also, indicate any QA/QC procedures used in conjunction with the macroinvertebrate analysis (e.g., verification of a percentage of the taxonomic identifications by a second taxonomist, maintenance of a specimen voucher collection).

5. Sec. 5.2, p. 10 and Sec. 5.2.6, p. 13 - The additional fish collected but not used for tissue analysis must also be weighed and measured (total length) to give a better picture of fish community structure.

6. Sec. 5.2.6, p. 13 - The plan must specify whether the fillets will have the skin on or off. Also, indicate the type of surface that the fish will be placed upon during filleting.

7. Sec. 5.5, p. 15 - The plan must specify how the surface used for filleting fish should also be decontaminated between samples.

8. Sec. 5.5, p. 16 - Pesticide-grade isopropanol should be used as the solvent rinse for decontaminating all sampling equipment not made of plastic.

Attachment 2

General comments:

1. The procedures currently being used to allow access to EPA and EPA oversight personnel must be reevaluated. The existing procedures encumber EPA's ability to freely conduct activities necessary for the implementation of the Consent Order.

2. Additional sampling should be conducted in the following areas of Operable Unit 2 and adjacent areas:

   a) Sediment, surface water, and biological sampling in the two ponds north of the basin, since flow from the basin toward the ponds might be expected to occur during the seasonal inundation by the river.

   b) Soil samples on the land between the basin and the Tombigbee River, since this might be a possible contaminant migration route during ebbing of floodwaters. Samples should be analyzed only for site-related indicator chemicals.

   c) Surface water and sediment samples at three locations on the western side of the Tombigbee River: upstream of Olin's property line, along the southeastern property border (near land between the basin and the river), and just downstream from the discharge ditch.

3. During the seasonal periods of high water levels, what is the flow direction of the shallow groundwater? Could it have reached (and discharged into) the wetland areas west or south of the plant in the past? If so, these areas should be sampled.

4. The sampling strategy for the macroinvertebrate study appears to be reasonable. However, a single sampling event for these populations represents a "snapshot" approach. Seasonal variations can be significant with these populations. Also, the sample locations identified in figure 3 were selected to characterize the macroinvertebrate population throughout the basin. However, an earlier study indicated contamination in the basin area adjacent to the "old" plant discharge channel. Therefore, additional sampling and characterization of the macroinvertebrate population along the "old" discharge channel is recommended.

5. The biological sampling plan should include collecting data on environmental conditions at the time of the study. These data should include:

   Water Quality Parameters: Since the presence of aquatic organisms can be affected by physical factors such as dissolved oxygen, the following water quality parameters should be measured during the field sampling: pH, dissolved oxygen, temperature, conductivity, water depth for these measurements (near-surface and near-bottom, at a minimum).

   These should be coordinated with sediment parameters which should have already been obtained: grain size distribution, permeability and porosity, bulk density, organic carbon content, pH, color, and benthic oxygen conditions.

6. Temporal variability of the biological communities being sampled should be addressed. Seasonal changes, such as life cycles of the organisms, and temperature and water level fluctuations may affect the sampling results. A two-phased sampling approach may be deemed necessary to account for these seasonal changes.

7. A reference site as similar as possible to Operable Unit 2 should be identified and sampled according to the protocols established for Operable Unit 2.

8. A demonstration of equivalency of the RCRA 40 CFR Part 265 closures wth 40CFR Part 264 requirements needs to be scheduled.

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OCT 24 1991

VIA TELEFAX

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Mr. James C. Brown
Manager, Environmental Affairs
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Olin Chemicals
Post Office Box 248
Charleston, Tennessee 37310

RE: Olin Corporation/McIntosh Plant Superfund Site
Documents Revised Sampling and Analysis Plan for the Macroinvertebrate Study proposal and Fish Sampling and Fish Sampling Analytical Techniques proposal.

Dear Mr. Brown:

Thank you for your timely response to the Environmental Protection Agency's (EPAs) letter of October 15, 1991, regarding the fish and macroinvertebrate sampling plans. As I indicated to you in our discussion on October 22, 1991, this letter represents EPA's final position on the issues addressed in the October 15, 1991 letter. EPA has considered Olin's position as was stated in your letter of October 18, 1991. Olin's has adequately addressed each of EPA's concerns with the exception of the following.

1. EPA will review the final results for the investigation of operable unit one (OU-1) and determine based on those results if further investigation of the Bis(2-Ethylhexyl)phthalate is required.

2. The "fillet plus remains" method <u>may not</u> be used to approximate whole body concentrations. Actual whole body concentrations will be obtained (50% per species for ecological and 50% for human health concerns). This will provide a balance between human health and ecological concerns. The increase from 5 to 10 fish in the sample population for ecological concerns will compensate for the limited selection of analytical parameters and species, and contributes to obtaining a sufficiently representative sample. A sample size of 10 fish or 50% will provide an adequate measure of human health impacts.

3. The revision to the fish sampling procedure of section 5.2 of the Revised Sampling and Analysis Plan is outlined below and must be incorporated into the forthcoming final plans.

   a. A minimum of 22 individual fish of each species will be collected.

   b. Both fillets, from 50% of the fish collected, (eleven of each species) will be prepared for analysis.

   c. Eleven fish will be prepared for whole body analysis.

   d. Section 5.2.6 will be revised to indicate that one prepared fillet and one whole body sample will be prepared and provided for EPA's oversight contractor.

EPA is prepared to perform oversight for the fish sampling and the macroinvertebrate study beginning on November 4, 1991. If you have any questions you may contact me at (404) 347-2643.

Sincerely,

Kenneth A. Lucas
Remedial Project Manager
South Superfund Remedial Branch

cc: Toni Odom, Olin
Joe Downey, ADEM
Dan Cooper, ADEM
Joanne Benante, RCRA
Joan Dupont, GRWT
Julie Keller, Waste/HRA
Bill Bokey, ESD
Joyce Catrett, ORC
Lynn Wellman, Waste/ETAG
Rachel Cochran, PRC