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SUBJECT: Technical Review of the Draft Data Summary Report for the Virgin Island Chemical Site

FROM: Shari Stevens, Environmental Scientist *[Signature]*
Surveillance and Monitoring Branch (ESD-SMB)

TO: Sherrel D. Henry, Remedial Project Manager
New York/Caribbean Superfund Branch II (ERRD-NYCSB2-E)

As you requested, we have reviewed the "Draft Data Summary Report," dated August 1995, prepared by Harding Lawson Associates for the Virgin Island Chemical Site in St. Croix, U.S. Virgin Island.

The sampling data (from groundwater monitoring wells and soil borings) collected appears to have been designed to support an assessment of the risks associated with on-site contamination. However, it would be appropriate to investigate the level and extent of contamination in the River Gut. The figures of the site illustrate that potential contaminant pathways may exist into the Gut from surface water runoff. The storm drainage systems are another pathway for contaminants leading directly into the Gut particularly the central storm drain which is connected to the process area and the process pit.

Contaminants in site surface soils could be washed into the River Gut through these pathways especially if adsorbed to fine particles. Due to the intermittent nature of the Gut, contaminants bound to fine sediment could be resuspended and washed downstream during storm events. This reinforces the need to delineate the extent of off-site contamination, as the river may act as a pathway for transporting site contaminants into sensitive habitats such as wetlands and/or coastal areas. The slowing effect that wetlands or delta areas have on streams allows sediments to settle out of the water column. This creates a depositional area where contaminants can concentrate. The potential for the transport of contaminants associated with the site should be addressed, and may create a need to sample depositional areas along the River Gut.

A recommendation was made in the April 26, 1994 to sample the top 12 inches of surface soil on-site. As indicated in Table 2-1 the top 2 feet of some of the soil boring samples were analyzed. The zero to one foot depth is the zone of soil in which the majority of ecological receptors will receive their exposure to soil contamination. Including additional depth in the sample may dilute the contaminant, thus underestimating the risk.

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In Section 3.3 (page 6) of the Baseline Ecological Assessment the discussion of pathways for potential sources does not include incidental ingestion. It may appropriate to consider this pathway since it can sometimes be a significant percentage of intake depending on the species.

In the April 26, 1994 BTAG memorandum, we recommended that it would be appropriate to conduct some form of a biological survey to determine what, if any, habitat and species were present on site. It was indicated in this report that there are no habitats identified as suitable to support rare, threatened, or endangered species. In January 1995, prior to this determination, most of the vegetation on site was removed with heavy equipment. We would be interested in reviewing the information used to support this determination.

The potential sources of concern are the open drainage channels of the process pit area, soils in the area of the AST's with elevated VOC concentrations, and stained soils associated with a discharge for the AST labeled "Tank 5". However, it may also be appropriate to consider the elevated levels of zinc that were discovered on site. In Section 5.2.2.3 page 25 it is stated that the pesticides were not considered because of the widespread use of pesticides and relatively low concentrations. A discussion of what values were used to evaluate potential risks to ecological receptors was not included in this report. In the April 26, 1994 BTAG memorandum we recommended appropriate ecologically based screening criteria. Therefore, a discussion should be incorporated into this document describing the screening process utilized.

In section 4.0 (page 9) an assumption is made that the concentrations of the sediments in the storm drain have decreased. However, the drain sediments have not been sampled since 1985. Therefore, it may be appropriate to sample these sediments to determine the concentration of contaminant in this pathway.

If you have any questions, comments, or require further information, please contact Michael Clemetson at (908) 321-6712.

cc: Carole Petersen, ERRD-NYCSB2
Mel Hauptman, ERRD-NYCSB2-E
Mark Sprenger, HQ-ERT
Gina Ferreira, ERRD-PSB

Bob Witte, OPM-EIB
Diane Wehner, NOAA
John Cantilli, WMD-MWPB
Karen Kracko, WESTON/REAC