JAN 31 1996

EXPRESS MAIL -
RETURN RECEIPT

Mr. Edward A. Nemecek,
Principal Hydrogeologist Co.
131 North Third Street
Philadelphia, PA 19106-1903

RE: Comments on the Draft Phase II Remedial Investigation Work Plan, Island Chemical Site, St. Croix, U.S. Virgin Islands

Dear Mr. Nemecek:

Enclosed are the U.S. Environmental Protection Agency's (EPA's) comments on the Draft Phase II Remedial Investigation Work Plan (RIWP) for the Island Chemical Site, St. Croix, U.S. Virgin Islands. The document was reviewed for its technical competency and to ensure that EPA's primary concerns ,which were discussed at the October 6, 1995 meeting at EPA's offices in New York City, were taken into consideration.

Within 21 days of your receipt of the enclosed comments, please amend the RIWP as required by those comments, and submit the amended RIWP to EPA.

If necessary, the Agency will meet with HLA to discuss the comments. If you have any questions, please contact Ms. Sherrel Henry of my staff at (212) 637-4273.

Your cooperation is appreciated.

Sincerely yours,

Carole Petersen, Chief
New York/Caribbean Superfund Branch II

Enclosure

cc: Lori G. Singer, Esq.
Jason Schindler, HLA

bcc: Carol Berns, ORC
g:comment.wp2

SYMBOL --->	ENYCSII	ENYCSII	NYCSBII					
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DATE ----->	1/23/96	1/24/96	1/30/96					

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GENERAL COMMENTS

1. EPA's primary concern regarding the data presented in the Data Summary Report was the effectiveness of the monitoring well network, with regards to the site specific groundwater flow, to adequately characterize groundwater quality. At the time of project planning, based on all available information, the direction of shallow groundwater flow was anticipated to be southeast towards the Caribbean Sea. Subsequently, the monitoring well network was designed with respect to that flow direction. However, after several rounds of water level measurements, it has been determined that shallow groundwater flow is to the east-northeast.

   Due to the actual flow direction, groundwater quality downgradient of several areas of concern (Areas B, D, E, and F) may have not been adequately characterized. Therefore, on-site conditions and potential contaminant pathways cannot be properly evaluated. This issue was not adequately addressed in the Draft Phase II Work Plan. Additional monitoring wells, situated with respect to actual site groundwater flow direction, shall be installed.

2. Analytical results of samples collected in the tank farm area indicated elevated levels of ethylbenzene, xylenes, acetone, and toluene at various depths in the soil. Additionally, elevated concentrations of volatile organic compounds, some at levels above regulatory limits, were detected in a groundwater sample collected from the monitoring well in this area. Additionally, the tank farm area was cited in the DSR as the "source of ethylbenzene in the groundwater". The proposed sampling program, which only evaluates surface soil quality, is inadequate as it will not characterize the **extent** of the tank farm contamination.

3. The additional site characterization activities that are to be conducted to assess the potential for conditions at the site to affect the coastal regions are not specified. These activities should include an assessment of historical site discharges to the River Gut from the site.

4. The relationship between the shallow and deeper aquifer zones, especially the potential for vertical migration of contaminants between the two zones, should be thoroughly examined.

SPECIFIC COMMENTS

1. **Section 1.3, Page 2, Bullet 5:** With the exception of continuously monitoring the shallow ground water table, the Draft Phase II Work Plan does not propose any investigations to address EPA's concern regarding groundwater and the effectiveness of the existing monitoring well network.

2. **Section 2.0, Page 4, Item #2:** The Draft Phase II Work Plan does not specify the additional site characterization activities that will be conducted to assess the potential for conditions at the site to affect the coastal regions. At a minimum, these activities should include an assessment of site historical discharges to the River Gut from the two known discharge pipes. Review of background information indicates these discharge pipes collected storm water and process water from both subsurface and surface drains located throughout the facility. Sampling previously conducted in the storm water drainage system indicted elevated levels of volatile organic compounds and metals in the sediments. In addition, sampling conducted following the removal of the drain line (55 gallon drums) to the River Gut indicated elevated levels of volatile organic compounds in the surrounding soils. Subsurface soil sampling, should be conducted in the area of the two discharge pipes and the former laboratory pit discharge point (area beneath the existing loading dock), to delineate the nature and extent of volatile organic and metals contamination in these areas. The borings should be advanced to the top of the water table.

3. **Section 2.0, Page 4, Item#3:** The Draft Phase II Work Plan calls for the collection of 12 surface soil samples in Area B (Tank Farm) to determine the extent of contamination identified. Surface soil samples are to be analyzed for benzene, toluene, ethyl benzene and xylenes (BTEX) only. Contamination was previously detected at various depths to the water table. Acetone, for example, was detected at a concentration of 19,000 parts per billion at a depth of six to eight feet below ground surface. Additionally , elevated levels of volatile organics, some at concentrations above regulatory limits, were detected in the tank farm monitoring well, MW1. With respect to this data, a sampling program which characterizes both the horizontal and **vertical** extent of contamination is necessary. Sampling should be advanced outwardly in all directions from boring SBB1/MW1 until the full delineation of the contaminants present has been achieved. The proposed sampling locations should be

completed as borings that extend down to the water table. Samples should be analyzed for Target Compound List (TCL) volatile organic compounds.

4. **Section 2.0, Page 4, Item#7:** As discussed during the October 6 meeting, the extent of communication between the shallow and deep groundwater zones must be defined. The Draft Phase II Work Plan proposes the collection of water level measurements from the on-site production wells only. At a minimum, the deep production wells should also be sampled concurrently with the shallow wells for comparison and documentation. Information regarding the production wells' construction specifications and screened intervals should also be obtained via geophysical logging and/or downhole video methods. Construction specifications and geophysical logs should be provided to EPA for review.

5. **Section 3.2.2, Page 5 :** The Draft Phase II Work Plan specifies the installation of one shallow ground water monitoring well in the area of the Process Pit. This well will provide groundwater quality data from a previously uncharacterized area. However, the plan does not address that after two rounds of water level measurements, groundwater flow is reported to be to the east-northeast not the south-southeast as originally projected. Therefore, several of the wells intended to monitor groundwater quality downgradient of several suspected source areas do not do so. Based on these findings, three additional shallow ground water monitoring wells are to be installed. One well should be installed downgradient of well MW1 to delineate the horizontal extent of the contaminants detected in that well. A second well should be installed downgradient of Area of Concern D to provide data on groundwater quality downgradient of both the reported pyridine release and several areas of concern. A third well should be installed in the area of the generator building to provide upgradient groundwater quality data.

   Additionally, one deep groundwater monitoring well should be installed in the area of the discharge pipe for the central storm drain adjacent to the River Gut. The well should be installed to an approximate depth of 90 feet below the surface and should be screened at approximately the same interval as the two on-site production wells. This well could be used to triangulate the direction of the deeper zone groundwater flow and to characterize any contamination potentially migrating from the site.

6. **Section 3.24, Page 6:** Groundwater quality in the center of the site has not yet been characterized. With respect to this lack of data, groundwater samples collected from the newly installed well must be analyzed for the full suite of parameters including pyridine. At this time, no justification exists for submitting the samples for a reduced analytical list.