

JAN 10 1995

EXPRESS MAIL-
RETURN RECEIPT REQUESTED

Mr. Benjamin I. Nazario, Director
Division of Environmental Protection
Virgin Islands Department of Planning and Natural Resources
Nisky Center, Suite 45A
Charlotte Amalie, St. Thomas, USVI 00802

RE: **EPA Response to DPNR's Comments on the Tutu Wells Site Draft
Remedial Investigation Report, St. Thomas**

Dear Mr. Nazario:

This letter is in response to your letter dated November 30, 1994 in which you provided comments on the October 1994 Draft Remedial Investigation (RI) report prepared by Geraghty & Miller, consultant to the TEIC Group for the Tutu Wells Superfund Site, St. Thomas.

The main issues raised by your comment letter are listed below:

1. Many of your comments request additional remedial investigation of the southwestern part of the study area, specifically with regard to the petroleum contamination detected in the Kentucky Fried Chicken (formerly Home Petroleum) well. This area was appended to the original study area during the Phase II investigation in an attempt to delineate the southern extent of the chlorinated plume associated with the O'Henry facility.

The Phase II investigation results, however, demonstrated that the southern chlorinated plume flows southeast from O'Henry, not southwest along Route 38. Although the contamination detected at KFC affects the same regional aquifer, it is not hydraulically related to the groundwater contamination in the northern part of the site. Any groundwater extraction/remediation system designed to address the four northern plumes already defined will not capture the inferred KFC plume. A separate extraction/remediation design would be required to address the inferred KFC contamination.

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SURNAME -->	C. KWAN	M. HAUPTMAN	C. PETERSEN					
DATE ----->								

It was EPA's understanding, based on discussions with your staff at the November 2 and 3 PRP technical meetings held in St. Thomas, that investigation/remediation of the KFC plume would be addressed under USVI regulations governing leaking underground storage tanks. We understand that the KFC release was reported to DPNR several years ago. We therefore recommend that the DPNR oversee the future investigation of the KFC issue and keep EPA informed of the project.

2. In various comments DPNR requests further hydrogeologic investigations be performed, including:

- A) Additional water elevation data, to include the southwestern supply wells;
- B) Additional monitoring wells or well points north of VIHA and the Curriculum Center, east of Tillet, south of O'Henry and in the area of KFC and Rodriquez Petroleum, and east of Fort Milner; and
- C) A large scale pumping test in the center of the site near Route 38.

With regard to 2A, EPA also recommended another round of water level elevations during the RD phase, since only one round of data is available for the southern part of the study area. We do not believe that the shallow groundwater flow direction portrayed in the Draft RI report for the southern part of the study area (and based on a single location) represents the true flow conditions. Based on regional potentiometric maps prepared by the U.S. Geological Survey, regional groundwater flow is to the southeast in this area, as the larger Turpentine Basin funnels into the Turpentine Run along Route 32. Additional water elevation data from this area will show southeasterly flow.

With regard to 2B, we do not believe additional monitoring wells are necessary at this late stage of the RI. Additional contaminant and hydraulic data are available to proceed with the feasibility study. Further hydraulic data can be obtained at the Remedial Design stage if necessary.

There has been no evidence to date suggesting sources north of the VIHA exist. The VIHA well contamination does not imply an upgradient source; it is a pumping well and the contaminants detected in it correspond to those in the northern chlorinated plume, which centers about the Curriculum Center.

While additional information on the eastern extent of the plume (east of Tillet) would be useful in defining the precise extent of the plume, it is not critical for the Feasibility Study (FS).

There are no residential or supply wells (receptors) to the east and, based on the potentiometric surface and the location of the major fracture system in the valley gut, ground water from that area should be captured by whatever extraction system is designed to control the existing plumes.

The other recommended wells would provide information on the flow field south of the Superfund Area, but are not necessary to meet the objectives of the current investigation.

As a note, the well points suggested by DPNR are not an appropriate technology for this site, since the water table is within bedrock.

With regard to 2C, DPNR may not have seen the results of the pumping test performed by Caribbean Hydrotech (CHT) for Four Winds Plaza. We believe that between the previous pumping tests and estimates of former supply well pumping rates, sufficient aquifer information is available for the FS. However, further pumping tests of potential extraction wells should be performed during the design stage, with the emphasis on monitoring an extensive network of observation wells for aquifer response.

3. DPNR objects to TEIC's criteria for determining impact of a site on soils.

All of the reviewers have objected to the criteria. EPA has sent the TEIC group the New York State Technical & Administrative Guidance Memorandum (NYSTAGM) to use as initial soil cleanup goals in place of the TEIC's criteria. The NYSTAGM is comparable to results generated by using vadose zone modeling. Furthermore, EPA has tasked its contractor to conduct a detailed fate and transport vadose zone modeling for each of the impacted properties.

The revised RI text should be very clear in distinguishing between evidence for past or present chemical releases to the environment at the various properties and determination of which properties have chemicals present at levels that will require soil remediation. EPA has provided soil cleanup goals to TEIC which will be used to determine which properties have soils that need to be addressed in the FS.

4. DPNR asks that all available data be included in the RI report, including the various soil gas surveys performed at Esso, Texaco and Four Winds; the CDM Federal 1988 and 1989 sampling results; April 1994 groundwater sampling conducted by Blasland Bouck and Lee, Inc.; and other sampling of underground storage tanks, vaults and pipes performed by various of the PRPs.

We concur that all available data from all properties should be presented in the revised RI. Any of DPNR's requests for data presentation not already addressed in EPA's comment letter to TEIC will be included.

5. DPNR notes that the soils data coverage "is sporadic and was collected in a haphazard uncoordinated manner". DPNR recommends implementation of a supplemental Remedial Investigation for soils to include expanded sampling at the Curriculum Center, VIHA, Tillet Gardens, Antilles Auto, Esso, Western Auto, Rodriguez and KFC.

We concur that there are significant data gaps in the soil investigations for some of the PRP properties, due to the fact that the PRP group reached internal agreement that TEIC would perform the sitewide groundwater field investigation, but that the individual PRPs would conduct their own source investigations under oversight of the group. The workplans for these various investigations were not reviewed by EPA. EPA has conducted supplementary soils and product sampling at the Curriculum Building to address the most significant data gap identified, namely the source of the northern chlorinated plume. Results are expected within the next 8 weeks.

EPA does not believe that further sampling at Antilles Auto, Tillet Garden, Ramsay Motors, and VIHA is critical at this time. We understand from DPNR that your office had requested Western Auto provide you with a post-excavation sampling plan. If all available FIT, CDM Federal and PRP sampling data is plotted on the same map for these properties, there should be sufficient data available to perform the FS. The Esso property has been extensively sampled, although not all of the results were presented in the Draft RI. We do not believe that further sampling is warranted, but the complete sampling results must be included in the Revised RI. KFC and the Rodriguez service station do not contribute to the four plumes identified. EPA recommends that any further investigation of these properties be performed at DPNR request and under USVI regulations.

Finally, I hope this letter will address any concerns you have on the draft RI report. We expect the final RI report to be in our office for review and comment the last week of January 1995. Please have your staff call Ms. Caroline Kwan of my staff if you have any more questions and concerns.

Sincerely yours,

Carole Petersen, Chief
New York/Caribbean Superfund Branch II

Enclosure

cc: Leonard Reed- DPNR
Adrian Schottroff-DPNR
Andy Praschak- CFO
Sally Odland- CDM-FPC
Dave Rosoff-DPNR

**Summary of Soil Cleanup Goals/Screening Levels for Tutu-Ramsay
Site (ug/kg)**

Chemical	NYS TAGM (foc+1%) (DAF=100) (Note 1)
<u>BTEX Compounds</u>	
Benzene	60
Toluene	1,500
Ethylbenzene	5,500
Xylenes	1,200
<u>Chlorinated VOCs</u>	
Tetrachloroethane	1,400
cis-1,2 Dichloroethene	---
trans-1,2	300
Dichloroethene	700
Trichloroethene	
<u>Semi-VOCs</u>	
Naphthalene	13,000
<u>Inorganics</u>	
Arsenic	7,500 or Site Bkgd.*

Notes

1. New York State (NYS) Technical and Administrative Guidance Memorandum, NYS Dept. of Environmental Conservation, Division of Hazardous waste Remediation, HWR-94-4046, Jan. 24, 1994 (Revised). The given Recommended Soil Cleanup Objectives assume foc=1% and Dilution Attenuation Factor (DAF) [or simply Dilution Factor]=100. (The assumptions for foc and DAF are not applicable to Arsenic.) Given levels are same as for groundwater protection.

* Use Site Background if available.