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September 22, 1993

TELEFAX AND
FED EXPRESS

Mr. Melvin Hauptman
Manager
USEPA - Region II
26 Federal Plaza, Room 747
New York, New York 10278

RE: TUTU SITE, U.S. VIRGIN ISLANDS

Dear Mr. Hauptman:

Ms. Kwan suggested that correspondence regarding this case be directed to you during her leave. During the past several weeks, parties related to the above-referenced site have been working together to form a PRP Group to devise a coordinated remedial strategy to address the documented contamination and pool data on each site to permit intelligent decisions regarding future site investigations. Prior to the finalization of the PRP Agreement, a number of technical representatives of likely PRP Group members have formed a committee (Technical Group) to provide joint comments to EPA. Our August 13, 1993 letter, which raised certain issues regarding work elements proposed in Technical Memorandum II prepared by Geraghty and Miller, was the first formal communication between this new group and EPA.

Since our first communication, the Technical Group has met (via telephone) several times to discuss an integrated approach to achieving an appropriate area-wide remedy. The Technical Group is confident that these positive steps will lead to a quicker and more effective remedy for the entire area of concern.

Although the TEIC Committee members could meet the schedule set forth in the existing AOC for remediation plans for their specific service stations, such a plan may not meet the goal of an integrated solution for the area. Therefore, the Technical Group developed a preliminary scope of work based upon our letter dated August 13 that should meet the ultimate objective. This scope consists of the following tasks:

- Prepare a bibliography of all available information on the site. Include references submitted by PRPs, references from EPA and other public information.
- Prepare a database of available technical information. Such a database should permit statistical analysis of various types of data provided by previous studies of TEIC, as well as investigations by PRPs.
- Expand the existing base map of the site and survey all wells to a common datum. These data are also required for the database.

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- Update the well inventory presented in Technical Memorandum I to include all monitor wells of TEIC, the PRPs and any other supply wells.
- Compile all lithologic data for the site. Include all TEIC borings, borings and wells of PRPs and other readily available data.
- Evaluate all aquifer test data to determine the quality of hydraulic data for the site. Include evaluation of tests conducted by PRPs and others.
- Prepare a Remedial Investigation Workplan for the entire area of interest. Use data developed in previous tasks to guide the scope of work. The purpose of the Remedial Investigation is to develop sufficient information for the design of an appropriate remedial response. Potential remedial responses should be clearly identified in the RI Workplan.

Geraghty and Miller has provided us with a schedule for the proposed work for the site. I have attached their proposed schedule to this letter. This schedule shows delivery of the RI Workplan to EPA on or before December 21, 1993. Field work for completion of the RI will commence five weeks after EPA approval of our approach. Whereas this schedule is not likely to permit the development of a Record of Decision prior to September 1994, we believe that this coordinated effort of all the PRPs will result in the implementation of a site-wide remedy more expeditiously than the TEIC Committee could do independently.

In addition to efforts of the Technical Group described above, several members of the group have developed responses to EPA's letter dated August 30. The following points should be more carefully considered by USEPA. More specific comments or recommendations may be developed after all Technical Group members have been allowed to review the database that will be generated by Geraghty and Miller. Work elements suggested in our comments may be modified or eliminated after review of the data. These specific comments and our letter dated August 30, should provide EPA with an indication of work elements that may be included in the RI workplan.

Under comments on Section D: Work Elements Required as Part of a Remedial Investigation, concerning items listed in the initial Technical Group letter to USEPA, various members of the group have generated the following responses to specific comments by EPA.

Comment 2, Page 2: Wells in areas known to have high levels of organic compounds should not be resampled by low detection limit methods, since sample dilution may be required. Sample dilution may obscure the presence of some compounds present by raising their detection limits. More robust methods that do not require sample dilution should be used in these areas to achieve results. Methods capable of detecting the presence of compounds at concentrations near drinking water standards should be reserved for areas of low level contamination, such as near the margins of the plume.



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Comment 3, Page 3: The water quality parameters requested will include analyses for volatile and semivolatile organic compounds, dissolved oxygen, dissolved carbon dioxide, biological oxygen demand, Eh, and oxidation state of iron. However, without a thorough review of analyses currently available from the site, recommendation of specific methods for these analytes are not warranted at this time.

Comment 4, Page 3: EPA should reconsider the recommendation to move the monitoring well MW-15 to a position more consistent with groundwater flow direction and further away from pooled petroleum products that were reported to EPA by NUS as emanating from activities on adjacent property (then occupied by Thomas Gassett, G.B. Industries) and migrating onto the Ramsay property at the south fence line.

The shallow groundwater flow direction illustrated on Figure 3-4 of Technical Memorandum II, Groundwater Contour Map Shallow Wells, November 16, 1992, is to the southwest in the Ramsay area. The shallow groundwater flow direction in the vicinity of Ramsay Motors was calculated by triangulating the groundwater elevation of MW-1, MW-2, and MW-4. The calculated groundwater flow direction is south 31° west. This calculated flow direction substantiates and validates the shallow groundwater flow direction presented in Figure 3-4 of Technical Memorandum II in the Ramsay area. Further, as noted by NUS, pooled surface oil exists at the Ramsay fence line, near the original proposed location of MW-15. The continued location of MW-15 as originally proposed would be closer to documented releases from the property to the northwest, which may cause false positive information concerning the impact from the drum storage and former underground holding tank on groundwater in the immediate area.

Comment a), Page 4: EPA dismissed the need for a monitoring well between MW-9 and proposed well MW-18 with the rationalization that wells MW-10S and CHT-2 were adequate for this purpose. However, an additional well may be justified at this location because there is currently no shallow well located directly down-gradient of the Esso Tutu Station. CHT-2 is located directly down-gradient of the MW-9 well cluster. However, both CHT-2 and MW-9 are located west, and cross-gradient (not down-gradient), from the Esso station. Tech Memo II states that MW-10 is located down-gradient of the station, however no justification for this statement is presented. In fact, MW-10S is located down-gradient of the eastern edge of the Esso station, but there is no shallow monitoring well located directly down-gradient from the center of the station or from potential groundwater contamination sources at the station. While CHT-3 is located immediately down gradient of the station, it is not at a location that will provide a clear understanding of potential impact from up-gradient sources. Additionally, analytical results from CHT-3 were not provide in Technical Memorandum II. A well located either equidistant between MW-9 and MW-18 (or slightly west of CHT-7D) would provide this missing information.

Comment b), Page 4: Information regarding the location of MW-02 and other wells at the O'Henry laundry site has previously been supplied to EPA. Likewise, all analytical data from groundwater and soil samples have also been supplied to EPA. MW-02 is located on the west side of the O'Henry laundry site, between the building itself and Highway 39 (in the parking

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lot). All monitoring wells at the site are between 35.5 and 52 feet in depth, and the depth to water varies from 9 to 32 feet. Consequently, the screened interval of the proposed monitoring well should monitor the free water surface (estimated to be approximately 20 feet below ground surface), and can be further defined as "shallow". The proposed monitoring well to be located 100 feet north-northeast of MW-02 would be up-gradient of MW-02 and would help to determine if contamination in MW-02 is emanating from an up-gradient groundwater source or from a surface water source, such as the storm sewer.

Comment c), Page 4: EPA disagreed with the recommendation to install wells to define the eastern margin of the groundwater plume. However, the two eastern-most wells in the central and southern portion of the plume (MW-5, MW-7 and MW-10 and MW-10D) all exhibit contamination well in excess of drinking water standards for chlorinated or hydrocarbon compounds. Wells located at or near the proposed location will also verify hydraulic gradients in this portion of the plume. There is no evidence that shows hydraulic gradients in the vicinity of the site are necessarily controlled by surface topography, since site hydrology is strongly influenced by fracture flow.

Comment e), Page 5: As stated in the previous section concerning MW-15, since groundwater direction is southwest, a monitoring well directly south of the drum storage area will not monitor the down-gradient effects of a release. The proposed location EPA has chosen will determine potential oil pools associated with releases from adjacent property, but it will not determine Ramsay Motor's contribution to the contamination to the Tutu area. EPA should consider the impact of pooled surface oil as documented in the NUS report when evaluating locations for a monitoring well. The only viable answer is to locate MW-15 remote from the pooled oil area, and install an additional monitoring well at the Ramsay/ Antilles fence line or southwest of the fence line on Antilles property. The latter drilling location would be more suitable due to the topographic features associated between Ramsay and Antilles. The existing location will mix results from any potential Ramsay releases and operations resulting in pooled oil at the Ramsay/Antilles fence line. The response should be twofold:

1. Investigate the down-gradient direction of the drum storage area and underground holding tank and,
2. Investigate the oil pools reported by NUS from adjacent property activities.

This can be accomplished by installing a monitoring well not south of the drum area, but west of the drum area. A monitoring well along the fence line between Ramsay and Antilles or on Antilles property will meet the objective of the NUS reported spill.

Therefore, two monitoring wells - a relocated MW-15 and an additional monitoring well at the Ramsay/Antilles fence line or Antilles property is a better approach to identify source information.

Comment 5, Page 5: While soil borings were not proposed by Geraghty and Miller in Technical Memorandum II, soil borings will be necessary to complete investigations of suspected

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source areas. Locations of the soil borings cannot be determined without thorough review of all data generated at the site to date.

Comment 6, Page 5: Technical Memorandum II (Geraghty and Miller, 1993) includes a figure showing the storm sewer layout (Figure 3-6), however, the potential for this to be a pathway for contamination was not investigated. In addition, the construction of the storm and sanitary sewers has not been investigated to determine if joints, cracks and decayed sections exist, or if overflow occurs. All of these may provide the opportunity for groundwater infiltration. There are numerous potential sources and a steep topographic gradient in the Tutu area, with surface water flow channelized down Tutu Gut. These facts imply that there is potential for contaminated surface water to travel significant distances before infiltrating to groundwater. Therefore, it is necessary to investigate the surface water channel as a potential source for groundwater contamination. Soil samples should be taken along the length of the sanitary and storm sewers. Alternately, a soil organic vapor survey could be conducted along the length of the sewers with targeted soil samples where the soil vapor survey indicates the presence of volatile vapors. The work should be performed as early as possible by Geraghty and Miller pursuant to the determination of the most effective method for this investigation and the schedule discussed previously.

Under comments on Section E: Preliminary recommendations for additional work required for a complete RI, concerning items listed in the initial PRP Technical Committee letter to USEPA, the group has generated the following responses to specific comments by the EPA.

Comment 1, Page 5: Additional soil vapor studies and soil sampling in the Tutu Area may be warranted. Soil vapor studies have been a valuable tool, providing information to all parties involved in the investigation. After the planned review of all data collected in the Tutu area, the Committee will identify any gaps that require additional investigation. Soil vapor surveys and soil samples will be recommended if it is determined to be an appropriate method for preliminary evaluation of a specific site. Soil sample locations will also be chosen after review of the data and/or completion of additional soil gas surveys. These methods have always been part of the investigative process at Tutu. The use of soil vapor surveys as a preliminary investigative tool, in critical areas that have not been investigated (or have been under-investigated), will provide for a more accurate, efficient and cost-effective study. Soil sampling will provide additional information on the relationship between surface and groundwater contamination.

Comment 2, Page 5: Although standardization of the sampling and analysis protocol for the TEIC investigations may have been accomplished for work conducted to date, this standardization has not necessarily applied to relevant work conducted outside of the TEIC. More importantly, since additional PRPs have been identified by EPA, the scope of the investigation needs to be reevaluated. This will lead to a data collection program that is more comprehensive and representative than the current program. The reevaluation process should include compilation and evaluation of all available data, updating the site conceptual model, identifying data gaps, review of data quality objectives and evaluation of sampling and analysis options. Sampling and analysis protocol will depend on the expected types and concentrations

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of contaminants in the monitoring wells to be sampled (please refer to Comment 2 on Section D, above). Since the development of an integrated area-wide investigation expands the number of wells and area to be sampled, determination of a sampling and analysis protocol must be included as an element of the overall reevaluation of the project. The Technical Group, which is comprised of representatives of most of the Tutu PRPs, is in the process of organizing for this reevaluation.

We hope this clarification of our statements presented in previous correspondence with you will further justify our recommendations which we believe will result in a more comprehensive remediation for the area.

Sincerely,


Alberto A. Gutierrez, CPG
Coordinator, Technical Group

AA054173/KWANV2/LTR

Attachment

cc: Andy Praschak, USEPA

THE TECHNICAL GROUP CONSISTS OF:

John T. Burkart, R.G., REA - Cooper Environmental, Ramsay Motors, Inc.
Ivan A. Cooper, P.E. - Cooper Environmental, Ramsay Motors, Inc.
Stephen Dubyk, R.G., REA - H+GCL, Inc., Texaco Caribbean, Inc.
Donald P. Galya, P.E. - ENSR Consulting and Engineering, Western Auto, Inc.
Bruce K. Green - Caribbean Hydro-Tech, Inc., Four Winds Plaza Partnership
Randall T. Hicks, CPG - H+GCL, Inc., Texaco Caribbean Inc.
Andrew H. Smyth - Arthur D. Little, Inc., Andreas Gal & Paul Lazare
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Belinda K. Price, MS, RPG - International Technology Corporation, L'Henri, Inc.
Ana Gloria Ramos, TEIC Coordinator - Esso, S.A.
Paul Ryan - Texaco Caribbean, Inc.

PROJECT:

PROPOSED PROJECT SCHEDULE

DESCRIPTION:

TUTU WELLS SITE

LOCATION:

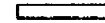
ST. THOMAS, U.S. VIRGIN ISLANDS

PROJECT NO. PR001301

LEGEND:



SCHEDULED PROGRESS



ACTUAL PROGRESS



SCHEDULED PROGRESS (N)



REVIEW

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MILESTONES

FIGURE 1

SYM	REVISIONS	DATE
SCH'D BY: R.P.		DATE: 22SEP93
CHK'D BY: J.B.		DATE: 22SEP93
APP'VD BY: D.N.		DATE: 22SEP93

PROJECT SCHEDULE

